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Volume 2 – Country Analysis

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COUNTRY ANALYSIS

BELGIUM

Based on the European Commission 2018 Autumn Forecast, Belgium should experience a reduction of the structural primary balance (SPB), from a surplus of 1.0% of GDP in 2018 to a surplus of 0.4% of GDP in 2020. Real GDP growth is expected to slightly slow down, from 1.5% in 2018 (after 1.7% in 2017) to 1.4% in 2020. Supported by a favourable contribution of the interest – growth rate differential, gross government debt would decrease over the forecast horizon, from 101.4% of GDP in 2018 to 98.7% of GDP in 2020.

1.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Belgium.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. Both the fiscal and financial competitiveness sub-indexes do not point to short-term vulnerabilities (each with a value below the critical threshold).

Financial markets' perceptions of sovereign risk remain favourable, confirmed by the CDS spread and the 'AA' rating assigned by the three major rating agencies to Belgian government debt.

1.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks appear, on the contrary, to be high for Belgium, both according to the sustainability gap indicator S1 and from a DSA perspective. The still high and non-reducing debt-to-GDP ratio over the medium term in the baseline scenario, and the sensitivity to possible macro-fiscal shocks contribute to this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to high risk in the medium term. This indicator shows that a cumulated improvement of 4.3 pps. of GDP of the SPB over five years, relative to the baseline 'no-fiscal policy change' scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. This would require an ambitious SPB by European standards ([1]). The very significant S1 value for Belgium is mainly due to the distance of the debt ratio from the 60% reference value (contribution of 3.0 pps. of GDP) and the projected age-related public spending (contribution of 1.2 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Belgium is also deemed at high risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([2]).

Baseline no-fiscal policy change scenario

Belgium is considered at high risk in the baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption after 2020, government debt would slightly decline until 2024, before raising again until the end of the projection period (t+10) to reach 99.9% of GDP in 2029. This still high and non-reducing level (broadly unchanged compared to 2018) points to insufficient fiscal effort, under this no-fiscal policy change scenario (with an SPB unchanged at 0.4% of GDP) ([3]), to compensate for increasing ageing costs, as well as smaller snowball effects (interest – growth rate differential) towards the end of the projection period.

Government gross financing needs (GFN) ([4]) are projected to slightly increase over the projection period, reaching 20% of GDP in 2029, compared to their estimated value of 17.3% of GDP in 2019.

([1]) Only 7% of the SPBs recorded for the EU countries over 1980-2018 were greater than this value.
([2]) See Annex 6 (Volume 1) for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.
([3]) Over the period 1980-2018, in 52% of the cases, EU countries were able to reach an SPB value greater than 0.4% of GDP.
([4]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

Alternative and stress test scenarios

Given the high initial stock of debt, negative shocks to growth, interest rates or the primary balance would have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at around 105% of GDP) around 5.5 pps. of GDP higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Belgian economy, points to a 31.3% probability of the debt ratio in 2023 being greater than in 2018, entailing high risks given the high starting level. In addition, such shocks point to high uncertainty surrounding baseline projections, as can be seen from the wide debt distribution cone ([5]).

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *surplus* of 1.1% of GDP), the debt ratio in 2029 would be about 5.1 pps. of GDP lower in 2029 than in the baseline scenario.

If fiscal policy was evolving in line with the main provisions of the Stability and Growth Pact (SGP) ([6]), the Belgian government debt would substantially decrease, to less than 76% of GDP in 2029 (about 24 pps. of GDP less than in the baseline scenario). This reduction would bring the debt ratio below the critical threshold of 90% of GDP, and would thus contribute to a significant reduction of medium-term fiscal sustainability risks. However, this would require a significantly higher average SPB over the projection horizon (at +2.2% of GDP over 2021-29) than forecasted for 2020. Even in this case, the debt ratio would remain above the SGP threshold of 60% of GDP in 2029.

1.3. Long-term fiscal sustainability challenges

Over the long term, Belgium is deemed at high fiscal sustainability risk. The sustainability gap indicator pointing to medium risk in the long term and the vulnerabilities linked to the high debt burden - captured by the DSA risk assessment - imply that overall Belgium is deemed at high risk over the long term.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that an improvement of 4.3 pps. of GDP in the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term. This result is due to the projected increase in ageing costs (contribution of 3.5 pps. of GDP) and the unfavourable initial budgetary position (contribution of 0.7 pps. of GDP). These are primarily related to the projected increase in public pension expenditure (contribution of 1.8 pps. of GDP) and long-term care spending (contribution of 1.3 pps. of GDP). Under more adverse scenarios, the S2 indicator would still point to similar medium fiscal risks in the long term as in the baseline scenario ([7]).

Overall, Belgium is deemed at high fiscal sustainability risk in the long term. The sustainability gap indicator pointing to medium risk in the long term combined with the vulnerabilities linked to the high debt burden - captured by the DSA risk assessment (see section 1.2) - imply that Belgium is deemed at high risk over the long term ([8]).

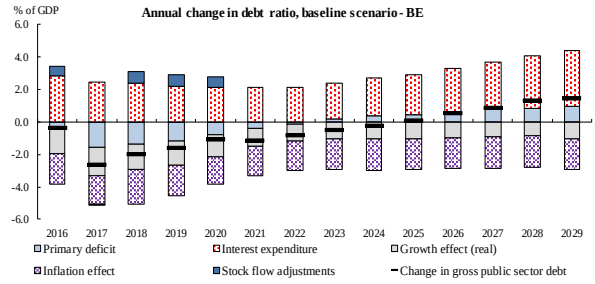
1.4. Additional mitigating and aggravating risk factors

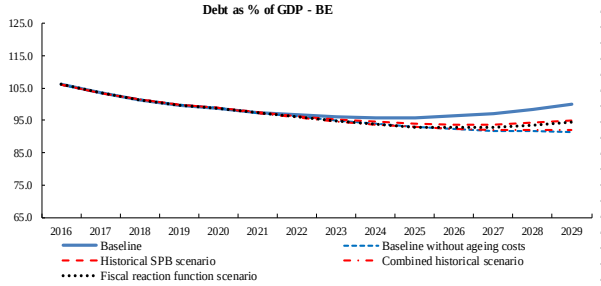
Some additional mitigating and aggravating risk factors exist. The structure of the Belgian government debt, in terms of currency denomination and maturity, and the positive net international investment position helps mitigating vulnerabilities. Yet, the high share of debt holdings by non-residents could be an aggravating factor. Also, the stock of government guarantees (10.9% of GDP in 2016) and the share of non–performing loans in the banking sector point to some contingent liability risks.

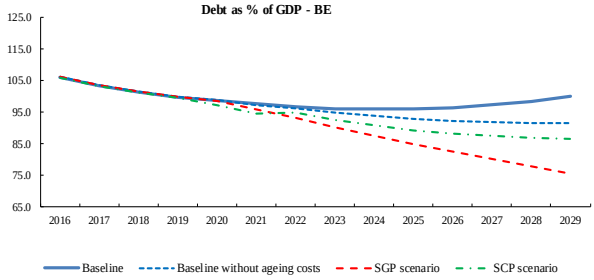
([5]) The difference between the 10th and 90th percentile in 2023 is of around 28.1 pps. of GDP.
([6]) See Annex 5 in Volume 1 of this report for detailed explanations on the definition of the SGP scenario.
([7]) See section 4.3 (Volume 1) for details on these scenarios.
([8]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

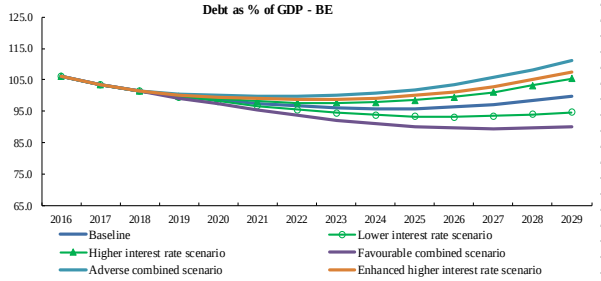
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

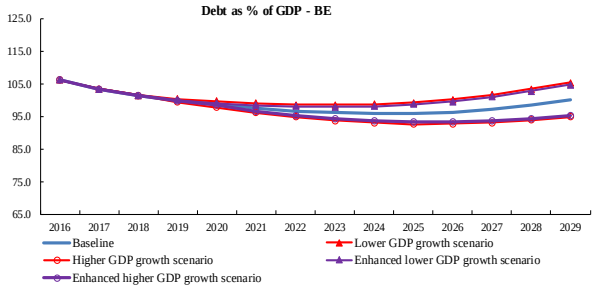
BE - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**106.1**	**103.4**	**101.4**	**99.8**	**98.7**	**97.5**	**96.6**	**96.1**	**95.8**	**95.9**	**96.3**	**97.2**	**98.4**	**99.9**
Changes in the ratio (-1+2+3)	*-0.4*	*-2.7*	*-2.0*	*-1.6*	*-1.1*	*-1.2*	*-0.9*	*-0.6*	*-0.2*	*0.0*	*0.5*	*0.8*	*1.3*	*1.4*
of which														
(1) Primary balance (1.1+1.2+1.3)	**0.4**	**1.6**	**1.4**	**1.2**	**0.8**	**0.4**	**0.1**	**-0.2**	**-0.4**	**-0.4**	**-0.7**	**-0.8**	**-0.8**	**-1.0**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.6***	***1.1***	***1.0***	***0.9***	***0.4***	***0.2***	***0.0***	***-0.2***	***-0.4***	***-0.4***	***-0.7***	***-0.8***	***-0.8***	***-1.0***
(1.1.1) Structural primary balance (bef. CoA)	*0.6*	*1.1*	*1.0*	*0.9*	*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						*0.2*	*0.4*	*0.7*	*1.0*	*1.0*	*1.3*	*1.4*	*1.5*	*1.6*
(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	***-0.1***	***0.0***	***0.1***	***0.2***	***0.2***	***0.2***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.5***	***0.3***	***0.1***	***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)	**-0.6**	**-1.0**	**-1.4**	**-1.1**	**-1.0**	**-0.8**	**-0.8**	**-0.7**	**-0.6**	**-0.4**	**-0.2**	**0.1**	**0.4**	**0.5**
(2.1) Interest expenditure	*2.8*	*2.5*	*2.4*	*2.2*	*2.1*	*2.1*	*2.1*	*2.2*	*2.3*	*2.5*	*2.7*	*2.9*	*3.2*	*3.4*
(2.2) Growth effect	*-1.5*	*-1.7*	*-1.5*	*-1.5*	*-1.4*	*-1.2*	*-1.0*	*-1.0*	*-1.1*	*-1.0*	*-1.0*	*-0.9*	*-0.9*	*-1.0*
(2.3) Inflation effect	*-1.9*	*-1.7*	*-2.2*	*-1.9*	*-1.7*	*-1.8*	*-1.8*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*
(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	**0.6**	**-0.1**	**0.7**	**0.7**	**0.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.6*	*-0.1*	*0.7*	*0.7*	*0.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*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	-1.4	-1.3	-1.3	-1.7	-1.9	-2.1	-2.4	-2.7	-2.9	-3.3	-3.7	-4.0	-4.4

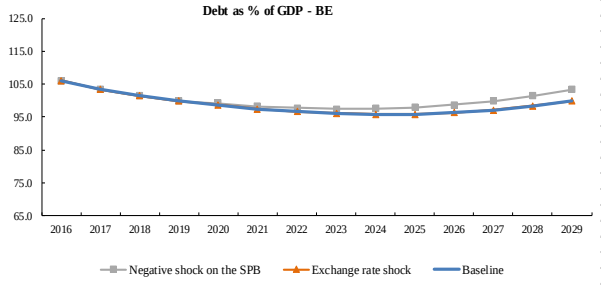


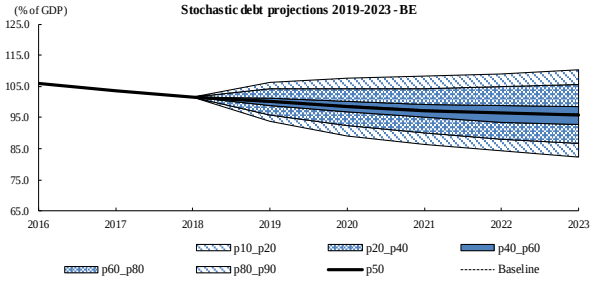


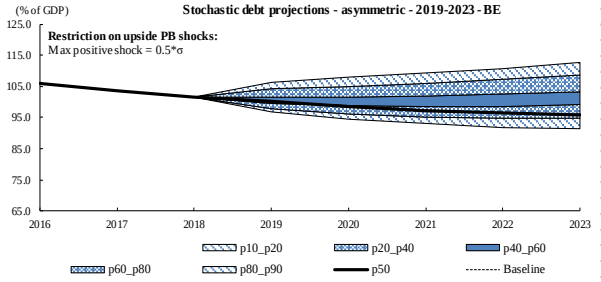












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
LOW (S0 = 0.2)	HIGH	HIGH (S1 = 4.3)	Risk category	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM (S2 = 4.3)	HIGH
			Debt level (2029)	99.9	94.8	105.3	105.4	103.3				
			Debt peak year	2018	2018	2029	2029	2029				
			Percentile rank	52.0%	42.0%							
			Probability debt higher						31.3%			
			Dif. between percentiles						28.1			

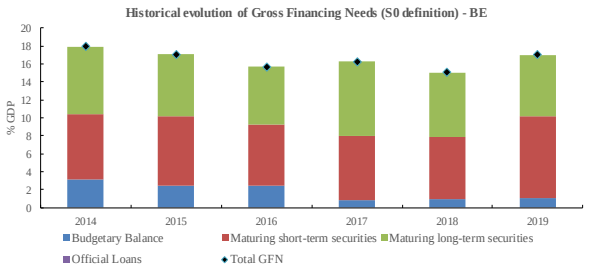
2.2. Sustainability indicators

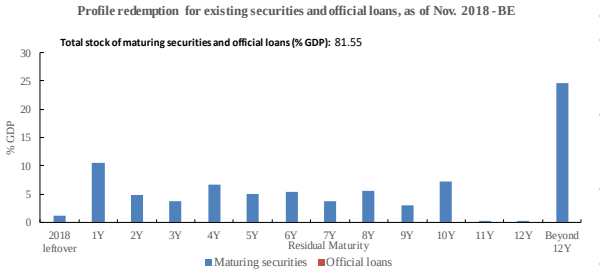
S0 indicator	2009	2018	Critical threshold
Overall index	**0.48**	**0.22**	**0.46**
Fiscal sub-index	0.88	0.19	0.36
Financial competitiveness sub-index	0.27	0.23	0.49

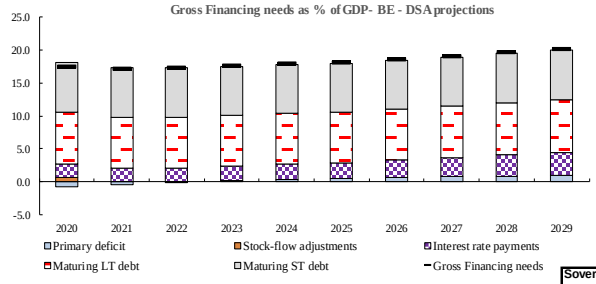
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**3.4**	**4.3**	**4.2**	**4.6**
of which *Gap to the debt-stabilizing primary balance*	*-0.9*	*-0.4*	*-0.7*	*-0.4*
Cost of delaying adjustment	*0.5*	*0.7*	*0.7*	*0.7*
Debt requirement	*3.2*	*3.0*	*2.6*	*3.0*
Ageing costs	*0.6*	*1.2*	*1.7*	*1.3*
Required structural primary balance related to S1	**3.9**	**4.7**	**5.3**	**4.9**

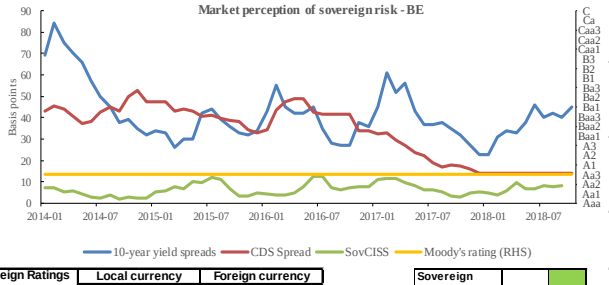
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**2.7**	**4.3**	**3.7**	**5.8**	**5.0**	**5.1**	**4.4**
of which Initial Budgetary position	0.5	0.7	0.1	0.7	0.9	0.7	1.3
Ageing costs	2.2	3.5	3.6	5.1	4.2	4.4	3.1
of which Pensions	*1.0*	*1.8*	*1.8*	*1.8*	*2.5*	*2.4*	*1.7*
Health care	*0.2*	*0.3*	*0.4*	*0.7*	*0.3*	*0.3*	*0.3*
Long-term care	*1.1*	*1.3*	*1.3*	*2.5*	*1.2*	*1.6*	*1.1*
Others	*-0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
Required structural primary balance related to S2	**3.2**	**4.6**	**4.8**	**6.2**	**5.4**	**5.4**	**4.8**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, 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 Nov 2018	10-year	45.0

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

Government debt structure - BE (2017)	Share of short-term government debt (p.p.):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	8.1	0.0	52.0

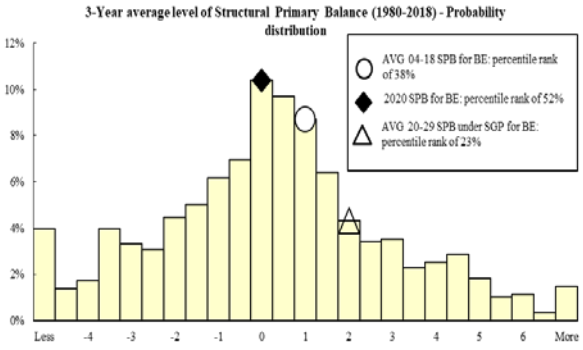
Net International Investment Position (IIP) - BE (2017)	Net IIP (% GDP):
	52.6

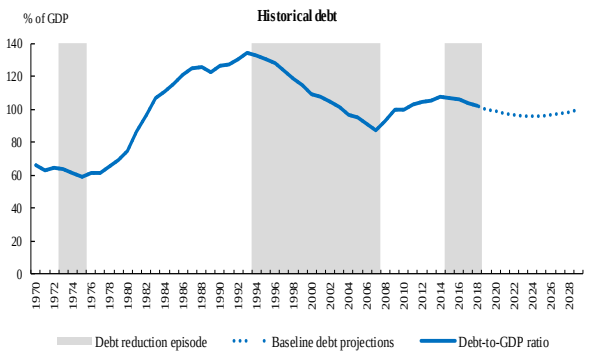
5. Risks related to government's contingent liabilities

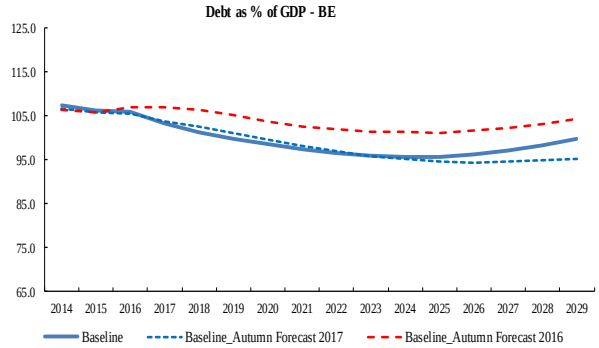
General government contingent liabilities		BE					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		15.1	14.0	9.9	10.9	n.a.	7.3
of which One-off guarantees		*14.4*	*13.4*	*9.3*	*10.3*	*n.a.*	*6.9*
Standardised guarantees		*0.6*	*0.6*	*0.6*	*0.6*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.1*	*0.1*	*0.1*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	12.4	11.6	7.7	8.7	8.0	0.8
	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	0.1
	Total	12.4	11.6	7.7	8.7	8.0	1.0

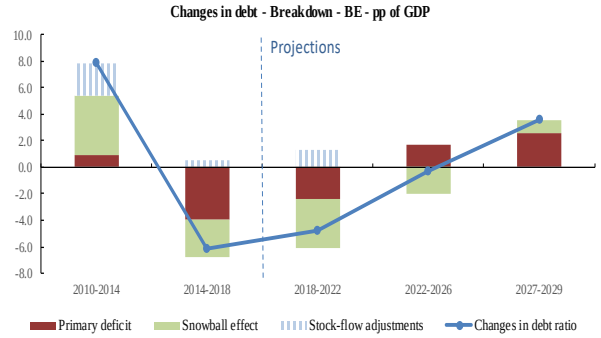
Government's contingent liability risks from banking sector - BE (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	-1.5	3.6	105.5	2.6	-0.6	43.0	0.00%	0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Belgium	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.8	98.7	95.9	97.2	99.9	100.0	97.1	97.8
Primary balance	1.4	1.2	0.8	-0.4	-0.8	-1.0	1.1	-0.4	0.0
Structural primary balance (before CoA)	1.0	0.9	0.4	0.4	0.4	0.4	0.7	0.4	0.5
Real GDP growth	1.5	1.5	1.4	1.1	1.0	1.1	1.5	1.1	1.2
Potential GDP growth	1.5	1.3	1.3	1.1	1.0	1.1	1.4	1.1	1.2
Inflation rate	2.2	1.9	1.8	2.0	2.0	2.0	1.9	2.0	2.0
Implicit interest rate (nominal)	2.4	2.3	2.2	2.7	3.1	3.6	2.3	2.8	2.6
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.8	98.7	93.0	92.9	94.4	100.0	94.3	95.7
Primary balance	1.4	1.2	0.8	0.3	-0.2	-0.5	1.1	0.2	0.4
Structural primary balance (before CoA)	1.0	0.9	0.4	1.1	0.9	0.8	0.7	1.0	0.9
Real GDP growth	1.5	1.5	1.4	1.2	1.1	1.1	1.5	1.0	1.2
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.8	98.4	84.9	80.1	75.5	99.9	85.3	88.9
Primary balance	1.4	1.2	1.8	2.2	2.4	2.5	1.4	2.3	2.1
Structural primary balance	1.0	0.9	1.4	2.2	2.4	2.5	1.1	2.2	2.0
Real GDP growth	1.5	1.5	0.7	1.0	0.9	1.0	1.2	1.0	1.0
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.2	99.4	97.1	89.3	87.6	86.6	99.2	90.2	92.4
Primary balance	1.6	1.5	2.1	1.2	0.9	0.7	1.8	1.3	1.4
Structural primary balance (before CoA)	1.3	1.3	1.9	1.9	1.9	1.9	1.5	1.9	1.8
Real GDP growth	1.8	1.7	1.5	1.1	1.0	1.3	1.7	1.0	1.2
Potential GDP growth	1.4	1.4	1.5	1.1	1.0	1.3	1.4	1.0	1.1
Inflation rate	1.6	1.6	1.4	2.0	2.0	2.0	1.5	1.7	1.7
Implicit interest rate (nominal)	2.3	2.2	2.1	2.8	3.3	3.7	2.2	2.9	2.7
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.8	98.7	93.8	93.7	94.8	100.0	94.9	96.1
Primary balance	1.4	1.2	0.8	0.3	0.0	-0.2	1.1	0.2	0.4
Structural primary balance (before CoA)	1.0	0.9	0.4	1.1	1.1	1.1	0.7	1.0	0.9
Real GDP growth	1.5	1.5	1.4	1.1	1.0	1.1	1.5	1.0	1.1
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.8	98.7	92.8	92.0	92.1	100.0	93.6	95.2
Primary balance	1.4	1.2	0.8	0.3	0.0	-0.2	1.1	0.2	0.4
Structural primary balance (before CoA)	1.0	0.9	0.4	1.1	1.1	1.1	0.7	1.0	0.9
Real GDP growth	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.4	1.4
Implicit interest rate (nominal)	2.4	2.3	2.2	2.8	3.1	3.3	2.3	2.8	2.6
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	100.0	99.1	98.5	101.1	105.4	100.2	99.9	100.0
Implicit interest rate (nominal)	2.4	2.4	2.4	3.3	3.8	4.4	2.4	3.4	3.1
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.6	98.3	93.3	93.5	94.8	99.8	94.4	95.7
Implicit interest rate (nominal)	2.4	2.1	1.9	2.1	2.4	2.8	2.1	2.2	2.2
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	100.1	99.5	100.0	103.0	107.5	100.4	101.4	101.1
Implicit interest rate (nominal)	2.4	2.6	2.7	3.4	4.0	4.5	2.6	3.5	3.3
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.3	97.7	92.6	93.0	94.8	99.5	93.8	95.2
Real GDP growth	1.5	2.0	1.9	1.6	1.5	1.6	1.8	1.6	1.6
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	100.3	99.7	99.2	101.5	105.3	100.4	100.5	100.5
Real GDP growth	1.5	1.0	0.9	0.6	0.5	0.6	1.2	0.6	0.7
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.6	98.3	93.2	93.6	95.4	99.8	94.4	95.8
Real GDP growth	1.5	1.7	1.6	1.6	1.5	1.6	1.6	1.6	1.6
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	100.0	99.1	98.6	100.9	104.7	100.1	99.9	99.9
Real GDP growth	1.5	1.3	1.2	0.6	0.5	0.6	1.4	0.6	0.8
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.9	99.1	97.9	99.9	103.3	100.1	99.1	99.4
Primary balance	1.4	0.8	0.4	-0.8	-1.1	-1.3	0.9	-0.7	-0.3
Structural primary balance (before CoA)	1.0	0.5	0.0	0.0	0.0	0.0	0.5	0.0	0.2
Real GDP growth	1.5	1.8	1.4	1.1	1.0	1.1	1.6	1.1	1.2
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.8	98.7	95.9	97.2	99.9	100.0	97.1	97.8
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	99.1	97.3	90.2	89.5	89.9	99.3	91.3	93.3
Implicit interest rate (nominal)	2.4	2.1	1.9	2.1	2.4	2.8	2.1	2.2	2.2
Real GDP growth	1.5	2.0	1.9	1.6	1.5	1.6	1.8	1.6	1.6
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	101.4	100.5	100.1	101.9	105.7	111.1	100.6	103.4	102.7
Implicit interest rate (nominal)	2.4	2.4	2.4	3.3	3.8	4.4	2.4	3.4	3.1
Real GDP growth	1.5	1.0	0.9	0.6	0.5	0.6	1.2	0.6	0.7

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Based on the European Commission 2018 Autumn Forecast, Bulgaria should experience a deterioration in the structural primary balance (SPB), from a *surplus* of 1.4% of GDP in 2018 to a *surplus* of 0.9% of GDP in 2020. Real GDP growth is expected to remain approximately stable, from 3.5% in 2018 (after 3.8% in 2017) to 3.6% in 2020. Supported by a favourable contribution of the snowball effect (interest – growth rate differential), gross government debt would decrease from 23.3% of GDP in 2018 to 19.5% of GDP in 2020.

2.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Bulgaria.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below the critical thresholds.

Financial markets' perceptions of sovereign risk remain stable. Overall, ratings given by the three major rating agencies to Bulgarian government debt remain at a low investment grade. Nevertheless, the 10-year sovereign yield spreads vis-à-vis the German 10-year bund have reached a value close to 40 basis points.

2.2. Medium-term fiscal sustainability challenges

Fiscal sustainability risks appear low over the medium term, both according to the sustainability gap indicator S1 and from a DSA perspective. The projected low and decreasing debt-to-GDP ratio in the baseline scenario, and the sensitivity to possible macro-fiscal shocks contribute to this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. With a value of -4.2 pps. of GDP, no additional fiscal effort would be needed in the SPB over five years, relative to the baseline 'no-fiscal policy change' scenario, for the debt-to-GDP ratio to reach the reference value of 60% by 2033. On the contrary, the negative value of the indicator suggests that, under S1 assumptions, in Bulgaria there would be some fiscal space. The S1 value is mainly related to the low level of government debt, but also to the favourable initial budgetary position (contribution of -1.5 pps. of GDP). Ageing costs are projected to slightly increase (contribution of 0.4 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Bulgaria is deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([9]).

Baseline no-fiscal policy change scenario

Bulgaria is considered at low risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would decline from 23.3% of GDP in 2018 to 12.4% of GDP in 2029. This projected decrease is largely driven by the SPB on the back, until 2027, of a favourable snowball effect (interest – growth rate differential).

Government gross financing needs (GFN) ([10]) are projected to slightly increase over the projection period, reaching 1% of GDP in 2029, above their estimated value in 2019 (at close to 0.6% of GDP).

([9]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([10]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

Alternative and stress test scenarios

Given the low initial stock of debt, negative shocks to growth, interest rates or the primary balance would not have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on interest rates and nominal growth would entail an increase in the debt ratio of about 0.3-0.9 pps. of GDP in 2029 relative to the baseline. However, based on the historical volatility of the Bulgarian economy, a variety of jointly simulated shocks to growth, interest rates and the primary balance, point to a 36% probability of the debt ratio in 2023 being greater than in 2018, entailing low risks given the low starting level. However, such shocks point to high uncertainty surrounding baseline projections, as can be seen from the wide debt distribution cone ([11]).

If fiscal policy was reverted to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *surplus* of 0.6% of GDP), the Bulgarian debt ratio in 2029 would be only 2 pps. of GDP higher (close to 14.4% of GDP in 2029) than under the baseline scenario.

2.3. Long-term fiscal sustainability challenges

Over the long term, Bulgaria is deemed at low fiscal sustainability risk. The sustainability gap indicator shows that some fiscal adjustment would be needed to stabilise the debt-to-GDP ratio over the long run. Nevertheless, signals from the DSA underpin the low-risk assessment.

([11]) The difference between the 10th and 90th percentile in 2023 is of around 49.9 pps. of GDP.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to low risk in the long term. This indicator shows that, relative to the baseline no-policy-change scenario, a cumulated improvement of 1.8 pps. of GDP in the SPB would be required to stabilise the debt-to-GDP ratio over the long term. This result is due to the projected increase in ageing costs (contribution of 2.2 pps. of GDP), only partially mitigated by the favourable initial budgetary position (0.4 pps. of GDP). It is, in particular, the projected increase in public pension expenditure that drives up ageing costs (contribution of 1.4 pps. of GDP). However, under a more adverse scenario in the healthcare and long-term care areas (with non-demographic drivers pushing upward costs), the S2 indicator would increase to 2.9 pps. of GDP, hence moving beyond the critical threshold, and pointing to medium fiscal risks in the long term ([12]) .

Over the long term, Bulgaria is deemed at low fiscal sustainability risk. Both the sustainability gap indicator S2 and the DSA risk assessment (see section 2.2) imply that long-term fiscal sustainability risks are low for Bulgaria ([13]).

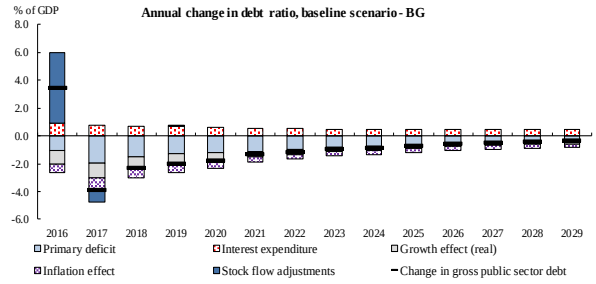
2.4. Additional mitigating and aggravating risk factors

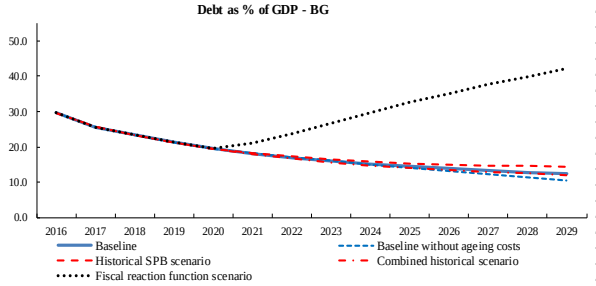
Some additional mitigating and aggravating risk factors exist. The structure of the Bulgarian short-term government debt helps mitigating vulnerabilities. Yet, the share of debt holdings by non-residents, the high share of government debt held in foreign currency, as well as the negative net international investment position could be seen as aggravating factors. In addition, the share of non–performing loans in the banking sector points to some contingent liability risks.

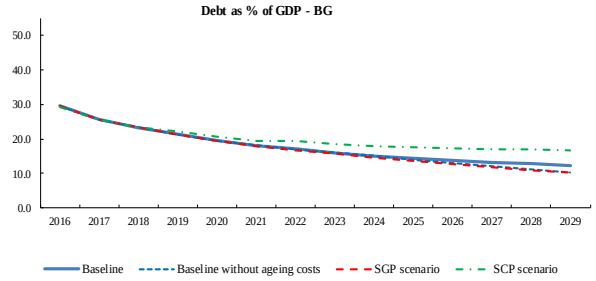
([12]) For more details on this scenario, see Section 4.3 of Chapter 4 in Volume 1 of this report.
([13]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

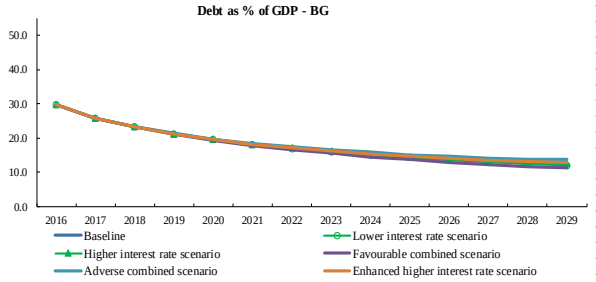
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

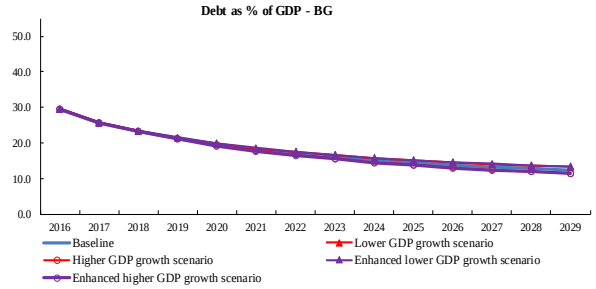
BG - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**29.6**	**25.6**	**23.3**	**21.3**	**19.5**	**18.2**	**17.0**	**16.1**	**15.2**	**14.4**	**13.8**	**13.2**	**12.8**	**12.4**
Changes in the ratio (-1+2+3)	*3.4*	*-4.0*	*-2.3*	*-2.0*	*-1.8*	*-1.3*	*-1.2*	*-1.0*	*-0.9*	*-0.8*	*-0.6*	*-0.5*	*-0.4*	*-0.4*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.1**	**1.9**	**1.5**	**1.3**	**1.2**	**1.1**	**1.0**	**0.8**	**0.8**	**0.7**	**0.5**	**0.5**	**0.4**	**0.4**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.2***	***1.9***	***1.4***	***1.1***	***0.9***	***0.9***	***0.9***	***0.8***	***0.8***	***0.7***	***0.5***	***0.5***	***0.4***	***0.4***
(1.1.1) Structural primary balance (bef. CoA)	*1.2*	*1.9*	*1.4*	*1.1*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*
(1.1.2) Cost of ageing						*0.0*	*0.0*	*0.1*	*0.1*	*0.2*	*0.3*	*0.4*	*0.5*	*0.5*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.2) Cyclical component	***-0.1***	***0.0***	***0.1***	***0.2***	***0.3***	***0.2***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-0.7**	**-1.2**	**-0.8**	**-0.7**	**-0.6**	**-0.2**	**-0.2**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**0.0**	**0.0**
(2.1) Interest expenditure	*0.9*	*0.8*	*0.7*	*0.7*	*0.6*	*0.6*	*0.5*	*0.5*	*0.5*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*
(2.2) Growth effect	*-1.0*	*-1.1*	*-0.9*	*-0.8*	*-0.7*	*-0.4*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.2*
(2.3) Inflation effect	*-0.6*	*-1.0*	*-0.7*	*-0.6*	*-0.5*	*-0.4*	*-0.4*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-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	**5.1**	**-0.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*5.1*	*-0.8*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) 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	1.1	0.7	0.4	0.3	0.4	0.4	0.3	0.3	0.2	0.1	0.0	0.0	-0.1

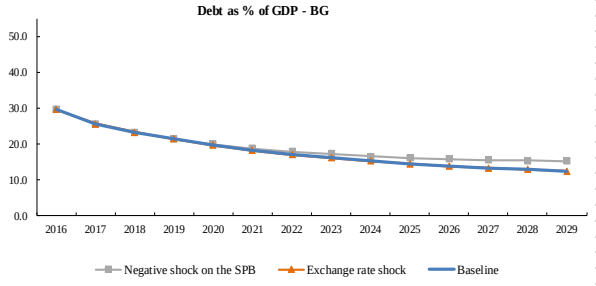


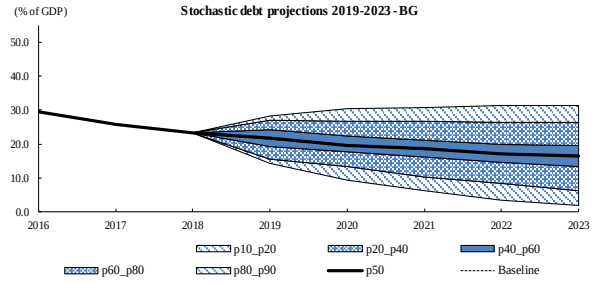


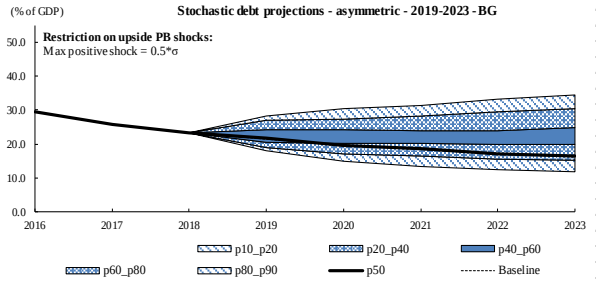












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	MEDIUM			
			Debt level (2029)	12.4	14.4	13.3	12.7	15.2				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	42.0%	45.0%							
			Probability debt higher						28.7%			
			Dif. between percentiles						29.6			
LOW (S0 = 0.2)	LOW	LOW (S1 = -4.2)								LOW	LOW (S2 = 1.8)	LOW

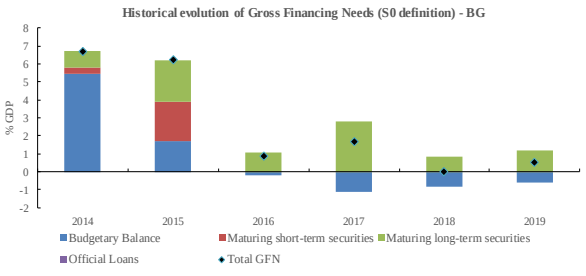
2.2. Sustainability indicators

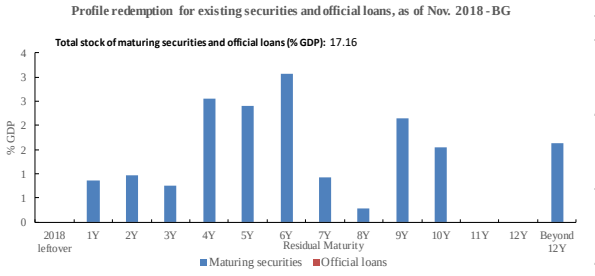
S0 indicator	2009	2018	Critical threshold
Overall index	**0.65**	**0.19**	**0.46**
Fiscal sub-index	0.33	0.00	0.36
Financial competitiveness sub-index	0.82	0.28	0.49

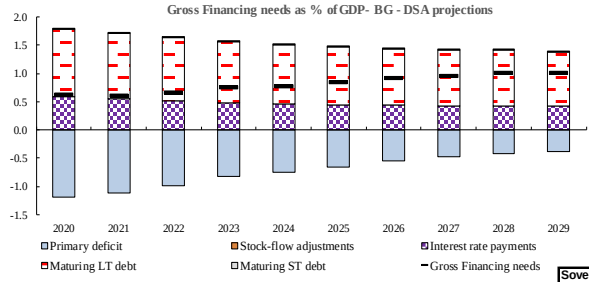
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-4.3**	**-4.2**	**-3.6**	**-3.8**
of which *Gap to the debt-stabilizing primary balance*	*-0.8*	*-0.9*	*-0.5*	*-0.9*
Cost of delaying adjustment	*-0.7*	*-0.6*	*-0.6*	*-0.6*
Debt requirement	*-2.8*	*-3.0*	*-3.2*	*-3.0*
Ageing costs	*-0.1*	*0.4*	*0.7*	*0.7*
Required structural primary balance related to S1	**-3.6**	**-3.3**	**-3.0**	**-3.0**

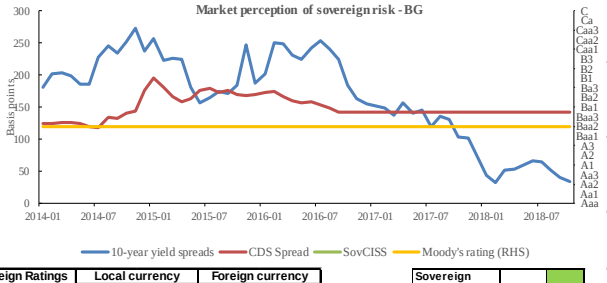
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**1.0**	**1.8**	**2.2**	**2.9**	**1.9**	**2.2**	**1.6**
of which Initial Budgetary position	-0.3	-0.4	-0.2	-0.4	-0.4	-0.4	-0.3
Ageing costs	1.3	2.2	2.4	3.4	2.3	2.7	2.0
of which Pensions	*0.9*	*1.4*	*1.5*	*1.4*	*1.5*	*1.8*	*1.1*
Health care	*0.2*	*0.3*	*0.3*	*0.9*	*0.2*	*0.2*	*0.3*
Long-term care	*0.1*	*0.1*	*0.1*	*0.6*	*0.1*	*0.1*	*0.1*
Others	*0.1*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*
Required structural primary balance related to S2	**1.7**	**2.7**	**2.8**	**3.8**	**2.8**	**3.1**	**2.5**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, BG	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Baa2		Baa2	
S&P	BBB-	A-3	BBB-	A-3
Fitch	BBB		BBB	F2

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	34.0

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

Government debt structure - BG (2017)	Share of short-term government debt (p.p.):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	0.0	80.6	44.6

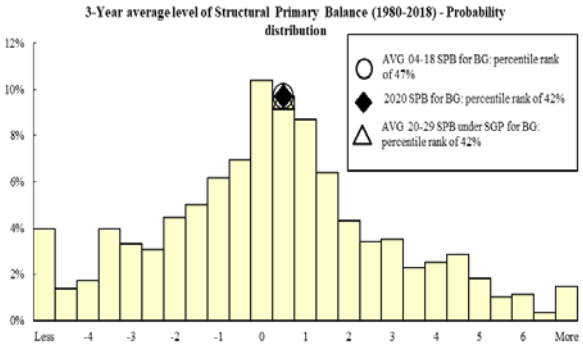
Net International Investment Position (IIP) - BG (2017)	Net IIP (% GDP):
	-42.8

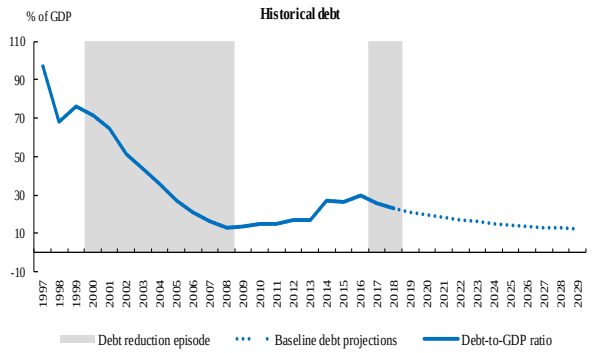
5. Risks related to government's contingent liabilities

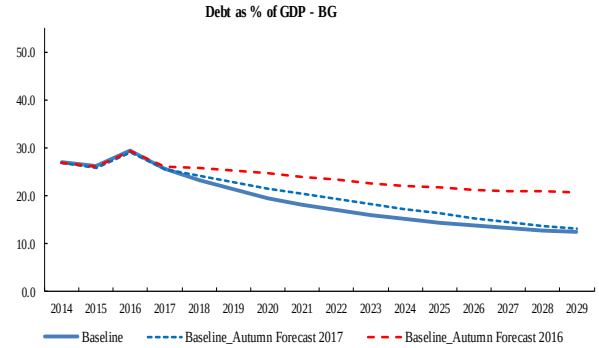
General government contingent liabilities		BG					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		1.1	0.7	0.5	0.5	n.a.	7.3
of which One-off guarantees		*1.1*	*0.7*	*0.4*	*0.4*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.1*	*0.1*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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	0.8
	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	0.1
	Total	0.0	0.0	0.0	0.0	0.0	1.0

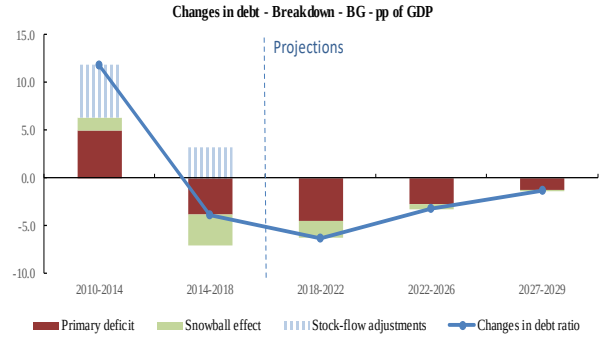
Government's contingent liability risks from banking sector - BG (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	6.2	8.7	69.0	10.6	-2.0	54.5	0.00%	0.02%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Bulgaria	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.3	19.5	14.4	13.2	12.4	21.4	14.8	16.4
Primary balance	1.5	1.3	1.2	0.7	0.5	0.4	1.3	0.7	0.8
Structural primary balance (before CoA)	1.4	1.1	0.9	0.9	0.9	0.9	1.1	0.9	0.9
Real GDP growth	3.5	3.7	3.6	1.8	1.6	1.5	3.6	1.8	2.2
Potential GDP growth	3.4	3.4	3.2	1.8	1.6	1.5	3.3	1.9	2.2
Inflation rate	2.6	2.4	2.2	2.0	2.0	2.0	2.4	2.0	2.1
Implicit interest rate (nominal)	2.9	3.0	3.0	3.1	3.2	3.5	2.9	3.1	3.1
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.3	19.5	32.6	37.6	42.1	21.4	32.1	29.4
Primary balance	1.5	1.3	1.2	-2.8	-2.3	-1.9	1.3	-2.6	-1.6
Structural primary balance (before CoA)	1.4	1.1	0.9	-2.6	-1.9	-1.4	1.1	-2.4	-1.5
Real GDP growth	3.5	3.7	3.6	1.5	1.4	1.4	3.6	2.0	2.4
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.3	19.4	13.7	11.8	10.2	21.3	13.8	15.7
Primary balance	1.5	1.3	1.3	0.9	0.8	0.8	1.4	0.9	1.0
Structural primary balance	1.4	1.1	1.0	0.9	0.8	0.8	1.2	0.9	1.0
Real GDP growth	3.5	3.7	3.5	1.8	1.7	1.6	3.6	1.8	2.2
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	22.1	20.7	17.5	17.0	16.8	22.0	17.9	18.9
Primary balance	0.7	0.9	1.1	0.3	0.2	0.1	0.9	0.4	0.5
Structural primary balance (before CoA)	0.7	1.0	1.1	0.6	0.6	0.6	0.9	0.6	0.7
Real GDP growth	3.9	3.8	3.7	1.9	1.9	1.6	3.8	1.9	2.4
Potential GDP growth	3.5	3.5	3.5	1.9	1.9	1.6	3.5	1.9	2.3
Inflation rate	2.1	2.3	2.3	2.0	2.0	2.0	2.2	1.8	1.9
Implicit interest rate (nominal)	2.7	2.7	2.8	3.2	3.5	3.8	2.7	3.2	3.1
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.3	19.5	15.3	14.7	14.4	21.4	15.7	17.1
Primary balance	1.5	1.3	1.2	0.4	0.2	0.1	1.3	0.5	0.7
Structural primary balance (before CoA)	1.4	1.1	0.9	0.6	0.6	0.6	1.1	0.7	0.8
Real GDP growth	3.5	3.7	3.6	1.8	1.6	1.5	3.6	1.8	2.2
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.3	19.5	14.0	12.9	12.0	21.4	14.4	16.2
Primary balance	1.5	1.3	1.2	0.4	0.2	0.1	1.3	0.5	0.7
Structural primary balance (before CoA)	1.4	1.1	0.9	0.6	0.6	0.6	1.1	0.7	0.8
Real GDP growth	3.5	3.7	3.6	3.4	3.4	3.4	3.6	3.4	3.5
Implicit interest rate (nominal)	2.9	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.3	19.5	14.5	13.5	12.7	21.4	14.9	16.5
Implicit interest rate (nominal)	2.9	3.0	3.0	3.3	3.6	3.9	3.0	3.4	3.3
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.3	19.5	14.3	13.0	12.1	21.4	14.6	16.3
Implicit interest rate (nominal)	2.9	2.9	2.9	2.8	2.9	3.1	2.9	2.9	2.9
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.3	19.6	14.6	13.5	12.8	21.4	15.0	16.6
Implicit interest rate (nominal)	2.9	3.0	3.1	3.4	3.6	4.0	3.0	3.5	3.3
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.2	19.3	13.8	12.5	11.6	21.3	14.2	16.0
Real GDP growth	3.5	4.2	4.1	2.3	2.1	2.0	4.0	2.3	2.7
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.4	19.7	15.0	14.0	13.3	21.5	15.4	16.9
Real GDP growth	3.5	3.2	3.1	1.3	1.1	1.0	3.3	1.3	1.8
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.1	19.2	13.7	12.4	11.4	21.2	14.1	15.8
Real GDP growth	3.5	4.6	4.5	2.3	2.1	2.0	4.2	2.3	2.7
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.5	19.9	15.2	14.1	13.4	21.6	15.5	17.0
Real GDP growth	3.5	2.9	2.8	1.3	1.1	1.0	3.1	1.3	1.7
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.4	19.8	16.1	15.5	15.2	21.5	16.5	17.7
Primary balance	1.5	1.2	0.9	0.4	0.2	0.1	1.2	0.4	0.6
Structural primary balance (before CoA)	1.4	1.0	0.6	0.6	0.6	0.6	1.0	0.6	0.7
Real GDP growth	3.5	3.8	3.8	1.8	1.6	1.5	3.7	1.8	2.2
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.3	19.5	14.4	13.2	12.4	21.4	14.8	16.4
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.2	19.3	13.7	12.3	11.3	21.3	14.1	15.9
Implicit interest rate (nominal)	2.9	2.9	2.9	2.9	2.9	3.1	2.9	2.9	2.9
Real GDP growth	3.5	4.2	4.1	2.3	2.1	2.0	4.0	2.3	2.7
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	23.3	21.4	19.8	15.2	14.2	13.6	21.5	15.6	17.0
Implicit interest rate (nominal)	2.9	3.0	3.0	3.3	3.6	4.0	3.0	3.4	3.3
Real GDP growth	3.5	3.2	3.1	1.3	1.1	1.0	3.3	1.3	1.8

CZECH REPUBLIC

Based on the European Commission Autumn 2018 Forecasts, the Czech Republic should maintain a structural primary balance (SPB) in 2020, at 1.0% of GDP (down from 1.7% in 2018). Real GDP growth should slow down slightly, from 3.0% in 2018 (after 4.3% in 2017) to 2.6% in 2020. Supported by a favourable contribution of the interest rate – growth rate differential (reverse snowball effect), gross government debt would decrease over the forecast horizon, from 33.2% of GDP in 2018 to 31.2% of GDP in 2020, the lowest level since 2007.

3.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for the Czech Republic.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below their critical thresholds.

Financial markets' perceptions of sovereign risk remain favourable, reflected in stable ratings and CDS spreads.

3.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks also appear to be low for the Czech Republic, both according to the sustainability gap indicator S1 and from a DSA perspective.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. This reflects a strong initial budgetary position and a debt ratio below 60% of GDP in 2020, implying that no additional improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. This results in a negative value for the indicator (-2.9 pps. of GDP), which suggests that under S1 assumptions in the Czech Republic there would be some fiscal space. However, projected ageing costs are significant, contributing to raising the S1 indicator by 0.9 pps. (i.e. above the 0.5 pps. threshold signalling ageing-related risks).

Debt sustainability analysis (DSA)

Over the medium term, the Czech Republic is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([14]).

Baseline no-fiscal policy change scenario

The Czech Republic is considered at low risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would decline until the end of the projection period (t+10) to reach about 26% of GDP in 2029. This moderate and decreasing level of debt to GDP is driven by the assumed fiscal effort under the no-fiscal policy change scenario (with an SPB unchanged at 1.0% of GDP). Yet, rising ageing costs and less favourable snowball effects towards the end of the projection period would imply a stabilisation of the debt ratio by the end of the horizon (i.e. 2026-29).

Government gross financing needs (GFN) ([15]) are projected to decline over the projection period, settling slightly under 4%, below the estimated value for 2019 of around 5.5%.

Alternative and stress test scenarios

Given the moderate initial stock of debt, negative shocks to growth and to interest rates would have a manageable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at 27.5% of GDP) of around

([14]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([15]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

1.5 pps. of GDP higher than in the baseline. Based on the historical volatility of the Czech economy, a very large set of jointly simulated shocks to growth, interest rates and the primary balance, points to a low 23% probability of the debt ratio in 2023 being greater than in 2018. Yet, such shocks also point to medium uncertainty surrounding baseline projections, as can be seen from the relatively wide debt distribution cone ([16]).

If fiscal policy was reverting back to historical behaviour (i.e. with the SPB gradually converging to its last 15-year historical average, a *deficit* of 0.8% of GDP), the Czech debt ratio in 2029 would be higher than in 2018 and as much as 13 pps. of GDP higher (at close to 39% of GDP in 2029) than under the baseline scenario.

3.3. Long-term fiscal sustainability challenges

Over the long term, the Czech Republic is deemed at medium fiscal sustainability risk due to a positive sustainability gap indicator, pointing at some challenge to stabilise debt over the long term.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that some improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term (a positive fiscal gap at 4.1 pps. of GDP). This result is due to the projected increase in ageing costs (contribution of 4.7 pps. of GDP), mitigated by the favourable initial budgetary position (-0.5 pps. of GDP). It is in particular the projected increase in public expenditure on pensions and long-term care that drives up ageing costs (contributions of 2.2 pps. and 1.1 pps. of GDP, respectively). Moreover, under a scenario that assumes an initial budgetary position more in line with historical average, the S2 indicator would point at a fiscal gap at 6.2 pps. of GDP, above the critical threshold (i.e. 6 pps.) pointing to high fiscal risks in the long term for that indicator.

([16]) The difference between the 10th and 90th percentile in 2023 is of around 23 pps. of GDP.

Over the long term, the Czech Republic is deemed at medium fiscal sustainability risk. This overall long-term risk assessment is due to the positive sustainability gap indicator S2 pointing to medium risk in the long term, while the DSA points to low risk (see section 3.2) ([17]).

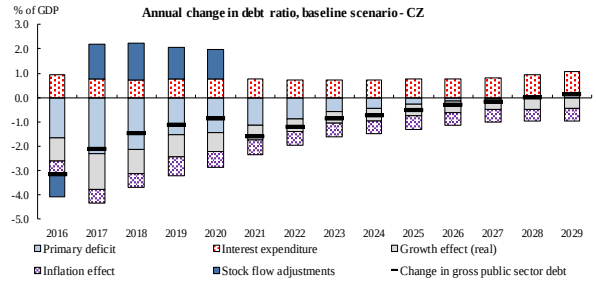
3.4. Additional mitigating and aggravating risk factors

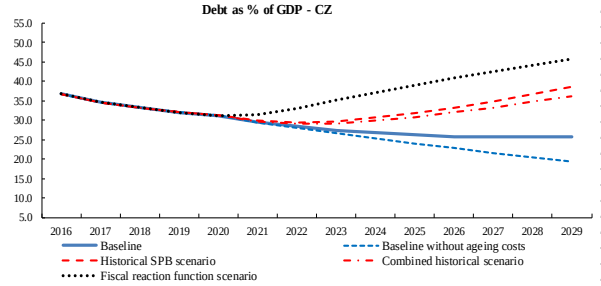
Some additional mitigating and aggravating risk factors exist. The structure of the Czech government debt, in terms of share of short-term debt helps mitigating vulnerabilities. Yet, the high share of debt in foreign currency and of holdings by non-residents, as well as the negative net international investment position, could be aggravating factors. As regards contingent liability risks, data do not point to significant risks.

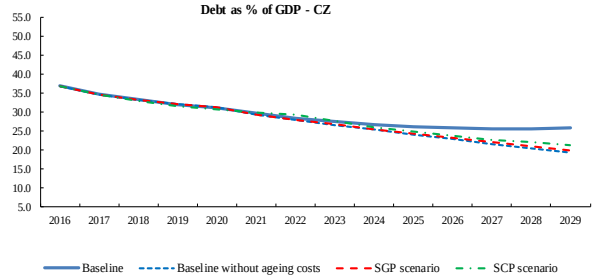
([17]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

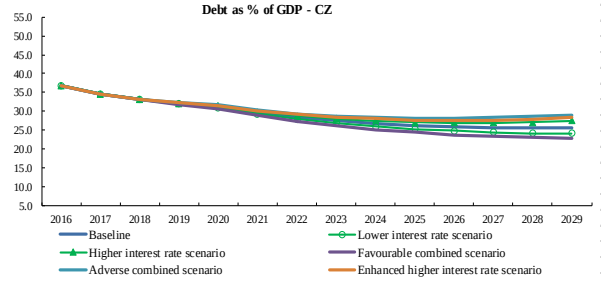
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

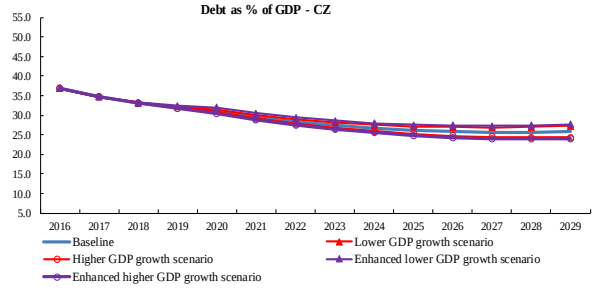
CZ - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**36.8**	**34.7**	**33.2**	**32.1**	**31.2**	**29.6**	**28.3**	**27.5**	**26.7**	**26.2**	**25.8**	**25.7**	**25.6**	**25.8**
Changes in the ratio (-1+2+3)	*-3.1*	*-2.1*	*-1.5*	*-1.1*	*-0.9*	*-1.6*	*-1.2*	*-0.9*	*-0.8*	*-0.5*	*-0.3*	*-0.2*	*0.0*	*0.1*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.6**	**2.3**	**2.1**	**1.5**	**1.4**	**1.1**	**0.9**	**0.6**	**0.4**	**0.3**	**0.1**	**0.0**	**-0.1**	**-0.2**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.9***	***1.9***	***1.7***	***1.0***	***1.0***	***0.8***	***0.7***	***0.6***	***0.4***	***0.3***	***0.1***	***0.0***	***-0.1***	***-0.2***
(1.1.1) Structural primary balance (bef. CoA)	*1.9*	*1.9*	*1.7*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*
(1.1.2) Cost of ageing						*0.2*	*0.3*	*0.4*	*0.6*	*0.7*	*0.9*	*1.0*	*1.1*	*1.2*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*
(1.2) Cyclical component	***-0.2***	***0.4***	***0.5***	***0.5***	***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	***-0.1***	***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)	**-0.5**	**-1.3**	**-0.8**	**-0.9**	**-0.6**	**-0.5**	**-0.3**	**-0.3**	**-0.3**	**-0.2**	**-0.2**	**-0.1**	**-0.1**	**0.0**
(2.1) Interest expenditure	*0.9*	*0.7*	*0.7*	*0.8*	*0.8*	*0.8*	*0.7*	*0.7*	*0.7*	*0.8*	*0.8*	*0.8*	*0.9*	*0.9*
(2.2) Growth effect	*-0.9*	*-1.5*	*-1.0*	*-0.9*	*-0.8*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*
(2.3) Inflation effect	*-0.5*	*-0.5*	*-0.5*	*-0.8*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-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**	**1.5**	**1.5**	**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	*-0.8*	*1.9*	*1.9*	*1.2*	*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	*-0.2*	*-0.4*	*-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	0.9	1.1	0.9	0.2	0.2	0.1	0.0	-0.1	-0.3	-0.5	-0.6	-0.8	-0.9	-1.1

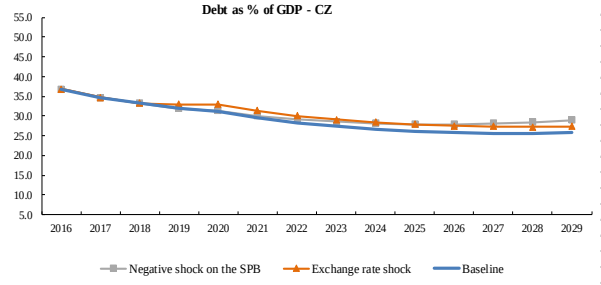


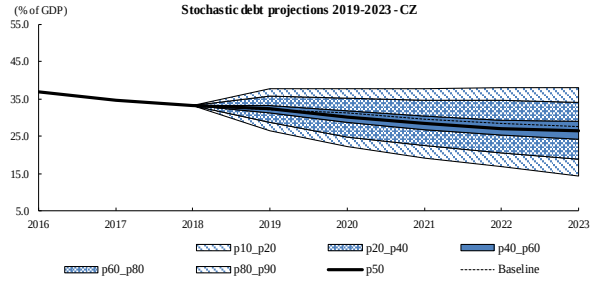


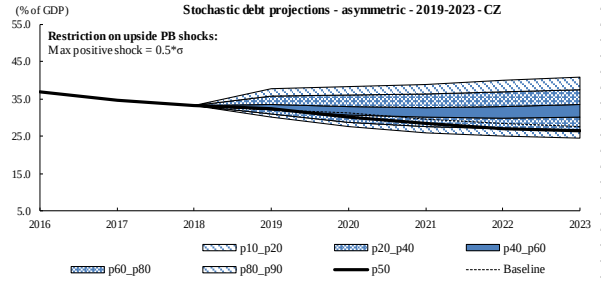












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	25.8	38.6	27.3	27.5	28.9				
			Debt peak year	2018	2029	2018	2018	2018				
			Percentile rank	40.0%	65.0%							
			Probability debt higher						23.2%			
			Dif. between percentiles						23.4			
LOW (S0 = 0.2)	LOW	LOW (S1 = -2.9)								LOW	MEDIUM (S2 = 4.1)	MEDIUM

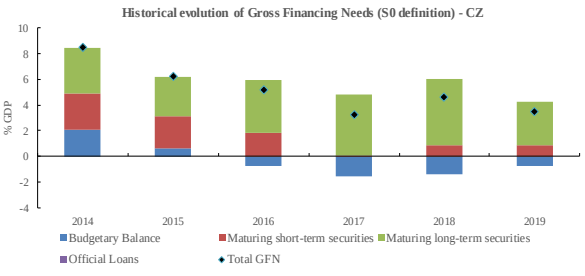
2.2. Sustainability indicators

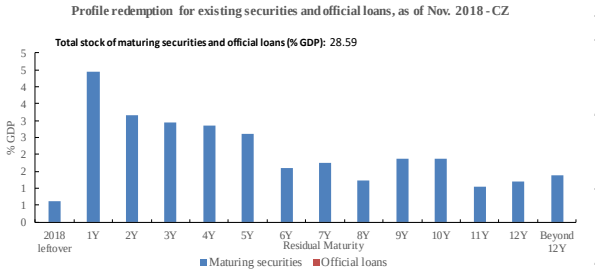
S0 indicator	2009	2018	Critical threshold
Overall index	**0.34**	**0.18**	**0.46**
Fiscal sub-index	0.42	0.00	0.36
Financial competitiveness sub-index	0.31	0.27	0.49

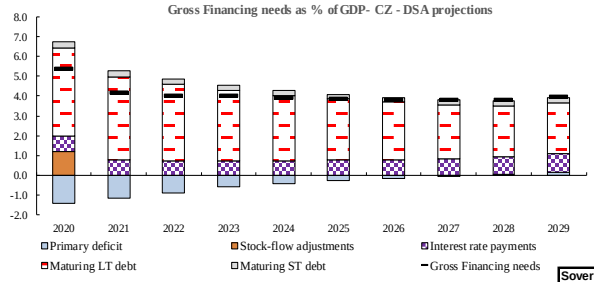
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-3.1**	**-2.9**	**0.2**	**-2.6**
of which *Gap to the debt-stabilizing primary balance*	*-1.1*	*-1.2*	*0.9*	*-1.2*
Cost of delaying adjustment	*-0.5*	*-0.4*	*0.0*	*-0.4*
Debt requirement	*-2.1*	*-2.2*	*-2.1*	*-2.2*
Ageing costs	*0.6*	*0.9*	*1.4*	*1.2*
Required structural primary balance related to S1	**-2.2**	**-1.9**	**-0.6**	**-1.6**

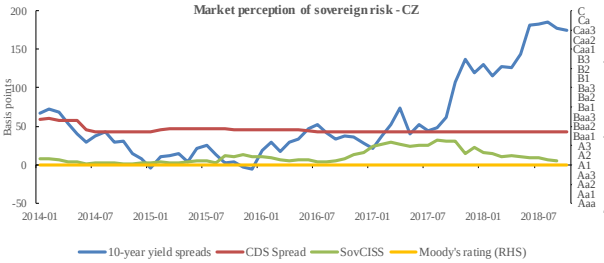
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**1.7**	**4.1**	**6.2**	**5.2**	**4.1**	**4.8**	**3.7**
of which Initial Budgetary position	-0.5	-0.5	1.2	-0.5	-0.5	-0.5	-0.4
Ageing costs	2.2	4.7	4.9	5.7	4.6	5.4	4.0
of which Pensions	*0.6*	*2.2*	*2.3*	*2.2*	*2.2*	*2.6*	*1.8*
Health care	*0.7*	*0.8*	*0.8*	*1.3*	*0.7*	*0.8*	*0.7*
Long-term care	*0.5*	*1.1*	*1.2*	*1.6*	*1.0*	*1.3*	*0.9*
Others	*0.4*	*0.6*	*0.7*	*0.6*	*0.6*	*0.6*	*0.6*
Required structural primary balance related to S2	**2.6**	**5.1**	**5.4**	**6.2**	**5.1**	**5.8**	**4.7**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, CZ	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	A1		A1	P-1
S&P	AA	A-1+	AA-	A-1+
Fitch	AA-		AA-	F1+

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	174.0

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

Government debt structure - CZ (2017)	Share of short-term government debt (p.p.): 3.0	Share of government debt in foreign currency (%): 45.4	Share of government debt by non-residents (%): 44.7

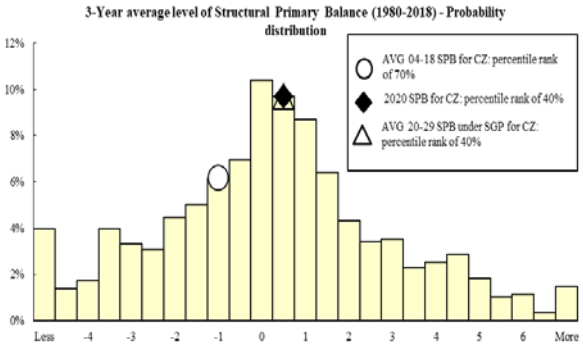
Net International Investment Position (IIP) - CZ (2017)	Net IIP (% GDP): -26.5

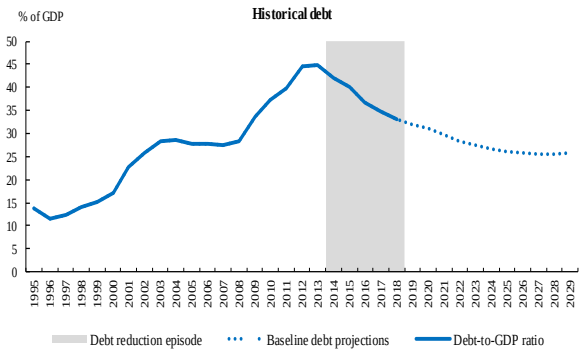
5. Risks related to government's contingent liabilities

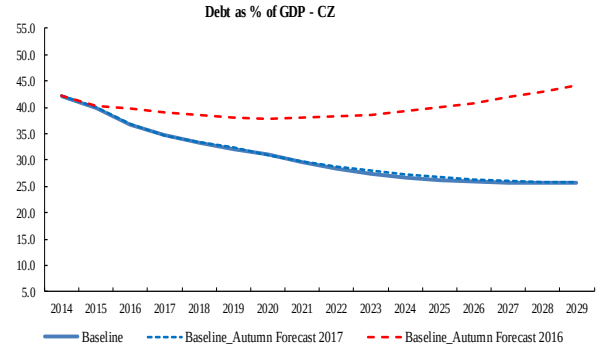
General government contingent liabilities		CZ					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		0.5	0.6	0.3	0.3	n.a.	7.3
of which One-off guarantees		*0.5*	*0.6*	*0.3*	*0.3*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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	0.8
	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	0.1
	Total	0.0	0.1	0.0	0.0	0.0	1.0

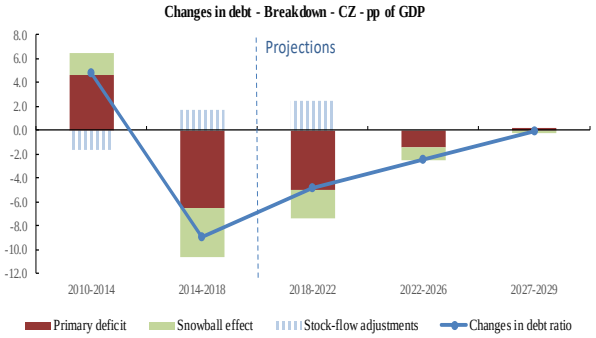
Government's contingent liability risks from banking sector - CZ (2017)	Private sector credit flow (% GDP): 4.1	Change in nominal house price index: 11.7	Bank loans-to-deposits ratio (p.p.): 83.2	Share of non-performing loans (%): 1.6	Change in share of non-performing loans (p.p): -1.0	NPL coverage ratio 62.5	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Czech Republic	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.1	31.2	26.2	25.7	25.8	32.2	26.8	28.1
Primary balance	2.1	1.5	1.4	0.3	0.0	-0.2	1.7	0.4	0.7
Structural primary balance (before CoA)	1.7	1.0	1.0	1.0	1.0	1.0	1.2	1.0	1.0
Real GDP growth	3.0	2.9	2.6	1.8	1.8	1.9	2.8	1.8	2.1
Potential GDP growth	2.9	2.8	2.7	1.8	1.8	1.9	2.8	2.0	2.2
Inflation rate	1.6	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Implicit interest rate (nominal)	2.2	2.4	2.5	2.9	3.3	3.8	2.4	3.0	2.9
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.1	31.2	39.1	42.7	45.9	32.2	38.9	37.2
Primary balance	2.1	1.5	1.4	-2.1	-1.8	-1.4	1.7	-1.9	-1.0
Structural primary balance (before CoA)	1.7	1.0	1.0	-1.4	-0.8	-0.3	1.2	-1.3	-0.6
Real GDP growth	3.0	2.9	2.6	1.6	1.6	1.7	2.8	1.9	2.2
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.1	31.2	24.3	22.1	20.0	32.2	24.5	26.4
Primary balance	2.1	1.5	1.5	0.9	1.0	1.0	1.7	1.0	1.2
Structural primary balance	1.7	1.0	1.0	0.9	1.0	1.0	1.2	1.0	1.0
Real GDP growth	3.0	2.9	2.5	1.8	1.8	1.9	2.8	1.8	2.1
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	32.9	31.6	30.7	24.8	22.8	21.4	31.7	25.2	26.9
Primary balance	2.4	1.8	1.8	1.0	0.8	0.6	2.0	1.1	1.3
Structural primary balance (before CoA)	1.9	1.3	1.5	1.6	1.6	1.6	1.6	1.6	1.6
Real GDP growth	3.6	3.3	2.6	2.0	2.0	1.9	3.2	1.8	2.2
Potential GDP growth	3.0	2.9	2.8	2.0	2.0	1.9	2.9	1.9	2.1
Inflation rate	1.5	1.8	1.7	2.0	2.0	2.0	1.7	1.8	1.7
Implicit interest rate (nominal)	2.2	2.4	2.6	3.2	3.5	3.8	2.4	3.2	3.0
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.1	31.2	31.9	34.9	38.6	32.2	32.8	32.7
Primary balance	2.1	1.5	1.4	-1.5	-1.7	-1.9	1.7	-1.1	-0.4
Structural primary balance (before CoA)	1.7	1.0	1.0	-0.8	-0.8	-0.8	1.2	-0.5	-0.1
Real GDP growth	3.0	2.9	2.6	1.8	1.8	1.9	2.8	2.0	2.2
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.1	31.2	30.8	33.3	36.2	32.2	31.6	31.8
Primary balance	2.1	1.5	1.4	-1.5	-1.7	-1.9	1.7	-1.1	-0.4
Structural primary balance (before CoA)	1.7	1.0	1.0	-0.8	-0.8	-0.8	1.2	-0.5	-0.1
Real GDP growth	3.0	2.9	2.6	2.7	2.7	2.7	2.8	2.8	2.8
Implicit interest rate (nominal)	2.2	2.4	2.5	3.1	3.4	3.6	2.4	3.1	2.9
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.1	31.3	27.1	27.0	27.5	32.2	27.8	28.9
Implicit interest rate (nominal)	2.2	2.6	2.9	3.6	4.1	4.6	2.5	3.7	3.4
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.0	31.0	25.3	24.4	24.1	32.1	25.9	27.4
Implicit interest rate (nominal)	2.2	2.2	2.2	2.2	2.5	2.9	2.2	2.4	2.3
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.2	31.5	27.7	27.7	28.3	32.3	28.3	29.3
Implicit interest rate (nominal)	2.2	2.8	3.2	3.9	4.3	4.8	2.7	4.0	3.6
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	31.9	30.9	25.2	24.5	24.3	32.0	25.9	27.4
Real GDP growth	3.0	3.4	3.1	2.3	2.3	2.4	3.2	2.3	2.5
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.2	31.5	27.2	26.9	27.3	32.3	27.8	28.9
Real GDP growth	3.0	2.4	2.1	1.3	1.3	1.4	2.5	1.3	1.6
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	31.7	30.5	24.8	24.1	24.0	31.8	25.5	27.0
Real GDP growth	3.0	4.1	3.8	2.3	2.3	2.4	3.6	2.3	2.7
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.5	31.9	27.6	27.3	27.7	32.5	28.2	29.3
Real GDP growth	3.0	1.7	1.4	1.3	1.3	1.4	2.0	1.3	1.5
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	31.9	31.3	27.9	28.1	28.9	32.1	28.6	29.5
Primary balance	2.1	1.7	1.1	0.0	-0.3	-0.5	1.6	0.0	0.4
Structural primary balance (before CoA)	1.7	1.2	0.6	0.6	0.6	0.6	1.2	0.6	0.8
Real GDP growth	3.0	2.8	2.9	1.8	1.8	1.9	2.9	1.8	2.1
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	33.0	32.9	27.8	27.3	27.4	33.0	28.5	29.6
Exchange rate depreciation	0.0%	6.0%	6.0%	0.0%	0.0%	0.0%	4.0%	0.0%	1.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	31.9	30.7	24.4	23.3	22.8	31.9	25.0	26.7
Implicit interest rate (nominal)	2.2	2.2	2.2	2.2	2.5	2.9	2.2	2.4	2.3
Real GDP growth	3.0	3.4	3.1	2.3	2.3	2.4	3.2	2.3	2.5
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.2	32.3	31.7	28.1	28.3	29.1	32.4	28.8	29.7
Implicit interest rate (nominal)	2.2	2.6	2.9	3.6	4.1	4.6	2.5	3.7	3.4
Real GDP growth	3.0	2.4	2.1	1.3	1.3	1.4	2.5	1.3	1.6

DENMARK

Based on the European Commission 2018 Autumn Forecast, Denmark's structural primary balance (SPB) should remain broadly stable, with a *surplus* of 1.6% of GDP in 2018 and a *surplus* of 1.7% of GDP in 2020. Real GDP growth should accelerate somewhat, from 1.2% in 2018 (after 2.3% in 2017) to 1.6% in 2020. Supported by a favourable contribution of the interest rate – growth rate differential in 2019-2020, gross government debt would continue to decrease over the forecast period, from 33.3% of GDP in 2018 to 30.5% of GDP in 2020.

4.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Denmark.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. None of the fiscal and financial competitiveness sub-indexes point to short-term vulnerabilities (each having a value below the critical threshold).

Financial markets' perceptions of sovereign risk remain favourable. This is confirmed by the 'AAA stable' rating given by the three major rating agencies to Danish government long-term debt and by the 10-year sovereign yield spreads vis-à–vis the German 10-year bund, which remain below 30 bps.

4.2. Medium-term fiscal sustainability challenges

Similarly, fiscal sustainability risks appear to be low for Denmark over the medium term, both according to the sustainability gap indicator S1 and from a DSA perspective. The low and decreasing debt-to-GDP ratio at the end of projections in the baseline scenario, and resilience to possible macro-fiscal shocks underpin this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. With a value of -5.1 pps. of GDP, no additional fiscal effort would be needed in the SPB over five years, relative to the baseline 'no-fiscal policy change' scenario, for the debt-to-GDP ratio to reach the reference value of 60% by 2033. On the contrary, the indicator's negative value suggests that under S1 assumptions in Denmark there would be some fiscal space. The S1 value is mainly related to the favourable initial budgetary position (with a contribution of -3.0 pps. of GDP) and the low level of government debt in the last forecast year (contribution of -2.2 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Denmark is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([18]).

Baseline no-fiscal policy change scenario

Denmark is considered at low risk in baseline medium-term debt projections. Under normal economic conditions and a 'no-fiscal policy change' assumption, government debt would follow a declining path until the end of the projection period (t+10) - to reach around 11% of GDP in 2029 ([19]). This low and decreasing level compared to 2018 is driven by the structural primary surplus assumed under the no-fiscal policy change scenario (with an SPB unchanged at 1.7% of GDP) ([20]), supported by favourable interest rate – growth rate differential (snowball effects) and decreasing ageing costs over most of the projection period.

([18]) See Annex 6 in Volume I of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([19]) The Danish authorities forecast a higher government debt trajectory than in the Commission's baseline scenario, with a debt ratio reaching around 23% of GDP in 2029. This outcome is due to adopted changes in the financing of housing. These measures would not, however, significantly alter the vulnerability of public debt to adverse shocks.

([20]) Over the period 1980-2018, in only 27% of the cases, EU countries were able to reach an SPB value greater than 1.7% of GDP.

Alternative and stress test scenarios

Given the low stock of initial debt, adverse shocks to growth, interest rates or the primary balance would not have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a similar debt ratio in 2029 (at about 12% of GDP), only around 1 pp. of GDP higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Danish economy, points to only a 8% probability of the debt ratio in 2023 being greater than in 2018.

If fiscal policy were to revert to historical behaviour (with the SPB gradually converging to its last 15-year historical average, *surplus* of 2.3% of GDP), the Danish debt ratio in 2029 would be some 4 pps. of GDP lower (at 6.5% of GDP in 2029) than under the baseline scenario.

4.3. Long-term fiscal sustainability challenges

Over the long term, Denmark is deemed at low fiscal sustainability risk, both according to the long-term sustainability gap indicator S2 and from a DSA perspective.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to limited risk in the long term. This indicator shows that no improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term (a negative fiscal gap at -0.5 pps. of GDP). This result is due to the favourable initial budgetary position (contribution of -1.1 pps. of GDP) which fully mitigates the projected ageing costs increase over the long term (contribution of 0.7 pps. of GDP). Under a more adverse scenario, the 'AWG risk' ([21]), the S2 indicator would reach 1.8 pps. of GDP, while the associated fiscal risks would remain low.

([21]) For more details on this scenario see Section 4.3 of Chapter 4 in Volume 1 of this report.

Over the long term, Denmark is deemed at low fiscal sustainability risk. This result follows from both the long-term sustainability gap indicator S2 and the DSA risk assessment (see section 4.2) ([22]).

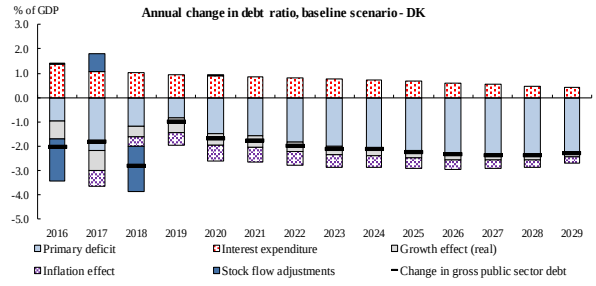
4.4. Additional mitigating and aggravating risk factors

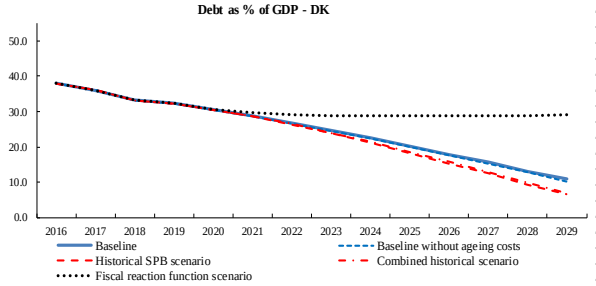
Some additional mitigating and aggravating risk factors exist. Danish government debt has a favourable structure in terms of currency denomination and share of debt holdings by non-residents. The high share of short-term debt in total government debt could represent a vulnerability in terms of funding pressures, although, given the low overall debt burden, the short-term debt share of GDP is contained.

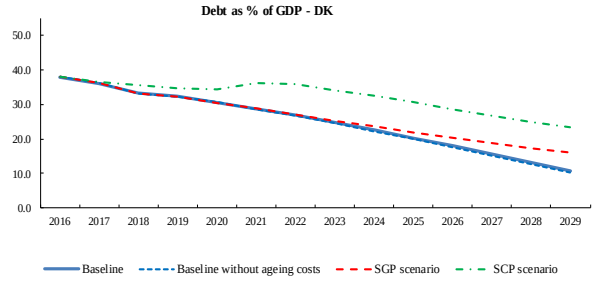
([22]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

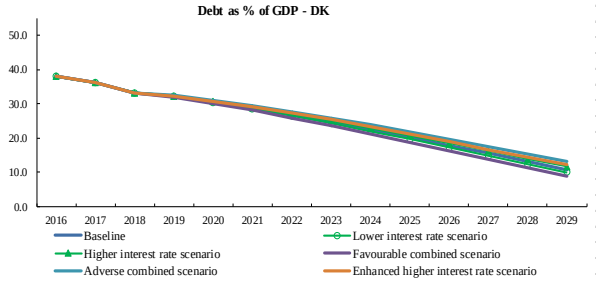
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

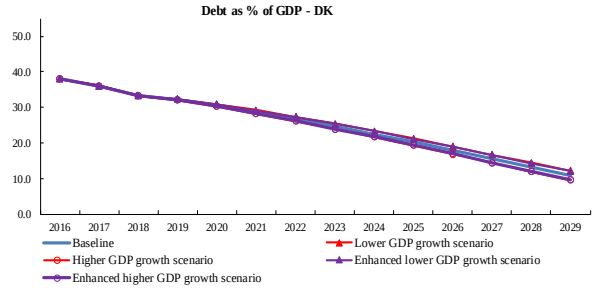
DK - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**37.9**	**36.1**	**33.3**	**32.2**	**30.5**	**28.7**	**26.8**	**24.7**	**22.5**	**20.3**	**17.9**	**15.5**	**13.1**	**10.8**
Changes in the ratio (-1+2+3)	*-2.0*	*-1.8*	*-2.8*	*-1.0*	*-1.7*	*-1.8*	*-2.0*	*-2.1*	*-2.1*	*-2.3*	*-2.3*	*-2.4*	*-2.4*	*-2.3*
of which														
(1) Primary balance (1.1+1.2+1.3)	**0.9**	**2.2**	**1.2**	**0.8**	**1.5**	**1.6**	**1.8**	**2.0**	**2.1**	**2.2**	**2.3**	**2.3**	**2.4**	**2.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.5***	***2.3***	***1.6***	***1.8***	***1.7***	***1.8***	***1.9***	***2.0***	***2.1***	***2.2***	***2.3***	***2.3***	***2.4***	***2.3***
(1.1.1) Structural primary balance (bef. CoA)	*1.5*	*2.3*	*1.6*	*1.8*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
(1.1.2) Cost of ageing						*0.0*	*-0.2*	*-0.3*	*-0.3*	*-0.3*	*-0.4*	*-0.4*	*-0.3*	*-0.2*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*-0.1*	*0.0*	*0.1*	*0.2*	*0.2*	*0.3*	*0.3*
(1.2) Cyclical component	***-0.6***	***-0.1***	***-0.4***	***-0.3***	***-0.3***	***-0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.1***	***0.0***	***0.0***	***-0.7***	***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)	**0.6**	**-0.4**	**0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.1**	**-0.1**	**-0.1**	**0.0**	**0.0**	**0.0**	**0.0**
(2.1) Interest expenditure	*1.4*	*1.1*	*1.0*	*0.9*	*0.9*	*0.8*	*0.8*	*0.8*	*0.7*	*0.7*	*0.6*	*0.5*	*0.5*	*0.4*
(2.2) Growth effect	*-0.8*	*-0.8*	*-0.4*	*-0.6*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.3*	*-0.3*	*-0.3*	*-0.2*	*-0.2*	*-0.2*
(2.3) Inflation effect	*0.0*	*-0.6*	*-0.4*	*-0.5*	*-0.6*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.4*	*-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**	**0.7**	**-1.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-1.7*	*0.7*	*-1.8*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	0.1	1.2	0.5	0.9	0.8	0.9	1.1	1.2	1.4	1.5	1.7	1.8	1.9	1.9

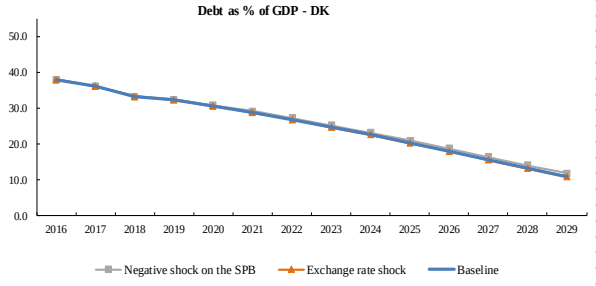


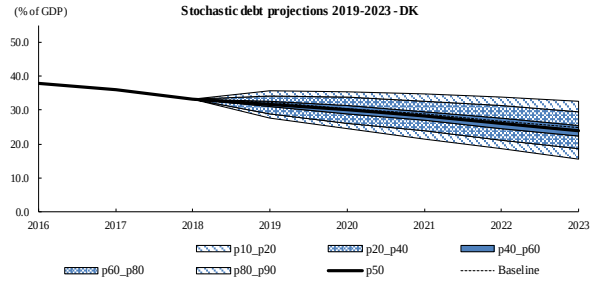


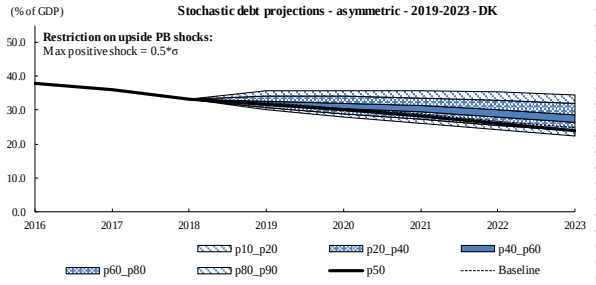












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	10.8	6.5	12.2	11.7	11.9				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	28.0%	23.0%							
			Probability debt higher						8.1%			
			Dif. between percentiles						17.1			
LOW (S0 = 0.1)	LOW	LOW (S1 = -5.1)								LOW	LOW (S2 = -0.5)	LOW

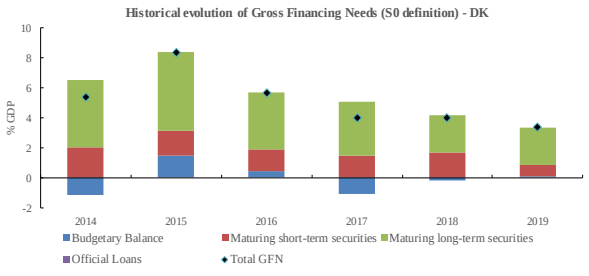
2.2. Sustainability indicators

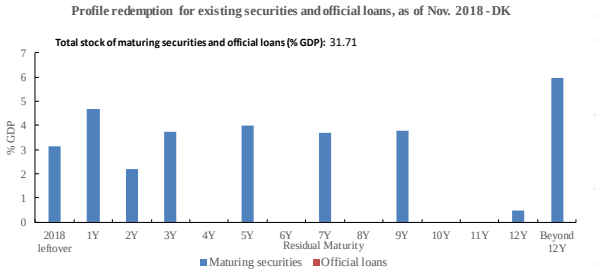
S0 indicator	2009	2018	Critical threshold
Overall index	**0.42**	**0.12**	**0.46**
Fiscal sub-index	0.28	0.00	0.36
Financial competitiveness sub-index	0.50	0.19	0.49

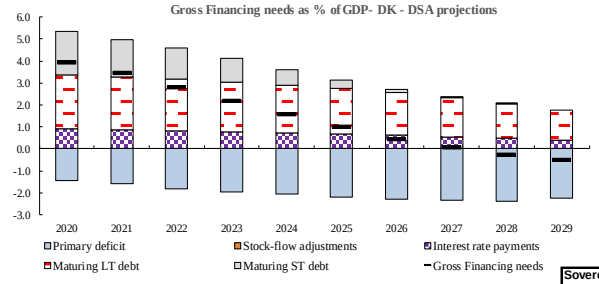
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-3.4**	**-5.1**	**-6.5**	**-4.7**
of which *Gap to the debt-stabilizing primary balance*	*-0.7*	*-2.2*	*-2.8*	*-2.2*
Cost of delaying adjustment	*-0.5*	*-0.8*	*-1.0*	*-0.7*
Debt requirement	*-1.9*	*-2.2*	*-2.9*	*-2.2*
Ageing costs	*-0.2*	*0.1*	*0.2*	*0.5*
Required structural primary balance related to S1	**-3.1**	**-3.4**	**-4.2**	**-3.0**

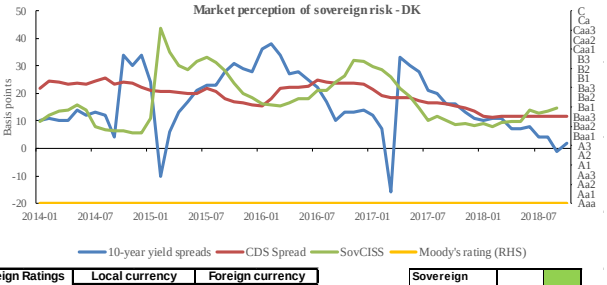
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**0.9**	**-0.5**	**-1.1**	**1.8**	**-0.6**	**-0.2**	**-0.6**
of which Initial Budgetary position	0.4	-1.1	-1.8	-1.1	-1.1	-1.1	-1.1
Ageing costs	0.5	0.7	0.7	2.9	0.5	0.9	0.5
of which Pensions	*-1.1*	*-1.2*	*-1.3*	*-1.2*	*-1.2*	*-1.1*	*-1.1*
Health care	*0.5*	*0.7*	*0.7*	*1.2*	*0.6*	*0.7*	*0.6*
Long-term care	*1.6*	*1.6*	*1.7*	*3.3*	*1.6*	*1.9*	*1.4*
Others	*-0.5*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.5*	*-0.4*
Required structural primary balance related to S2	**1.1**	**1.3**	**1.2**	**3.5**	**1.1**	**1.6**	**1.2**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, DK	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 Nov 2018	10-year	2.0

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

Government debt structure - DK (2017)	Share of short-term government debt (p.p.): 11.5	Share of government debt in foreign currency (%): 0.3	Share of government debt by non-residents (%): 30.4

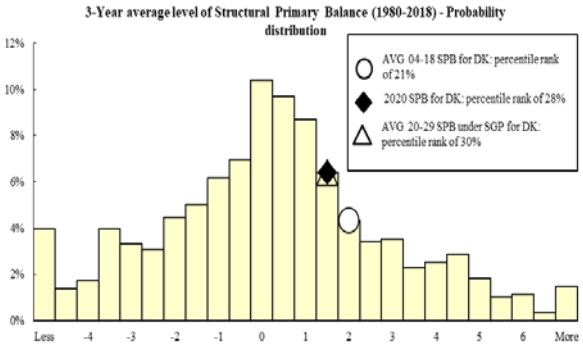
Net International Investment Position (IIP) - DK (2017)	Net IIP (% GDP): 56.3

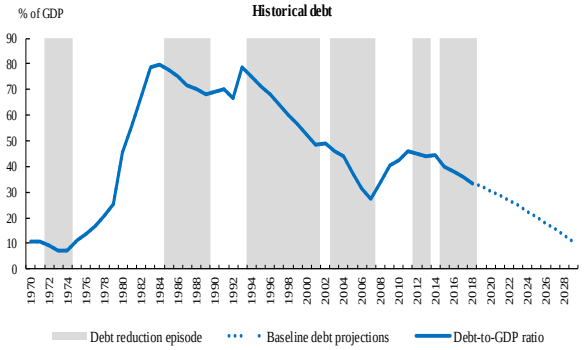
5. Risks related to government's contingent liabilities

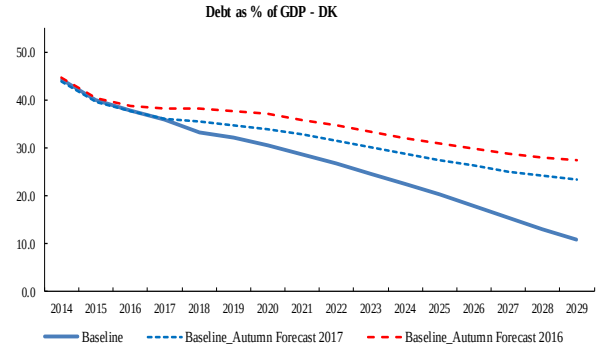
General government contingent liabilities		DK					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		12.9	9.9	9.9	9.9	n.a.	7.3
of which One-off guarantees		*12.8*	*9.8*	*9.9*	*9.9*	*n.a.*	*6.9*
Standardised guarantees		*0.1*	*0.1*	*0.1*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		:	*0.1*	*0.2*	*0.2*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	8.8	0.3	0.0	0.0	0.0	0.8
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.2	0.2	0.0	0.0	0.0	0.1
	Total	9.0	0.5	0.0	0.0	0.0	1.0

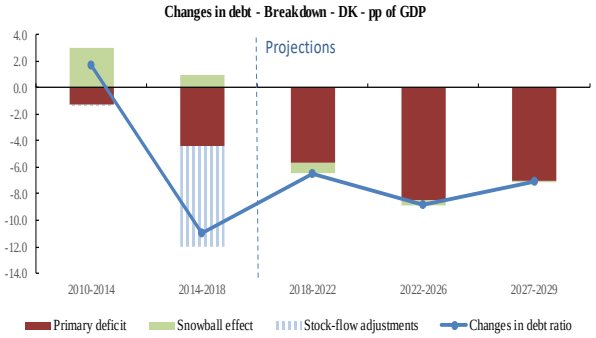
Government's contingent liability risks from banking sector - DK (2017)	Private sector credit flow (% GDP): -1.4	Change in nominal house price index: 4.5	Bank loans-to-deposits ratio (p.p.): 349.9	Share of non-performing loans (%): 2.4	Change in share of non-performing loans (p.p): -0.7	NPL coverage ratio 28.9	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.01%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Denmark	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.2	30.5	20.3	15.5	10.8	32.0	20.0	23.0
Primary balance	1.2	0.8	1.5	2.2	2.3	2.3	1.2	2.1	1.9
Structural primary balance (before CoA)	1.6	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Real GDP growth	1.2	1.8	1.6	1.3	1.3	1.4	1.5	1.4	1.4
Potential GDP growth	1.6	1.6	1.6	1.3	1.3	1.4	1.6	1.3	1.4
Inflation rate	1.1	1.6	2.0	2.0	2.0	2.0	1.6	2.0	1.9
Implicit interest rate (nominal)	2.9	2.9	2.9	3.1	3.2	3.2	2.9	3.0	3.0
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.2	30.5	28.7	28.8	29.1	32.0	28.9	29.7
Primary balance	1.2	0.8	1.5	0.0	-0.1	-0.1	1.2	0.0	0.3
Structural primary balance (before CoA)	1.6	1.8	1.7	-0.5	-0.6	-0.6	1.7	-0.3	0.2
Real GDP growth	1.2	1.8	1.6	1.4	1.3	1.3	1.5	1.6	1.6
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.2	30.5	21.9	18.9	15.9	32.0	22.1	24.6
Primary balance	1.2	0.8	1.5	1.6	1.5	1.4	1.2	1.5	1.4
Structural primary balance	1.6	1.8	1.8	1.6	1.5	1.4	1.7	1.6	1.6
Real GDP growth	1.2	1.8	1.6	1.4	1.3	1.4	1.5	1.4	1.4
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.6	34.8	34.2	30.6	26.8	23.2	34.9	30.3	31.5
Primary balance	1.2	1.3	1.2	1.7	1.9	1.8	1.2	1.7	1.5
Structural primary balance (before CoA)	1.4	1.5	1.3	1.3	1.3	1.3	1.4	1.3	1.3
Real GDP growth	1.9	1.7	1.6	1.7	1.6	1.6	1.7	1.4	1.5
Potential GDP growth	1.4	1.8	1.9	1.7	1.6	1.6	1.7	1.5	1.5
Inflation rate	1.8	1.8	1.6	2.0	2.0	2.0	1.7	1.8	1.8
Implicit interest rate (nominal)	2.8	2.6	2.7	3.4	3.7	3.9	2.7	3.4	3.2
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.2	30.5	18.3	12.4	6.5	32.0	18.0	21.5
Primary balance	1.2	0.8	1.5	2.8	2.9	2.9	1.2	2.6	2.2
Structural primary balance (before CoA)	1.6	1.8	1.7	2.3	2.3	2.3	1.7	2.2	2.1
Real GDP growth	1.2	1.8	1.6	1.3	1.3	1.4	1.5	1.3	1.4
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.2	30.5	18.6	12.8	7.0	32.0	18.3	21.7
Primary balance	1.2	0.8	1.5	2.8	2.9	2.9	1.2	2.6	2.2
Structural primary balance (before CoA)	1.6	1.8	1.7	2.3	2.3	2.3	1.7	2.2	2.1
Real GDP growth	1.2	1.8	1.6	1.1	1.1	1.1	1.5	1.2	1.3
Implicit interest rate (nominal)	2.9	2.9	2.9	3.2	3.2	3.2	2.9	3.1	3.1
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.3	30.7	20.8	16.3	11.7	32.1	20.6	23.4
Implicit interest rate (nominal)	2.9	3.1	3.1	3.5	3.6	3.7	3.0	3.4	3.3
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.2	30.4	19.7	14.9	10.0	32.0	19.5	22.6
Implicit interest rate (nominal)	2.9	2.8	2.7	2.7	2.7	2.7	2.8	2.7	2.7
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.3	30.8	21.2	16.7	12.2	32.1	20.9	23.7
Implicit interest rate (nominal)	2.9	3.2	3.3	3.6	3.8	3.8	3.2	3.6	3.5
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.1	30.2	19.3	14.4	9.6	31.9	19.1	22.3
Real GDP growth	1.2	2.3	2.1	1.8	1.8	1.9	1.9	1.9	1.9
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.4	30.9	21.2	16.7	12.2	32.2	21.0	23.8
Real GDP growth	1.2	1.3	1.1	0.8	0.8	0.9	1.2	0.9	1.0
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.1	30.3	19.4	14.5	9.6	31.9	19.2	22.4
Real GDP growth	1.2	2.2	2.0	1.8	1.8	1.9	1.8	1.9	1.9
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.4	30.8	21.2	16.7	12.1	32.1	20.9	23.7
Real GDP growth	1.2	1.4	1.2	0.8	0.8	0.9	1.3	0.9	1.0
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.4	30.8	20.9	16.4	11.9	32.1	20.7	23.6
Primary balance	1.2	0.7	1.4	2.1	2.2	2.2	1.1	2.0	1.8
Structural primary balance (before CoA)	1.6	1.6	1.7	1.7	1.7	1.7	1.6	1.7	1.7
Real GDP growth	1.2	1.9	1.5	1.3	1.3	1.4	1.6	1.4	1.4
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.2	30.5	20.3	15.5	10.8	32.0	20.0	23.0
Exchange rate depreciation	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.0	30.1	18.8	13.8	8.9	31.8	18.7	21.9
Implicit interest rate (nominal)	2.9	2.8	2.7	2.7	2.7	2.7	2.8	2.7	2.7
Real GDP growth	1.2	2.3	2.1	1.8	1.8	1.9	1.9	1.9	1.9
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	33.3	32.4	31.0	21.8	17.5	13.1	32.2	21.6	24.2
Implicit interest rate (nominal)	2.9	3.1	3.1	3.5	3.7	3.7	3.0	3.5	3.4
Real GDP growth	1.2	1.3	1.1	0.8	0.8	0.9	1.2	0.9	1.0

GERMANY

Based on the European Commission Autumn 2018 Forecasts, Germany should maintain a strong structural primary balance (SPB) in 2020, at 1.9% of GDP (down from 2.4% in 2018). Real GDP growth should remain stable with growth at 1.7% in 2018 (after 2.2% in 2017) and at 1.8% and 1.7% in 2019 and 2020, respectively. Supported by a favourable contribution of the interest rate – growth rate differential, gross government debt would decrease over the forecast horizon, from 60.1% of GDP in 2018 to 53.7% of GDP in 2020, the lowest level since 1995.

5.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Germany.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below their critical thresholds.

Financial markets' perceptions of sovereign risk remain favourable, confirmed by the stable high rating given by the three major rating agencies to German government debt.

5.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks also appear to be low for Germany, both according to the sustainability gap indicator S1 and from a DSA perspective.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. This reflects strong initial budgetary position and a debt ratio already close to 60% of GDP in 2020. The S1 indicator shows that no additional improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. The indicator is even negative at -2.0 pps. of GDP, suggesting that under S1 assumptions there would be some fiscal space in Germany. The S1 value is mainly related to the low level of government debt in the last forecast year (with a contribution of -0.5 pps. of GDP), but also notably to the favourable initial budgetary position (contribution of -2.3 pps. of GDP). However, projected ageing costs are significant, contributing to raising substantially the S1 indicator by 1.1 pps.

Debt sustainability analysis (DSA)

Over the medium term, Germany is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from both the baseline scenario, confirmed by alternative and stress test scenarios ([23]).

Baseline no-fiscal policy change scenario

Germany is considered at low risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would decline over the projection period, to reach less than 37% of GDP in 2029. This moderate and decreasing level is driven by the assumed fiscal effort under this no-fiscal policy change scenario (with an SPB unchanged at 1.9% of GDP).

Government gross financing needs (GFN) ([24]) are projected to decline over the projection period, reaching close to 6.5%, well below the estimated value for 2019 of close to 10%.

Alternative and stress test scenarios

Given the moderate initial stock of debt, negative shocks to growth and to interest rates would have a manageable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at 40% of GDP) around 3 pps. of GDP higher than in the baseline. Based on the historical volatility of the German economy, a very

([23]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([24]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

large set of jointly simulated shocks to growth, interest rates and the primary balance, points to a negligible 1% probability of the debt ratio in 2023 being greater than in 2018. Moreover, such shocks point to low uncertainty surrounding baseline projections, as can be seen from the relatively narrow debt distribution cone ([25]).

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *surplus* of 1.6% of GDP), the German debt ratio in 2029 would be a mere 2 pps. of GDP higher (at close to 39% of GDP in 2029) than under the baseline scenario.

5.3. Long-term fiscal sustainability challenges

Over the long term, fiscal sustainability risks also appear to be low for Germany, both according to the sustainability gap indicator S2 and from a DSA perspective.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to low risk in the long term. This indicator shows that some improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term (a positive fiscal gap at 1.7 pp. of GDP). This result is due to the projected increase in ageing costs (contribution of 2.9 pp. of GDP), mitigated by the favourable initial budgetary position (contribution of -1.2 pps. of GDP). It is in particular the projected increase in public pension expenditure that drives up ageing costs (contributions of 1.4 pps. of GDP). Moreover, under a more adverse scenario in the health care and long-term care areas (with non-demographic drivers pushing up costs), the S2 indicator would increase to above 3 pps. of GDP, hence beyond the critical threshold pointing to medium fiscal risks in the long term.

Over the long term, Germany is deemed at low fiscal sustainability risk. The positive sustainability gap S2 indicator points to low risk in the long term as the DSA (see section 5.2), implying that Germany is deemed at low risk over the long term ([26]).

5.4. Additional mitigating and aggravating risk factors

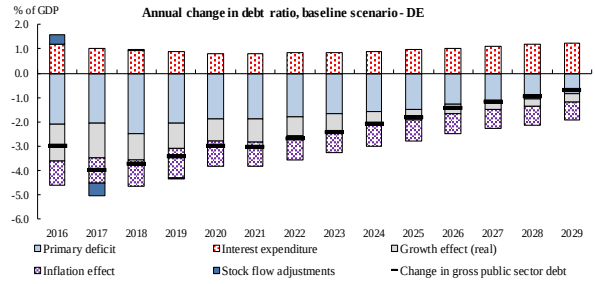
Some additional mitigating and aggravating risk factors exist. The structure of the German government debt, in terms of currency denomination and maturity and the positive net international investment position, are additional mitigating factors. Yet, the high share of debt holdings by non-residents and the large share of short-term debt could be aggravating factors. As regards contingent liability risks, while state guarantees appear relatively large, those are declining and latest data point to overall limited risk stemming from the banking sector.

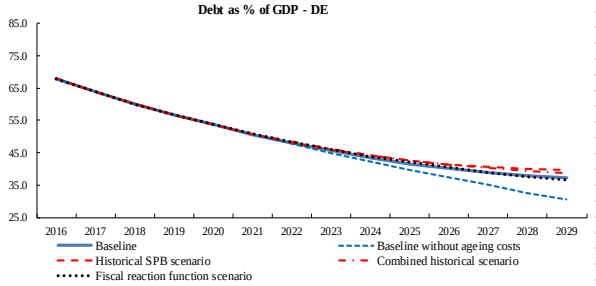
([25]) The difference between the 10th and 90th percentile in 2023 is of around 15 pp. of GDP.

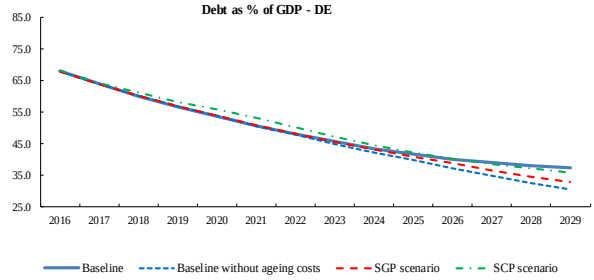
([26]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

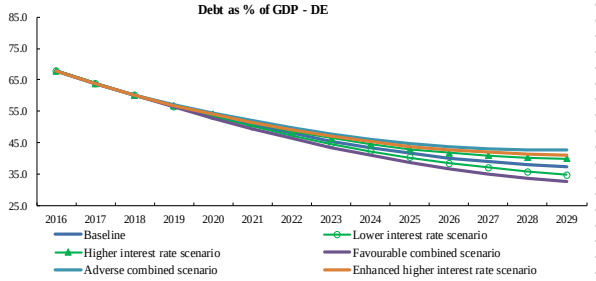
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

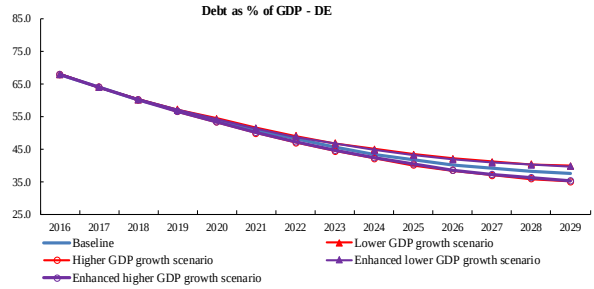
DE - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**67.9**	**63.9**	**60.1**	**56.7**	**53.7**	**50.7**	**48.0**	**45.5**	**43.4**	**41.6**	**40.1**	**39.0**	**38.0**	**37.3**
Changes in the ratio (-1+2+3)	*-3.0*	*-4.0*	*-3.7*	*-3.4*	*-3.0*	*-3.0*	*-2.7*	*-2.4*	*-2.1*	*-1.8*	*-1.5*	*-1.2*	*-1.0*	*-0.7*
of which														
(1) Primary balance (1.1+1.2+1.3)	**2.1**	**2.1**	**2.5**	**2.0**	**1.9**	**1.9**	**1.8**	**1.7**	**1.6**	**1.5**	**1.3**	**1.1**	**1.0**	**0.9**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.9***	***1.8***	***2.4***	***1.8***	***1.9***	***1.9***	***1.8***	***1.7***	***1.6***	***1.5***	***1.3***	***1.1***	***1.0***	***0.9***
(1.1.1) Structural primary balance (bef. CoA)	*1.9*	*1.8*	*2.4*	*1.8*	*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						*0.1*	*0.2*	*0.4*	*0.6*	*0.8*	*1.1*	*1.3*	*1.5*	*1.6*
(1.1.3) Others (taxes and property incomes)						*0.1*	*0.1*	*0.2*	*0.3*	*0.4*	*0.5*	*0.5*	*0.6*	*0.6*
(1.2) Cyclical component	***0.2***	***0.4***	***0.3***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***-0.2***	***-0.2***	***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**	**-1.4**	**-1.2**	**-1.4**	**-1.1**	**-1.1**	**-0.9**	**-0.8**	**-0.5**	**-0.4**	**-0.2**	**0.0**	**0.1**	**0.2**
(2.1) Interest expenditure	*1.2*	*1.0*	*0.9*	*0.9*	*0.8*	*0.8*	*0.8*	*0.9*	*0.9*	*1.0*	*1.0*	*1.1*	*1.2*	*1.2*
(2.2) Growth effect	*-1.5*	*-1.4*	*-1.1*	*-1.1*	*-0.9*	*-1.0*	*-0.8*	*-0.7*	*-0.5*	*-0.5*	*-0.4*	*-0.3*	*-0.3*	*-0.3*
(2.3) Inflation effect	*-1.0*	*-1.0*	*-1.1*	*-1.2*	*-1.0*	*-1.0*	*-1.0*	*-0.9*	*-0.9*	*-0.9*	*-0.8*	*-0.8*	*-0.8*	*-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	**0.4**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.4*	*-0.5*	*0.1*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*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	0.7	0.8	1.4	1.0	1.1	1.1	1.0	0.8	0.7	0.5	0.2	0.0	-0.1	-0.4

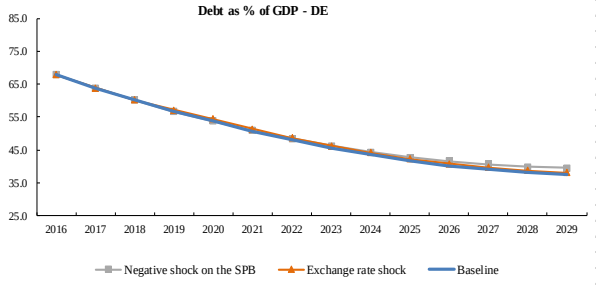


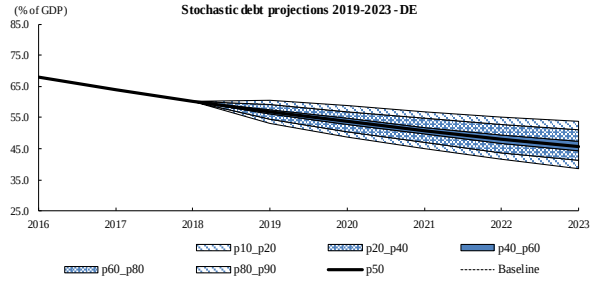


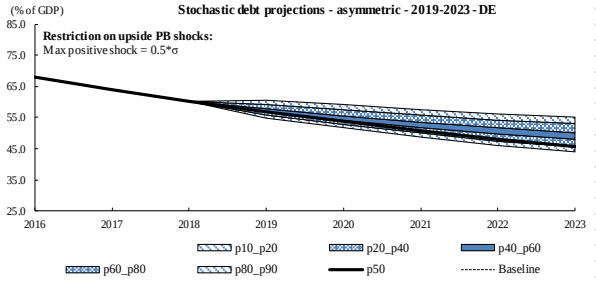












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	37.3	39.6	39.9	40.0	39.5				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	26.0%	29.0%							
			Probability debt higher						1.0%			
			Dif. between percentiles						15.0			
LOW (S0 = 0)	LOW	LOW (S1 = -2)								LOW	LOW (S2 = 1.7)	LOW

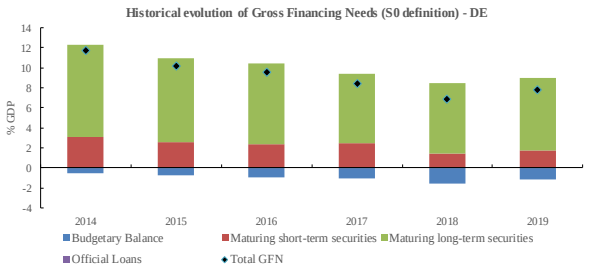
2.2. Sustainability indicators

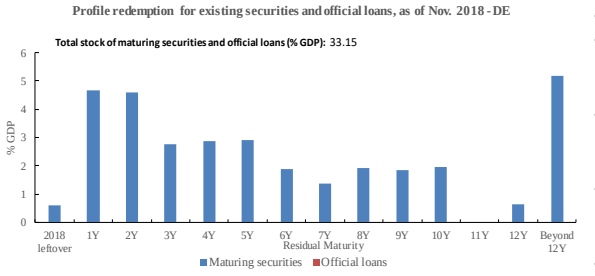
S0 indicator	2009	2018	Critical threshold
Overall index	**0.19**	**0.00**	**0.46**
Fiscal sub-index	0.35	0.00	0.36
Financial competitiveness sub-index	0.10	0.00	0.49

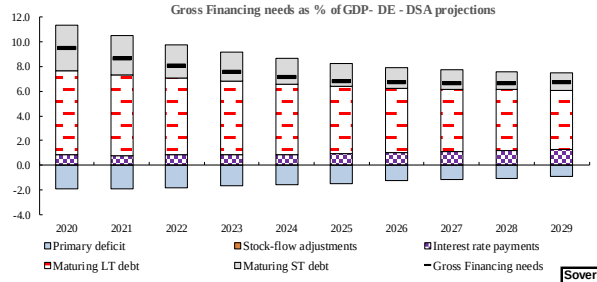
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-1.7**	**-2.0**	**-1.3**	**-1.7**
of which *Gap to the debt-stabilizing primary balance*	*-2.4*	*-2.3*	*-1.6*	*-2.3*
Cost of delaying adjustment	*-0.3*	*-0.3*	*-0.2*	*-0.3*
Debt requirement	*-0.2*	*-0.5*	*-1.1*	*-0.5*
Ageing costs	*1.0*	*1.1*	*1.7*	*1.4*
Required structural primary balance related to S1	**0.3**	**-0.1**	**0.3**	**0.2**

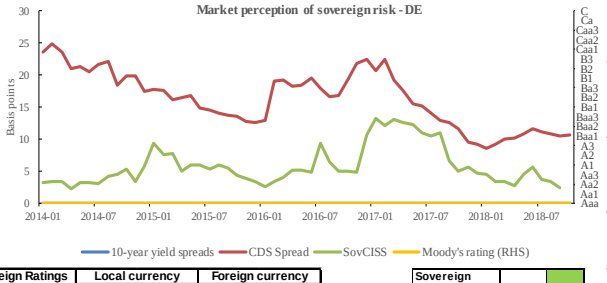
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**1.2**	**1.7**	**2.1**	**3.2**	**2.1**	**2.6**	**1.7**
of which Initial Budgetary position	-1.2	-1.2	-0.9	-1.2	-1.1	-1.2	-1.0
Ageing costs	2.4	2.9	3.0	4.3	3.3	3.8	2.7
of which Pensions	*1.6*	*1.4*	*1.5*	*1.4*	*1.4*	*1.7*	*1.3*
Health care	*0.3*	*0.5*	*0.5*	*1.0*	*0.5*	*0.5*	*0.5*
Long-term care	*0.0*	*0.4*	*0.4*	*1.3*	*0.8*	*1.0*	*0.3*
Others	*0.6*	*0.6*	*0.6*	*0.6*	*0.5*	*0.6*	*0.5*
Required structural primary balance related to S2	**3.3**	**3.6**	**3.7**	**5.1**	**4.0**	**4.5**	**3.6**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, DE	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aaa		Aaa	
S&P	AAAu	A-1+u	AAAu	A-1+u
Fitch	AAA		AAA	F1+

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	0.0

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

Government debt structure - DE (2017)	Share of short-term government debt (p.p.): 7.9	Share of government debt in foreign currency (%): 4.5	Share of government debt by non-residents (%): 49.5

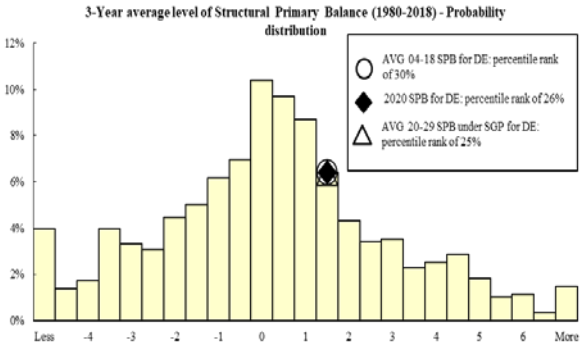
Net International Investment Position (IIP) - DE (2017)	Net IIP (% GDP): 54.0

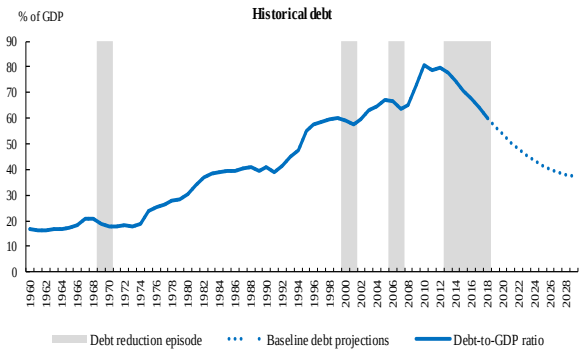
5. Risks related to government's contingent liabilities

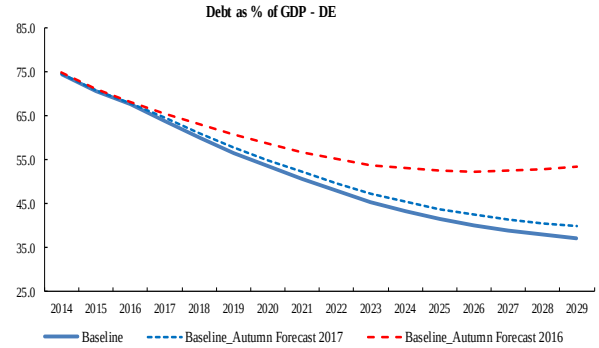
General government contingent liabilities		DE					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		18.7	16.7	15.2	14.3	n.a.	7.3
of which One-off guarantees		*18.7*	*16.7*	*15.2*	*14.3*	*n.a.*	*6.9*
Standardised guarantees		*:*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*:*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	1.6	0.6	0.3	0.2	0.2	0.8
	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	0.1
	Total	2.3	1.3	0.7	0.5	0.3	1.0

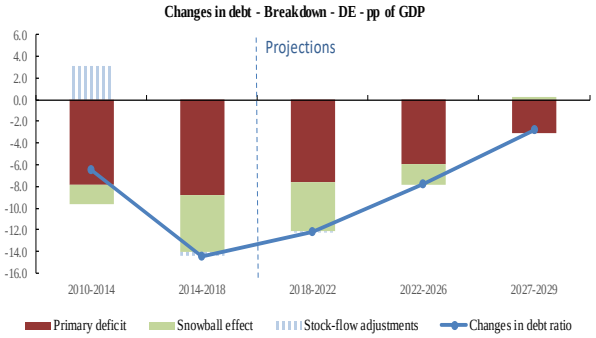
Government's contingent liability risks from banking sector - DE (2017)	Private sector credit flow (% GDP): 4.9	Change in nominal house price index: 4.5	Bank loans-to-deposits ratio (p.p.): 126.4	Share of non-performing loans (%): 1.9	Change in share of non-performing loans (p.p): -0.6	NPL coverage ratio 39.3	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Germany	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.7	53.7	41.6	39.0	37.3	56.8	42.6	46.2
Primary balance	2.5	2.0	1.9	1.5	1.1	0.9	2.1	1.4	1.6
Structural primary balance (before CoA)	2.4	1.8	1.9	1.9	1.9	1.9	2.0	1.9	1.9
Real GDP growth	1.7	1.8	1.7	1.1	0.9	0.9	1.7	1.2	1.3
Potential GDP growth	1.9	2.1	2.0	1.1	0.9	0.9	2.0	1.2	1.4
Inflation rate	1.8	2.0	1.9	2.0	2.0	2.0	1.9	2.0	2.0
Implicit interest rate (nominal)	1.5	1.5	1.5	2.3	2.8	3.4	1.5	2.4	2.1
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.7	53.7	42.0	39.0	36.5	56.8	42.7	46.2
Primary balance	2.5	2.0	1.9	1.5	1.4	1.4	2.1	1.5	1.7
Structural primary balance (before CoA)	2.4	1.8	1.9	1.9	2.2	2.4	2.0	2.0	2.0
Real GDP growth	1.7	1.8	1.7	1.0	0.8	0.8	1.7	1.2	1.3
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.7	53.8	40.9	36.7	32.8	56.9	41.3	45.2
Primary balance	2.5	2.0	1.8	1.9	2.0	2.1	2.1	1.9	2.0
Structural primary balance	2.4	1.8	1.8	1.9	2.0	2.1	2.0	1.9	1.9
Real GDP growth	1.7	1.8	1.7	1.1	0.8	0.9	1.8	1.2	1.3
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	61.0	58.3	55.8	42.3	38.7	36.0	58.4	43.3	47.1
Primary balance	2.0	2.3	2.4	2.1	1.8	1.5	2.2	2.0	2.1
Structural primary balance (before CoA)	1.8	1.9	2.2	2.5	2.5	2.5	2.0	2.5	2.4
Real GDP growth	2.4	1.9	1.3	1.1	1.0	1.0	1.9	1.2	1.3
Potential GDP growth	1.8	1.7	1.7	1.1	1.0	1.0	1.7	1.2	1.3
Inflation rate	1.8	1.9	1.9	2.0	2.0	2.0	1.9	2.0	2.0
Implicit interest rate (nominal)	1.8	1.7	1.8	2.7	3.3	3.7	1.8	2.7	2.5
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.7	53.7	42.6	40.6	39.6	56.8	43.7	46.9
Primary balance	2.5	2.0	1.9	1.2	0.8	0.6	2.1	1.2	1.4
Structural primary balance (before CoA)	2.4	1.8	1.9	1.6	1.6	1.6	2.0	1.6	1.7
Real GDP growth	1.7	1.8	1.7	1.1	0.9	0.9	1.7	1.2	1.4
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.7	53.7	42.7	40.3	38.7	56.8	43.6	46.9
Primary balance	2.5	2.0	1.9	1.2	0.8	0.6	2.1	1.2	1.4
Structural primary balance (before CoA)	2.4	1.8	1.9	1.6	1.6	1.6	2.0	1.6	1.7
Real GDP growth	1.7	1.8	1.7	1.4	1.4	1.4	1.7	1.4	1.5
Implicit interest rate (nominal)	1.5	1.5	1.5	2.4	2.8	3.0	1.5	2.3	2.1
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.8	54.0	43.0	41.0	40.0	57.0	44.1	47.3
Implicit interest rate (nominal)	1.5	1.7	1.8	2.9	3.6	4.2	1.7	3.0	2.7
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.6	53.4	40.2	37.1	34.9	56.7	41.2	45.1
Implicit interest rate (nominal)	1.5	1.3	1.2	1.6	2.1	2.5	1.3	1.7	1.6
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.9	54.2	43.9	42.0	41.2	57.1	45.0	48.0
Implicit interest rate (nominal)	1.5	1.9	2.1	3.1	3.7	4.4	1.8	3.2	2.9
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.4	53.1	40.0	37.0	34.9	56.6	41.0	44.9
Real GDP growth	1.7	2.3	2.2	1.6	1.4	1.4	2.1	1.7	1.8
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	57.0	54.3	43.3	41.1	39.9	57.1	44.3	47.5
Real GDP growth	1.7	1.3	1.2	0.6	0.4	0.4	1.4	0.7	0.9
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.6	53.4	40.2	37.2	35.2	56.7	41.3	45.1
Real GDP growth	1.7	2.1	1.9	1.6	1.4	1.4	1.9	1.7	1.8
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.9	54.0	43.0	40.8	39.6	57.0	44.1	47.3
Real GDP growth	1.7	1.6	1.4	0.6	0.4	0.4	1.6	0.7	0.9
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.6	53.7	42.7	40.6	39.5	56.8	43.8	47.0
Primary balance	2.5	2.2	1.7	1.2	0.9	0.6	2.1	1.2	1.4
Structural primary balance (before CoA)	2.4	2.0	1.7	1.7	1.7	1.7	2.0	1.7	1.7
Real GDP growth	1.7	1.7	2.0	1.1	0.9	0.9	1.8	1.2	1.3
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	57.0	54.4	42.3	39.6	38.0	57.2	43.3	46.8
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	56.3	52.9	38.7	35.2	32.6	56.4	39.7	43.9
Implicit interest rate (nominal)	1.5	1.3	1.2	1.6	2.1	2.5	1.3	1.7	1.6
Real GDP growth	1.7	2.3	2.2	1.6	1.4	1.4	2.1	1.7	1.8
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.1	57.1	54.5	44.8	43.2	42.7	57.3	45.9	48.7
Implicit interest rate (nominal)	1.5	1.7	1.8	2.9	3.6	4.2	1.7	3.0	2.7
Real GDP growth	1.7	1.3	1.2	0.6	0.4	0.4	1.4	0.7	0.9

ESTONIA

Based on the European Commission 2018 Autumn Forecast, Estonia's structural primary balance (SPB) would remain stable with a deficit of 0.8% of GDP in 2018 as well as in 2020, the end of the forecast horizon. Real GDP growth is expected to slow down, from 3.5% in 2018 (after 4.9% in 2017) to 2.6% in 2020. In combination with high inflation and negligible interest payments, this relatively strong growth would allow for gross government debt to decrease further, from 8% of GDP in 2018 to 7.5% of GDP in 2020.

6.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Estonia.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below the critical thresholds.

Financial markets' perception of sovereign risk remains favourable. This is confirmed by the low CDS spread and the favourable rating assigned to Estonian debt by several rating agencies.

6.2. Medium-term fiscal sustainability challenges

Similarly, fiscal sustainability risks appear low over the medium term, both according to the sustainability gap indicator S1 and the debt sustainability analysis. The low debt-to-GDP ratio and the low sensitivity to possible macro-fiscal shocks underpin this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to a low risk in the medium term. With a value of -4.3 pps. of GDP, no additional fiscal effort would be required over the next five years relative to the baseline no-policy-change scenario to stay below the 60% of GDP debt reference value in 2033. On the contrary, the indicator's negative value suggests that there is fiscal space in Estonia. This favourable result is predominantly driven by the low level of government debt in the last forecast year (-4.1 pps. of GDP contribution to the S1 value). Ageing costs are projected to decrease between 2018 and 2033, further lowering the S1 value.

Debt sustainability analysis (DSA)

Over the medium term, Estonia is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, which are confirmed by alternative and stress test scenarios ([27]).

Baseline no-policy-change scenario

Estonia faces low risks based on the baseline medium-term debt projections. Under normal economic conditions and a no-policy-change assumption after 2020, government debt would initially decline from around 8% of GDP in 2018, to 7.1% of GDP in 2021-2022, despite debt-increasing stock-flow adjustments. As of 2023, debt would start rising again and reach around 10% of GDP at the end of the projection period in 2029. This modest reversal of debt dynamics is driven by the expectation of a primary balance that moves from surplus to deficit in 2022.

Government gross financing needs (GFN) ([28]) are projected to slightly increase over the projection period. GFN would go from 0.3% of GDP in 2019 to a still modest 1.1% in 2029.

Alternative and stress test scenarios

Given the low initial debt stock, adverse shocks to growth, interest rates or the primary balance would barely affect the debt ratio. Relative to the baseline, standard negative sensitivity tests on nominal growth and interest rates would entail a somewhat higher debt ratio, though the latter would remain below 10% of GDP in 2029. Based on the historical volatility of the Estonian

([27]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decision trees used to derive the overall DSA risk classification.

([28]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

economy, a very large set of jointly simulated shocks to growth, interest rates and the primary balance points to a 32% probability of the debt ratio in 2023 being higher than in 2018.

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its average level of the last 15 years, a deficit of 0.6% of GDP), the Estonian debt ratio would be about 1.5 pps. of GDP lower in 2029 than in the baseline scenario.

If fiscal policy were to evolve in line with the main provisions of the Stability and Growth Pact (SGP) ([29]), Estonia's government debt would follow a trajectory comparable to that in the previous scenario. In this case, the debt-to-GDP ratio would be just above the 8% projected in 2018.

6.3. Long-term fiscal sustainability challenges

Over the long term, Estonia is deemed at low fiscal sustainability risk. The sustainability gap indicator shows that a small fiscal adjustment would be required to stabilise debt in time. Signals from the DSA risk assessment concur.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to low risk in the long term. This indicator shows that, relative to the baseline no-policy-change scenario, an improvement of 0.9 pps. of GDP in the SPB would be required to stabilise the debt-to-GDP ratio over the long term. This results from the initial budgetary position, with a neutral impact from the projected ageing costs as a decrease in pension spending would compensate for an increase in other ageing-related spending items. However, under a more adverse scenario in the health care and long-term care areas (with non-demographic drivers pushing up costs) ([30]), the S2 indicator would increase to 3 pps. of GDP, hence moving within the critical thresholds pointing to medium fiscal risks in the long term.

Overall, Estonia is deemed at low fiscal sustainability risk in the long term. Both the sustainability gap indicator S2 and the DSA risk assessment (see section 6.2) indicate that long-term fiscal sustainability risks are low for Estonia ([31]).

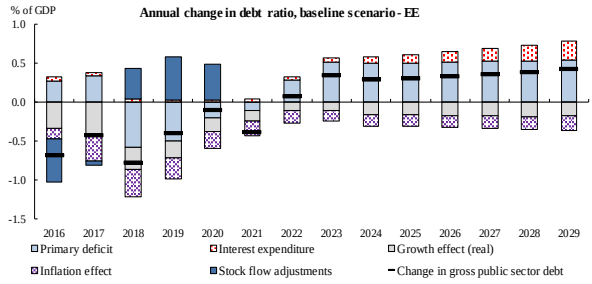
6.4. Additional mitigating and aggravating risk factors

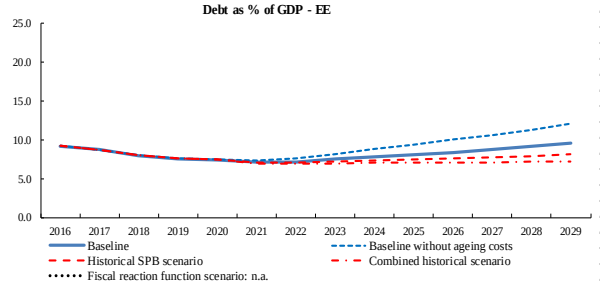
Some additional mitigating and aggravating risk factors exist. The share of short-term debt and the fact that government debt is fully denominated in euro further mitigate vulnerabilities, even though non-residents hold most of the small Estonian debt stock. In contrast, the negative net international investment position could be seen as an aggravating factor. In addition, the bank loans-to-deposits ratio points to some contingent liability risks.

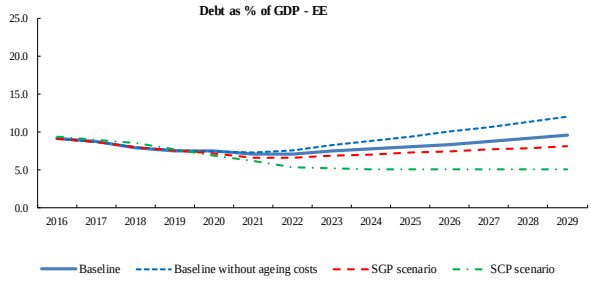
([29]) See Annex 5 for detailed explanations on the definition of the SGP scenario.
([30]) For more details on this scenario, see Section 4.3 of Chapter 4 in Volume 1 of this report.
([31]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

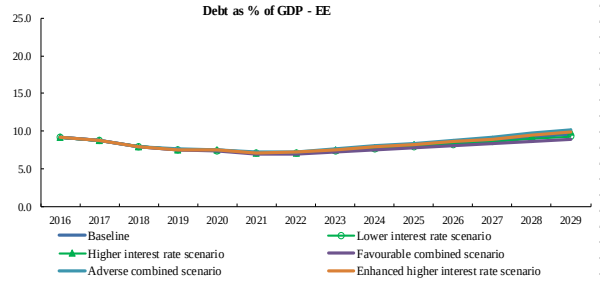
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

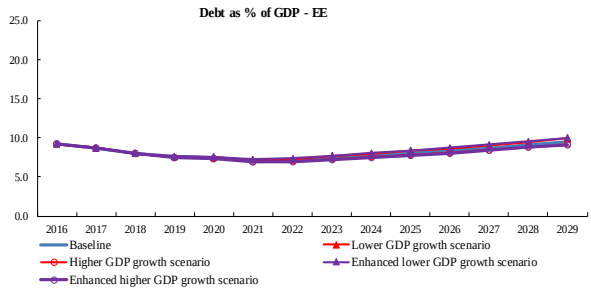
EE - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**9.2**	**8.7**	**8.0**	**7.6**	**7.5**	**7.1**	**7.1**	**7.5**	**7.8**	**8.1**	**8.4**	**8.8**	**9.1**	**9.6**
Changes in the ratio (-1+2+3)	*-0.7*	*-0.4*	*-0.8*	*-0.4*	*-0.1*	*-0.4*	*0.1*	*0.3*	*0.3*	*0.3*	*0.3*	*0.4*	*0.4*	*0.4*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-0.3**	**-0.3**	**0.6**	**0.5**	**0.2**	**0.1**	**-0.3**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.7***	***-1.5***	***-0.8***	***-0.6***	***-0.8***	***-0.6***	***-0.6***	***-0.5***	***-0.5***	***-0.5***	***-0.5***	***-0.5***	***-0.5***	***-0.5***
(1.1.1) Structural primary balance (bef. CoA)	*-0.7*	*-1.5*	*-0.8*	*-0.6*	*-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						*-0.2*	*-0.2*	*-0.3*	*-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	***0.5***	***1.2***	***1.3***	***1.1***	***1.0***	***0.7***	***0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.1***	***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)	**-0.4**	**-0.7**	**-0.6**	**-0.4**	**-0.4**	**-0.3**	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.1**	**-0.1**
(2.1) Interest expenditure	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*
(2.2) Growth effect	*-0.3*	*-0.4*	*-0.3*	*-0.2*	*-0.2*	*-0.1*	*-0.1*	*-0.1*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*
(2.3) Inflation effect	*-0.1*	*-0.3*	*-0.4*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.1*	*-0.1*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*
(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	**-0.6**	**-0.1**	**0.4**	**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	*-0.6*	*-0.1*	*0.4*	*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	-0.7	-1.6	-0.8	-0.7	-0.9	-0.6	-0.7	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.8

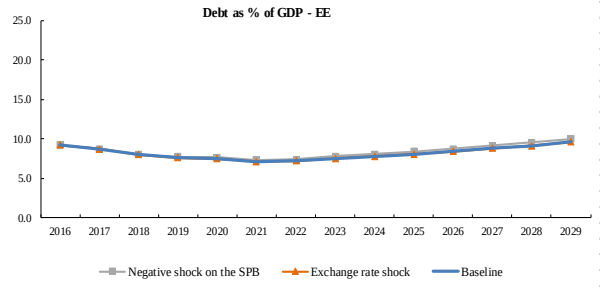


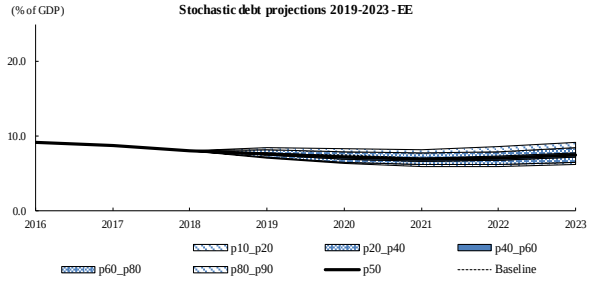


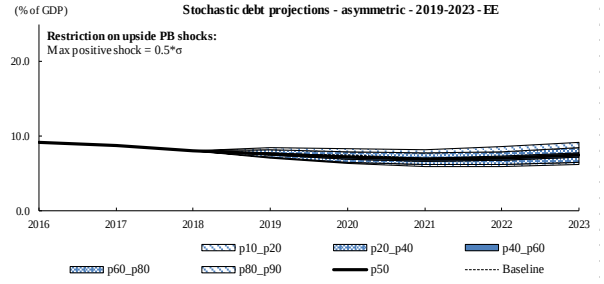












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	9.6	8.2	9.9	9.8	10.0				
			Debt peak year	2029	2029	2029	2029	2029				
			Percentile rank	71.0%	69.0%							
			Probability debt higher						31.8%			
			Dif. between percentiles						3.0			
LOW (S0 = 0.2)	LOW	LOW (S1 = -4.3)								LOW	LOW (S2 = 0.9)	LOW

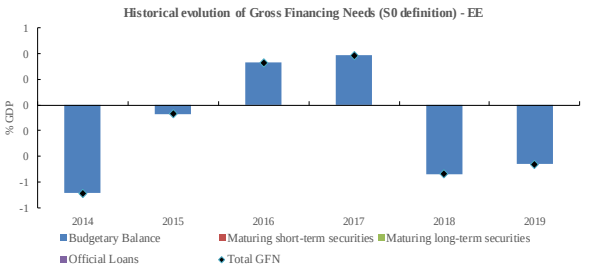
2.2. Sustainability indicators

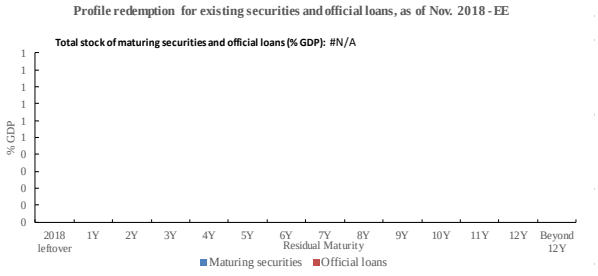
S0 indicator	2009	2018	Critical threshold
Overall index	**0.48**	**0.17**	**0.46**
Fiscal sub-index	0.27	0.00	0.36
Financial competitiveness sub-index	0.57	0.25	0.49

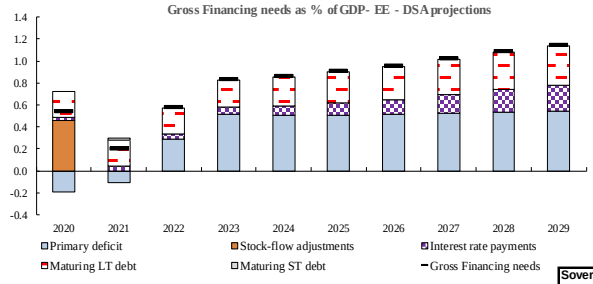
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-3.1**	**-4.3**	**-4.2**	**-3.9**
of which *Gap to the debt-stabilizing primary balance*	*1.3*	*0.7*	*0.6*	*0.7*
Cost of delaying adjustment	*-0.4*	*-0.6*	*-0.6*	*-0.6*
Debt requirement	*-3.9*	*-4.1*	*-3.9*	*-4.1*
Ageing costs	*0.0*	*-0.3*	*-0.3*	*0.1*
Required structural primary balance related to S1	**-4.5**	**-5.1**	**-4.8**	**-4.7**

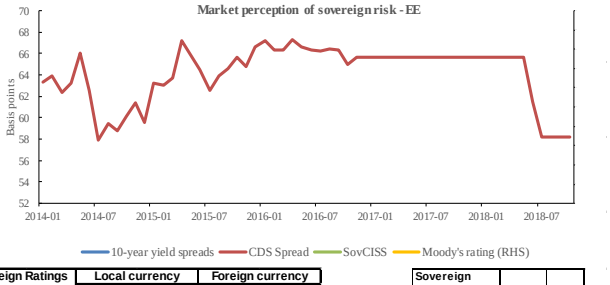
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**1.6**	**0.9**	**0.8**	**3.0**	**1.0**	**1.2**	**0.9**
of which Initial Budgetary position	1.6	1.0	0.8	1.0	1.0	1.0	1.0
Ageing costs	0.0	0.0	0.0	2.0	0.1	0.3	0.0
of which Pensions	*-1.2*	*-1.0*	*-1.1*	*-1.0*	*-0.8*	*-0.7*	*-0.9*
Health care	*0.3*	*0.3*	*0.3*	*0.9*	*0.3*	*0.3*	*0.3*
Long-term care	*0.4*	*0.3*	*0.4*	*1.8*	*0.3*	*0.4*	*0.3*
Others	*0.4*	*0.3*	*0.4*	*0.3*	*0.3*	*0.3*	*0.3*
Required structural primary balance related to S2	**0.2**	**0.1**	**0.1**	**2.1**	**0.2**	**0.4**	**0.1**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, 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 Nov 2018	10-year	n.a.

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

Government debt structure - EE (2017)	Share of short-term government debt (p.p.): 2.8	Share of government debt in foreign currency (%): 0.0	Share of government debt by non-residents (%): 62.3

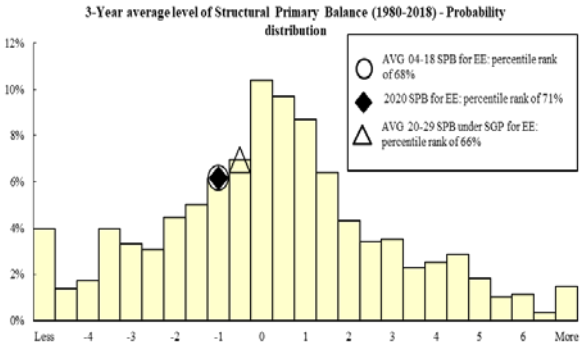
Net International Investment Position (IIP) - EE (2017)	Net IIP (% GDP): -31.4

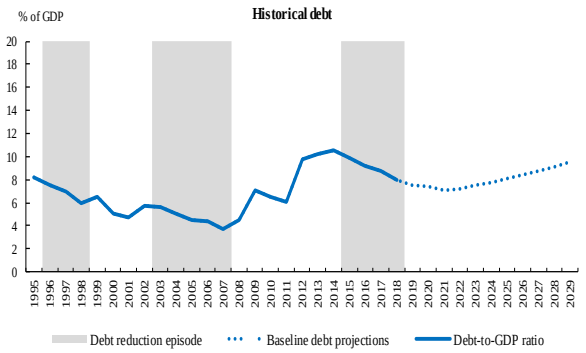
5. Risks related to government's contingent liabilities

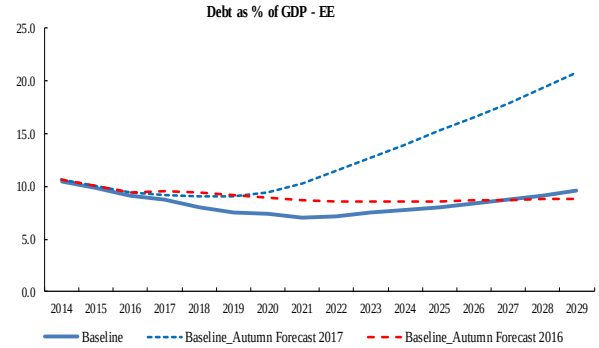
General government contingent liabilities		EE					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		2.2	1.7	1.5	1.5	n.a.	7.3
of which One-off guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*6.9*
Standardised guarantees		*2.2*	*1.7*	*1.5*	*1.5*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		:	*0.2*	*0.2*	*0.2*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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.	0.8
	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.	0.1
	Total	n.a.	n.a.	n.a.	n.a.	n.a.	1.0

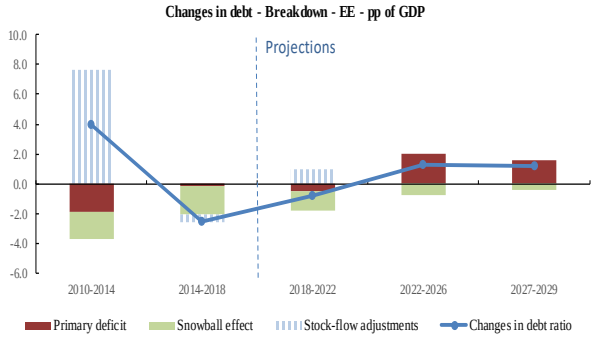
Government's contingent liability risks from banking sector - EE (2017)	Private sector credit flow (% GDP): 3.6	Change in nominal house price index: 5.5	Bank loans-to-deposits ratio (p.p.): 123.2	Share of non-performing loans (%): 1.7	Change in share of non-performing loans (p.p): 0.5	NPL coverage ratio 23.4	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Estonia	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.5	8.1	8.8	9.6	7.7	8.2	8.0
Primary balance	0.6	0.5	0.2	-0.5	-0.5	-0.5	0.4	-0.4	-0.2
Structural primary balance (before CoA)	-0.8	-0.6	-0.8	-0.8	-0.8	-0.8	-0.7	-0.8	-0.8
Real GDP growth	3.5	2.8	2.6	2.1	2.1	2.0	3.0	2.0	2.2
Potential GDP growth	3.2	3.3	2.9	2.1	2.1	2.0	3.1	2.2	2.4
Inflation rate	4.2	3.6	2.9	2.0	2.0	2.0	3.6	2.1	2.5
Implicit interest rate (nominal)	0.5	0.5	0.5	1.4	2.1	2.7	0.5	1.5	1.3
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Primary balance	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Structural primary balance (before CoA)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Real GDP growth	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.1	7.3	7.7	8.1	7.6	7.3	7.3
Primary balance	0.6	0.5	0.5	-0.4	-0.4	-0.3	0.5	-0.3	-0.1
Structural primary balance	-0.8	-0.6	-0.5	-0.4	-0.4	-0.3	-0.6	-0.4	-0.5
Real GDP growth	3.5	2.8	2.3	2.1	2.1	2.0	2.9	1.9	2.2
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.5	7.7	6.9	5.1	5.0	5.1	7.7	5.2	5.9
Primary balance	0.3	0.6	0.4	-0.1	-0.1	-0.1	0.4	0.0	0.1
Structural primary balance (before CoA)	-0.8	-0.4	-0.3	-0.2	-0.2	-0.2	-0.5	-0.2	-0.3
Real GDP growth	4.0	3.2	3.0	2.0	2.0	1.8	3.4	2.2	2.5
Potential GDP growth	3.3	3.4	3.5	2.0	2.0	1.8	3.4	2.3	2.6
Inflation rate	3.5	3.0	2.7	2.0	2.0	2.0	3.1	2.1	2.4
Implicit interest rate (nominal)	0.5	0.5	0.6	1.2	1.8	2.3	0.5	1.3	1.1
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.5	7.4	7.7	8.2	7.7	7.5	7.5
Primary balance	0.6	0.5	0.2	-0.3	-0.3	-0.4	0.4	-0.3	-0.1
Structural primary balance (before CoA)	-0.8	-0.6	-0.8	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7
Real GDP growth	3.5	2.8	2.6	2.1	2.1	2.0	3.0	1.9	2.2
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.5	7.0	7.1	7.2	7.7	7.0	7.2
Primary balance	0.6	0.5	0.2	-0.3	-0.3	-0.4	0.4	-0.3	-0.1
Structural primary balance (before CoA)	-0.8	-0.6	-0.8	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7
Real GDP growth	3.5	2.8	2.6	2.9	2.9	2.9	3.0	2.8	2.9
Implicit interest rate (nominal)	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.6	0.6
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.5	8.2	8.9	9.8	7.7	8.3	8.1
Implicit interest rate (nominal)	0.5	0.5	0.6	1.8	2.6	3.4	0.5	1.9	1.6
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.5	8.0	8.6	9.3	7.7	8.0	7.9
Implicit interest rate (nominal)	0.5	0.5	0.4	1.0	1.5	2.1	0.5	1.1	1.0
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.5	8.2	9.0	9.9	7.7	8.3	8.2
Implicit interest rate (nominal)	0.5	0.6	0.6	2.0	2.7	3.5	0.6	2.0	1.7
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.5	7.4	7.8	8.5	9.2	7.6	7.9	7.9
Real GDP growth	3.5	3.3	3.1	2.6	2.6	2.5	3.3	2.5	2.7
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.5	8.3	9.0	9.9	7.7	8.4	8.2
Real GDP growth	3.5	2.3	2.1	1.6	1.6	1.5	2.7	1.5	1.8
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.5	7.3	7.8	8.4	9.1	7.6	7.9	7.8
Real GDP growth	3.5	3.9	3.7	2.6	2.6	2.5	3.7	2.5	2.8
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.6	8.4	9.1	10.0	7.7	8.5	8.3
Real GDP growth	3.5	1.8	1.5	1.6	1.6	1.5	2.3	1.5	1.7
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.7	7.6	8.4	9.1	10.0	7.8	8.5	8.3
Primary balance	0.6	0.3	0.2	-0.5	-0.6	-0.6	0.4	-0.5	-0.3
Structural primary balance (before CoA)	-0.8	-0.8	-0.9	-0.9	-0.9	-0.9	-0.8	-0.9	-0.8
Real GDP growth	3.5	3.0	2.5	2.1	2.1	2.0	3.0	2.0	2.2
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.5	8.1	8.8	9.6	7.7	8.2	8.0
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.5	7.4	7.8	8.3	8.9	7.6	7.8	7.8
Implicit interest rate (nominal)	0.5	0.5	0.4	1.0	1.5	2.1	0.5	1.1	1.0
Real GDP growth	3.5	3.3	3.1	2.6	2.6	2.5	3.3	2.5	2.7
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	8.0	7.6	7.5	8.4	9.2	10.2	7.7	8.5	8.3
Implicit interest rate (nominal)	0.5	0.5	0.6	1.8	2.6	3.4	0.5	1.9	1.6
Real GDP growth	3.5	2.3	2.1	1.6	1.6	1.5	2.7	1.5	1.8

IRELAND

Based on the European Commission 2018 Autumn Forecast, Ireland should maintain a strong structural primary balance (SPB) in 2020, at 1% of GDP (down from 1.4% in 2018). Real GDP growth should slow down, from a buoyant 7.8% in 2018 (after 7.2% in 2017) to 3.8% in 2020. Supported by a favourable contribution of the interest rate – growth rate differential, gross government debt would decrease over the forecast horizon, from 63.9% of GDP in 2018 to 56.0% in 2020, the lowest level since 2008. However, due to significant impact of multinational companies on GDP, this macro-aggregate tends to overstate the size of the domestic economy. As a share of modified GNI ([32]) (a measure of activity that can be deemed more accurate for Ireland), the debt ratio was still high in 2017 at 111% (compared to 68.4% of GDP), hence standard GDP based sustainability analysis tends to underestimate vulnerabilities.

7.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Ireland.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, as well as the fiscal and the financial competitiveness sub-indexes.

Financial markets' perceptions of sovereign risk remain favourable, reflected in low CDS spreads.

7.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks also appear to be low for Ireland, both according to the sustainability gap indicator S1 and from a DSA perspective.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. This reflects strong initial budgetary position and a debt ratio already close to 60% of GDP in 2020. The S1 indicator shows that no additional improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. However, projected ageing costs are significant, contributing to raising substantially the S1 indicator by 1.1 pps.

Debt sustainability analysis (DSA)

Over the medium term, Ireland is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from both the baseline scenario and most of the stress tests and alternative scenarios ([33]).

Baseline no-fiscal policy change scenario

Ireland is considered at low risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would decline over the projection period, to reach less than 47% of GDP in 2029. This moderate and decreasing level is driven by the assumed fiscal effort under this no-fiscal policy change scenario (SPB unchanged at 1.0% of GDP). Yet, rising ageing costs and less favourable interest-growth rate differential (snowball effect) by the end of the projection period would imply a stabilisation of the debt ratio by the end of the horizon (i.e. 2025-29).

Government gross financing needs (GFN) ([34]) are projected to decline over the projection period, settling slightly under 6%, well below the estimated value for 2019 of close to 9%.

([32]) The Modified Gross National Income (also known as GNI*), provided by the Irish statistical authorities, more accurately reflects the income of Irish residents than GDP. It differs from actual GNI by excluding *inter alia* the depreciation of foreign-owned, but Irish-resident, capital assets (most notably intellectual property and assets associated with aircraft leasing) and the undistributed profits of firms that have re-domiciled to Ireland. See also Box 3.1 of the report.

([33]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([34]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

Alternative and stress test scenarios

Given the moderate initial stock of debt, negative shocks to growth and to interest rates would have a manageable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at 49% of GDP) around 2 pps. of GDP higher than in the baseline. Yet, based on the historical volatility of the Irish economy, a very large set of jointly simulated shocks to growth, interest rates and the primary balance, points to medium uncertainty surrounding baseline projections, as can be seen from the relatively wide debt distribution cone ([35]).

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *deficit* of 1.3% of GDP), the Irish debt ratio in 2029 would be as much as 16 pp. of GDP higher (at close to 63% of GDP in 2029) than under the baseline scenario.

In the case of Ireland, when debt metrics are computed relative to modified GNI, standard sensitivity analysis would point to higher vulnerabilities than traditionally measured on the basis of GDP (see Box 3.1 of the Volume I of the report).

7.3. Long-term fiscal sustainability challenges

Over the long term, Ireland is deemed at medium fiscal sustainability risk. Notwithstanding low vulnerabilities linked to the low debt burden - captured by the DSA risk assessment - the fiscal adjustment to stabilise debt over the long term implied by the sustainability gap indicator (S2) points to medium sustainability risks over the long term due to significant projected ageing costs.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that some improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term (a positive fiscal gap at 3.3 pps. of GDP). This result is due to the projected increase in ageing costs (contribution of 3.8 pps. of GDP), mitigated by the favourable initial budgetary position (-0.6 pps. of GDP). It is in particular the projected increase in public pension and long-term care expenditure that drives up ageing costs (contributions of 1.5 pps. and 1.6 pps. of GDP, respectively). Moreover, under a scenario assuming an initial budgetary position more in line with historical average, the S2 indicator would point at a fiscal gap at 5.7 pps. of GDP, close to the critical threshold (i.e. 6 pps.) pointing to high fiscal risks in the long-term for that indicator.

Over the long term, Ireland is deemed at medium fiscal sustainability risk. While the DSA point to low risk (see section 7.2), the positive sustainability gap indicator (S2) points to medium risk in the long term, implying that overall Ireland is deemed at medium risk over the long term ([36]).

7.4. Additional mitigating and aggravating risk factors

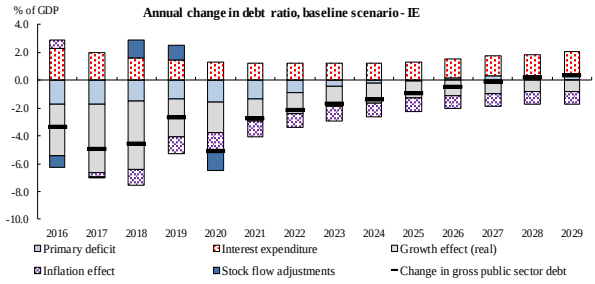
Some additional mitigating and aggravating risk factors exist. The structure of the Irish government debt, in terms of currency denomination and maturity (with still an important share of official loans), helps mitigating vulnerabilities. Yet, the high share of debt holdings by non-residents and the negative net international investment position could be aggravating factors. However, the negative external position largely reflects presence of multinationals and the International Financial Services Centre, with only limited links to domestic economic activity. As regards contingent liability risks, even if some are still present, data point to significant improvements through time. Finally, alternative metrics to GDP suggests more important fiscal sustainability risks (see Box 3.1 of the Volume I of the report).

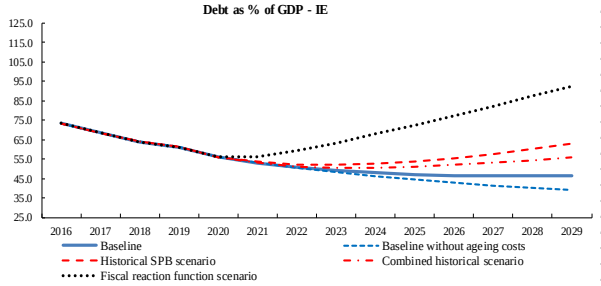
([35]) The difference between the 10th and 90th percentile in 2023 is of around 28 pp. of GDP.

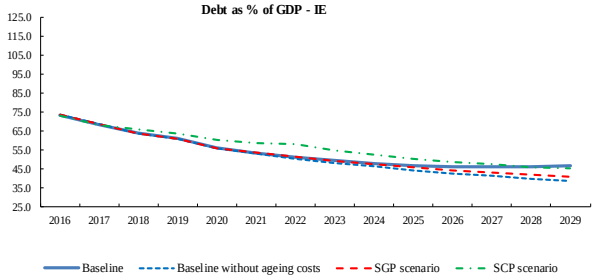
([36]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

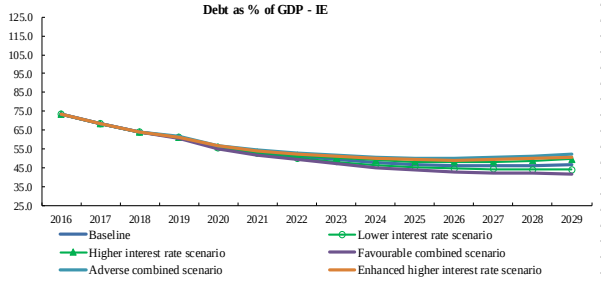
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

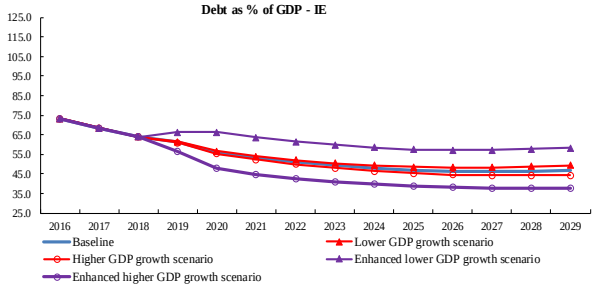
IE - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**73.4**	**68.4**	**63.9**	**61.1**	**56.0**	**53.2**	**51.0**	**49.3**	**47.9**	**46.9**	**46.4**	**46.3**	**46.4**	**46.7**
Changes in the ratio (-1+2+3)	*-3.4*	*-5.0*	*-4.6*	*-2.7*	*-5.1*	*-2.8*	*-2.2*	*-1.7*	*-1.4*	*-0.9*	*-0.5*	*-0.1*	*0.1*	*0.3*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.7**	**1.7**	**1.5**	**1.3**	**1.6**	**1.3**	**0.9**	**0.5**	**0.3**	**0.0**	**-0.2**	**-0.3**	**-0.3**	**-0.4**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.2***	***1.7***	***1.4***	***0.9***	***1.0***	***0.9***	***0.7***	***0.5***	***0.3***	***0.0***	***-0.2***	***-0.3***	***-0.3***	***-0.4***
(1.1.1) Structural primary balance (bef. CoA)	*1.2*	*1.7*	*1.4*	*0.9*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*
(1.1.2) Cost of ageing						*0.1*	*0.3*	*0.5*	*0.7*	*1.0*	*1.2*	*1.3*	*1.3*	*1.4*
(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	***0.4***	***0.0***	***0.1***	***0.4***	***0.6***	***0.4***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-0.8**	**-3.2**	**-4.4**	**-2.5**	**-2.1**	**-1.5**	**-1.3**	**-1.2**	**-1.2**	**-0.9**	**-0.7**	**-0.4**	**-0.2**	**-0.1**
(2.1) Interest expenditure	*2.3*	*2.0*	*1.6*	*1.4*	*1.3*	*1.2*	*1.2*	*1.2*	*1.2*	*1.3*	*1.3*	*1.4*	*1.5*	*1.6*
(2.2) Growth effect	*-3.7*	*-4.9*	*-4.9*	*-2.7*	*-2.2*	*-1.6*	*-1.5*	*-1.4*	*-1.4*	*-1.3*	*-1.1*	*-0.9*	*-0.8*	*-0.8*
(2.3) Inflation effect	*0.7*	*-0.3*	*-1.1*	*-1.2*	*-1.2*	*-1.1*	*-1.1*	*-1.0*	*-1.0*	*-0.9*	*-0.9*	*-0.9*	*-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	**-0.9**	**0.0**	**1.3**	**1.1**	**-1.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.9*	*0.0*	*1.3*	*1.1*	*-1.5*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-1.0	-0.2	-0.2	-0.5	-0.3	-0.3	-0.5	-0.7	-1.0	-1.2	-1.5	-1.7	-1.9	-2.1

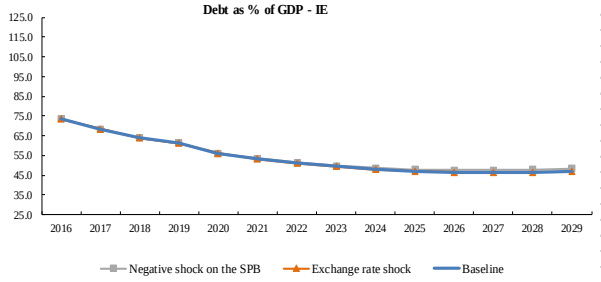


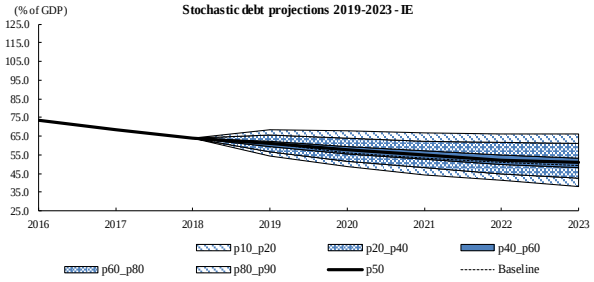


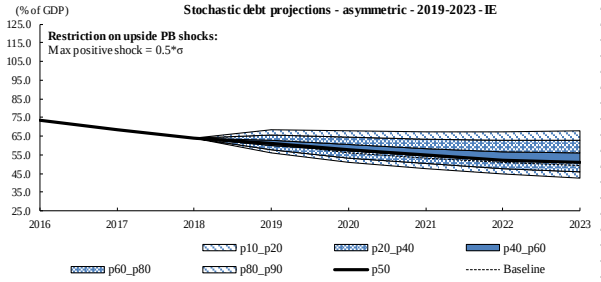












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	MEDIUM	LOW	LOW	LOW	LOW			
			Debt level (2029)	46.7	62.9	49.3	49.6	48.4				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	39.0%	69.0%							
			Probability debt higher						14.6%			
			Dif. between percentiles						27.9			
LOW (S0 = 0.2)	LOW	LOW (S1 = -0.9)								LOW	MEDIUM (S2 = 3.3)	MEDIUM

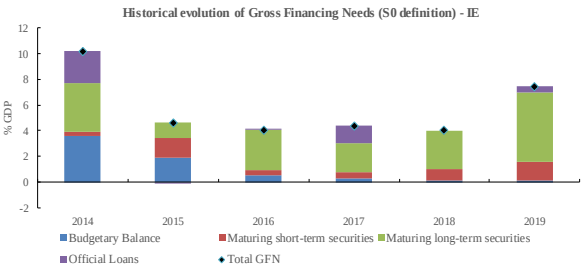
2.2. Sustainability indicators

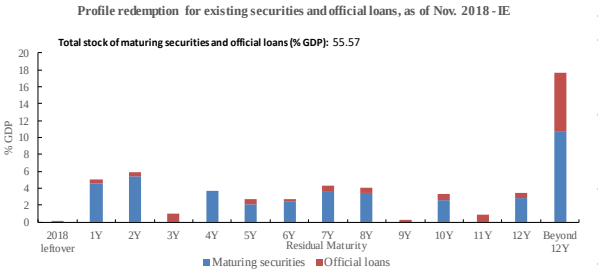
S0 indicator	2009	2018	Critical threshold
Overall index	**0.74**	**0.21**	**0.46**
Fiscal sub-index	0.81	0.00	0.36
Financial competitiveness sub-index	0.70	0.32	0.49

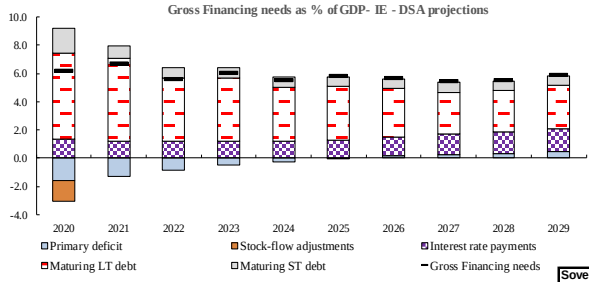
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-1.4**	**-0.9**	**2.9**	**-0.6**
of which *Gap to the debt-stabilizing primary balance*	*-2.7*	*-1.6*	*1.3*	*-1.6*
Cost of delaying adjustment	*-0.2*	*-0.1*	*0.4*	*-0.1*
Debt requirement	*0.6*	*-0.3*	*-0.6*	*-0.3*
Ageing costs	*1.0*	*1.1*	*1.7*	*1.4*
Required structural primary balance related to S1	**0.7**	**0.1**	**1.6**	**0.4**

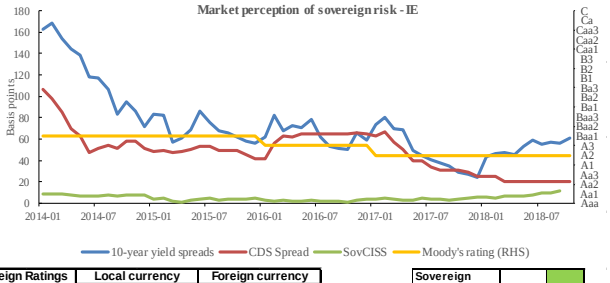
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**-0.5**	**3.3**	**5.7**	**4.8**	**3.2**	**3.8**	**3.2**
of which Initial Budgetary position	-1.8	-0.6	1.7	-0.5	-0.5	-0.5	-0.3
Ageing costs	1.3	3.8	4.0	5.3	3.7	4.3	3.5
of which Pensions	*0.7*	*1.5*	*1.5*	*1.5*	*1.5*	*1.7*	*1.5*
Health care	*0.9*	*0.8*	*0.8*	*1.2*	*0.8*	*0.8*	*0.7*
Long-term care	*0.7*	*1.6*	*1.7*	*2.6*	*1.5*	*1.8*	*1.3*
Others	*-0.9*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Required structural primary balance related to S2	**1.6**	**4.3**	**4.4**	**5.8**	**4.2**	**4.8**	**4.2**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, 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	A+	A-1	A+	A-1
Fitch	A+		A+	F1+

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	61.0

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

Government debt structure - IE (2017)	Share of short-term government debt (p.p.): 7.4	Share of government debt in foreign currency (%): 1.8	Share of government debt by non-residents (%): 59.6

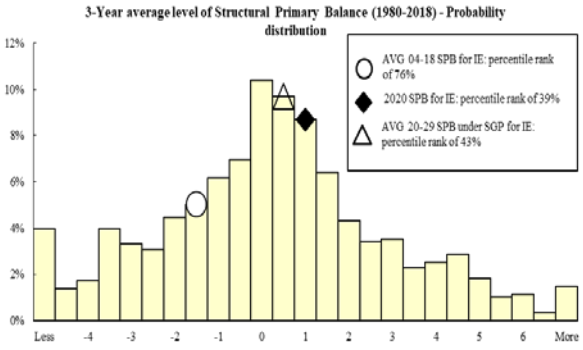
Net International Investment Position (IIP) - IE (2017)	Net IIP (% GDP): -149.3

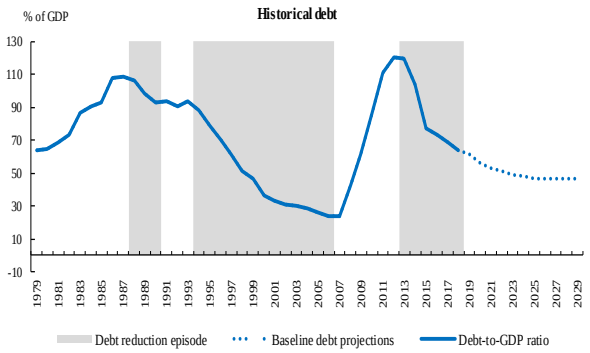
5. Risks related to government's contingent liabilities

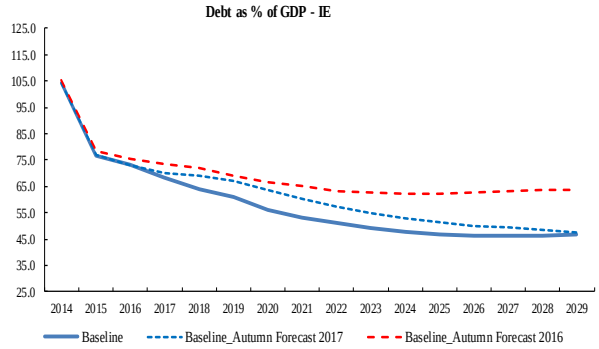
General government contingent liabilities		IE					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		79.8	31.1	4.8	1.9	n.a.	7.3
of which One-off guarantees		*79.8*	*31.1*	*4.8*	*1.9*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		:	*0.7*	*0.6*	*0.7*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	63.3	17.7	1.2	0.5	0.1	0.8
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	17.0	12.7	3.1	0.9	0.0	0.1
	Total	80.3	30.4	4.3	1.5	0.1	1.0

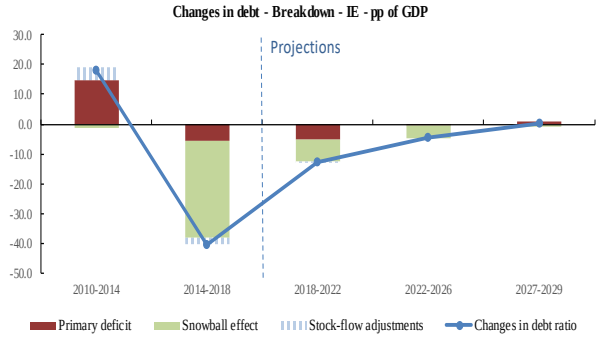
Government's contingent liability risks from banking sector - IE (2017)	Private sector credit flow (% GDP): -7.5	Change in nominal house price index: 10.9	Bank loans-to-deposits ratio (p.p.): 106.1	Share of non-performing loans (%): 10.4	Change in share of non-performing loans (p.p): -1.8	NPL coverage ratio 29.4	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.01%	Adverse scenario 0.09%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Ireland	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.1	56.0	46.9	46.3	46.7	60.3	48.2	51.3
Primary balance	1.5	1.3	1.6	0.0	-0.3	-0.4	1.5	0.2	0.5
Structural primary balance (before CoA)	1.4	0.9	1.0	1.0	1.0	1.0	1.1	1.0	1.0
Real GDP growth	7.8	4.5	3.8	2.7	2.1	1.8	5.4	2.5	3.3
Potential GDP growth	7.6	3.9	3.5	2.7	2.1	1.8	5.0	2.7	3.2
Inflation rate	1.7	1.9	2.1	2.0	2.0	2.0	1.9	2.0	2.0
Implicit interest rate (nominal)	2.6	2.4	2.3	2.8	3.2	3.6	2.4	2.9	2.8
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.1	56.0	72.6	82.4	92.4	60.3	73.3	70.1
Primary balance	1.5	1.3	1.6	-5.8	-5.2	-4.5	1.5	-5.1	-3.5
Structural primary balance (before CoA)	1.4	0.9	1.0	-4.8	-3.9	-3.1	1.1	-4.3	-2.9
Real GDP growth	7.8	4.5	3.8	2.5	1.8	1.5	5.4	2.9	3.5
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.1	56.1	45.7	43.0	40.9	60.4	46.4	49.9
Primary balance	1.5	1.3	1.4	0.8	0.8	0.9	1.4	0.9	1.0
Structural primary balance	1.4	0.9	0.8	0.8	0.8	0.9	1.0	0.8	0.9
Real GDP growth	7.8	4.5	3.9	2.7	2.1	1.8	5.4	2.5	3.3
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	66.0	63.5	60.2	50.2	47.3	45.1	63.2	51.3	54.3
Primary balance	1.5	1.5	1.8	1.3	1.0	0.8	1.6	1.4	1.4
Structural primary balance (before CoA)	1.1	1.2	1.8	2.2	2.2	2.2	1.4	2.2	2.0
Real GDP growth	5.6	4.0	3.4	2.5	1.9	1.9	4.3	2.1	2.7
Potential GDP growth	4.7	4.7	3.7	2.5	1.9	1.9	4.4	2.2	2.7
Inflation rate	0.0	1.3	1.3	2.0	2.0	2.0	0.9	1.7	1.5
Implicit interest rate (nominal)	2.7	2.5	2.4	2.9	3.3	3.5	2.5	2.9	2.8
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.1	56.0	53.9	57.7	62.9	60.3	55.6	56.8
Primary balance	1.5	1.3	1.6	-2.2	-2.6	-2.7	1.5	-1.7	-0.9
Structural primary balance (before CoA)	1.4	0.9	1.0	-1.3	-1.3	-1.3	1.1	-0.9	-0.4
Real GDP growth	7.8	4.5	3.8	2.7	2.1	1.8	5.4	2.7	3.4
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.1	56.0	51.0	53.1	55.7	60.3	52.3	54.3
Primary balance	1.5	1.3	1.6	-2.2	-2.6	-2.7	1.5	-1.7	-0.9
Structural primary balance (before CoA)	1.4	0.9	1.0	-1.3	-1.3	-1.3	1.1	-0.9	-0.4
Real GDP growth	7.8	4.5	3.8	4.9	4.9	4.9	5.4	4.9	5.0
Implicit interest rate (nominal)	2.6	2.4	2.3	3.5	4.1	4.4	2.4	3.5	3.2
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.3	56.3	48.4	48.4	49.6	60.5	49.8	52.5
Implicit interest rate (nominal)	2.6	2.6	2.6	3.4	3.9	4.4	2.6	3.5	3.3
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.0	55.7	45.5	44.3	44.1	60.2	46.8	50.1
Implicit interest rate (nominal)	2.6	2.2	2.0	2.2	2.5	2.8	2.3	2.3	2.3
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.4	56.6	49.3	49.4	50.7	60.6	50.6	53.1
Implicit interest rate (nominal)	2.6	2.8	2.9	3.6	4.1	4.5	2.8	3.7	3.5
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	60.8	55.4	45.3	44.2	44.3	60.0	46.6	50.0
Real GDP growth	7.8	5.0	4.3	3.2	2.6	2.3	5.7	3.0	3.7
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.4	56.6	48.6	48.4	49.3	60.6	49.9	52.6
Real GDP growth	7.8	4.0	3.3	2.2	1.6	1.3	5.0	2.0	2.8
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	56.7	47.8	38.6	37.8	38.0	56.1	39.8	43.9
Real GDP growth	7.8	12.7	11.9	3.2	2.6	2.3	10.8	3.0	5.0
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	66.3	66.5	57.6	57.3	58.2	65.5	59.0	60.7
Real GDP growth	7.8	-3.6	-4.4	2.2	1.6	1.3	-0.1	2.0	1.5
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.0	55.9	47.8	47.5	48.4	60.3	49.1	51.9
Primary balance	1.5	1.5	1.4	-0.2	-0.5	-0.6	1.5	0.0	0.4
Structural primary balance (before CoA)	1.4	1.1	0.8	0.8	0.8	0.8	1.1	0.8	0.9
Real GDP growth	7.8	4.4	4.0	2.7	2.1	1.8	5.4	2.5	3.3
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.1	56.0	46.9	46.3	46.7	60.3	48.2	51.3
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	60.7	55.2	43.9	42.4	41.8	59.9	45.2	48.9
Implicit interest rate (nominal)	2.6	2.2	2.0	2.2	2.5	2.8	2.3	2.3	2.3
Real GDP growth	7.8	5.0	4.3	3.2	2.6	2.3	5.7	3.0	3.7
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	63.9	61.6	56.9	50.2	50.6	52.3	60.8	51.6	53.9
Implicit interest rate (nominal)	2.6	2.6	2.6	3.4	3.9	4.4	2.6	3.5	3.3
Real GDP growth	7.8	4.0	3.3	2.2	1.6	1.3	5.0	2.0	2.8

SPAIN

Based on the European Commission 2018 Autumn Forecast, Spain's structural primary balance (SPB), is expected to worsen from a *deficit* of 0.7% of GDP in 2018 to a *deficit* of 1.0% of GDP in 2020. Real GDP growth should slow down, from 2.6% in 2018 (after 3.0% in 2017) to 2.0% in 2020. Supported by a favourable contribution of the interest rate – growth rate differential, gross government debt would continue to decrease over the forecast period, from 96.9% of GDP in 2018 to 95.4% of GDP in 2020.

8.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Spain, although some fiscal variables point to possible short-term challenges, especially if financial markets' perceptions were to rapidly change.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. Yet, the fiscal sub-index points to some short-term vulnerabilities (with a value above its critical threshold), notably driven by the gross financing needs, the cyclically-adjusted deficit, the primary deficit and the high net government debt.

Financial markets' perceptions of sovereign risk seem to have improved over the last year, with upgrades from all major rating agencies in the first half of 2018. Since then, they have remained 'A-stable' or equivalent. The 10-year sovereign yield spreads vis-à-vis the 10-year German bund have been fluctuating recently, but has remained within 120 bps over the last year.

8.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks appear to be high for Spain, both according to the sustainability gap indicator S1 and from a DSA perspective. The still high and increasing debt-to-GDP ratio at the end of projections in the baseline scenario, and the sensitivity to possible macro-fiscal shocks contribute to this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to high risk in the medium term. A cumulated improvement of 5.2 pps. of GDP of the SPB over 5 years, relative to the baseline 'no-fiscal policy change' scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. This would require an ambitious SPB by European standards ([37]). The very significant S1 value obtained for Spain is mainly due to the distance of the debt ratio from the 60% reference value (contribution of 2.6 pps. of GDP), and, to a lesser extent, to the unfavourable initial budgetary position (contribution of 2.2 pps. of GDP) and to the projected age-related public spending (contribution of 0.4 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Spain is also deemed at high risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([38]).

Baseline no-fiscal policy change scenario

Spain is considered at high risk in baseline medium-term debt projections. Under normal economic conditions and a 'no-fiscal policy change' assumption, government debt would slightly decline until 2020, before raising again until the end of the projection period (t+10) - to reach above 107% of GDP in 2029. This high and increasing level compared to 2018 points to insufficient fiscal effort, under this no-fiscal policy change scenario (with an SPB unchanged at -1.0% of GDP) ([39]), to compensate for increasing ageing costs, as well as for unfavourable interest rate – growth rate differential (snowball effect) over most of the projection period.

([37]) Only 10% of the SPBs recorded for the EU countries over 1980-2018 were greater than this value.
([38]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.
([39]) Over the period 1980-2018, in 70% of the cases, EU countries were able to reach an SPB value greater than -1.0% of GDP.

Government gross financing needs (GFN) ([40]) are projected to increase over the projection period, reaching around 22% of GDP in 2029, above their 2019 estimate (at close to 17% of GDP).

Alternative and stress test scenarios

Given the high initial stock of debt, adverse shocks to growth, interest rates or the primary balance would have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at around 113% of GDP) around 6 pps. of GDP higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Spanish economy, points to a 50% probability of the debt ratio in 2023 being greater than in 2018.

If fiscal policy were to revert to historical behaviour, the Spanish debt ratio in 2029 would be similar to the value seen under the baseline scenario.

If, on the contrary, fiscal policy evolved in line with the main provisions of the Stability and Growth Pact (SGP) ([41]), Spanish government debt would substantially decrease to less than 77% of GDP in 2029 (some 30 pps. of GDP less than in the baseline scenario). This drop would bring the debt ratio below the critical threshold of 90% of GDP, thus contributing to a significant reduction of medium-term fiscal sustainability risks. However, this would require a significantly higher average SPB over the projection period (at +2.0% of GDP over 2020-29) than forecast for 2020.

8.3. Long-term fiscal sustainability challenges

Over the long term, Spain is deemed at high fiscal sustainability risk. The substantial sustainability gap indicator to stabilise debt over the long term combined with vulnerabilities from the high debt burden reflected in the DSA risk assessment contribute to this assessment.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The sustainability gap indicator S2 points to medium risk in the long term. An improvement of the SPB would be required relative to the baseline no-fiscal policy change scenario to stabilise the debt-to-GDP ratio over the long term (a fiscal gap of 2.3 pps. of GDP). This result is due mainly to the unfavourable initial budgetary position (contribution of 2.0 pps. of GDP), but also to the projected ageing costs (0.3 pps. of GDP). The fall in public pension expenditure drives down the projected ageing costs (contribution of -0.8 pps. of GDP). A reversal of recent pension reforms would worsen S2. Under a more adverse scenario, the AWG risk ([42]), the S2 indicator would double, to 4.4 pps. of GDP, while the associated fiscal risks would remain medium.

Over the long term, Spain is deemed at high fiscal sustainability risk. The sustainability gap indicator S2 combined with vulnerabilities from the high debt burden reflected in the DSA risk assessment (see section 8.2) imply that Spain is deemed at high risk over the long term ([43]).

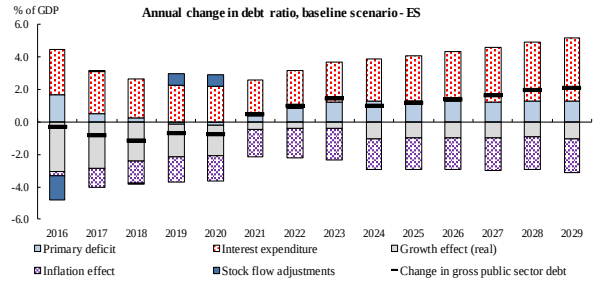
8.4. Additional mitigating and aggravating risk factors

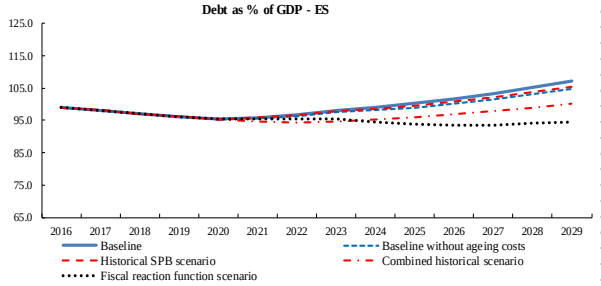
Some additional mitigating and aggravating risk factors exist. The structure of Spanish government debt in terms of currency denomination helps mitigate vulnerabilities. Yet, the high share of short-term government debt, as well as the negative net international investment position and the important holdings of debt by non-residents could be aggravating factors. Not least, the share of non–performing loans in the banking sector and the bank loans-to-deposits ratio point to some contingent liability risks.

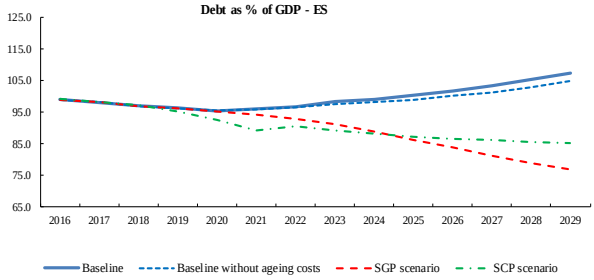
([40]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).
([41]) See Annex 5 in Volume 1 of this report for detailed explanations on the definition of the SGP scenario.
([42]) For more details on this scenario see Section 4.3 of Chapter 4 in Volume 1 of this report.
([43]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

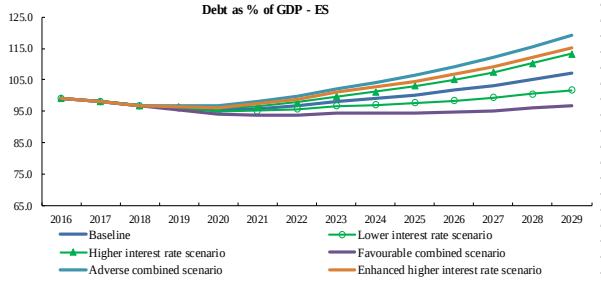
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

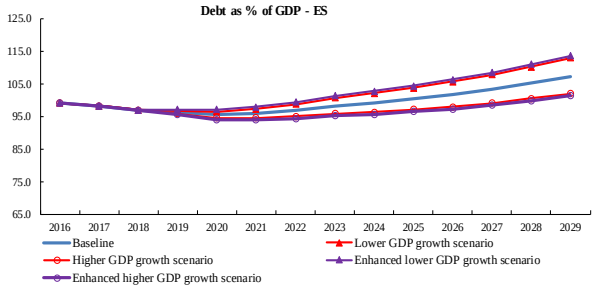
ES - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**99.0**	**98.1**	**96.9**	**96.2**	**95.4**	**95.8**	**96.8**	**98.2**	**99.1**	**100.3**	**101.6**	**103.2**	**105.2**	**107.3**
Changes in the ratio (-1+2+3)	*-0.4*	*-0.8*	*-1.2*	*-0.7*	*-0.8*	*0.4*	*0.9*	*1.4*	*0.9*	*1.1*	*1.4*	*1.6*	*2.0*	*2.1*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-1.7**	**-0.5**	**-0.3**	**0.1**	**0.2**	**-0.4**	**-0.8**	**-1.2**	**-1.3**	**-1.3**	**-1.3**	**-1.2**	**-1.3**	**-1.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.5***	***-0.3***	***-0.7***	***-0.8***	***-1.0***	***-1.2***	***-1.2***	***-1.2***	***-1.3***	***-1.3***	***-1.3***	***-1.2***	***-1.3***	***-1.3***
(1.1.1) Structural primary balance (bef. CoA)	*-0.5*	*-0.3*	*-0.7*	*-0.8*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*
(1.1.2) Cost of ageing						*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.4*
(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***	***-0.2***	***0.5***	***1.0***	***1.2***	***0.8***	***0.4***	***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***	***-0.1***	***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)	**-0.5**	**-1.5**	**-1.4**	**-1.3**	**-1.2**	**0.1**	**0.1**	**0.2**	**-0.3**	**-0.1**	**0.1**	**0.4**	**0.7**	**0.8**
(2.1) Interest expenditure	*2.8*	*2.6*	*2.4*	*2.3*	*2.2*	*2.2*	*2.3*	*2.5*	*2.6*	*2.8*	*3.1*	*3.3*	*3.6*	*3.9*
(2.2) Growth effect	*-3.0*	*-2.8*	*-2.4*	*-2.0*	*-1.8*	*-0.5*	*-0.4*	*-0.4*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-0.9*	*-1.0*
(2.3) Inflation effect	*-0.3*	*-1.2*	*-1.3*	*-1.6*	*-1.6*	*-1.7*	*-1.8*	*-1.9*	*-1.9*	*-1.9*	*-2.0*	*-2.0*	*-2.0*	*-2.1*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-1.5**	**0.1**	**-0.1**	**0.7**	**0.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-1.5*	*0.1*	*-0.1*	*0.7*	*0.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*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	-3.3	-2.9	-3.1	-3.1	-3.1	-3.4	-3.5	-3.7	-3.9	-4.1	-4.3	-4.6	-4.9	-5.2

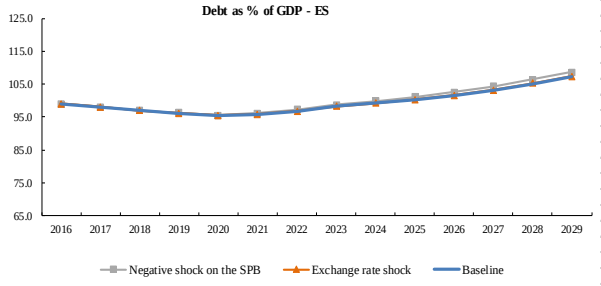


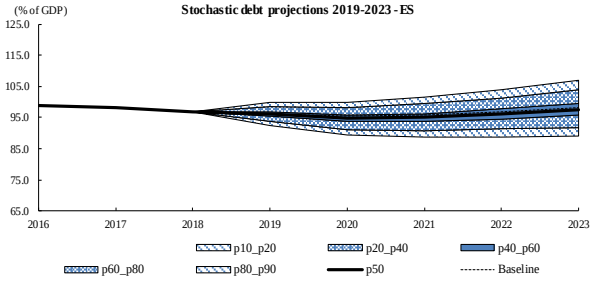


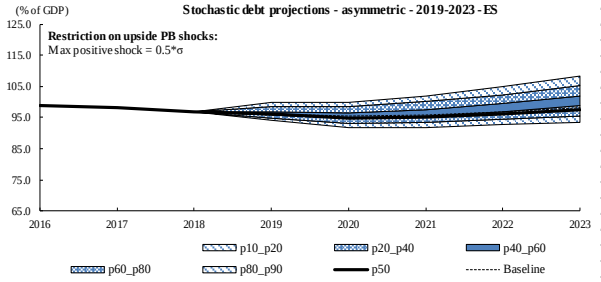












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis						DSA	S2	Long term
				Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections			
			Risk category	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH		
			Debt level (2029)	107.3	105.5	112.9	113.2	108.6			
			Debt peak year	2029	2029	2029	2029	2029			
			Percentile rank	72.0%	70.0%						
			Probability debt higher						54.1%		
			Dif. between percentiles						17.6		
LOW (S0 = 0.4)	HIGH	HIGH (S1 = 5.2)								HIGH	MEDIUM (S2 = 2.3)	HIGH

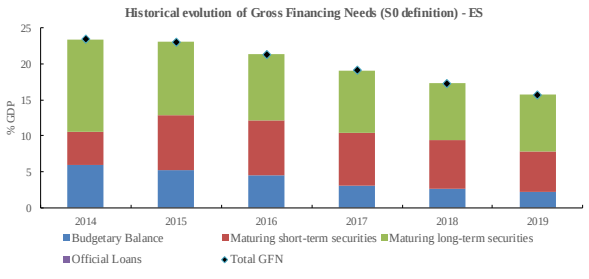
2.2. Sustainability indicators

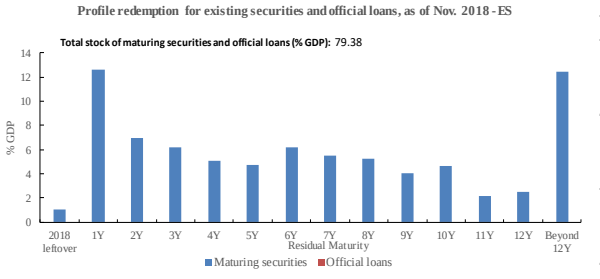
S0 indicator	2009	2018	Critical threshold
Overall index	**0.79**	**0.37**	**0.46**
Fiscal sub-index	0.69	0.57	0.36
Financial competitiveness sub-index	0.85	0.27	0.49

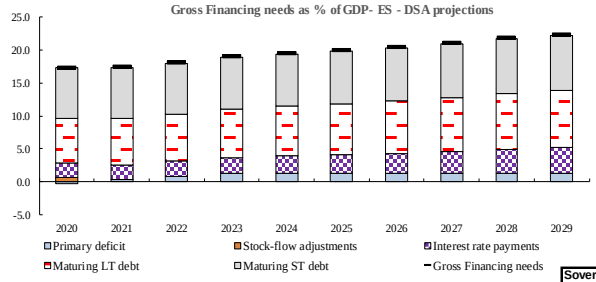
S1 indicator	2017 DSM	FSR 2018		
		COM no-policy change scenario	Historical SPB scenario	AWG risk scenario
Overall index	**3.2**	**5.2**	**6.2**	**5.5**
of which *Gap to the debt-stabilizing primary balance*	*1.0*	*1.4*	*1.7*	*1.4*
Cost of delaying adjustment	*0.5*	*0.8*	*1.0*	*0.9*
Debt requirement	*2.7*	*2.6*	*2.8*	*2.6*
Ageing costs	*-1.0*	*0.4*	*0.7*	*0.6*
Required structural primary balance related to S1	**2.4**	**4.3**	**5.5**	**4.5**

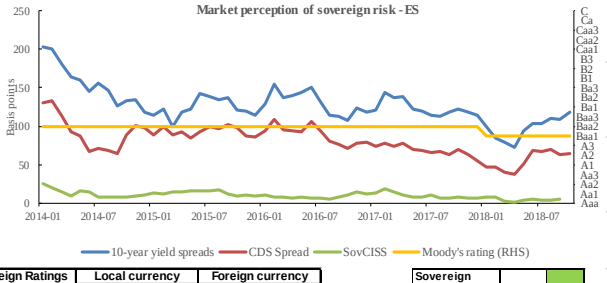
S2 indicator	2017 DSM	FSR 2018					
		COM no-policy change scenario	Historical SPB scenario	AWG risk scenario	TFP risk scenario	High life expectancy scenario	Higher interest rate scenario
Overall index	**1.2**	**2.3**	**2.1**	**4.4**	**2.8**	**2.6**	**3.3**
of which Initial Budgetary position	1.6	2.0	1.8	2.0	2.2	2.0	2.7
Ageing costs	-0.4	0.3	0.3	2.4	0.6	0.6	0.6
of which Pensions	*-0.6*	*-0.8*	*-0.8*	*-0.8*	*-0.5*	*-0.7*	*-0.3*
Health care	*0.8*	*0.5*	*0.5*	*0.9*	*0.4*	*0.5*	*0.5*
Long-term care	*1.1*	*1.0*	*1.0*	*2.6*	*0.9*	*1.2*	*0.8*
Others	*-1.6*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*
Required structural primary balance related to S2	**0.5**	**1.3**	**1.4**	**3.4**	**1.8**	**1.7**	**2.3**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, ES	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	Baa1		Baa1	P-2
S&P	A-u	A-2u	A-u	A-2u
Fitch	A-		A-	F1

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	119.0

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

Government debt structure - ES (2017)	Share of short-term government debt (p.p.): /../	Share of government debt in foreign currency (%): 0.0	Share of government debt by non-residents (%): 44.1

Net International Investment Position (IIP) - ES (2017)	Net IIP (% GDP): -83.8

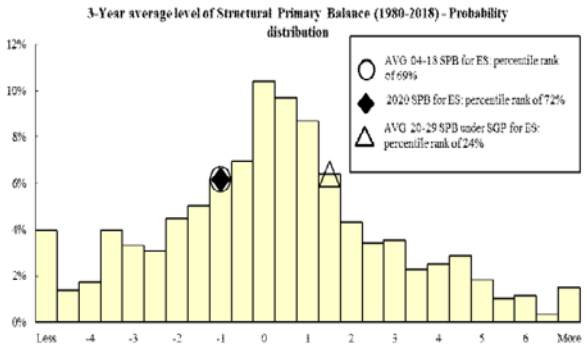
5. Risks related to government's contingent liabilities

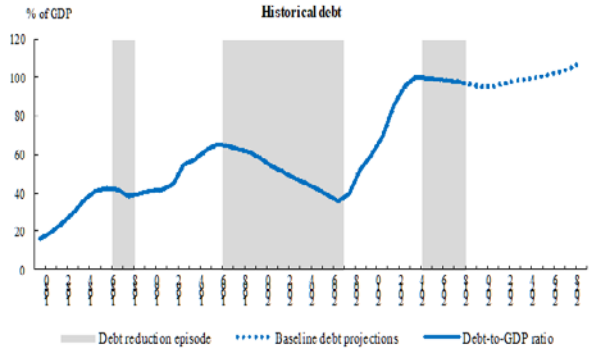
General government contingent liabilities		ES					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		14.9	18.8	9.5	7.7	n.a.	7.3
of which	*One-off guarantees*	*14.9*	*18.8*	*9.5*	*7.7*	*n.a.*	*6.9*
	Standardised guarantees	:	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		.	*0.4*	*0.4*	*0.3*	*n.a.*	*0.5*

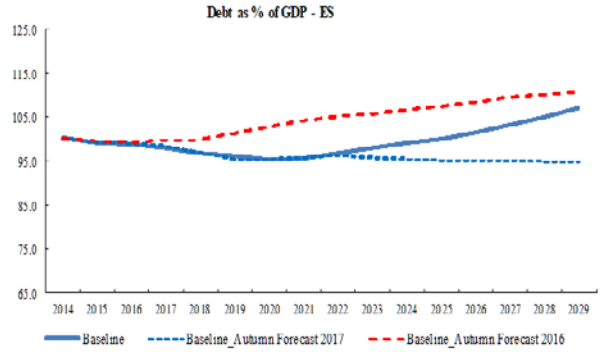
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	6.0	4.5	0.3	0.1	0.0	0.8
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	4.8	4.0	3.7	3.4	0.1
	Total	6.0	9.3	4.3	3.8	3.4	1.0

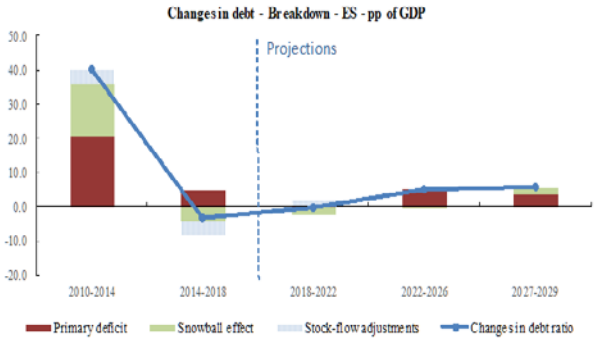
Government's contingent liability risks from banking sector - ES (2017)	Private sector credit flow (% GDP): 0.2	Change in nominal house price index: 6.2	Bank loans-to-deposits ratio (p.p.): 114.8	Share of non-performing loans (%): 4.5	Change in share of non-performing loans (p.p): -1.2	NPL coverage ratio 41.9	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.03%	Adverse scenario 0.07%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Spain	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.2	95.4	100.3	103.2	107.3	96.2	100.8	99.7
Primary balance	-0.3	0.1	0.2	-1.3	-1.2	-1.3	0.0	-1.1	-0.8
Structural primary balance (before CoA)	-0.7	-0.8	-1.0	-1.0	-1.0	-1.0	-0.8	-1.0	-0.9
Real GDP growth	2.6	2.2	2.0	1.0	1.0	1.0	2.2	0.8	1.2
Potential GDP growth	1.2	1.4	1.5	1.0	1.0	1.0	1.4	1.1	1.1
Inflation rate	1.4	1.6	1.7	2.0	2.0	2.0	1.6	2.0	1.9
Implicit interest rate (nominal)	2.5	2.4	2.3	2.9	3.4	3.8	2.4	3.0	2.9
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.2	95.4	93.9	93.6	94.6	96.2	94.5	94.9
Primary balance	-0.3	0.1	0.2	0.4	0.2	0.1	0.0	0.4	0.3
Structural primary balance (before CoA)	-0.7	-0.8	-1.0	0.7	0.4	0.4	-0.8	0.5	0.2
Real GDP growth	2.6	2.2	2.0	1.1	1.1	1.0	2.2	0.7	1.1
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.2	95.1	86.2	81.3	76.7	96.1	86.0	88.5
Primary balance	-0.3	0.1	1.3	2.5	2.6	2.7	0.4	2.3	1.8
Structural primary balance	-0.7	-0.8	0.1	2.5	2.6	2.7	-0.5	2.2	1.5
Real GDP growth	2.6	2.2	1.1	1.0	0.9	1.0	2.0	0.6	0.9
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	97.0	95.2	92.4	87.2	86.1	85.3	94.9	87.5	89.3
Primary balance	0.3	1.1	1.8	1.0	1.0	1.0	1.1	1.2	1.1
Structural primary balance (before CoA)	-0.2	0.2	0.6	1.1	1.1	1.1	0.2	1.1	0.9
Real GDP growth	2.7	2.4	2.3	1.0	0.9	1.1	2.5	1.1	1.4
Potential GDP growth	1.0	1.3	1.5	1.0	0.9	1.1	1.3	1.0	1.1
Inflation rate	1.5	1.8	1.9	2.0	2.0	2.0	1.7	1.8	1.8
Implicit interest rate (nominal)	2.5	2.5	2.5	3.2	3.6	3.9	2.5	3.2	3.0
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.2	95.4	99.6	102.0	105.5	96.2	100.1	99.1
Primary balance	-0.3	0.1	0.2	-1.0	-1.0	-1.0	0.0	-0.9	-0.7
Structural primary balance (before CoA)	-0.7	-0.8	-1.0	-0.7	-0.7	-0.7	-0.8	-0.8	-0.8
Real GDP growth	2.6	2.2	2.0	1.0	1.0	1.0	2.2	0.8	1.2
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.2	95.4	95.9	97.7	100.1	96.2	96.5	96.4
Primary balance	-0.3	0.1	0.2	-1.0	-1.0	-1.0	0.0	-0.9	-0.7
Structural primary balance (before CoA)	-0.7	-0.8	-1.0	-0.7	-0.7	-0.7	-0.8	-0.8	-0.8
Real GDP growth	2.6	2.2	2.0	1.4	1.4	1.4	2.2	1.5	1.7
Implicit interest rate (nominal)	2.5	2.4	2.3	3.1	3.5	3.7	2.4	3.1	2.9
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.4	95.8	103.0	107.4	113.2	96.4	103.8	102.0
Implicit interest rate (nominal)	2.5	2.6	2.6	3.6	4.1	4.6	2.6	3.6	3.4
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.0	95.0	97.6	99.3	101.8	96.0	98.0	97.5
Implicit interest rate (nominal)	2.5	2.3	2.1	2.3	2.7	3.0	2.3	2.4	2.4
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.5	96.3	104.6	109.3	115.3	96.6	105.3	103.1
Implicit interest rate (nominal)	2.5	2.8	2.9	3.7	4.2	4.7	2.7	3.8	3.5
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	95.7	94.5	97.0	99.0	102.0	95.7	97.5	97.1
Real GDP growth	2.6	2.7	2.5	1.5	1.5	1.5	2.6	1.3	1.6
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.7	96.4	103.7	107.7	112.9	96.7	104.3	102.4
Real GDP growth	2.6	1.7	1.5	0.5	0.5	0.5	1.9	0.3	0.7
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	95.4	93.9	96.4	98.4	101.3	95.4	96.9	96.5
Real GDP growth	2.6	3.0	2.8	1.5	1.5	1.5	2.8	1.3	1.7
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	97.0	97.0	104.4	108.4	113.6	97.0	105.0	103.0
Real GDP growth	2.6	1.3	1.1	0.5	0.5	0.5	1.7	0.3	0.7
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.2	95.6	101.1	104.3	108.6	96.2	101.6	100.3
Primary balance	-0.3	0.0	0.1	-1.4	-1.4	-1.4	0.0	-1.2	-0.9
Structural primary balance (before CoA)	-0.7	-0.9	-1.1	-1.1	-1.1	-1.1	-0.9	-1.1	-1.0
Real GDP growth	2.6	2.2	2.0	1.0	1.0	1.0	2.3	0.8	1.2
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.2	95.4	100.3	103.3	107.3	96.2	100.9	99.7
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	95.6	94.1	94.5	95.2	96.8	95.5	94.8	95.0
Implicit interest rate (nominal)	2.5	2.3	2.1	2.3	2.7	3.0	2.3	2.4	2.4
Real GDP growth	2.6	2.7	2.5	1.5	1.5	1.5	2.6	1.3	1.6
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.9	96.8	96.8	106.5	112.0	119.1	96.9	107.4	104.8
Implicit interest rate (nominal)	2.5	2.6	2.6	3.6	4.1	4.6	2.6	3.6	3.4
Real GDP growth	2.6	1.7	1.5	0.5	0.5	0.5	1.9	0.3	0.7

FRANCE

Based on the European Commission 2018 Autumn Forecast, France should experience a slight improvement in the structural primary balance (SPB), from a *deficit* of 0.6% of GDP in 2018 to a *deficit* of 0.4% of GDP in 2020. Real GDP growth should slightly slow down, from 1.7% in 2018 (after 2.2% in 2017) to 1.6% in 2020. Supported by a favourable contribution of the interest – growth rate differential, gross government debt would decrease over the forecast horizon, from 98.7% of GDP in 2018 to 97.2% of GDP in 2020.

9.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for France, although some fiscal variables point to possible short-term challenges, especially if financial markets' perceptions were to rapidly change.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. Yet, the fiscal sub-index has a value above its critical threshold and points to some short-term vulnerabilities, notably driven by the cyclically-adjusted deficit and the high net government debt.

Financial markets' perceptions of sovereign risk remain favourable, confirmed by the 'AA stable' rating given by the three major rating agencies to French government debt.

9.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks appear, on the contrary, to be high for France, both according to the sustainability gap indicator S1 and from a DSA perspective. The still high debt-to-GDP ratio over the medium term in the baseline scenario and the sensitivity to possible macro-fiscal shocks contribute to this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to high risk in the medium term. This indicator shows that a cumulated improvement of 4.2 pps. of GDP of the SPB over 5 years, relative to the baseline 'no-fiscal policy change' scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. This would require an ambitious SPB by European standards ([44]). The very significant S1 value obtained for France is mainly due to the distance of the debt ratio from the 60% reference value (contribution of 2.8 pps. of GDP), and, to a lesser extent, to the unfavourable initial budgetary position (1.0 pp. of GDP) and to the projected age-related public spending (0.4 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, France is also deemed at high risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([45]).

Baseline no-fiscal policy change scenario

France is considered at high risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would slightly decline until 2024, before rising again until the end of the projection period (t+10) - to reach above 98% of GDP in 2029. This still high and non-reducing level (broadly unchanged compared to 2018) points to insufficient fiscal effort, under this no-fiscal policy change scenario (with an SPB unchanged at -0.4% of GDP) ([46]), to compensate for increasing ageing costs, as well as unfavourable snowball effects (interest – growth rate differential) towards the end of the projection period.

([44]) Only 11% of the SPBs recorded for the EU countries over 1980-2018 were greater than this value.
([45]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.
([46]) Over the period 1980-2018, in 65% of the cases, EU countries were able to reach an SPB value greater than -0.4% of GDP.

Government gross financing needs (GFN) ([47]) are projected to slightly increase over the projection period, reaching 21% of GDP in 2029, above their estimated value in 2019 (at close to 18% of GDP).

Alternative and stress test scenarios

Given the high initial stock of debt, negative shocks to growth, interest rates or the primary balance would have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at 105% of GDP) around 6 pps. of GDP higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the French economy, points to a 33.6% probability of the debt ratio in 2023 being greater than in 2018, entailing high risks given the high starting level.

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *deficit* of 1.5% of GDP), the French debt ratio in 2029 would be as much as 8 pps. of GDP higher (at close to 107% of GDP in 2029) than under the baseline scenario.

If, on the contrary, fiscal policy was evolving in line with the main provisions of the Stability and Growth Pact (SGP) ([48]), government debt would substantially decrease, to 79% of GDP in 2029 (close to 20 pps. of GDP less than in the baseline scenario). This would require a significantly higher average SPB over the projection horizon (at +1.6% of GDP over 2020-29) than forecasted for 2020. Even in this case, the debt ratio would remain above the SGP threshold of 60% of GDP in 2029.

9.3. Long-term fiscal sustainability challenges

Over the long term, France is deemed at medium fiscal sustainability risk. Despite the slightly negative sustainability gap indicator to stabilise debt over the long term, the vulnerabilities linked to the high debt burden - captured by the DSA risk assessment - imply that France is deemed at medium risk over the long term.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to limited risk in the long term. This indicator shows that no improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term (a slightly negative fiscal gap at -0.1 pps. of GDP). This result is due to the projected decrease in ageing costs (contribution of -1.5 pps. of GDP), mitigated by the unfavourable initial budgetary position (1.4 pps. of GDP). It is in particular the projected decrease in public pension expenditure that drives down ageing costs (contribution of -2.0 pps. of GDP), given substantial reforms implemented in this area. Under a more adverse scenario in the health care and long-term care areas (with non-demographic drivers pushing costs upward), the S2 indicator would increase to 1.9 pps. of GDP, thus still pointing to low fiscal risks in the long term.

Over the long term, France is deemed at medium fiscal sustainability risk. Despite the slightly negative sustainability gap S2 indicator, the vulnerabilities linked to the high debt burden - captured by the DSA risk assessment (see section 9.2) - imply that France is deemed at medium risk over the long term ([49]).

9.4. Additional mitigating and aggravating risk factors

Some additional mitigating and aggravating risk factors exist. The structure of the French government debt in terms of currency denomination helps mitigating vulnerabilities. Yet, the maturity structure and the high share of debt holdings by non-residents could be an aggravating factor, as well as the negative net international investment position. Also, the share of non–performing loans in the banking sector and the bank loans-to-deposits ratio point to some contingent liability risks.

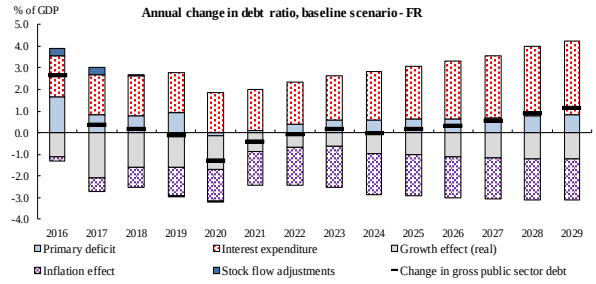
([47]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

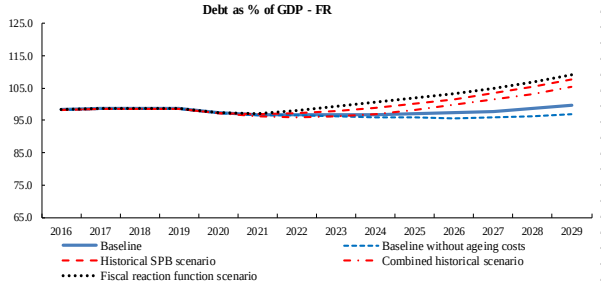
([48]) See Annex 5 in Volume 1 of this report for detailed explanations on the definition of the SGP scenario.

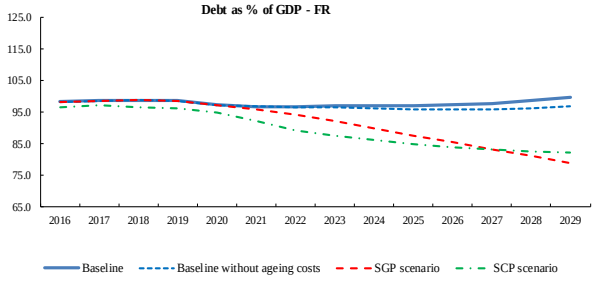
([49]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

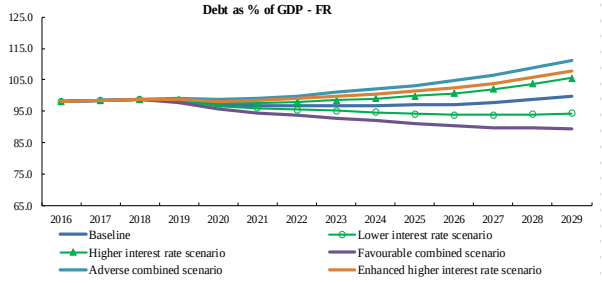
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

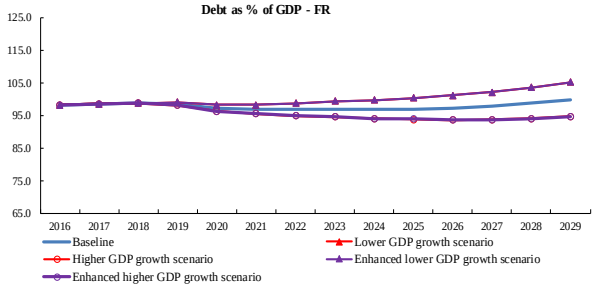
FR - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**98.2**	**98.5**	**98.7**	**98.5**	**97.2**	**96.8**	**96.7**	**96.9**	**96.8**	**97.0**	**97.3**	**97.8**	**98.7**	**99.8**
Changes in the ratio (-1+2+3)	*2.6*	*0.3*	*0.2*	*-0.1*	*-1.3*	*-0.4*	*-0.1*	*0.1*	*0.0*	*0.1*	*0.3*	*0.5*	*0.9*	*1.1*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-1.7**	**-0.8**	**-0.8**	**-0.9**	**0.1**	**-0.1**	**-0.4**	**-0.6**	**-0.6**	**-0.7**	**-0.6**	**-0.7**	**-0.8**	**-0.8**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.8***	***-0.6***	***-0.6***	***-0.4***	***-0.4***	***-0.5***	***-0.5***	***-0.6***	***-0.6***	***-0.7***	***-0.6***	***-0.7***	***-0.8***	***-0.8***
(1.1.1) Structural primary balance (bef. CoA)	*-0.8*	*-0.6*	*-0.6*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*
(1.1.2) Cost of ageing						*0.1*	*0.2*	*0.3*	*0.3*	*0.4*	*0.4*	*0.4*	*0.5*	*0.6*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
(1.2) Cyclical component	***-0.8***	***-0.2***	***0.1***	***0.3***	***0.5***	***0.3***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.1***	***0.0***	***-0.2***	***-0.8***	***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)	**0.6**	**-0.8**	**-0.7**	**-1.0**	**-1.2**	**-0.6**	**-0.5**	**-0.4**	**-0.6**	**-0.5**	**-0.4**	**-0.2**	**0.1**	**0.3**
(2.1) Interest expenditure	*1.9*	*1.9*	*1.9*	*1.8*	*1.8*	*1.9*	*2.0*	*2.1*	*2.2*	*2.4*	*2.6*	*2.9*	*3.2*	*3.4*
(2.2) Growth effect	*-1.1*	*-2.1*	*-1.6*	*-1.6*	*-1.5*	*-0.8*	*-0.7*	*-0.6*	*-1.0*	*-1.0*	*-1.1*	*-1.2*	*-1.2*	*-1.2*
(2.3) Inflation effect	*-0.2*	*-0.6*	*-0.9*	*-1.3*	*-1.5*	*-1.6*	*-1.7*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*
(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	**0.4**	**0.4**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.4*	*0.4*	*0.1*	*-0.1*	*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*	*-0.1*	*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	-2.7	-2.4	-2.5	-2.3	-2.2	-2.3	-2.5	-2.6	-2.8	-3.1	-3.3	-3.6	-4.0	-4.2

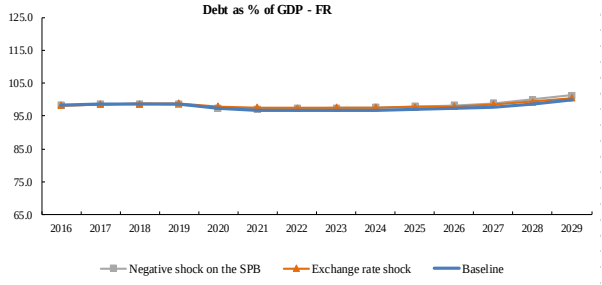


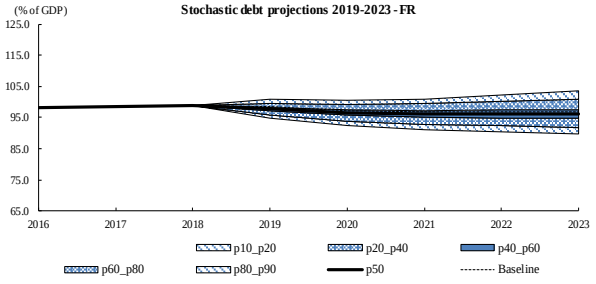


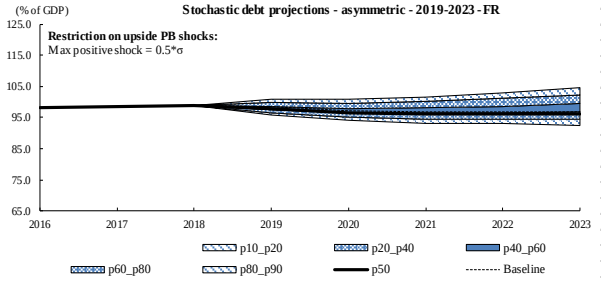












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis						DSA	S2	Long term
				Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections			
LOW (S0 = 0.3)	HIGH	HIGH (S1 = 4.2)	Risk category	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	LOW (S2 = -0.1)	MEDIUM
			Debt level (2029)	99.8	107.7	105.1	105.6	101.2				
			Debt peak year	2029	2029	2029	2029	2029				
			Percentile rank	65.0%	75.0%							
			Probability debt higher						33.6%			
			Dif. between percentiles						13.9			

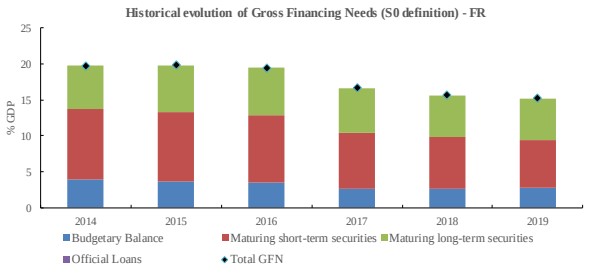
2.2. Sustainability indicators

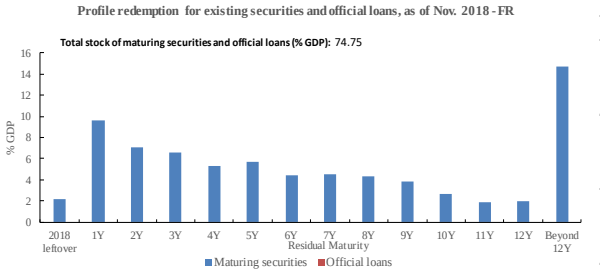
S0 indicator	2009	2018	Critical threshold
Overall index	**0.39**	**0.29**	**0.46**
Fiscal sub-index	0.96	0.41	0.36
Financial competitiveness sub-index	0.09	0.23	0.49

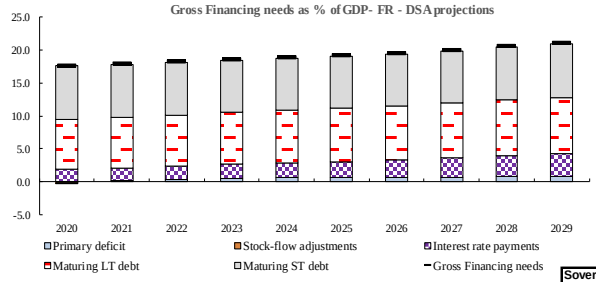
S1 indicator	2017 DSM	FSR 2018		
		COM no-policy change scenario	Historical SPB scenario	AWG risk scenario
Overall index	**4.9**	**4.2**	**6.6**	**4.6**
of which *Gap to the debt-stabilizing primary balance*	*1.0*	*0.3*	*2.1*	*0.3*
Cost of delaying adjustment	*0.7*	*0.7*	*1.1*	*0.7*
Debt requirement	*2.9*	*2.8*	*2.9*	*2.8*
Ageing costs	*0.3*	*0.4*	*0.6*	*0.7*
Required structural primary balance related to S1	**3.6**	**3.9**	**5.1**	**4.2**

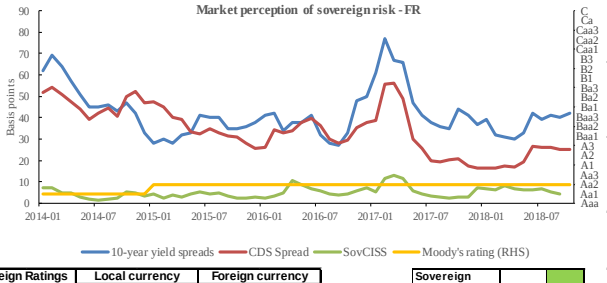
S2 indicator	2017 DSM	FSR 2018					
		COM no-policy change scenario	Historical SPB scenario	AWG risk scenario	TFP risk scenario	High life expectancy scenario	Higher interest rate scenario
Overall index	**1.1**	**-0.1**	**1.0**	**1.9**	**0.9**	**0.4**	**1.0**
of which Initial Budgetary position	2.2	1.4	2.6	1.4	1.6	1.4	2.0
Ageing costs	-1.0	-1.5	-1.6	0.6	-0.7	-1.0	-1.0
of which Pensions	*-1.7*	*-2.0*	*-2.0*	*-2.0*	*-1.1*	*-1.6*	*-1.4*
Health care	*0.6*	*0.3*	*0.3*	*0.9*	*0.3*	*0.3*	*0.3*
Long-term care	*0.6*	*0.5*	*0.6*	*2.1*	*0.5*	*0.7*	*0.5*
Others	*-0.5*	*-0.4*	*-0.5*	*-0.4*	*-0.4*	*-0.4*	*-0.4*
Required structural primary balance related to S2	**-0.1**	**-0.5**	**-0.5**	**1.6**	**0.5**	**0.0**	**0.6**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, FR	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	Aa2		Aa2	
S&P	AAu	A-1+u	AAu	A-1+u
Fitch	AA		AA	F1+

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	42.0

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

Government debt structure - FR (2017)	Share of short-term government debt (p.p.): 9.8	Share of government debt in foreign currency (%): 2.9	Share of government debt by non-residents (%): 49.9

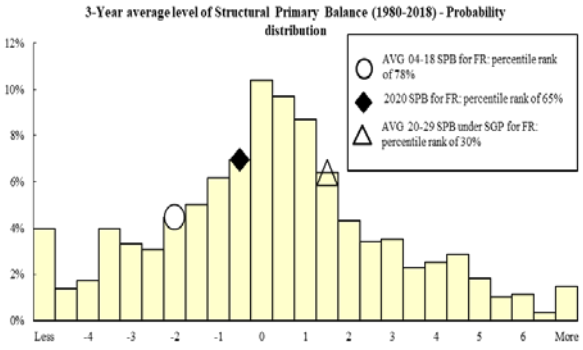
Net International Investment Position (IIP) - FR (2017)	Net IIP (% GDP): -20.1

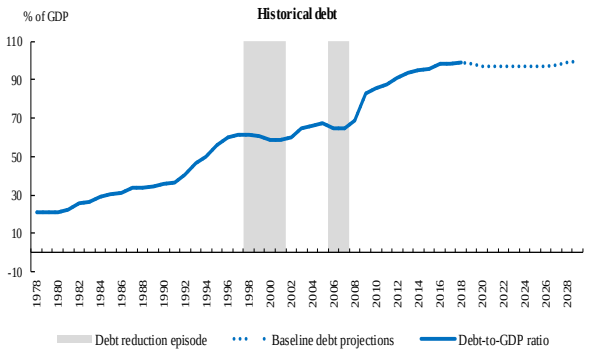
5. Risks related to government's contingent liabilities

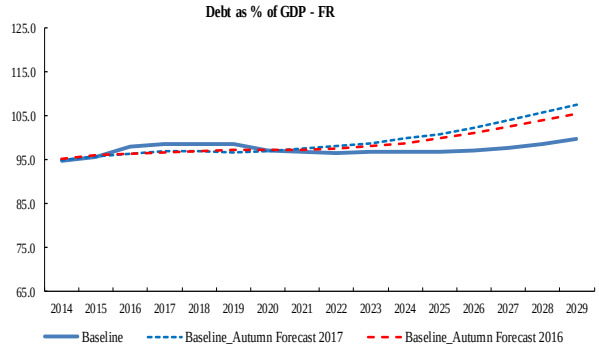
General government contingent liabilities		FR					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		5.5	5.5	4.4	5.2	n.a.	7.3
of which One-off guarantees		*3.6*	*3.5*	*2.3*	*3.0*	*n.a.*	*6.9*
Standardised guarantees		*1.9*	*2.0*	*2.1*	*2.2*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.8	2.1	1.8	2.0	1.6	0.8
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	2.6	1.1	0.0	0.0	0.0	0.1
	Total	3.4	3.3	1.8	2.0	1.6	1.0

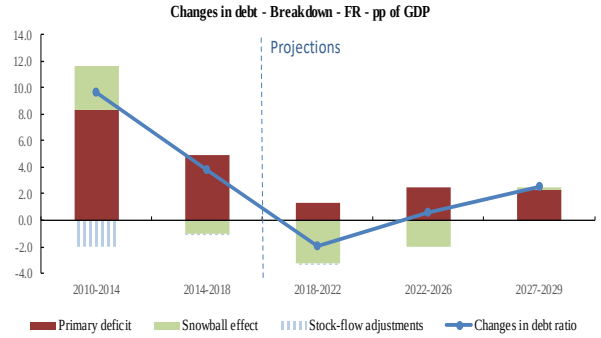
Government's contingent liability risks from banking sector - FR (2017)	Private sector credit flow (% GDP): 7.0	Change in nominal house price index: 3.1	Bank loans-to-deposits ratio (p.p.): 113.3	Share of non-performing loans (%): 3.1	Change in share of non-performing loans (p.p): -0.6	NPL coverage ratio 51.0	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, France	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.5	97.2	97.0	97.8	99.8	98.2	97.5	97.7
Primary balance	-0.8	-0.9	0.1	-0.7	-0.7	-0.8	-0.5	-0.6	-0.6
Structural primary balance (before CoA)	-0.6	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.4	-0.4
Real GDP growth	1.7	1.6	1.6	1.1	1.2	1.2	1.6	1.0	1.2
Potential GDP growth	1.2	1.2	1.3	1.1	1.2	1.2	1.2	1.1	1.2
Inflation rate	0.9	1.4	1.5	2.0	2.0	2.0	1.3	1.9	1.8
Implicit interest rate (nominal)	1.9	1.9	1.9	2.6	3.1	3.6	1.9	2.7	2.5
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.5	97.2	101.8	104.9	108.9	98.2	102.3	101.3
Primary balance	-0.8	-0.9	0.1	-1.8	-1.7	-1.6	-0.5	-1.6	-1.4
Structural primary balance (before CoA)	-0.6	-0.4	-0.4	-1.5	-1.4	-1.1	-0.5	-1.4	-1.2
Real GDP growth	1.7	1.6	1.6	1.0	1.2	1.2	1.6	1.1	1.2
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.5	97.1	87.7	83.2	79.0	98.1	87.6	90.2
Primary balance	-0.8	-0.9	0.7	1.8	2.0	2.3	-0.3	1.8	1.3
Structural primary balance	-0.6	-0.4	0.2	1.8	2.0	2.3	-0.3	1.8	1.2
Real GDP growth	1.7	1.6	1.2	1.0	1.1	1.2	1.5	0.9	1.0
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	96.4	96.2	94.7	84.9	83.1	82.2	95.8	85.8	88.3
Primary balance	-0.5	0.3	0.9	1.0	1.0	0.8	0.2	1.2	0.9
Structural primary balance (before CoA)	-0.3	-0.1	0.3	1.1	1.1	1.1	0.0	1.1	0.8
Real GDP growth	2.0	1.9	1.7	1.1	1.2	1.2	1.9	1.2	1.4
Potential GDP growth	1.3	1.3	1.3	1.1	1.2	1.2	1.3	1.0	1.1
Inflation rate	1.1	1.2	1.5	2.0	2.0	2.0	1.3	2.0	1.8
Implicit interest rate (nominal)	1.8	1.8	1.9	2.9	3.4	3.8	1.8	2.9	2.6
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.5	97.2	100.2	103.3	107.7	98.2	101.0	100.3
Primary balance	-0.8	-0.9	0.1	-1.8	-1.8	-1.9	-0.5	-1.5	-1.3
Structural primary balance (before CoA)	-0.6	-0.4	-0.4	-1.5	-1.5	-1.5	-0.5	-1.3	-1.1
Real GDP growth	1.7	1.6	1.6	1.1	1.2	1.2	1.6	1.1	1.3
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.5	97.2	98.3	101.4	105.2	98.2	99.2	99.0
Primary balance	-0.8	-0.9	0.1	-1.8	-1.8	-1.9	-0.5	-1.5	-1.3
Structural primary balance (before CoA)	-0.6	-0.4	-0.4	-1.5	-1.5	-1.5	-0.5	-1.3	-1.1
Real GDP growth	1.7	1.6	1.6	1.3	1.3	1.3	1.6	1.4	1.5
Implicit interest rate (nominal)	1.9	1.9	1.9	2.8	3.1	3.4	1.9	2.7	2.5
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.7	97.7	99.8	102.0	105.6	98.4	100.6	100.0
Implicit interest rate (nominal)	1.9	2.1	2.2	3.2	3.8	4.4	2.1	3.3	3.0
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.3	96.8	94.2	93.8	94.3	97.9	94.6	95.5
Implicit interest rate (nominal)	1.9	1.7	1.6	2.0	2.4	2.8	1.8	2.1	2.0
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.9	98.2	101.5	104.0	107.8	98.6	102.2	101.3
Implicit interest rate (nominal)	1.9	2.3	2.5	3.4	4.0	4.5	2.3	3.5	3.2
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.1	96.3	93.8	93.7	94.7	97.7	94.3	95.1
Real GDP growth	1.7	2.1	2.1	1.6	1.7	1.7	2.0	1.5	1.6
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	99.0	98.2	100.3	102.1	105.1	98.6	100.9	100.3
Real GDP growth	1.7	1.1	1.1	0.6	0.7	0.7	1.3	0.5	0.7
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.1	96.3	93.8	93.7	94.7	97.7	94.3	95.1
Real GDP growth	1.7	2.1	2.1	1.6	1.7	1.7	2.0	1.5	1.6
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	99.0	98.2	100.3	102.1	105.1	98.6	100.9	100.3
Real GDP growth	1.7	1.1	1.1	0.6	0.7	0.7	1.3	0.5	0.7
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.6	97.5	97.8	98.9	101.2	98.2	98.4	98.4
Primary balance	-0.8	-1.1	0.0	-0.8	-0.8	-0.9	-0.6	-0.7	-0.7
Structural primary balance (before CoA)	-0.6	-0.6	-0.5	-0.5	-0.5	-0.5	-0.6	-0.5	-0.5
Real GDP growth	1.7	1.8	1.6	1.1	1.2	1.2	1.7	1.0	1.2
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	98.9	98.0	97.7	98.5	100.5	98.5	98.2	98.3
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	97.9	95.8	91.1	89.8	89.6	97.5	91.5	93.0
Implicit interest rate (nominal)	1.9	1.7	1.6	2.0	2.4	2.8	1.8	2.1	2.0
Real GDP growth	1.7	2.1	2.1	1.6	1.7	1.7	2.0	1.5	1.6
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	98.7	99.2	98.7	103.3	106.5	111.3	98.9	104.1	102.8
Implicit interest rate (nominal)	1.9	2.1	2.2	3.2	3.8	4.4	2.1	3.3	3.0
Real GDP growth	1.7	1.1	1.1	0.6	0.7	0.7	1.3	0.5	0.7

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Based on the European Commission 2018 Autumn Forecast, Croatia's structural primary balance (SPB) would go from a surplus of 1.9% of GDP in 2018 to a surplus of 1% at the end of the forecast horizon in 2020. Real GDP growth is expected to remain about unchanged, at 2.8% in 2018 (after 2.9% in 2017) and 2.6% in 2020. Gross government debt would fall to 68.2% of GDP in 2020, compared to an expected 73.5% in 2018. This debt reduction is the result of primary surpluses as well as a reverse snowball effect as nominal GDP growth exceeds the interest payments on government debt.

10.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are anticipated for Croatia.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below the critical thresholds.

Financial markets' perception of sovereign risk is fairly stable. The 10-year yield spread versus the German Bund recently narrowed substantially, hovering between 150 and 200 basis points. The rating assigned to Croatian government debt by the three major rating agencies has been stable at a notch below investment grade for several years.

10.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks are assessed to be medium, both according to the sustainability gap indicator S1 and the debt sustainability analysis. This risk assessment is based on the relatively high initial debt-to-GDP ratio and its sensitivity to possible macro-fiscal shocks.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the medium-term sustainability gap indicator S1 points to a medium risk. At 0.2 pps. of GDP, the value for S1 relative to the baseline no-policy-change scenario is just above the critical threshold for medium risk. It indicates that a small consolidation, relative to the baseline 'no-fiscal policy change' scenario, would be required over the next five years to reach the 60% of GDP debt reference value in 2033. This would require an SPB of 1.2% of GDP on average, which appears feasible by European standards ([50]). The rather favourable result for the S1 indicator stems from the primary budget surpluses (-0.3 pps. of GDP contribution to the S1 value) and the small decline in ageing costs projected between 2018 and 2033 (-0.1 pps. of GDP contribution) ([51]). These factors partially offset the effect of the debt-servicing costs associated with the government debt stock (+0.6 pps. of GDP contribution).

Debt sustainability analysis (DSA)

Over the medium term, Croatia is also deemed at medium risk from a debt sustainability analysis (DSA) perspective. This risk assessment from the baseline scenario is confirmed by alternative and stress test scenarios ([52]).

Baseline no-policy-change scenario

Croatia faces medium risks according to the baseline medium-term debt projections. Under normal economic conditions and a no-policy-change assumption after 2020, government debt would continue the steady decrease that started in 2015, following a peak of 84% of GDP in 2014. The debt-to-GDP ratio is expected to go from 73.5% in 2018 to 64.3% in 2029. The pace would slow down, though, considering that the primary surplus is projected to shrink. In addition, the snowball effect would become debt-increasing

([50]) 36% of the SPBs recorded for the EU countries over 1980-2018 were greater than this value.
([51]) The S1 value is based on the projections in the 2018 Ageing Report (see European Commission, 2018a), which were finalised and published before the adoption of pension reforms by the Croatian Parliament in December 2018. These new reforms might change the assessment.
([52]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decision trees used to derive the overall DSA risk classification.

again as of 2021, as a result of lower nominal GDP growth.

Government gross financing needs (GFN) ([53]) are projected to decrease. Lower amounts of maturing long-term debt would be partly offset by the projected decrease in the primary surplus. Overall, financing needs would decline from 15.4% of GDP in 2019 to 13.6% in 2029.

Alternative and stress test scenarios

Given the initial debt stock, adverse shocks to growth, interest rates or the primary balance would be expected to lead to an increase in the debt ratio compared to the baseline. Standard negative sensitivity tests on nominal growth and interest rates would entail an increase in the debt ratio of about 4-5 pps. of GDP in 2029 relative to the baseline. Debt would still decrease as compared to the 2018 level, though. Based on the historical volatility of the Croatian economy, a very large set of jointly simulated shocks to growth, interest rates and the primary balance gives a 36% probability of the debt ratio in 2023 being higher than in 2018. In addition, such shocks point to high uncertainty surrounding baseline projections, as can be seen from the wide debt distribution cone ([54]).

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its average level of the last 15 years, a deficit of 1.2% of GDP), the Croatian debt ratio would peak in 2029 at 80.7% of GDP, 16 pps. of GDP higher than in the baseline scenario.

10.3. Long-term fiscal sustainability challenges

Over the long term, Croatia is considered at medium fiscal sustainability risk. While the sustainability gap indicator shows no fiscal adjustment would be required to stabilise debt in the long run, the DSA risk assessment is less positive, signalling medium risk.

([53]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).
([54]) The difference between the 10th and 90th percentile in 2023 is around 41 pps. of GDP

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to low risk in the long term. With a value of -2.1 pps. of GDP relative to the baseline no-policy-change scenario, this indicator suggests that there would be some fiscal space in Croatia. This favourable result is driven by the projected decrease in ageing-related expenditure, in particular pension benefits ([55]). In case the SPB would converge towards the historical level, the debt-increasing impact of the resulting looser fiscal policy would be more or less offset by the projected decline in pension expenditure. The S2 indicator is estimated to have a slightly positive value of 0.2 pps. of GDP under such scenario ([56]).

Overall, Croatia is considered to have a medium fiscal sustainability risk in the long term. Notwithstanding the favourable signal from the sustainability gap indicator S2, the DSA assessment (see section 10.2) points to medium risks for Croatia regarding long-term fiscal sustainability ([57]).

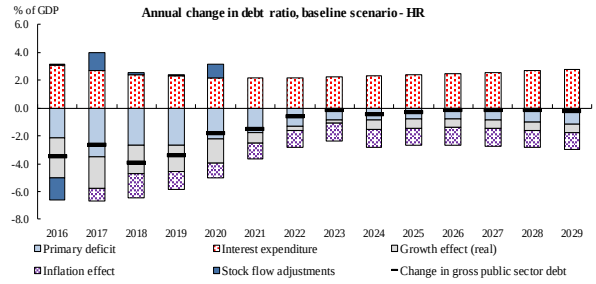
10.4. Additional mitigating and aggravating risk factors

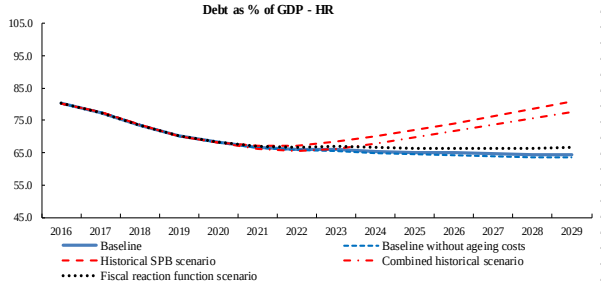
Some additional mitigating and aggravating risk factors exist. The fact that more than three quarters of Croatian government debt is denominated in foreign currency is a source of vulnerability. The same holds for the negative international investment position and the high share of non-performing loans. However, the latter has fallen considerably compared to a couple of years ago and the coverage ratio seems to further mitigate associated risks. Finally, the S1 and S2 indicators do not yet account for the impact of the latest pension reforms, announced by the Croatian government in October 2018.

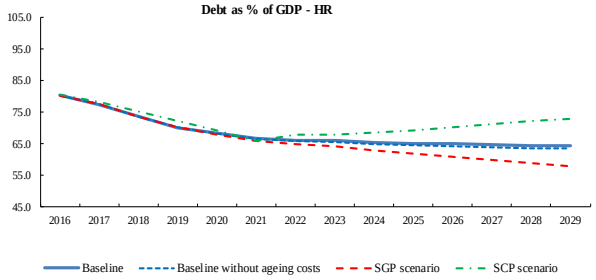
([55]) The recently adopted pension reform might change the assessment based on the S2 indicator.
([56]) For more details on this scenario, see Section 4.3 of Chapter 4 in Volume 1 of this report.
([57]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

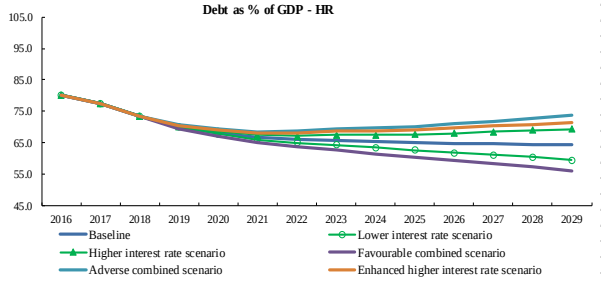
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

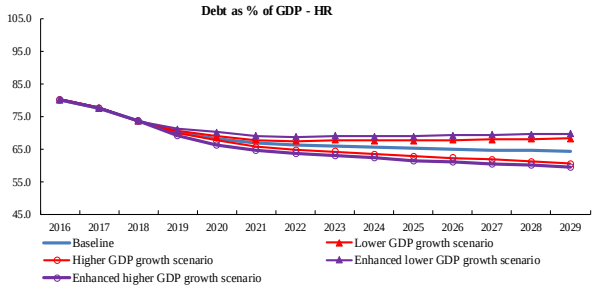
HR - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**80.2**	**77.5**	**73.5**	**70.1**	**68.2**	**66.7**	**66.0**	**65.9**	**65.4**	**65.1**	**64.9**	**64.7**	**64.5**	**64.3**
Changes in the ratio (-1+2+3)	*-3.5*	*-2.7*	*-4.0*	*-3.4*	*-1.9*	*-1.5*	*-0.7*	*-0.1*	*-0.5*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.3*
of which														
(1) Primary balance (1.1+1.2+1.3)	**2.1**	**3.5**	**2.7**	**2.6**	**2.2**	**1.7**	**1.3**	**0.9**	**0.9**	**0.8**	**0.8**	**0.9**	**1.0**	**1.1**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***2.3***	***3.3***	***1.9***	***1.6***	***1.0***	***1.0***	***0.9***	***0.9***	***0.9***	***0.8***	***0.8***	***0.9***	***1.0***	***1.1***
(1.1.1) Structural primary balance (bef. CoA)	*2.3*	*3.3*	*1.9*	*1.6*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*	*1.0*
(1.1.2) Cost of ageing						*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.0*	*-0.2*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***-0.3***	***0.3***	***0.8***	***1.1***	***1.2***	***0.8***	***0.4***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.1***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**0.3**	**-0.5**	**-1.4**	**-0.9**	**-0.6**	**0.2**	**0.7**	**0.8**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**
(2.1) Interest expenditure	*3.1*	*2.7*	*2.4*	*2.3*	*2.2*	*2.2*	*2.2*	*2.2*	*2.3*	*2.4*	*2.5*	*2.6*	*2.7*	*2.7*
(2.2) Growth effect	*-2.9*	*-2.3*	*-2.1*	*-1.9*	*-1.7*	*-0.8*	*-0.3*	*-0.2*	*-0.7*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
(2.3) Inflation effect	*0.1*	*-0.9*	*-1.7*	*-1.2*	*-1.1*	*-1.2*	*-1.2*	*-1.3*	*-1.3*	*-1.3*	*-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	**-1.6**	**1.3**	**0.1**	**0.1**	**1.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-1.0*	*1.9*	*0.6*	*0.0*	*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	*-0.7*	*-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*
Pro memoria														
Structural balance	-0.7	0.7	-0.5	-0.7	-1.1	-1.2	-1.3	-1.3	-1.5	-1.6	-1.7	-1.7	-1.7	-1.6

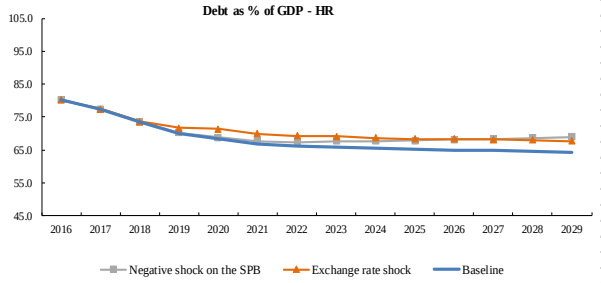


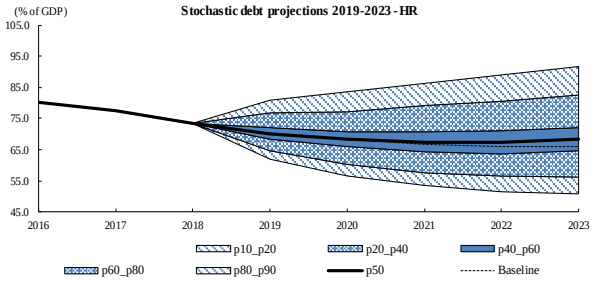


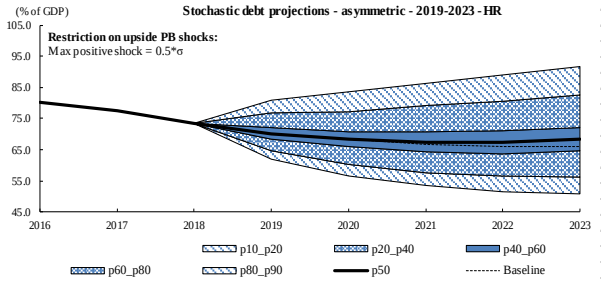












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM			
			Debt level (2029)	64.3	80.7	68.2	69.4	68.9				
			Debt peak year	2018	2029	2018	2018	2018				
			Percentile rank	38.0%	68.0%							
			Probability debt higher						35.8%			
			Dif. between percentiles						40.8			
LOW (S0 = 0.2)	MEDIUM	MEDIUM (S1 = 0.2)								MEDIUM	LOW (S2 = -2.1)	MEDIUM

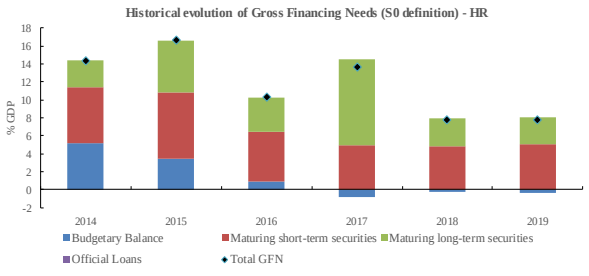
2.2. Sustainability indicators

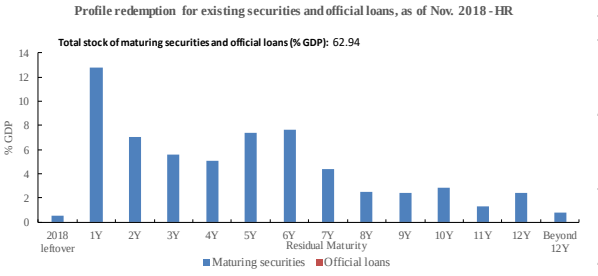
S0 indicator	2009	2018	Critical threshold
Overall index	**0.84**	**0.24**	**0.46**
Fiscal sub-index	0.64	0.19	0.36
Financial competitiveness sub-index	0.93	0.26	0.49

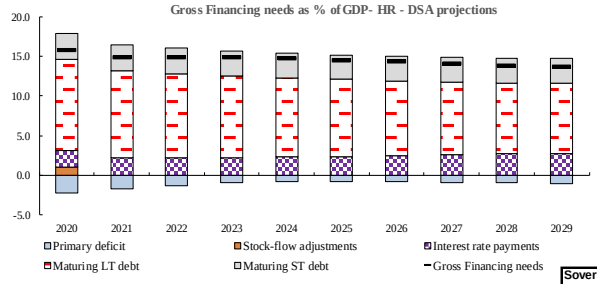
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**1.2**	**0.2**	**3.0**	**0.3**
of which *Gap to the debt-stabilizing primary balance*	*0.3*	*-0.3*	*2.3*	*-0.3*
Cost of delaying adjustment	*0.2*	*0.0*	*0.5*	*0.0*
Debt requirement	*1.0*	*0.6*	*0.7*	*0.6*
Ageing costs	*-0.3*	*-0.1*	*-0.5*	*0.0*
Required structural primary balance related to S1	**1.7**	**1.2**	**1.8**	**1.3**

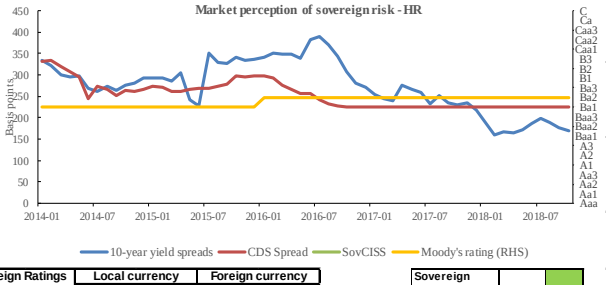
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**-1.5**	**-2.1**	**0.2**	**-1.1**	**-1.7**	**-1.7**	**-1.3**
of which Initial Budgetary position	0.8	0.2	2.6	0.2	0.3	0.2	0.7
Ageing costs	-2.3	-2.3	-2.4	-1.3	-2.1	-1.9	-2.0
of which Pensions	*-2.6*	*-2.6*	*-2.8*	*-2.6*	*-2.4*	*-2.2*	*-2.2*
Health care	*0.6*	*0.4*	*0.5*	*0.9*	*0.4*	*0.5*	*0.4*
Long-term care	*0.0*	*0.2*	*0.2*	*0.7*	*0.2*	*0.2*	*0.2*
Others	*-0.3*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.3*
Required structural primary balance related to S2	**-1.0**	**-1.0**	**-1.1**	**-0.1**	**-0.7**	**-0.7**	**-0.2**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, HR	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Ba2		Ba2	
S&P	BB+	B	BB+	B
Fitch	BB+		BB+	B

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	169.0

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

Government debt structure - HR (2017)	Share of short-term government debt (p.p.): 4.8	Share of government debt in foreign currency (%): 76.3	Share of government debt by non-residents (%): 39.0

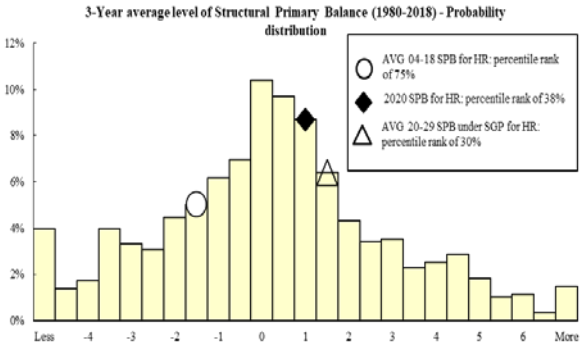
Net International Investment Position (IIP) - HR (2017)	Net IIP (% GDP): -62.4

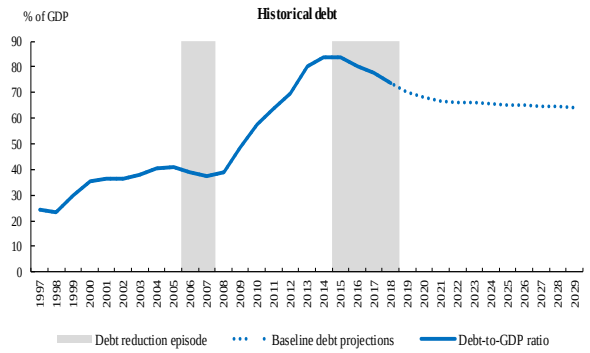
5. Risks related to government's contingent liabilities

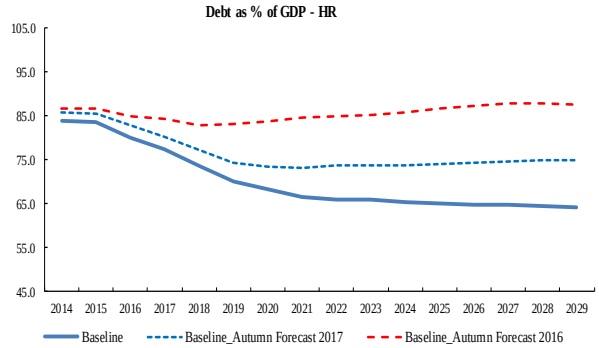
General government contingent liabilities		HR					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		2.5	2.6	2.2	2.6	n.a.	7.3
of which One-off guarantees		*2.5*	*2.6*	*2.2*	*2.6*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.2*	*0.1*	*0.1*	*0.1*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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	0.8
	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	0.1
	Total	0.0	0.0	0.0	0.0	0.0	1.0

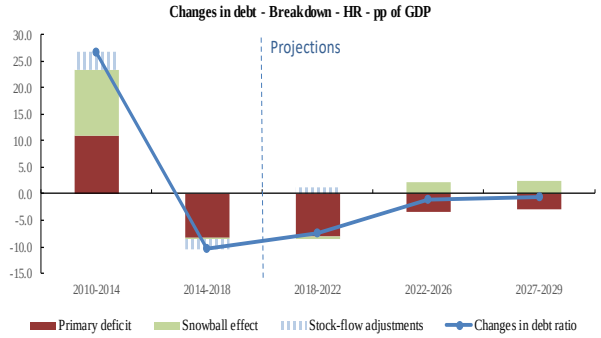
Government's contingent liability risks from banking sector - HR (2017)	Private sector credit flow (% GDP): 1.2	Change in nominal house price index: 3.8	Bank loans-to-deposits ratio (p.p.): 75.6	Share of non-performing loans (%): 7.5	Change in share of non-performing loans (p.p): -2.6	NPL coverage ratio 58.9	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Croatia	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	70.1	68.2	65.1	64.7	64.3	70.6	65.3	66.6
Primary balance	2.7	2.6	2.2	0.8	0.9	1.1	2.5	1.1	1.4
Structural primary balance (before CoA)	1.9	1.6	1.0	1.0	1.0	1.0	1.5	1.0	1.2
Real GDP growth	2.8	2.8	2.6	1.0	0.9	1.0	2.7	0.9	1.3
Potential GDP growth	1.8	2.1	2.4	1.0	0.9	1.0	2.1	1.1	1.4
Inflation rate	2.3	1.7	1.6	2.0	2.0	2.0	1.9	2.0	1.9
Implicit interest rate (nominal)	3.3	3.2	3.2	3.8	4.1	4.4	3.2	3.8	3.7
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	70.1	68.2	66.4	66.3	66.6	70.6	66.6	67.6
Primary balance	2.7	2.6	2.2	0.7	0.7	0.7	2.5	0.8	1.2
Structural primary balance (before CoA)	1.9	1.6	1.0	0.9	0.8	0.6	1.5	0.8	1.0
Real GDP growth	2.8	2.8	2.6	0.9	1.0	1.1	2.7	0.9	1.3
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	70.1	68.0	61.9	59.9	57.9	70.5	61.9	64.1
Primary balance	2.7	2.6	2.6	1.6	1.7	1.8	2.6	1.7	1.9
Structural primary balance	1.9	1.6	1.4	1.6	1.7	1.8	1.6	1.6	1.6
Real GDP growth	2.8	2.8	2.3	0.9	0.9	1.0	2.6	0.8	1.3
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	75.1	72.1	69.1	69.1	71.1	73.0	72.1	69.5	70.1
Primary balance	2.0	1.7	1.5	-0.4	-0.4	-0.1	1.7	-0.1	0.4
Structural primary balance (before CoA)	0.9	0.3	-0.3	-0.3	-0.3	-0.3	0.3	-0.3	-0.2
Real GDP growth	2.8	2.7	2.5	0.9	0.9	1.0	2.7	1.0	1.4
Potential GDP growth	1.8	2.1	2.1	0.9	0.9	1.0	2.0	1.0	1.2
Inflation rate	1.6	1.6	1.5	2.0	2.0	2.0	1.6	1.7	1.7
Implicit interest rate (nominal)	3.3	2.9	2.2	3.3	3.8	4.2	2.8	3.2	3.1
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	70.1	68.2	71.9	76.3	80.7	70.6	72.7	72.2
Primary balance	2.7	2.6	2.2	-1.4	-1.4	-1.1	2.5	-0.8	0.0
Structural primary balance (before CoA)	1.9	1.6	1.0	-1.2	-1.2	-1.2	1.5	-0.8	-0.2
Real GDP growth	2.8	2.8	2.6	1.0	0.9	1.0	2.7	1.0	1.5
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	70.1	68.2	69.6	73.7	77.7	70.6	70.5	70.5
Primary balance	2.7	2.6	2.2	-1.4	-1.4	-1.1	2.5	-0.8	0.0
Structural primary balance (before CoA)	1.9	1.6	1.0	-1.2	-1.2	-1.2	1.5	-0.8	-0.2
Real GDP growth	2.8	2.8	2.6	1.2	1.2	1.2	2.7	1.6	1.9
Implicit interest rate (nominal)	3.3	3.2	3.2	4.0	4.2	4.3	3.2	3.9	3.7
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	70.2	68.6	67.7	68.5	69.4	70.8	68.0	68.7
Implicit interest rate (nominal)	3.3	3.5	3.6	4.5	4.9	5.3	3.4	4.5	4.3
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	69.9	67.8	62.6	61.2	59.5	70.4	62.7	64.6
Implicit interest rate (nominal)	3.3	3.0	2.9	3.0	3.2	3.5	3.0	3.0	3.0
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	70.4	69.0	69.2	70.3	71.4	71.0	69.5	69.9
Implicit interest rate (nominal)	3.3	3.7	4.0	4.7	5.1	5.4	3.6	4.8	4.5
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	69.7	67.5	62.7	61.7	60.5	70.3	62.9	64.8
Real GDP growth	2.8	3.3	3.1	1.5	1.4	1.5	3.1	1.4	1.8
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	70.4	68.9	67.5	67.9	68.2	71.0	67.8	68.6
Real GDP growth	2.8	2.3	2.1	0.5	0.4	0.5	2.4	0.4	0.9
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	69.1	66.3	61.5	60.4	59.3	69.7	61.7	63.7
Real GDP growth	2.8	4.2	4.0	1.5	1.4	1.5	3.7	1.4	1.9
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	71.1	70.2	68.9	69.3	69.7	71.6	69.1	69.7
Real GDP growth	2.8	1.4	1.2	0.5	0.4	0.5	1.8	0.4	0.7
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	70.2	68.7	67.8	68.4	68.9	70.8	68.0	68.7
Primary balance	2.7	2.3	1.8	0.4	0.5	0.7	2.3	0.6	1.0
Structural primary balance (before CoA)	1.9	1.3	0.6	0.6	0.6	0.6	1.3	0.6	0.8
Real GDP growth	2.8	3.0	2.7	1.0	0.9	1.0	2.8	0.9	1.3
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	71.7	71.4	68.4	68.1	67.7	72.2	68.6	69.5
Exchange rate depreciation	0.0%	2.1%	2.1%	0.0%	0.0%	0.0%	1.4%	0.0%	0.3%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	69.6	67.1	60.3	58.3	56.1	70.1	60.4	62.8
Implicit interest rate (nominal)	3.3	3.0	2.9	3.0	3.2	3.5	3.0	3.0	3.0
Real GDP growth	2.8	3.3	3.1	1.5	1.4	1.5	3.1	1.4	1.8
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.5	70.6	69.3	70.2	71.9	73.6	71.2	70.6	70.7
Implicit interest rate (nominal)	3.3	3.5	3.6	4.5	4.9	5.3	3.4	4.5	4.3
Real GDP growth	2.8	2.3	2.1	0.5	0.4	0.5	2.4	0.4	0.9

ITALY

Based on the European Commission 2018 Autumn Forecast, Italy is expected to experience a deterioration in the structural primary balance (SPB), with its *surplus* declining from 1.8% of GDP in 2018 to 0.4% of GDP in 2020. Real GDP growth is expected to slightly accelerate, from 1.1% in 2018 (after 1.6% in 2017) to 1.3% in 2020. Government debt is projected to remain stable at about 131% of GDP from 2018 to 2020, as the acceleration in nominal growth is expected to broadly offset the deterioration of the SPB and the stock-flow adjustments.

11.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are detected for Italy. However, some fiscal variables point to short-term vulnerabilities. Italy is particularly exposed to sudden changes in financial market perceptions, notably in the light of its still sizeable government financing needs.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. Yet, the fiscal sub-index points to some short-term vulnerabilities (with a value above its critical threshold), notably driven by the share (as % of GDP) of short-term government debt and gross financing needs.

Financial market perceptions of sovereign risk have deteriorated. Italy's 10-year sovereign yield spreads vis-à-vis the German 10-year bund have substantially increased since May (by over 150 basis points), and rating has deteriorated, with Moody's downgrade to one notch above non-investment grade.

11.2. Medium-term fiscal sustainability challenges

Fiscal sustainability risks appear high over the medium term, both according to the fiscal sustainability gap indicator S1 and from a DSA perspective.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the fiscal sustainability gap indicator S1 points to high risk in the medium term. The indicator shows that a cumulated improvement of 9.4 pps. of GDP of the SPB over 5 years, relative to the baseline 'no-fiscal policy change' scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. This would require an ambitious SPB by European standards ([58]). The high value of S1 for Italy is mainly due to the distance of the debt ratio from the 60% reference value (contribution of 4.9 pps. of GDP), to the unfavourable initial budgetary position (contribution of 3.6 pps. of GDP), and to the projected age-related public spending (contribution of 0.9 pps. of GDP) ([59]).

Debt sustainability analysis (DSA)

Over the medium term, Italy is deemed at high risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([60]).

Baseline no-fiscal-policy-change scenario

Italy is considered at high risk in the medium term. Under normal economic conditions, and a 'no-fiscal-policy-change' assumption, government debt would increase from 131.1% of GDP in 2018 until 146.5% of GDP in 2029. This projected increase is largely driven by an unfavourable snowball effect (interest – growth rate differential), mainly due to progressively higher interest payments, in combination with a negative SPB ([61]) as of 2024, and up until the end of the projection period.

([58]) None of the SPBs recorded for the EU countries over 1980-2018 were greater than this value.
([59]) Such age-related expenditure is based on the 2018 Ageing Report baseline projections (see European Commission, 2018a, p. 66). Should the Italian pension system be adjusted by reversing past pension reforms (as announced in Italy's Draft Budgetary Plan for 2019), higher ageing costs and a less favourable S1 value would result.
([60]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.
([61]) Over the period 1980-2018, in 51% of the cases, EU countries were able to reach an SPB value greater than 0.4% of GDP.

Government gross financing needs (GFN) ([62]) are projected to significantly increase over the forecast period, reaching 27.4% of GDP in 2029, well above their estimated value in 2019 (at close to 21.3% of GDP).

Alternative and stress test scenarios

Given the high initial stock of debt, negative shocks to growth, interest rates or the primary balance would have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail an increase in the debt ratio of about 8-9.5 pps. of GDP in 2029 relative to the baseline. Based on the historical volatility of the Italian economy, a very large set of jointly simulated shocks to growth, interest rates and the primary balance points to a 59% probability of the debt ratio in 2023 being greater than in 2018, entailing high risks given the high starting level.

If fiscal policy would evolve in line with the main provisions of the Stability and Growth Pact (SGP) ([63]), the Italian government debt would decline to around 111.2% of GDP in 2029 (close to 35 pps. of GDP less than in the baseline scenario). However, this would require a significantly higher average SPB over the projection horizon (+3.6% of GDP over 2020-29) than forecasted for 2020. Even in this case, the debt ratio would remain above the SGP threshold of 60% of GDP in 2029.

11.3. Long-term fiscal sustainability challenges

Over the long term, Italy is expected to face high fiscal sustainability risks. A fiscal sustainability gap indicator pointing to medium risk in the long term, and the high vulnerability linked to high debt burden - captured by the DSA risk assessment - imply that overall Italy is deemed at high risk over the long term.

([62]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

([63]) See Annex 5 in Volume 1 of this report for detailed explanations on the definition of the SGP scenario.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the fiscal sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that, relative to the baseline no-policy-change scenario, a cumulated improvement of 2.9 pps. of GDP in the SPB would be required to stabilise the debt-to-GDP ratio over the long term. This result is due to the projected increase in ageing costs (contribution of 1.1 pps. of GDP), along with an unfavourable initial budgetary position (contribution of 1.8 pps. of GDP). It is in particular the projected increase in health care (contribution of 0.7 pps. of GDP) and long-term care (contribution of 0.9 pps. of GDP) expenditure that drives up ageing costs. ([64]) Under a more adverse scenario in the healthcare and long-term care areas (with non-demographic drivers pushing upward costs), the S2 indicator would increase to 3.8 pps. of GDP, hence still pointing to medium fiscal risks in the long term ([65]).

Over the long term, Italy is deemed at high fiscal sustainability risk. A fiscal sustainability gap indicator pointing to medium risk in the long term, and the high vulnerability linked to high debt burden - captured by the DSA risk assessment (see section 11.2) - imply that overall Italy is deemed at high risk over the long term ([66]).

11.4. Additional mitigating and aggravating risk factors

Some additional mitigating and aggravating risk factors exist. The low share of government debt in foreign currency, the low share of government debt holdings by non-residents, as well as the positive net international investment position help mitigating vulnerabilities. Yet, the high share of short-term government debt could be an aggravating factor. In addition, the high share of non-performing loans (though significantly declining), the bank loans-to-deposits ratio, and the coverage ratio of non-performing loans, point to some contingent liability risks.

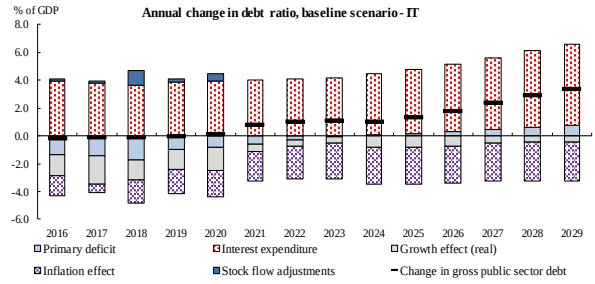
([64]) The S2 value is based on the 2018 Ageing Report baseline projections (see European Commission, 2018a). A reversal of past pension reforms might change the assessment.

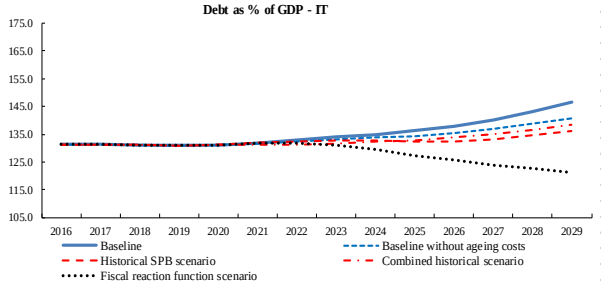
([65]) For more details on this scenario, see Section 4.3 of Chapter 4 in Volume 1 of this report.

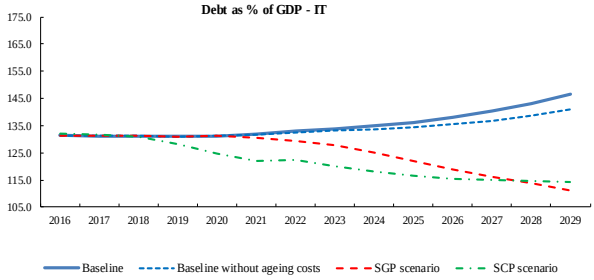
([66]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

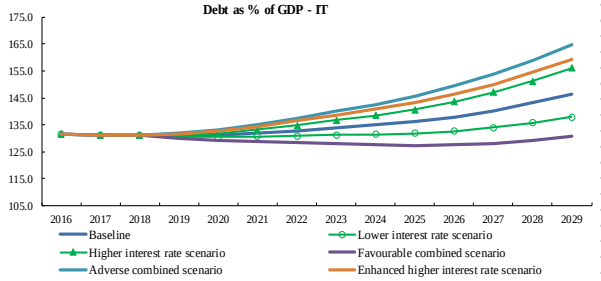
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

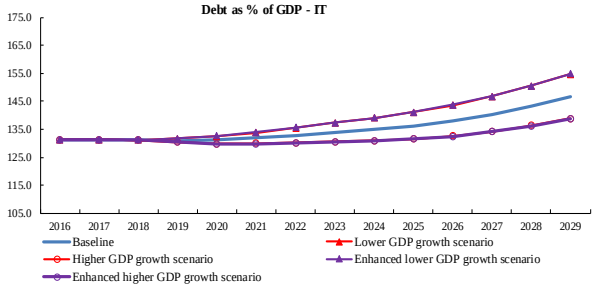
IT - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**131.4**	**131.2**	**131.1**	**131.0**	**131.1**	**131.9**	**132.8**	**133.9**	**134.9**	**136.2**	**137.9**	**140.3**	**143.2**	**146.5**
Changes in the ratio (-1+2+3)	*-0.2*	*-0.1*	*-0.1*	*-0.1*	*0.1*	*0.7*	*1.0*	*1.1*	*1.0*	*1.3*	*1.8*	*2.3*	*2.9*	*3.3*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.4**	**1.4**	**1.7**	**1.0**	**0.8**	**0.6**	**0.3**	**0.1**	**-0.1**	**-0.2**	**-0.3**	**-0.4**	**-0.6**	**-0.7**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***2.4***	***2.0***	***1.8***	***0.9***	***0.4***	***0.3***	***0.2***	***0.1***	***-0.1***	***-0.2***	***-0.3***	***-0.4***	***-0.6***	***-0.7***
(1.1.1) Structural primary balance (bef. CoA)	*2.4*	*2.0*	*1.8*	*0.9*	*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*	*0.3*	*0.4*	*0.6*	*0.7*	*0.9*	*1.0*	*1.2*	*1.4*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.2*	*0.3*
(1.2) Cyclical component	***-1.2***	***-0.5***	***-0.2***	***0.2***	***0.5***	***0.3***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.2***	***0.0***	***0.1***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**1.0**	**1.1**	**0.5**	**0.7**	**0.4**	**1.4**	**1.3**	**1.1**	**0.9**	**1.1**	**1.5**	**1.9**	**2.3**	**2.6**
(2.1) Interest expenditure	*3.9*	*3.8*	*3.7*	*3.8*	*3.9*	*4.0*	*4.1*	*4.2*	*4.3*	*4.6*	*4.8*	*5.2*	*5.5*	*5.8*
(2.2) Growth effect	*-1.5*	*-2.0*	*-1.5*	*-1.5*	*-1.7*	*-0.5*	*-0.4*	*-0.4*	*-0.9*	*-0.8*	*-0.7*	*-0.5*	*-0.5*	*-0.5*
(2.3) Inflation effect	*-1.5*	*-0.7*	*-1.6*	*-1.7*	*-1.8*	*-2.1*	*-2.3*	*-2.6*	*-2.6*	*-2.6*	*-2.7*	*-2.7*	*-2.8*	*-2.8*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**0.2**	**0.2**	**1.1**	**0.2**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.2*	*0.2*	*1.1*	*0.2*	*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	-1.5	-1.8	-1.8	-3.0	-3.5	-3.7	-3.9	-4.1	-4.4	-4.8	-5.1	-5.6	-6.1	-6.6

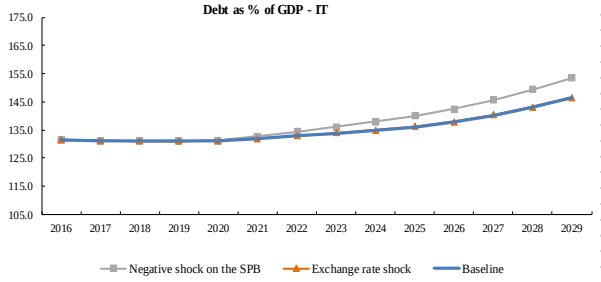


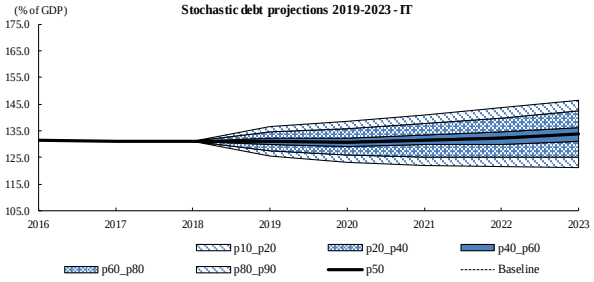


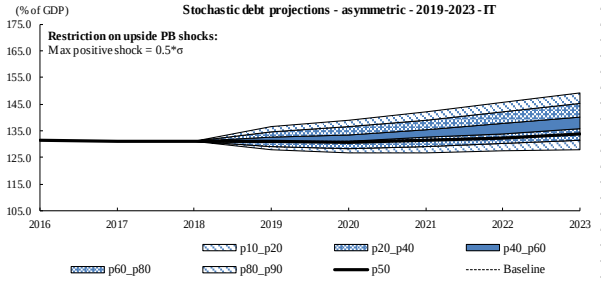












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
LOW (S0 = 0.4)	HIGH	HIGH (S1 = 9.4)	Risk category	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM (S2 = 2.9)	HIGH
			Debt level (2029)	146.5	136.0	154.7	155.9	153.5				
			Debt peak year	2029	2029	2029	2029	2029				
			Percentile rank	51.0%	30.0%							
			Probability debt higher						59.3%			
			Dif. between percentiles						25.3			

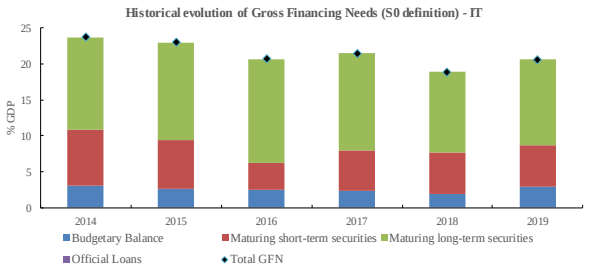
2.2. Sustainability indicators

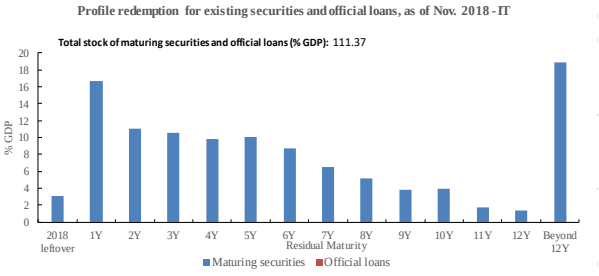
S0 indicator	2009	2018	Critical threshold
Overall index	**0.58**	**0.36**	**0.46**
Fiscal sub-index	0.96	0.47	0.36
Financial competitiveness sub-index	0.38	0.31	0.49

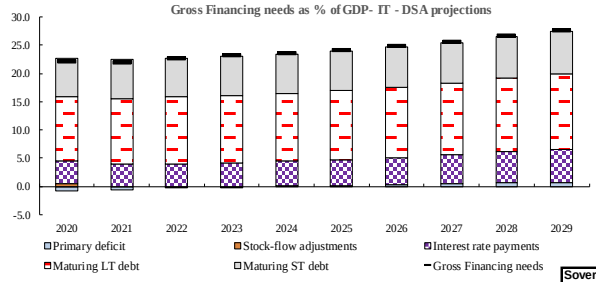
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**6.7**	**9.4**	**9.2**	**9.6**
of which *Gap to the debt-stabilizing primary balance*	*0.4*	*2.0*	*1.1*	*2.0*
Cost of delaying adjustment	*1.1*	*1.6*	*1.6*	*1.6*
Debt requirement	*5.1*	*4.9*	*4.9*	*4.9*
Ageing costs	*0.1*	*0.9*	*1.6*	*1.0*
Required structural primary balance related to S1	**7.8**	**9.8**	**11.1**	**10.0**

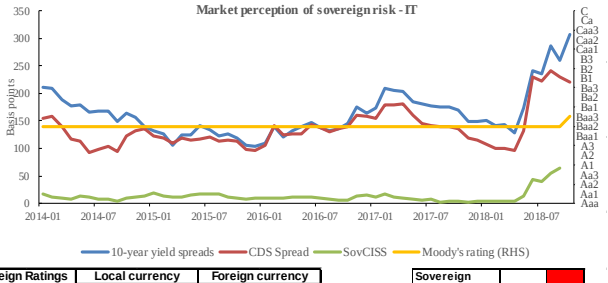
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**0.6**	**2.9**	**1.5**	**3.8**	**3.7**	**2.9**	**4.1**
of which Initial Budgetary position	0.5	1.8	0.4	1.8	2.1	1.6	2.8
Ageing costs	0.1	1.1	1.1	2.0	1.6	1.2	1.3
of which Pensions	*-0.8*	*-0.1*	*-0.1*	*-0.1*	*0.5*	*-0.1*	*0.3*
Health care	*0.5*	*0.7*	*0.8*	*1.0*	*0.7*	*0.8*	*0.7*
Long-term care	*0.6*	*0.9*	*0.9*	*1.5*	*0.8*	*1.0*	*0.7*
Others	*-0.3*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.5*	*-0.4*
Required structural primary balance related to S2	**1.7**	**3.3**	**3.4**	**4.2**	**4.1**	**3.2**	**4.5**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, IT	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Baa3	P-3	Baa3	(P)P-3
S&P	BBBu	A-2u	BBBu	A-2u
Fitch	BBB		BBB	F2

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	307.0

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

Government debt structure - IT (2017)	Share of short-term government debt (p.p.):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	12.9	0.1	32.3

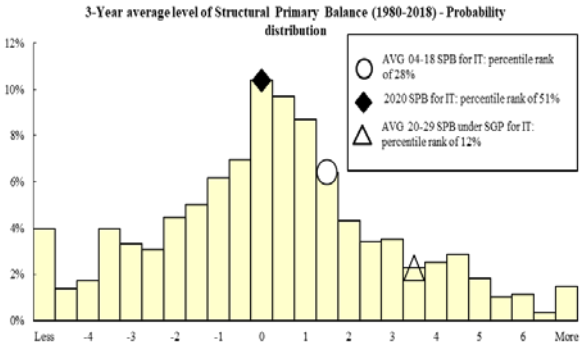
Net International Investment Position (IIP) - IT (2017)	Net IIP (% GDP):
	-5.3

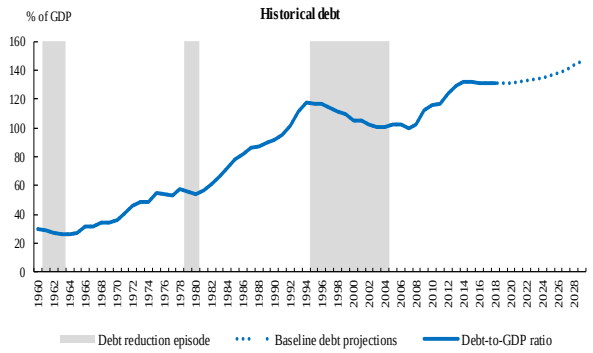
5. Risks related to government's contingent liabilities

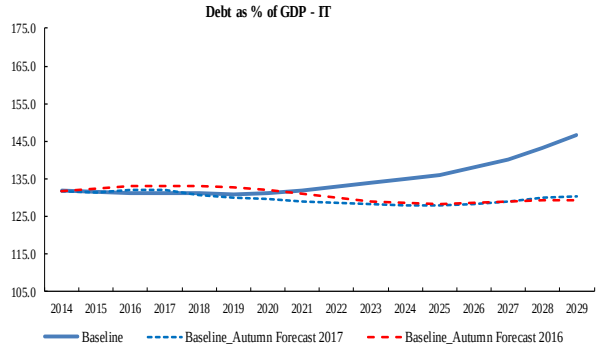
General government contingent liabilities		IT					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		3.5	6.2	2.1	2.4	n.a.	7.3
of which One-off guarantees		*3.0*	*5.5*	*1.2*	*1.2*	*n.a.*	*6.9*
Standardised guarantees		*0.5*	*0.7*	*1.0*	*1.2*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	2.7	5.1	0.4	0.4	1.3	0.8
	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	0.1
	Total	2.7	5.1	0.4	0.4	1.3	1.0

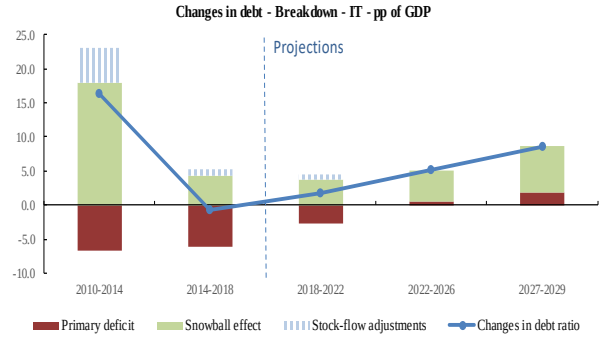
Government's contingent liability risks from banking sector - IT (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	2.1	-0.8	120.3	11.1	-4.2	50.6	0.00%	0.16%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Italy	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.0	131.1	136.2	140.3	146.5	131.1	137.5	135.9
Primary balance	1.7	1.0	0.8	-0.2	-0.4	-0.7	1.2	-0.2	0.2
Structural primary balance (before CoA)	1.8	0.9	0.4	0.4	0.4	0.4	1.0	0.4	0.6
Real GDP growth	1.1	1.2	1.3	0.6	0.4	0.3	1.2	0.4	0.6
Potential GDP growth	0.5	0.6	0.8	0.6	0.4	0.3	0.6	0.5	0.5
Inflation rate	1.3	1.3	1.4	2.0	2.0	2.0	1.3	1.9	1.8
Implicit interest rate (nominal)	2.9	3.0	3.1	3.5	3.8	4.2	3.0	3.5	3.4
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.0	131.1	127.4	123.9	121.2	131.1	127.2	128.2
Primary balance	1.7	1.0	0.8	3.3	3.5	3.6	1.2	3.0	2.5
Structural primary balance (before CoA)	1.8	0.9	0.4	3.9	4.3	4.7	1.0	3.5	2.9
Real GDP growth	1.1	1.2	1.3	0.4	0.3	0.2	1.2	0.1	0.4
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.0	131.1	122.0	116.3	111.2	131.1	121.7	124.0
Primary balance	1.7	1.0	2.0	4.2	4.4	4.5	1.6	3.9	3.3
Structural primary balance	1.8	0.9	1.6	4.2	4.4	4.5	1.4	3.8	3.2
Real GDP growth	1.1	1.2	0.4	0.5	0.3	0.3	0.9	0.2	0.4
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	130.8	128.0	124.7	116.6	114.9	114.4	127.8	117.7	120.2
Primary balance	1.9	2.9	3.6	2.8	2.5	2.2	2.8	2.8	2.8
Structural primary balance (before CoA)	2.0	2.7	3.3	3.3	3.3	3.3	2.7	3.3	3.1
Real GDP growth	1.5	1.4	1.3	0.5	0.3	0.3	1.4	0.5	0.7
Potential GDP growth	0.6	0.7	0.8	0.5	0.3	0.3	0.7	0.4	0.5
Inflation rate	1.3	1.8	1.7	2.0	2.0	2.0	1.6	1.7	1.7
Implicit interest rate (nominal)	2.8	2.7	2.8	3.5	4.0	4.2	2.8	3.6	3.4
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.0	131.1	132.3	133.2	136.0	131.1	133.1	132.6
Primary balance	1.7	1.0	0.8	1.3	1.1	0.8	1.2	1.1	1.1
Structural primary balance (before CoA)	1.8	0.9	0.4	1.9	1.9	1.9	1.0	1.7	1.5
Real GDP growth	1.1	1.2	1.3	0.6	0.4	0.3	1.2	0.3	0.5
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.0	131.1	132.8	135.0	138.4	131.1	133.6	133.0
Primary balance	1.7	1.0	0.8	1.3	1.1	0.8	1.2	1.1	1.1
Structural primary balance (before CoA)	1.8	0.9	0.4	1.9	1.9	1.9	1.0	1.7	1.5
Real GDP growth	1.1	1.2	1.3	0.2	0.2	0.2	1.2	0.2	0.5
Implicit interest rate (nominal)	2.9	3.0	3.1	3.7	4.0	4.1	3.0	3.6	3.5
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.3	131.9	140.7	147.0	155.9	131.4	142.4	139.6
Implicit interest rate (nominal)	2.9	3.2	3.4	4.2	4.6	5.0	3.2	4.2	4.0
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	130.7	130.4	131.9	134.0	137.8	130.7	132.9	132.4
Implicit interest rate (nominal)	2.9	2.8	2.8	2.8	3.1	3.3	2.8	2.9	2.9
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.6	132.6	143.2	150.0	159.4	131.8	144.9	141.6
Implicit interest rate (nominal)	2.9	3.5	3.8	4.3	4.7	5.1	3.4	4.4	4.1
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	130.4	129.8	131.5	134.2	138.8	130.4	132.8	132.2
Real GDP growth	1.1	1.7	1.8	1.1	0.9	0.8	1.5	0.9	1.1
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.7	132.4	141.0	146.7	154.7	131.7	142.5	139.8
Real GDP growth	1.1	0.7	0.8	0.1	-0.1	-0.2	0.9	-0.1	0.2
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	130.3	129.7	131.4	134.1	138.7	130.4	132.7	132.1
Real GDP growth	1.1	1.7	1.8	1.1	0.9	0.8	1.6	0.9	1.1
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.7	132.5	141.1	146.8	154.8	131.8	142.6	139.9
Real GDP growth	1.1	0.6	0.8	0.1	-0.1	-0.2	0.8	-0.1	0.2
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.0	131.2	139.9	145.6	153.5	131.1	141.3	138.8
Primary balance	1.7	0.9	0.1	-0.9	-1.1	-1.5	0.9	-0.9	-0.4
Structural primary balance (before CoA)	1.8	0.8	-0.3	-0.3	-0.3	-0.3	0.8	-0.3	-0.1
Real GDP growth	1.1	1.2	1.8	0.6	0.4	0.3	1.4	0.4	0.7
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	131.1	131.2	136.3	140.4	146.6	131.1	137.6	136.0
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	130.1	129.1	127.4	128.1	130.6	130.1	128.4	128.8
Implicit interest rate (nominal)	2.9	2.8	2.8	2.8	3.1	3.3	2.8	2.9	2.9
Real GDP growth	1.1	1.7	1.8	1.1	0.9	0.8	1.5	0.9	1.1
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	131.1	132.0	133.2	145.7	153.7	164.6	132.1	147.5	143.7
Implicit interest rate (nominal)	2.9	3.2	3.4	4.2	4.6	5.0	3.2	4.2	4.0
Real GDP growth	1.1	0.7	0.8	0.1	-0.1	-0.2	0.9	-0.1	0.2

CYPRUS

Based on the European Commission 2018 Autumn Forecast, Cyprus should experience a reduction in the structural primary balance (SPB), from a *surplus* of 4.4% of GDP in 2018 to a *surplus* of 2.9% of GDP in 2020. Real GDP growth at 3.9% in 2018 (after 4.2% in 2017) should remain strong at 2.9% in 2020. After a large fall in 2017, gross government debt is forecast to increase to 105 % of GDP in 2018 due to banking support measures (stock-flow adjustments) related to the sale of a government-owned bank, CCB. Government debt is then projected to fall over the forecast period to 91% of GDP in 2020, supported by the significant fiscal effort and a favourable contribution of the interest rate – growth rate differential.

12.1. Short-term fiscal sustainability challenges

***Over the short term (within one year), Cyprus faces* risks of fiscal stress mainly due to the economy's macroeconomic, financial and competitiveness aspects, exacerbated by increased public debt.**

The value of the early-detection indicator of fiscal stress, the S0 indicator, is slightly above its critical threshold. As in the past, this outcome follows from the financial-competitiveness sub-index being above its critical threshold, this time in the context of increased public debt. The financial-competitiveness sub-index points to short-term vulnerabilities notably driven by the negative net savings of households, the large negative net international investment position and the high private sector debt, a significant fraction of which is short-term.

Financial markets' perceptions of sovereign risk have improved recently. This is confirmed by two of the rating agencies recently upgrading Cyprus back to investment grade, for the first time after 6 years, as well as by relatively contained 10-year sovereign yield spread vis-à–vis the German 10-year bund, which was around 200 bps in the second half of November 2018.

12.2. Medium-term fiscal sustainability challenges

Over the medium term, overall fiscal sustainability risks appear to be medium for Cyprus, with medium risks from a DSA perspective and low risks according to the sustainability gap indicator S1.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. With a value of -0.7 pp. of GDP relative to the baseline no-policy-change scenario, no additional consolidation relative to the baseline 'no-fiscal policy change' scenario would be required over the next five years to bring the debt-to-GDP ratio to the reference value of 60% by 2033. This would require, however, a relatively ambitious SPB by European standards ([67]). The S1 value derives chiefly from the favourable initial budgetary position (a contribution of -2.9 pps. of GDP). Ageing cost decreases between 2018 and 2033 (contribution of -0.1 pp. of GDP) further lower S1.

Debt sustainability analysis (DSA)

Over the medium term, Cyprus is deemed at medium risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([68]).

Baseline no-fiscal policy change scenario

Cyprus is considered at medium risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would continue to steadily decline until the end of the projection period (t+10) - to reach approximately 62% of GDP in 2029. This relatively high but decreasing level compared to 2018 is driven by the relatively significant fiscal effort assumed under the no-fiscal policy change scenario (with an SPB

([67]) Only 22% of the SPBs recorded for the EU countries over 1980-2018 were greater than this value.
([68]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

unchanged at 2.9% of GDP) ([69]) and is supported by favourable interest rate-growth rate differential (snowball effects) and decreasing ageing costs over most of the projection period.

Government gross financing needs (GFN) ([70]) are projected to increase over the projection period, from an estimated value of 3.5% of GDP in 2019 ([71]) to about 9% of GDP in 2026, remaining then relatively stable over 2026-2029.

Alternative and stress test scenarios

Given the high initial stock of debt, the evolution of the debt ratio would be vulnerable to adverse shocks to growth, interest rates or the primary balance. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at about 66-65% of GDP, respectively) around 3-4 pps. of GDP higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Cypriot economy, points to a 10% probability of the debt ratio in 2023 being greater than in 2018. In addition, such shocks point to important uncertainty surrounding the baseline projections ([72]).

If fiscal policy were to revert to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *surplus* of 1.3% of GDP), the Cypriot debt ratio in 2029 would be as much as 12 pps. of GDP higher (at close to 74% of GDP in 2029) than under the baseline scenario.

12.3. Long-term fiscal sustainability challenges

Over the long term, Cyprus is deemed at medium fiscal sustainability risk. A slightly negative sustainability gap indicator to stabilise debt over the long term combined with debt burden vulnerabilities - captured by the DSA risk assessment - imply that Cyprus is deemed at medium risk over the long term.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to limited risk in the long term. This indicator shows that no improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term (a negative fiscal gap at -0.9 pps. of GDP). This result is due to the favourable initial budgetary position (contribution of -1.7 pps. of GDP) which fully mitigates the projected ageing costs increase over the long term (contribution of 0.9 pp. of GDP). Under a more adverse scenario, the AWG risk ([73]), the S2 indicator would reach 0.9 pps. of GDP, while the associated fiscal risks would remain low.

Over the long term, Cyprus is deemed at medium fiscal sustainability risk. Despite the negative sustainability gap S2 indicator, vulnerabilities linked to the high debt burden - (see section 12.2 on the DSA risk assessment) - imply that Cyprus is deemed at medium risk over the long term ([74]).

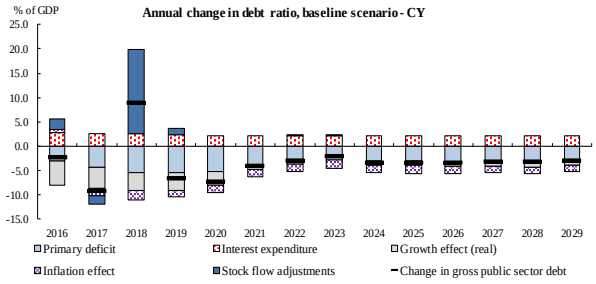
12.4. Additional mitigating and aggravating risk factors

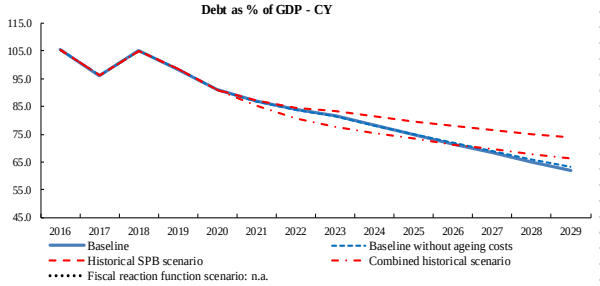
Some additional mitigating and aggravating risk factors exist. The structure of Cypriot government debt, in terms of currency denomination and maturity, helps mitigating vulnerabilities. Conversely, the share of debt held by non-residents is high, but reflects mainly holdings by official lenders. However, the negative net international investment position could be an aggravating factor. The share of non–performing loans in the banking sector points to some contingent liability risks.

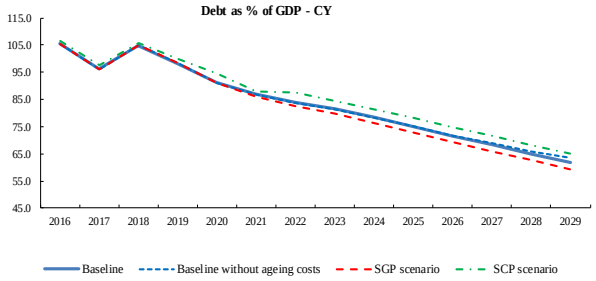
([69]) Over the period 1980-2018, in only 17% of the cases, EU countries were able to reach an SPB value greater than 2.9% of GDP.
([70]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).
([71]) This value derived from the EC debt projections may differ from other estimates for 2019.
([72]) This is evident from the wide debt distribution cone, with a difference between the 10th and 90th percentile in 2023 of around 42 pps. of GDP.
([73]) For more details on this scenario see Section 4.3 of Chapter 4 in Volume 1 of this report.
([74]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

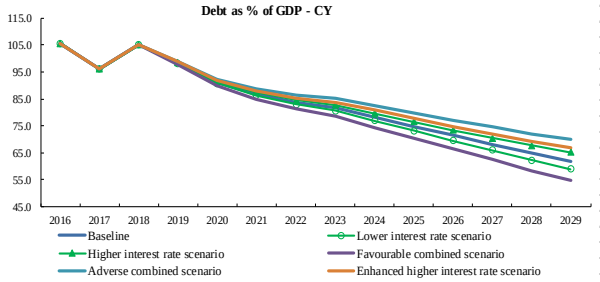
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

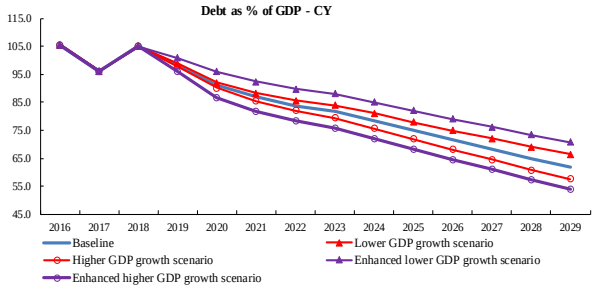
CY - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**105.5**	**96.1**	**105.0**	**98.4**	**91.0**	**86.9**	**83.8**	**81.7**	**78.3**	**74.8**	**71.4**	**68.2**	**64.9**	**61.9**
Changes in the ratio (-1+2+3)	*-2.5*	*-9.4*	*8.8*	*-6.6*	*-7.3*	*-4.2*	*-3.1*	*-2.2*	*-3.4*	*-3.4*	*-3.4*	*-3.2*	*-3.3*	*-3.0*
of which														
(1) Primary balance (1.1+1.2+1.3)	**3.1**	**4.3**	**5.5**	**5.5**	**5.2**	**4.3**	**3.6**	**2.9**	**3.0**	**3.1**	**3.2**	**3.1**	**3.4**	**3.2**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***4.1***	***4.1***	***4.4***	***3.6***	***2.9***	***2.8***	***2.9***	***2.9***	***3.0***	***3.1***	***3.2***	***3.1***	***3.4***	***3.2***
(1.1.1) Structural primary balance (bef. CoA)	*4.1*	*4.1*	*4.4*	*3.6*	*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*	*0.1*	*0.0*	*-0.1*	*-0.2*	*-0.3*	*-0.2*	*-0.5*	*-0.3*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*
(1.2) Cyclical component	***-0.9***	***0.3***	***1.2***	***1.8***	***2.2***	***1.5***	***0.7***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-1.6**	**-3.2**	**-2.9**	**-2.4**	**-2.2**	**0.2**	**0.5**	**0.7**	**-0.4**	**-0.3**	**-0.2**	**-0.1**	**0.0**	**0.2**
(2.1) Interest expenditure	*2.8*	*2.6*	*2.7*	*2.4*	*2.2*	*2.2*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.2*	*2.2*	*2.3*
(2.2) Growth effect	*-5.0*	*-4.2*	*-3.5*	*-3.5*	*-2.7*	*-0.4*	*0.0*	*0.3*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.8*
(2.3) Inflation effect	*0.6*	*-1.6*	*-2.0*	*-1.3*	*-1.7*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.5*	*-1.5*	*-1.4*	*-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	**2.2**	**-1.8**	**17.2**	**1.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*2.2*	*-1.8*	*17.2*	*1.3*	*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	*0.0*	*0.0*	*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	1.5	1.7	1.2	0.7	0.7	0.7	0.8	0.9	1.0	1.1	1.0	1.1	0.9

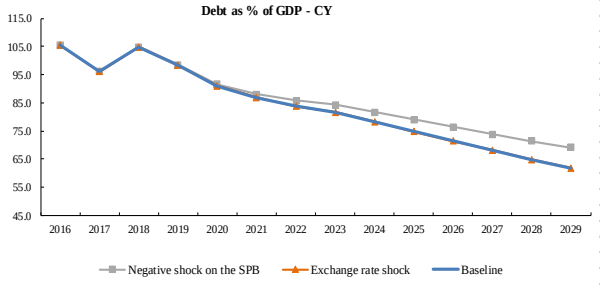


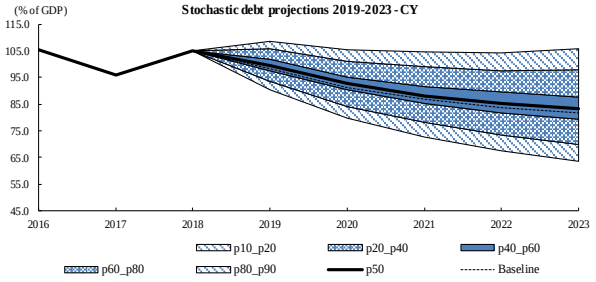


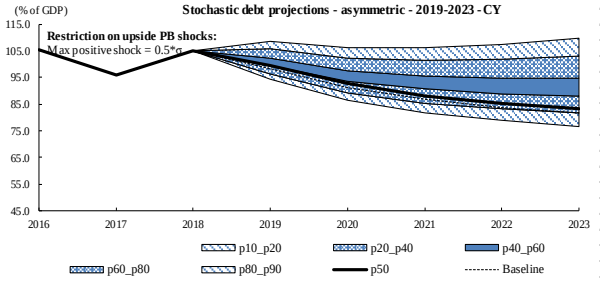












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
HIGH (S0 = 0.5)	MEDIUM	LOW (S1 = -0.7)	Risk category	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	LOW (S2 = -0.9)	MEDIUM
			Debt level (2029)	61.9	73.9	66.5	65.1	69.2				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	17.0%	29.0%							
			Probability debt higher						10.5%			
			Dif. between percentiles						42.2			

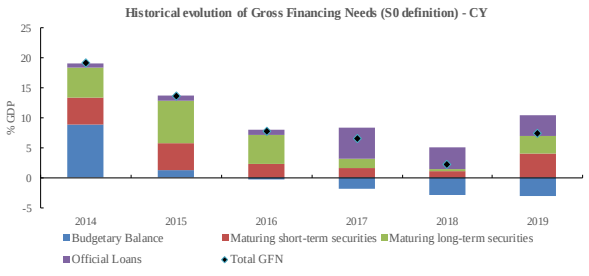
2.2. Sustainability indicators

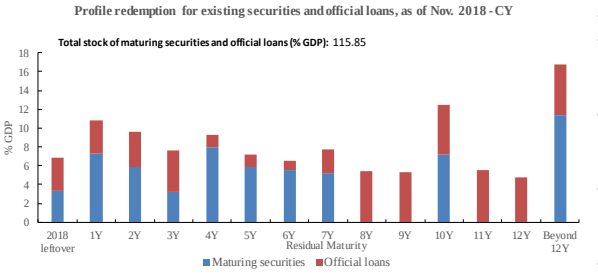
S0 indicator	2009	2018	Critical threshold
Overall index	**0.71**	**0.46**	**0.46**
Fiscal sub-index	0.56	0.27	0.36
Financial competitiveness sub-index	0.77	0.57	0.49

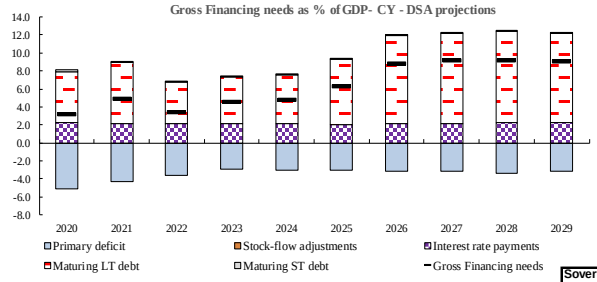
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**0.0**	**-0.7**	**1.1**	**-0.5**
of which *Gap to the debt-stabilizing primary balance*	*-2.4*	*-2.8*	*-0.6*	*-2.8*
Cost of delaying adjustment	*0.0*	*-0.1*	*0.2*	*-0.1*
Debt requirement	*2.7*	*2.3*	*1.6*	*2.3*
Ageing costs	*-0.2*	*-0.1*	*0.0*	*0.0*
Required structural primary balance related to S1	**2.0**	**2.2**	**2.3**	**2.4**

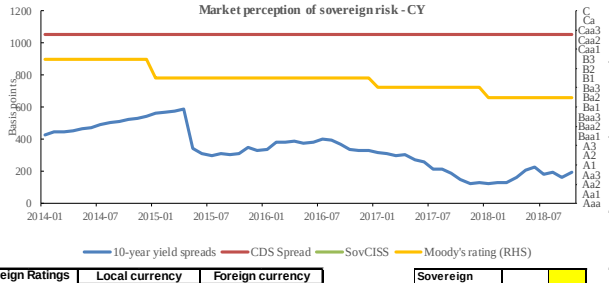
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**-1.8**	**-0.9**	**0.8**	**0.9**	**-0.6**	**-1.1**	**-0.5**
of which Initial Budgetary position	-1.2	-1.7	-0.1	-1.8	-1.5	-1.7	-1.1
Ageing costs	-0.5	0.9	0.9	2.6	0.9	0.7	0.6
of which Pensions	*0.3*	*1.7*	*1.8*	*1.7*	*1.8*	*1.6*	*1.5*
Health care	*0.2*	*0.2*	*0.3*	*0.4*	*0.2*	*0.2*	*0.2*
Long-term care	*0.2*	*0.2*	*0.2*	*1.8*	*0.2*	*0.2*	*0.1*
Others	*-1.2*	*-1.3*	*-1.3*	*-1.3*	*-1.3*	*-1.4*	*-1.2*
Required structural primary balance related to S2	**0.2**	**2.1**	**2.1**	**3.8**	**2.3**	**1.9**	**2.4**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, CY	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Ba2	NP	(P)Ba2	NP
S&P	BBB-	A-3	BBB-	A-3
Fitch	BBB-		BBB-	F3

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	195.0

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

Government debt structure - CY (2017)	Share of short-term government debt (p.p.): 1.8	Share of government debt in foreign currency (%): 3.6	Share of government debt by non-residents (%): 82.2

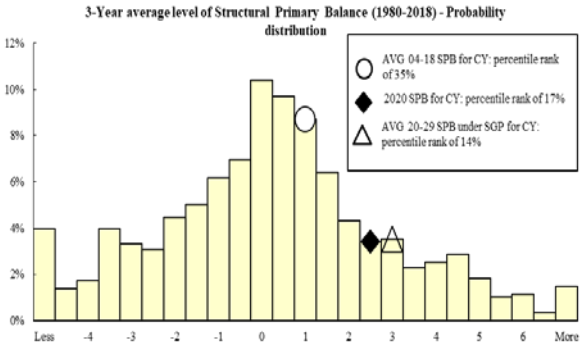
Net International Investment Position (IIP) - CY (2017)	Net IIP (% GDP): -121.5

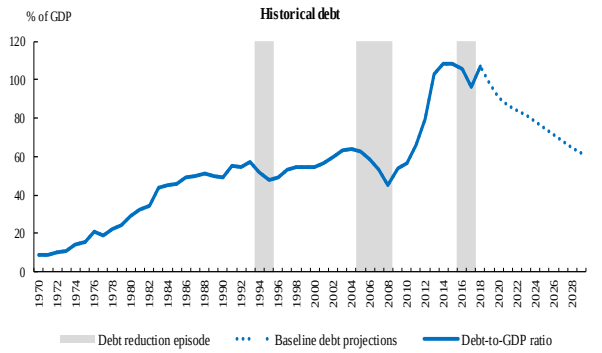
5. Risks related to government's contingent liabilities

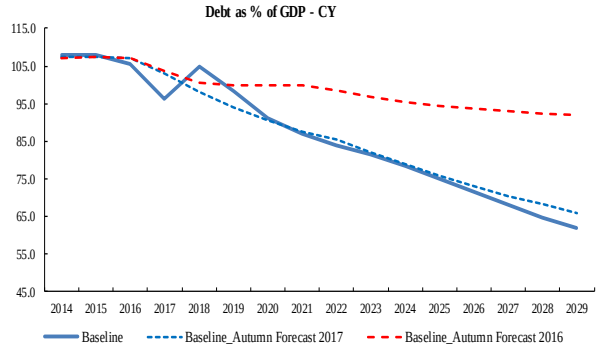
General government contingent liabilities		CY					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		7.7	15.8	15.4	9.4	n.a.	7.3
of which One-off guarantees		*7.7*	*15.8*	*15.1*	*9.1*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.3*	*0.3*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.1*	*0.9*	*0.8*	*0.8*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	14.0	5.5	5.6	0.0	0.0	0.8
	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	0.1
	Total	14.0	5.5	5.6	0.0	0.0	1.0

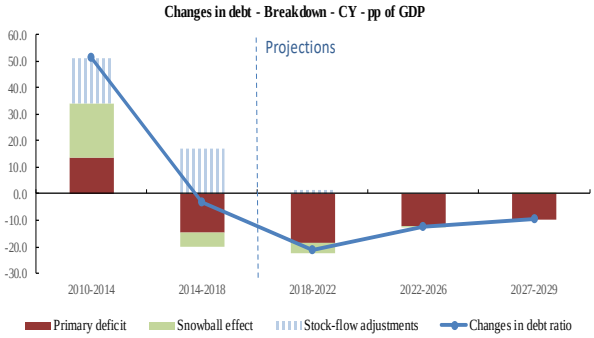
Government's contingent liability risks from banking sector - CY (2017)	Private sector credit flow (% GDP): 8.7	Change in nominal house price index: 2.2	Bank loans-to-deposits ratio (p.p.): 76.7	Share of non-performing loans (%): 38.9	Change in share of non-performing loans (p.p): -6.1	NPL coverage ratio 45.0	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.08%	Adverse scenario 5.75%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Cyprus	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	98.4	91.0	74.8	68.2	61.9	98.1	74.6	80.5
Primary balance	5.5	5.5	5.2	3.1	3.1	3.2	5.4	3.3	3.8
Structural primary balance (before CoA)	4.4	3.6	2.9	2.9	2.9	2.9	3.6	2.9	3.1
Real GDP growth	3.9	3.5	2.9	1.2	1.3	1.3	3.4	0.8	1.5
Potential GDP growth	2.1	2.2	2.2	1.2	1.3	1.3	2.2	1.3	1.5
Inflation rate	2.1	1.3	1.7	2.0	2.0	2.0	1.7	2.0	1.9
Implicit interest rate (nominal)	2.9	2.4	2.4	2.7	3.1	3.6	2.6	2.9	2.8
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Primary balance	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Structural primary balance (before CoA)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Real GDP growth	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	98.4	90.9	72.8	65.9	59.4	98.1	72.8	79.1
Primary balance	5.5	5.5	5.7	3.2	3.3	3.4	5.6	3.5	4.0
Structural primary balance	4.4	3.6	3.5	3.2	3.3	3.4	3.8	3.3	3.4
Real GDP growth	3.9	3.5	2.5	1.2	1.2	1.2	3.3	0.8	1.4
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.6	100.0	94.6	78.1	71.5	64.9	100.1	77.7	83.3
Primary balance	4.5	4.7	4.6	3.2	3.2	3.2	4.6	3.3	3.6
Structural primary balance (before CoA)	3.5	3.2	3.0	2.9	2.9	2.9	3.2	2.9	3.0
Real GDP growth	3.8	3.6	3.2	1.3	1.4	1.2	3.5	1.3	1.9
Potential GDP growth	2.5	3.1	3.2	1.3	1.4	1.2	2.9	1.4	1.8
Inflation rate	1.0	1.0	1.5	2.0	2.0	2.0	1.2	1.8	1.6
Implicit interest rate (nominal)	2.6	3.1	2.9	3.2	3.3	3.4	2.9	3.2	3.1
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	98.4	91.0	79.7	76.6	73.9	98.1	79.9	84.5
Primary balance	5.5	5.5	5.2	1.4	1.4	1.5	5.4	1.9	2.8
Structural primary balance (before CoA)	4.4	3.6	2.9	1.3	1.3	1.3	3.6	1.5	2.1
Real GDP growth	3.9	3.5	2.9	1.2	1.3	1.3	3.4	1.0	1.6
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	98.4	91.0	73.3	69.6	66.3	98.1	74.1	80.1
Primary balance	5.5	5.5	5.2	1.4	1.4	1.5	5.4	1.9	2.8
Structural primary balance (before CoA)	4.4	3.6	2.9	1.3	1.3	1.3	3.6	1.5	2.1
Real GDP growth	3.9	3.5	2.9	1.7	1.7	1.7	3.4	2.0	2.4
Implicit interest rate (nominal)	2.9	2.4	2.4	2.9	3.3	3.7	2.6	3.0	2.9
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	98.6	91.4	76.5	70.6	65.1	98.3	76.4	81.9
Implicit interest rate (nominal)	2.9	2.6	2.6	3.1	3.7	4.3	2.7	3.3	3.2
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	98.2	90.7	73.3	66.0	58.9	98.0	73.0	79.2
Implicit interest rate (nominal)	2.9	2.3	2.2	2.4	2.6	3.0	2.5	2.5	2.5
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	98.7	91.8	77.8	72.1	66.9	98.5	77.6	82.9
Implicit interest rate (nominal)	2.9	2.8	2.8	3.3	3.8	4.4	2.8	3.5	3.3
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	97.9	90.1	71.8	64.5	57.5	97.7	71.7	78.2
Real GDP growth	3.9	4.0	3.4	1.7	1.8	1.8	3.8	1.3	1.9
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	98.9	92.0	78.0	72.1	66.5	98.6	77.7	83.0
Real GDP growth	3.9	3.0	2.4	0.7	0.8	0.8	3.1	0.3	1.0
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	96.0	86.5	68.2	61.0	54.0	95.8	68.1	75.0
Real GDP growth	3.9	6.0	5.4	1.7	1.8	1.8	5.1	1.3	2.3
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	100.9	96.0	82.1	76.3	70.7	100.6	81.9	86.5
Real GDP growth	3.9	1.0	0.4	0.7	0.8	0.8	1.8	0.3	0.7
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	98.5	91.6	79.1	73.9	69.2	98.3	78.9	83.8
Primary balance	5.5	5.1	4.4	2.4	2.4	2.5	5.0	2.6	3.2
Structural primary balance (before CoA)	4.4	3.3	2.2	2.2	2.2	2.2	3.3	2.2	2.5
Real GDP growth	3.9	3.8	3.2	1.2	1.3	1.3	3.6	0.8	1.5
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	98.4	91.0	74.8	68.2	61.9	98.1	74.6	80.5
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	97.7	89.8	70.3	62.4	54.8	97.5	70.1	77.0
Implicit interest rate (nominal)	2.9	2.3	2.2	2.4	2.6	2.9	2.5	2.5	2.5
Real GDP growth	3.9	4.0	3.4	1.7	1.8	1.8	3.8	1.3	1.9
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	105.0	99.0	92.4	79.7	74.6	70.0	98.8	79.6	84.4
Implicit interest rate (nominal)	2.9	2.6	2.6	3.2	3.7	4.3	2.7	3.3	3.2
Real GDP growth	3.9	3.0	2.4	0.7	0.8	0.8	3.1	0.3	1.0

LATVIA

Based on the European Commission 2018 Autumn Forecast, Latvia's structural primary balance (SPB) would go from a deficit of 1% of GDP in 2018 to a deficit of 0.5% in 2020, the end of the forecast horizon. Real GDP growth is expected to slow down, from 4.1% in 2018 (after 4.6% in 2017) to 2.9% in 2020. Gross government debt would decrease further, from 37.1% of GDP in 2018 to 35.7% in 2020 on the account of a reverse snowball effect given that nominal growth is higher than interest payments on the outstanding stock of government debt.

13.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Latvia.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below the critical thresholds.

Financial markets' perception of sovereign risk remains favourable. This is confirmed by the CDS spread and Latvian debt receiving a stable rating from the three major rating agencies.

13.2. Medium-term fiscal sustainability challenges

Similarly, fiscal sustainability risks appear low over the medium term, both according to the sustainability gap indicator S1 and the debt sustainability analysis. The manageable initial debt-to-GDP ratio and the limited sensitivity to possible macro-fiscal shocks underpin this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to a low risk in the medium term. With a value of -2 pps. of GDP, no additional fiscal effort would be required over the next five years relative to the baseline no-policy-change scenario to stay below the 60% of GDP debt reference value in 2033. On the contrary, the indicator's negative value suggests that there is fiscal space in Latvia. This favourable result mainly stems from the low level of public debt in the last forecast year (-1.9 pps. of GDP contribution to the S1 value).

Debt sustainability analysis (DSA)

Over the medium term, Latvia is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, which are confirmed by alternative and stress test scenarios ([75]).

Baseline no-policy-change scenario

Latvia faces low risks according to the baseline medium-term debt projections. Under normal economic conditions and a no-policy-change assumption after 2020, government debt would steadily decrease to 33.5% of GDP in 2025 on the back of a favourable interest–growth rate differential. The latter would melt away slowly, though, so that as of 2026 it no longer suffices to compensate for the projected widening of the primary deficit. As a result, the debt-to-GDP ratio would rise again and reach 35% of GDP at the end of the projection period (2029).

Government gross financing needs (GFN) ([76]) are projected to increase over the projection period. They would rise steadily from 3.9% of GDP in 2019 to 5.4% of GDP in 2029.

Alternative and stress test scenarios

Given the low initial debt stock, adverse shocks to growth, interest rates or the primary balance would be expected to lead to a limited increase in the debt ratio compared to the baseline. Standard negative sensitivity tests on nominal growth and interest rates would entail a somewhat higher debt ratio. It would still peak in 2018 and decline thereafter to 36.7% of GDP in 2029. Based on the historical volatility of the Latvian economy, a very

([75]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decision trees used to derive the overall DSA risk classification.

([76]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

large set of jointly simulated shocks to growth, interest rates and the primary balance gives a 41% probability of the debt ratio in 2023 being higher than in 2018. In addition, such shocks point to high uncertainty surrounding baseline projections, as can be seen from the wide debt distribution cone ([77]).

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its average level of the last 15 years, a deficit of 1.2% of GDP), the Latvian debt ratio would peak at 40.2% of GDP in 2029, about 5 pps. of GDP higher than in the baseline scenario.

If fiscal policy were to evolve in line with the main provisions of the Stability and Growth Pact (SGP) ([78]), Latvia's government debt would fall back to 32% of GDP in 2029, 3 pps. of GDP below the baseline projection.

13.3. Long-term fiscal sustainability challenges

Over the long term, Latvia is deemed at low fiscal sustainability risk. The sustainability gap indicator shows a small fiscal adjustment would be required to stabilise debt over the long run. Signals from the DSA risk assessment concur.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to low risk in the long term. This indicator shows that, relative to the baseline no-policy-change scenario, a cumulated improvement of only 0.7 pps. of GDP in the SPB would be required to stabilise the debt-to-GDP ratio over the long term. This results from the initial budgetary position. The contribution to S2 from ageing-related expenditure is not projected to increase between 2018 and 2070 as falling pension spending more than offsets increases for other items. However, under a more adverse scenario in the health care and long-term care areas (with non-demographic drivers pushing up costs) ([79]), the S2 indicator would increase to 3.1 pps. of GDP, hence beyond the critical threshold pointing to medium fiscal risks in the long term.

Overall, Latvia is considered to have a low fiscal sustainability risk in the long term. Both the sustainability gap indicator S2 and the DSA risk assessment (see section 13.2) indicate that long-term fiscal sustainability risks are low for Latvia ([80]).

13.4. Additional mitigating and aggravating risk factors

Some additional mitigating and aggravating risk factors exist. The structure of the government debt in terms of currency denomination mitigates vulnerabilities. In contrast, non-residents hold over two thirds of Latvian government debt. The negative net international investment position could also be seen as an aggravating factor. In addition, the coverage ratio of non–performing loans in the banking sector points to some contingent liability risks.

([77]) The difference between the 10th and 90th percentile in 2023 is around 29 pps. of GDP

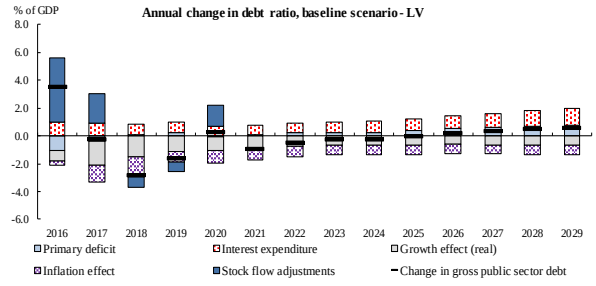
([78]) See Annex 5 in Volume 1 of this report for detailed explanations on the definition of the SGP scenario.

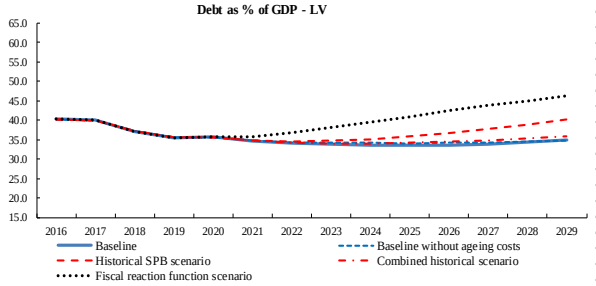
([79]) For more details on this scenario, see Section 4.3 of Chapter 4 in Volume 1 of this report.

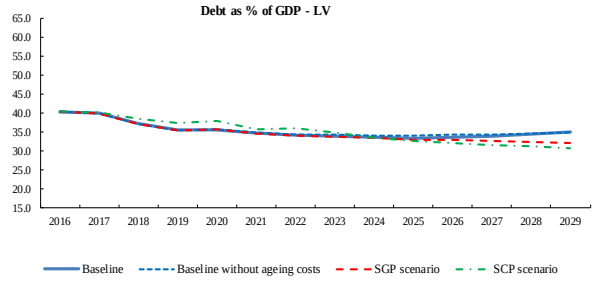
([80]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

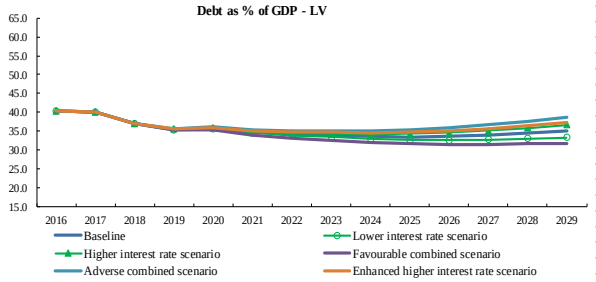
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

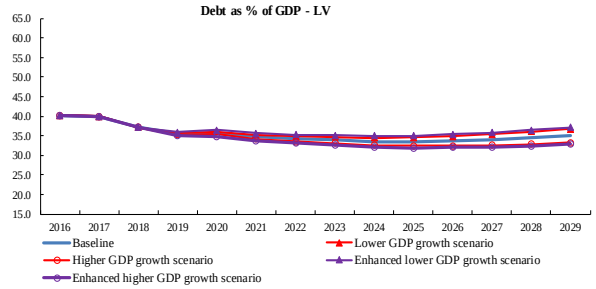
LV - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**40.3**	**40.0**	**37.1**	**35.5**	**35.7**	**34.7**	**34.2**	**33.9**	**33.6**	**33.5**	**33.6**	**34.0**	**34.4**	**35.0**
Changes in the ratio (-1+2+3)	*3.5*	*-0.3*	*-2.9*	*-1.6*	*0.2*	*-1.0*	*-0.5*	*-0.3*	*-0.3*	*-0.1*	*0.2*	*0.3*	*0.5*	*0.6*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.1**	**0.3**	**-0.1**	**-0.2**	**0.0**	**-0.1**	**-0.2**	**-0.3**	**-0.2**	**-0.4**	**-0.5**	**-0.6**	**-0.7**	**-0.8**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.0***	***-0.3***	***-1.0***	***-1.0***	***-0.5***	***-0.4***	***-0.4***	***-0.3***	***-0.2***	***-0.4***	***-0.5***	***-0.6***	***-0.7***	***-0.8***
(1.1.1) Structural primary balance (bef. CoA)	*1.0*	*-0.3*	*-1.0*	*-1.0*	*-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*	*-0.1*	*-0.2*	*-0.2*	*-0.1*	*0.1*	*0.2*	*0.2*	*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	***0.1***	***0.7***	***0.9***	***0.8***	***0.5***	***0.3***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**0.0**	**-2.0**	**-2.2**	**-1.2**	**-1.2**	**-1.0**	**-0.7**	**-0.6**	**-0.6**	**-0.5**	**-0.4**	**-0.3**	**-0.2**	**-0.2**
(2.1) Interest expenditure	*1.0*	*0.9*	*0.8*	*0.7*	*0.7*	*0.7*	*0.7*	*0.8*	*0.8*	*0.8*	*0.9*	*1.0*	*1.1*	*1.2*
(2.2) Growth effect	*-0.7*	*-1.7*	*-1.5*	*-1.1*	*-1.0*	*-0.9*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.6*	*-0.6*	*-0.7*	*-0.7*
(2.3) Inflation effect	*-0.3*	*-1.2*	*-1.4*	*-0.8*	*-0.9*	*-0.9*	*-0.8*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**4.6**	**2.1**	**-0.8**	**-0.7**	**1.4**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*4.6*	*2.1*	*-0.8*	*-0.7*	*1.4*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	0.0	-1.2	-1.8	-1.7	-1.2	-1.1	-1.1	-1.0	-1.0	-1.2	-1.5	-1.6	-1.8	-1.9

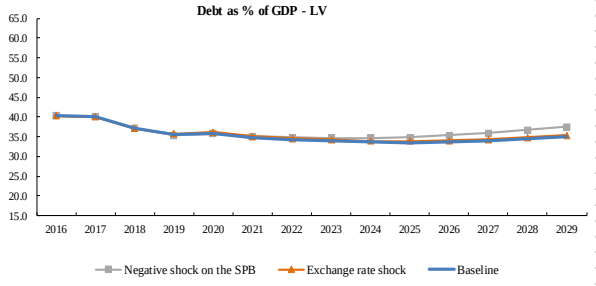


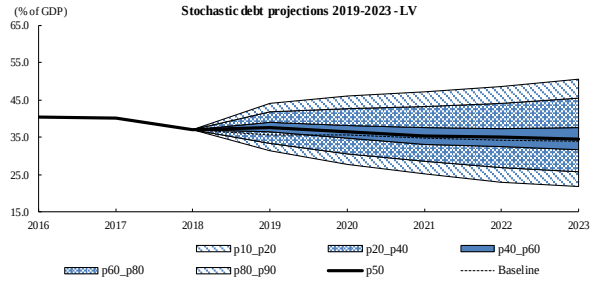


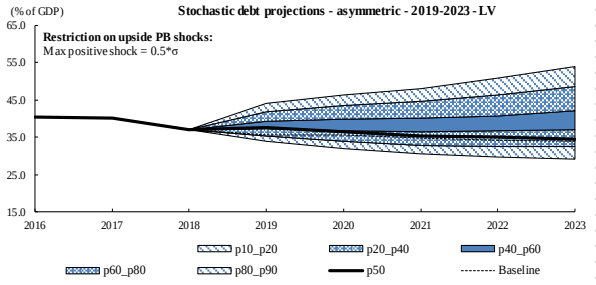












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	MEDIUM			
			Debt level (2029)	35.0	40.2	36.7	36.7	37.4				
			Debt peak year	2018	2029	2018	2018	2029				
			Percentile rank	66.0%	73.0%							
			Probability debt higher						41.1%			
			Dif. between percentiles						28.8			
LOW (S0 = 0.2)	LOW	LOW (S1 = -2)								LOW	LOW (S2 = 0.7)	LOW

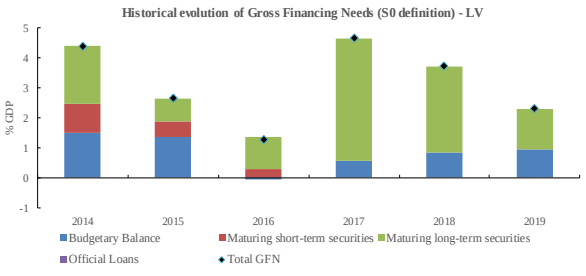
2.2. Sustainability indicators

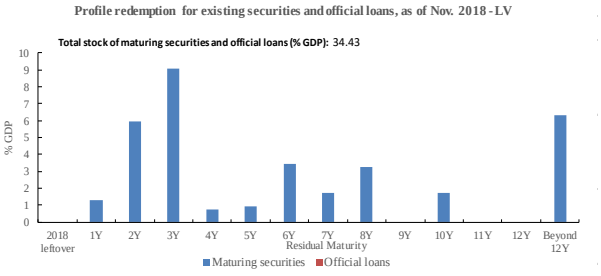
S0 indicator	2009	2018	Critical threshold
Overall index	**0.65**	**0.24**	**0.46**
Fiscal sub-index	0.45	0.08	0.36
Financial competitiveness sub-index	0.76	0.33	0.49

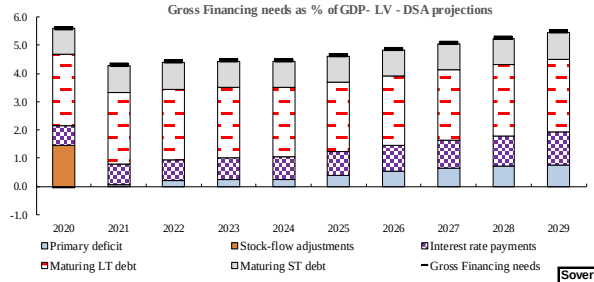
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-2.0**	**-2.0**	**-0.4**	**-1.5**
of which *Gap to the debt-stabilizing primary balance*	*0.3*	*0.1*	*1.2*	*0.1*
Cost of delaying adjustment	*-0.3*	*-0.3*	*-0.1*	*-0.2*
Debt requirement	*-1.9*	*-1.9*	*-1.9*	*-1.9*
Ageing costs	*-0.1*	*0.2*	*0.4*	*0.6*
Required structural primary balance related to S1	**-2.9**	**-2.4**	**-1.5**	**-1.9**

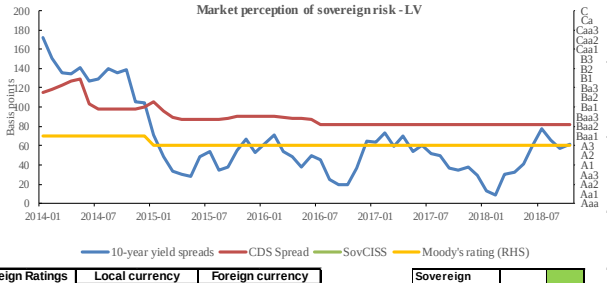
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**1.1**	**0.7**	**1.4**	**3.1**	**0.9**	**0.8**	**1.0**
of which Initial Budgetary position	1.3	0.9	1.7	0.9	1.0	0.9	1.1
Ageing costs	-0.2	-0.3	-0.3	2.2	-0.1	-0.2	-0.1
of which Pensions	*-1.2*	*-1.4*	*-1.5*	*-1.4*	*-1.2*	*-1.4*	*-1.2*
Health care	*0.4*	*0.4*	*0.4*	*1.3*	*0.3*	*0.4*	*0.4*
Long-term care	*0.1*	*0.1*	*0.1*	*1.7*	*0.1*	*0.1*	*0.1*
Others	*0.5*	*0.7*	*0.7*	*0.7*	*0.6*	*0.6*	*0.6*
Required structural primary balance related to S2	**0.2**	**0.2**	**0.3**	**2.6**	**0.5**	**0.3**	**0.6**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, 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 Nov 2018	10-year	61.0

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

Government debt structure - LV (2017)	Share of short-term government debt (p.p.): 8.4	Share of government debt in foreign currency (%): 0.1	Share of government debt by non-residents (%): 67.6

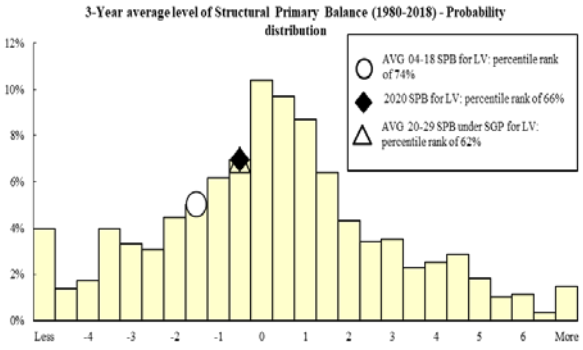
Net International Investment Position (IIP) - LV (2017)	Net IIP (% GDP): -56.3

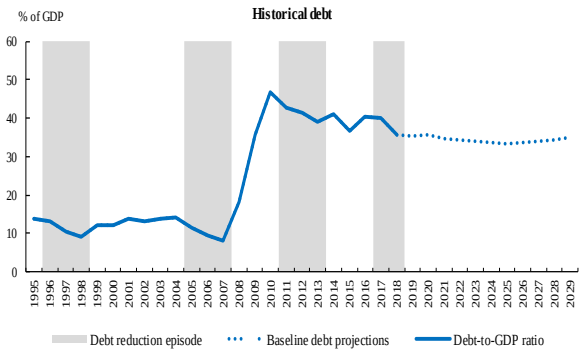
5. Risks related to government's contingent liabilities

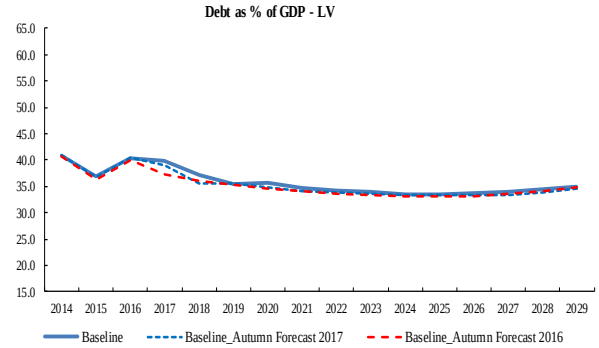
General government contingent liabilities		LV					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		3.0	2.4	1.6	1.5	n.a.	7.3
of which One-off guarantees		*2.5*	*1.9*	*1.1*	*1.0*	*n.a.*	*6.9*
Standardised guarantees		*0.5*	*0.5*	*0.5*	*0.5*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.1*	*0.3*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.6	0.6	0.0	0.0	0.0	0.8
	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	0.1
	Total	0.6	0.6	0.0	0.0	0.0	1.0

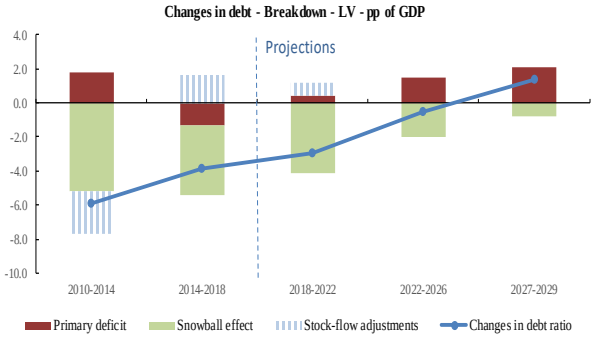
Government's contingent liability risks from banking sector - LV (2017)	Private sector credit flow (% GDP): 0.3	Change in nominal house price index: 8.8	Bank loans-to-deposits ratio (p.p.): 75.1	Share of non-performing loans (%): 2.3	Change in share of non-performing loans (p.p): -0.8	NPL coverage ratio 32.4	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Latvia	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.5	35.7	33.5	34.0	35.0	36.1	34.1	34.6
Primary balance	-0.1	-0.2	0.0	-0.4	-0.6	-0.8	-0.1	-0.4	-0.3
Structural primary balance (before CoA)	-1.0	-1.0	-0.5	-0.5	-0.5	-0.5	-0.8	-0.5	-0.6
Real GDP growth	4.1	3.2	2.9	2.1	2.0	2.1	3.4	2.1	2.4
Potential GDP growth	3.4	3.6	3.7	2.1	2.0	2.1	3.6	2.3	2.6
Inflation rate	3.7	2.1	2.7	2.0	2.0	2.0	2.8	2.1	2.3
Implicit interest rate (nominal)	2.0	2.1	2.1	2.6	3.1	3.5	2.1	2.7	2.6
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.5	35.7	41.0	43.8	46.3	36.1	41.0	39.8
Primary balance	-0.1	-0.2	0.0	-1.9	-1.6	-1.4	-0.1	-1.7	-1.3
Structural primary balance (before CoA)	-1.0	-1.0	-0.5	-1.9	-1.4	-1.1	-0.8	-1.7	-1.5
Real GDP growth	4.1	3.2	2.9	1.9	1.8	2.0	3.4	2.2	2.5
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.5	35.7	33.1	32.6	32.0	36.1	33.2	33.9
Primary balance	-0.1	-0.2	0.0	-0.2	0.0	0.1	-0.1	-0.1	-0.1
Structural primary balance	-1.0	-1.0	-0.5	-0.2	0.0	0.1	-0.8	-0.1	-0.3
Real GDP growth	4.1	3.2	3.0	2.0	1.9	2.1	3.4	2.1	2.4
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	38.4	37.4	38.0	32.7	31.6	30.8	37.9	33.1	34.3
Primary balance	-0.1	0.0	0.5	0.4	0.2	0.0	0.1	0.3	0.3
Structural primary balance (before CoA)	-0.9	-0.6	0.2	0.4	0.4	0.4	-0.4	0.4	0.2
Real GDP growth	4.0	3.4	3.0	2.3	2.2	2.5	3.5	2.1	2.5
Potential GDP growth	3.4	3.4	3.3	2.3	2.2	2.5	3.4	2.2	2.5
Inflation rate	3.1	3.0	2.7	2.0	2.0	2.0	2.9	1.8	2.1
Implicit interest rate (nominal)	2.2	2.4	2.6	2.7	3.2	3.5	2.4	2.8	2.7
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.5	35.7	35.8	37.7	40.2	36.1	36.5	36.4
Primary balance	-0.1	-0.2	0.0	-1.1	-1.4	-1.5	-0.1	-1.0	-0.8
Structural primary balance (before CoA)	-1.0	-1.0	-0.5	-1.2	-1.2	-1.2	-0.8	-1.1	-1.0
Real GDP growth	4.1	3.2	2.9	2.1	2.0	2.1	3.4	2.2	2.5
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.5	35.7	34.2	34.9	35.8	36.1	34.6	35.0
Primary balance	-0.1	-0.2	0.0	-1.1	-1.4	-1.5	-0.1	-1.0	-0.8
Structural primary balance (before CoA)	-1.0	-1.0	-0.5	-1.2	-1.2	-1.2	-0.8	-1.1	-1.0
Real GDP growth	4.1	3.2	2.9	3.0	3.0	3.0	3.4	3.1	3.1
Implicit interest rate (nominal)	2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.5	35.8	34.3	35.2	36.7	36.1	35.0	35.3
Implicit interest rate (nominal)	2.0	2.2	2.3	3.2	3.7	4.3	2.2	3.3	3.0
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.4	35.6	32.7	32.8	33.4	36.0	33.3	34.0
Implicit interest rate (nominal)	2.0	2.0	1.9	2.1	2.4	2.8	2.0	2.2	2.1
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.6	35.9	34.7	35.7	37.4	36.2	35.4	35.6
Implicit interest rate (nominal)	2.0	2.3	2.5	3.4	3.9	4.4	2.3	3.5	3.2
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.3	35.4	32.4	32.6	33.3	35.9	33.0	33.7
Real GDP growth	4.1	3.7	3.4	2.6	2.5	2.6	3.7	2.6	2.9
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.7	36.0	34.6	35.4	36.7	36.3	35.2	35.5
Real GDP growth	4.1	2.7	2.4	1.6	1.5	1.6	3.1	1.6	2.0
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.1	34.9	32.0	32.2	32.9	35.7	32.6	33.4
Real GDP growth	4.1	4.4	4.2	2.6	2.5	2.6	4.2	2.6	3.0
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.9	36.5	35.0	35.8	37.2	36.5	35.7	35.9
Real GDP growth	4.1	2.0	1.7	1.6	1.5	1.6	2.6	1.6	1.9
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.4	35.8	34.9	35.9	37.4	36.1	35.5	35.6
Primary balance	-0.1	-0.1	-0.2	-0.7	-0.9	-1.0	-0.1	-0.7	-0.6
Structural primary balance (before CoA)	-1.0	-0.9	-0.7	-0.7	-0.7	-0.7	-0.9	-0.7	-0.8
Real GDP growth	4.1	3.1	3.3	2.1	2.0	2.1	3.5	2.1	2.5
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.7	36.1	33.8	34.3	35.3	36.3	34.5	34.9
Exchange rate depreciation	0.0%	0.6%	0.6%	0.0%	0.0%	0.0%	0.4%	0.0%	0.1%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.3	35.3	31.6	31.5	31.8	35.9	32.2	33.1
Implicit interest rate (nominal)	2.0	2.0	1.9	2.1	2.4	2.8	2.0	2.2	2.1
Real GDP growth	4.1	3.7	3.4	2.6	2.5	2.6	3.7	2.6	2.9
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.1	35.7	36.1	35.4	36.7	38.6	36.3	36.1	36.2
Implicit interest rate (nominal)	2.0	2.2	2.3	3.2	3.7	4.3	2.2	3.3	3.0
Real GDP growth	4.1	2.7	2.4	1.6	1.5	1.6	3.1	1.6	2.0

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Based on the European Commission 2018 Autumn Forecast, Lithuania's structural primary balance (SPB) would remain about stable, with surpluses of 0.4% and 0.3% of GDP in 2018 and 2020, the end of the forecast horizon. Real GDP growth is expected to slow down, from 3.4% in 2018 (after 4.1% in 2017) to 2.5% in 2020. Gross government debt would increase from 34.8% of GDP in 2018 to 37.6% in 2020 due to substantial stock-flow adjustments in 2019-2020.

14.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Lithuania.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below the critical thresholds.

Financial markets' perception of sovereign risk remains favourable. This is confirmed by the stable rating assigned to Lithuanian debt by the three major rating agencies, as well as by the 10-year yield spread versus the German Bund which has been at or below zero since the start of 2017.

14.2. Medium-term fiscal sustainability challenges

Similarly, fiscal sustainability risks appear low over the medium term, both according to the sustainability gap indicator S1 and the debt sustainability analysis. The moderate initial debt-to-GDP ratio and the limited sensitivity to possible macro-fiscal shocks underpin this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to a low risk in the medium term. With a value of -1.8 pps. of GDP, no additional fiscal effort would be required over the next five years relative to the baseline no-policy-change scenario to stay below the 60% of GDP debt reference value in 2033. On the contrary, the indicator's negative value suggests that there is fiscal space in Lithuania. This favourable result mainly stems from the low level of public debt in the last forecast year (-1.7 pps. of GDP contribution to the S1 value). In contrast, the rise in ageing costs between 2018 and 2033 is projected to increase the S1 value by 0.6 pps. of GDP.

Debt sustainability analysis (DSA)

Over the medium term, Lithuania is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, which are confirmed by alternative and stress test scenarios ([81]).

Baseline no-policy-change scenario

Lithuania faces low risks according to the baseline medium-term debt projections. Under normal economic conditions and a no-policy-change assumption after 2020, government debt would steadily decrease from its peak of 37.9% of GDP in 2019 to 32.3% in 2026 on the back of a primary surplus and a reverse snowball effect (nominal GDP growth being higher than interest expenditure). Both factors are expected to dwindle over time, though, with the primary balance moving into deficit territory as of 2026 due to the projected increase in ageing costs. As a result, the debt-to-GDP ratio would increase again during the remainder of the projection period, reaching 33.4% of GDP in 2029.

Government gross financing needs (GFN) ([82]) are projected to decrease. From 9.3% of GDP in 2019 and 6.2% in 2020, financing needs would fall back to 4-5% of GDP afterwards.

([81]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decision trees used to derive the overall DSA risk classification.

([82]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

Alternative and stress test scenarios

Given the low initial debt stock, adverse shocks to growth, interest rates or the primary balance would be expected to lead to a limited increase in the debt ratio compared to the baseline. Standard negative sensitivity tests on nominal growth and interest rates would entail an increase in the debt ratio of about 2 pps. of GDP in 2029 relative to the baseline. Based on the historical volatility of the Lithuanian economy, a very large set of jointly simulated shocks to growth, interest rates and the primary balance gives a 40% probability of the debt ratio in 2023 being higher than in 2018. In addition, such shocks point to high uncertainty surrounding baseline projections, as can be seen from the wide debt distribution cone ([83]).

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its average level of the last 15 years, a deficit of 1.1% of GDP), the Lithuanian debt ratio would peak in 2029 – as compared to 2019 in the baseline scenario – at 43.4% of GDP, 10 pps. of GDP higher than in the baseline scenario.

14.3. Long-term fiscal sustainability challenges

Over the long term, Lithuania is considered at low fiscal sustainability risk. The sustainability gap indicator shows that only a small fiscal adjustment would be required to stabilise debt over the long run. Signals from the DSA risk assessment concur.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to low risk in the long term. This indicator shows that, relative to the baseline no-policy-change scenario, an improvement of only 0.5 pps. of GDP in the SPB would be required to stabilise the debt-to-GDP ratio over the long term. This results from the projected increase in ageing-related expenditure other than pensions, which would decrease over time. Under a more adverse scenario in the health care and long-term care areas (with non-demographic drivers pushing up costs) ([84]), the S2 indicator would increase to 2.8 pps. of GDP, above the critical threshold pointing to medium fiscal risks in the long term.

Overall, Lithuania is considered to have a low fiscal sustainability risk in the long term. Both the sustainability gap indicator S2 and the DSA risk assessment (see section 14.2) indicate that long-term fiscal sustainability risks are low for Lithuania ([85]).

14.4. Additional mitigating and aggravating risk factors

Some additional mitigating and aggravating risk factors exist. The fact that debt is fully denominated in euro further mitigates vulnerabilities. In contrast, non-residents hold almost three quarters of Lithuanian government debt. The negative net international investment position could also be seen as an aggravating factor. In addition, the coverage ratio of non–performing loans in the banking sector points to some contingent liability risks. Pressures from higher spending due to an ageing population could materialise in the coming decades.

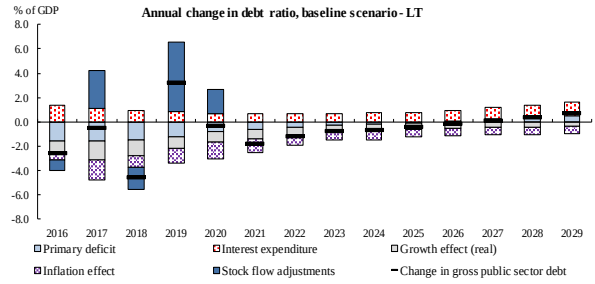
([83]) The difference between the 10th and 90th percentile in 2023 is 29 pps. of GDP

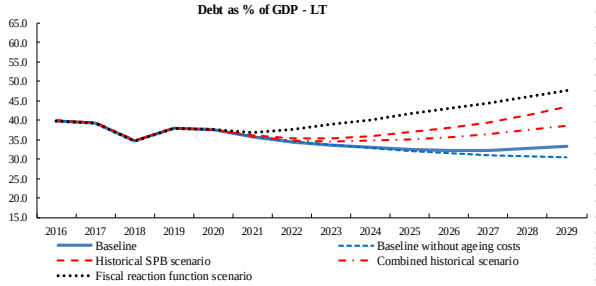
([84]) For more details on this scenario, see Section 4.3 of Chapter 4 in Volume 1 of this report.

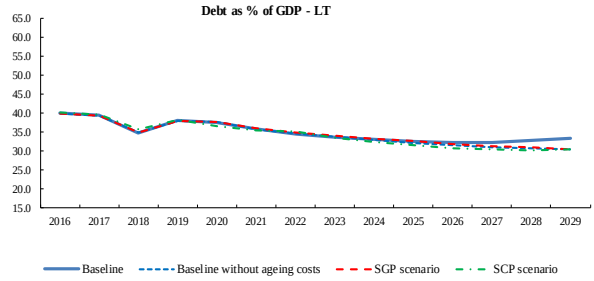
([85]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

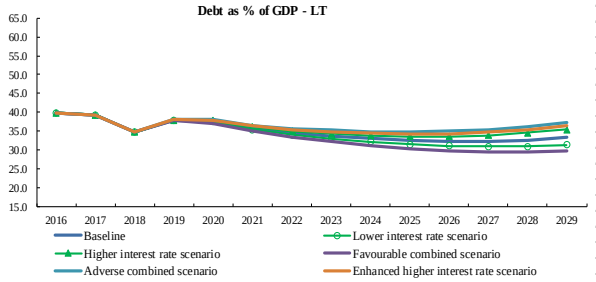
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

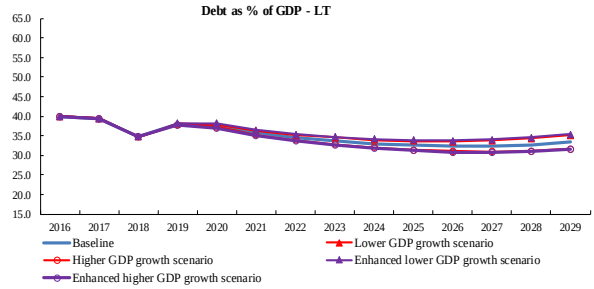
LT - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**39.9**	**39.4**	**34.8**	**37.9**	**37.6**	**35.8**	**34.5**	**33.7**	**33.0**	**32.5**	**32.3**	**32.4**	**32.7**	**33.4**
Changes in the ratio (-1+2+3)	*-2.6*	*-0.6*	*-4.6*	*3.1*	*-0.3*	*-1.8*	*-1.3*	*-0.8*	*-0.7*	*-0.5*	*-0.2*	*0.1*	*0.3*	*0.7*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.6**	**1.6**	**1.5**	**1.2**	**0.8**	**0.6**	**0.4**	**0.3**	**0.2**	**0.1**	**-0.1**	**-0.2**	**-0.4**	**-0.5**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.9***	***0.5***	***0.4***	***0.4***	***0.3***	***0.3***	***0.3***	***0.3***	***0.2***	***0.1***	***-0.1***	***-0.2***	***-0.4***	***-0.5***
(1.1.1) Structural primary balance (bef. CoA)	*0.9*	*0.5*	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*
(1.1.2) Cost of ageing						*0.0*	*0.0*	*0.0*	*0.1*	*0.2*	*0.4*	*0.5*	*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*	*0.0*	*0.0*
(1.2) Cyclical component	***0.5***	***1.1***	***1.2***	***0.8***	***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	***0.2***	***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***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-0.2**	**-2.0**	**-1.3**	**-1.3**	**-1.5**	**-1.2**	**-0.8**	**-0.5**	**-0.5**	**-0.4**	**-0.3**	**-0.2**	**-0.1**	**0.1**
(2.1) Interest expenditure	*1.3*	*1.1*	*0.9*	*0.9*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.8*	*0.8*	*0.9*	*1.0*	*1.1*
(2.2) Growth effect	*-1.0*	*-1.5*	*-1.2*	*-0.9*	*-0.9*	*-0.8*	*-0.6*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.4*	*-0.3*
(2.3) Inflation effect	*-0.6*	*-1.6*	*-1.0*	*-1.2*	*-1.3*	*-1.1*	*-0.9*	*-0.7*	*-0.7*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-0.8**	**3.1**	**-1.7**	**5.7**	**2.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.8*	*3.1*	*-1.7*	*5.7*	*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*	*0.0*	*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	-0.4	-0.7	-0.6	-0.5	-0.4	-0.4	-0.4	-0.4	-0.5	-0.7	-0.9	-1.2	-1.4	-1.6

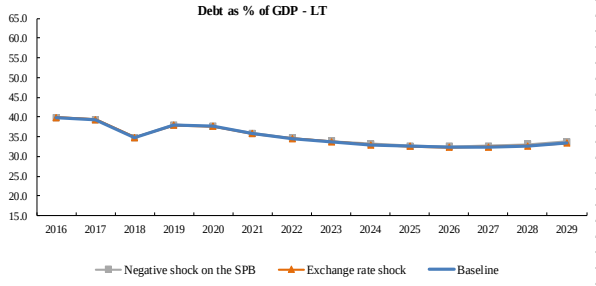


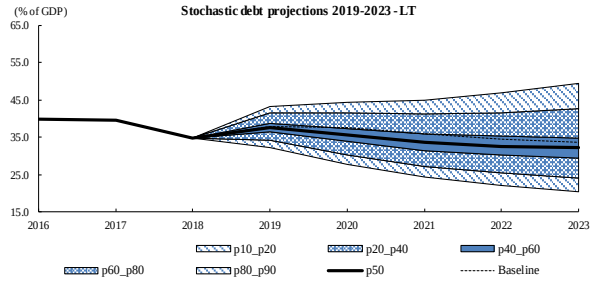


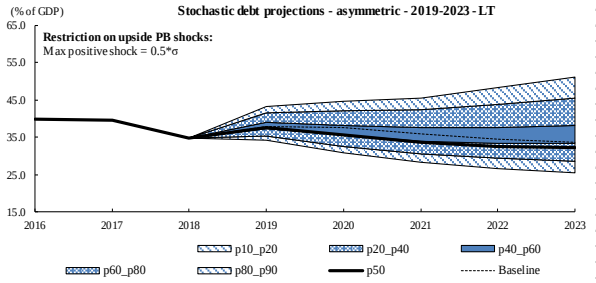












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	MEDIUM			
			Debt level (2029)	33.4	43.4	35.1	35.5	33.7				
			Debt peak year	2019	2029	2019	2019	2019				
			Percentile rank	53.0%	69.0%							
			Probability debt higher						40.1%			
			Dif. between percentiles						29.0			
LOW (S0 = 0.2)	LOW	LOW (S1 = -1.8)								LOW	LOW (S2 = 0.5)	LOW

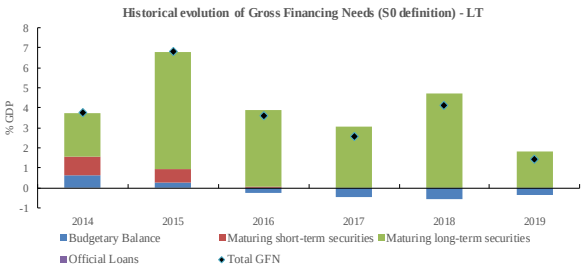
2.2. Sustainability indicators

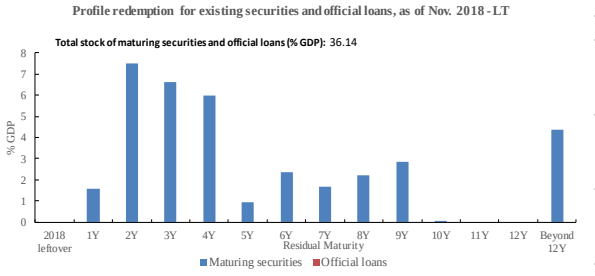
S0 indicator	2009	2018	Critical threshold
Overall index	**0.58**	**0.21**	**0.46**
Fiscal sub-index	0.58	0.00	0.36
Financial competitiveness sub-index	0.57	0.33	0.49

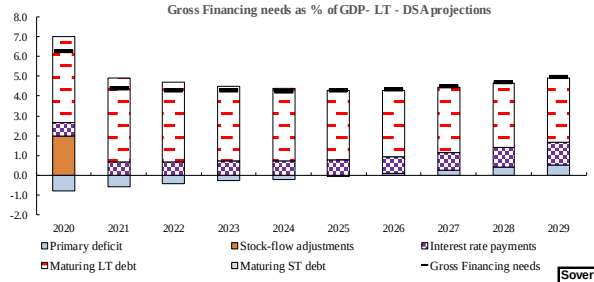
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**0.6**	**-1.8**	**0.8**	**-1.4**
of which *Gap to the debt-stabilizing primary balance*	*0.1*	*-0.5*	*1.4*	*-0.5*
Cost of delaying adjustment	*0.1*	*-0.3*	*0.1*	*-0.2*
Debt requirement	*-1.5*	*-1.7*	*-1.7*	*-1.7*
Ageing costs	*1.9*	*0.6*	*1.0*	*0.9*
Required structural primary balance related to S1	**0.6**	**-1.5**	**-0.2**	**-1.1**

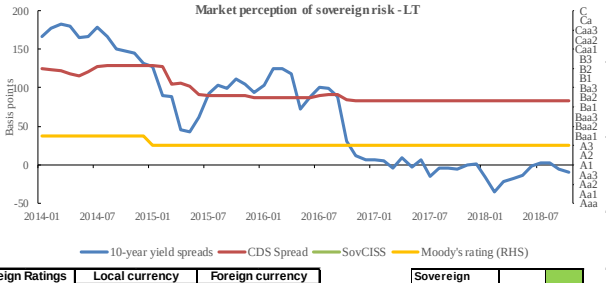
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**3.1**	**0.5**	**1.9**	**2.8**	**0.6**	**0.9**	**0.9**
of which Initial Budgetary position	0.4	0.1	1.5	0.1	0.2	0.1	0.4
Ageing costs	2.7	0.4	0.4	2.7	0.4	0.8	0.6
of which Pensions	*1.1*	*-1.1*	*-1.2*	*-1.1*	*-1.0*	*-0.9*	*-0.8*
Health care	*0.0*	*0.3*	*0.3*	*0.9*	*0.3*	*0.3*	*0.3*
Long-term care	*0.7*	*0.8*	*0.9*	*2.6*	*0.8*	*1.0*	*0.7*
Others	*0.9*	*0.4*	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*
Required structural primary balance related to S2	**3.2**	**0.8**	**0.9**	**3.1**	**0.9**	**1.2**	**1.2**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, LT	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	A3		A3	P-2
S&P	A	A-1	A	A-1
Fitch	A-		A-	F1

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	-9.0

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

Government debt structure - LT (2017)	Share of short-term government debt (p.p.):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	0.6	0.0	73.3

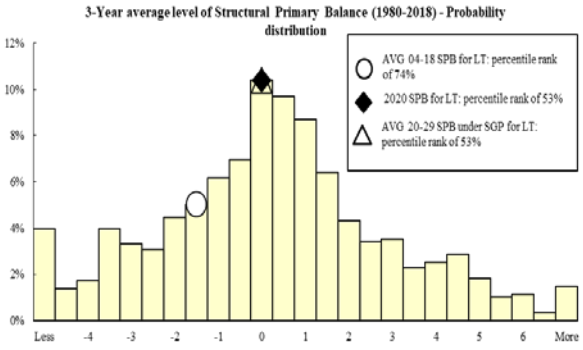
Net International Investment Position (IIP) - LT (2017)	Net IIP (% GDP):
	-35.9

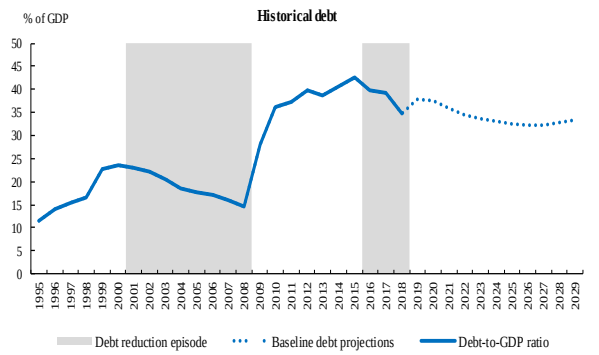
5. Risks related to government's contingent liabilities

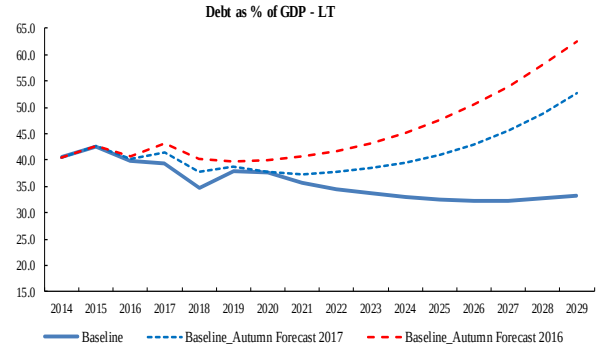
General government contingent liabilities		LT					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		1.0	0.8	0.8	0.9	n.a.	7.3
of which One-off guarantees		*0.3*	*0.3*	*0.2*	*0.2*	*n.a.*	*6.9*
Standardised guarantees		*0.7*	*0.6*	*0.5*	*0.7*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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	0.8
	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	0.1
	Total	0.0	0.0	0.0	0.0	0.0	1.0

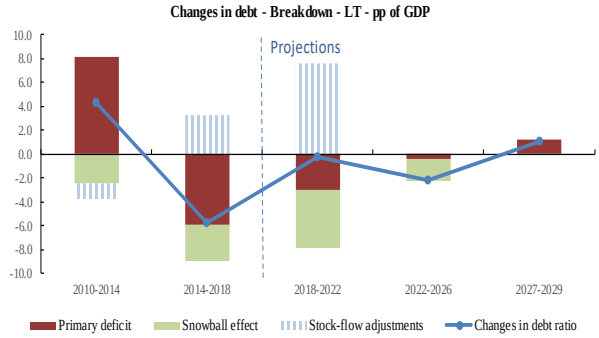
Government's contingent liability risks from banking sector - LT (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	3.7	8.9	104.0	2.8	-0.9	29.2	0.00%	0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Lithuania	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	37.9	37.6	32.5	32.4	33.4	36.8	33.4	34.2
Primary balance	1.5	1.2	0.8	0.1	-0.2	-0.5	1.2	0.0	0.3
Structural primary balance (before CoA)	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Real GDP growth	3.4	2.8	2.5	1.7	1.5	1.1	2.9	1.7	2.0
Potential GDP growth	3.2	3.6	3.5	1.7	1.5	1.1	3.4	1.8	2.2
Inflation rate	2.6	3.7	3.6	2.0	2.0	2.0	3.3	2.2	2.5
Implicit interest rate (nominal)	2.5	2.6	1.9	2.5	3.0	3.5	2.4	2.6	2.5
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	37.9	37.6	41.6	44.6	47.7	36.8	41.9	40.6
Primary balance	1.5	1.2	0.8	-1.8	-1.5	-1.3	1.2	-1.6	-0.9
Structural primary balance (before CoA)	0.4	0.4	0.3	-1.6	-1.0	-0.4	0.3	-1.3	-0.9
Real GDP growth	3.4	2.8	2.5	1.6	1.3	0.9	2.9	1.7	2.0
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	37.9	37.7	32.6	31.4	30.5	36.8	32.8	33.8
Primary balance	1.5	1.2	0.7	0.3	0.4	0.5	1.1	0.4	0.6
Structural primary balance	0.4	0.4	0.2	0.3	0.4	0.5	0.3	0.3	0.3
Real GDP growth	3.4	2.8	2.6	1.7	1.4	1.0	2.9	1.6	2.0
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.8	38.1	36.6	31.5	30.3	30.4	36.8	32.2	33.3
Primary balance	1.7	1.3	1.2	0.7	0.4	0.1	1.4	0.6	0.8
Structural primary balance (before CoA)	0.7	0.8	1.0	0.9	0.9	0.9	0.8	0.9	0.9
Real GDP growth	3.2	2.8	2.5	1.3	1.2	0.7	2.8	1.2	1.6
Potential GDP growth	3.1	3.4	3.3	1.3	1.2	0.7	3.3	1.3	1.8
Inflation rate	2.6	2.0	1.7	2.0	2.0	2.0	2.1	1.7	1.8
Implicit interest rate (nominal)	2.4	2.3	1.9	2.5	3.0	3.5	2.2	2.5	2.4
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	37.9	37.6	36.9	39.5	43.4	36.8	38.0	37.7
Primary balance	1.5	1.2	0.8	-1.3	-1.6	-1.9	1.2	-1.1	-0.5
Structural primary balance (before CoA)	0.4	0.4	0.3	-1.1	-1.1	-1.1	0.3	-0.8	-0.5
Real GDP growth	3.4	2.8	2.5	1.7	1.5	1.1	2.9	1.8	2.1
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	37.9	37.6	35.1	36.5	38.5	36.8	35.9	36.1
Primary balance	1.5	1.2	0.8	-1.3	-1.6	-1.9	1.2	-1.1	-0.5
Structural primary balance (before CoA)	0.4	0.4	0.3	-1.1	-1.1	-1.1	0.3	-0.8	-0.5
Real GDP growth	3.4	2.8	2.5	3.1	3.1	3.1	2.9	3.1	3.1
Implicit interest rate (nominal)	2.5	2.6	1.9	2.5	2.7	2.9	2.4	2.4	2.4
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	38.0	37.8	33.6	33.9	35.5	36.8	34.5	35.1
Implicit interest rate (nominal)	2.5	2.7	2.3	3.2	3.8	4.4	2.5	3.3	3.1
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	37.9	37.5	31.5	30.9	31.4	36.7	32.3	33.4
Implicit interest rate (nominal)	2.5	2.5	1.6	1.8	2.2	2.7	2.2	1.9	2.0
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	38.0	37.9	34.3	34.8	36.4	36.9	35.2	35.6
Implicit interest rate (nominal)	2.5	2.8	2.6	3.4	3.9	4.5	2.6	3.5	3.3
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	37.8	37.3	31.4	31.0	31.7	36.6	32.3	33.3
Real GDP growth	3.4	3.3	3.0	2.2	2.0	1.6	3.2	2.2	2.4
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	38.1	37.9	33.7	33.8	35.1	36.9	34.5	35.1
Real GDP growth	3.4	2.3	2.0	1.2	1.0	0.6	2.5	1.2	1.5
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	37.7	37.0	31.2	30.8	31.4	36.5	32.0	33.2
Real GDP growth	3.4	3.7	3.4	2.2	2.0	1.6	3.5	2.2	2.5
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	38.2	38.2	33.9	34.1	35.4	37.1	34.7	35.3
Real GDP growth	3.4	1.9	1.6	1.2	1.0	0.6	2.3	1.2	1.5
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	38.0	37.7	32.7	32.7	33.7	36.8	33.6	34.4
Primary balance	1.5	1.2	0.8	0.0	-0.3	-0.6	1.2	0.0	0.3
Structural primary balance (before CoA)	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Real GDP growth	3.4	2.8	2.5	1.7	1.5	1.1	2.9	1.7	2.0
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	37.9	37.6	32.5	32.4	33.4	36.8	33.4	34.2
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	37.7	37.1	30.4	29.6	29.8	36.6	31.2	32.6
Implicit interest rate (nominal)	2.5	2.5	1.6	1.8	2.2	2.7	2.2	1.9	2.0
Real GDP growth	3.4	3.3	3.0	2.2	2.0	1.6	3.2	2.2	2.4
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	34.8	38.1	38.1	34.8	35.5	37.4	37.0	35.7	36.0
Implicit interest rate (nominal)	2.5	2.7	2.3	3.2	3.8	4.4	2.5	3.3	3.1
Real GDP growth	3.4	2.3	2.0	1.2	1.0	0.6	2.5	1.2	1.5

LUXEMBOURG

Based on the European Commission 2018 Autumn Forecast, Luxembourg should experience a reduction in the structural primary balance (SPB), from a *surplus* of 1.7% of GDP in 2018 to a *surplus* of 1.1% of GDP in 2020. Real GDP growth should slightly slow down, from 3.1% in 2018 (after 1.5% in 2017) to 2.7% in 2020. Supported by a favourable contribution of the interest rate – growth rate differential, gross government debt would decrease over the forecast horizon, from 21.4% of GDP in 2018 to 20.6% of GDP in 2020.

15.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Luxembourg.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. Both the fiscal and financial competitiveness sub-indexes do not point to short-term vulnerabilities (each with a value below the critical threshold).

Financial markets' perceptions of sovereign risk remain favourable, confirmed by the sovereign yield spreads and the 'AAA' stable ratings assigned by the three major rating agencies to the government debt.

15.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks appear to be low for Luxembourg, both according to the sustainability gap indicator S1 and from a DSA perspective. The low and decreasing debt-to-GDP ratio over the medium term in the baseline scenario and the sensitivity to possible macro-fiscal shocks contribute to this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. With a value of -4.8 pps. of GDP, no additional fiscal effort would be needed in the SPB over five years, relative to the baseline 'no-fiscal policy change' scenario, for the debt-to-GDP ratio to reach the reference value of 60% by 2033. On the contrary, the indicator's negative value suggests that under S1 assumptions in Luxembourg there would be some fiscal space. The S1 value is mainly related to the low level of government debt in the last forecast year (contribution of -3.2 pps. of GDP) and the favourable initial budgetary position (contribution of -2.4 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Luxembourg is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([86]).

Baseline no-fiscal policy change scenario

Luxembourg is considered at low risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would steadily decline throughout the projection period (t+10) to reach 8.9% of GDP in 2029. This projected decrease of around 12 pps. of GDP over a ten year period is largely driven by the SPB (unchanged at 1.1% of GDP) ([87]), which compensates for increasing ageing costs, and by favourable snowball effects (interest – growth rate differential).

Alternative and stress test scenarios

Given the low initial stock of debt, negative shocks to growth, interest rates or the primary balance would have a limited impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a slightly higher debt ratio in 2029 (at round 9.6% of GDP) than in the baseline, although it would remain below 10% of GDP. A very large set of

([86]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([87]) Over the period 1980-2018, in 37% of the cases, EU countries were able to reach an SPB value greater than 1.1% of GDP.

jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the economy, points to a 17.3% probability of the debt ratio in 2023 being greater than in 2018, entailing low risks given the low starting level. However, such shocks point to some uncertainty surrounding baseline projections, as can be seen from the wide debt distribution cone ([88]).

If fiscal policy was reverting to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *surplus* of 1.9% of GDP), the debt ratio in 2029 would be about 5.4 pps. of GDP lower than in the baseline scenario.

15.3. Long-term fiscal sustainability challenges

Over the long term, Luxembourg is deemed at high fiscal sustainability risk. Notwithstanding the low vulnerabilities linked to the low debt burden - captured by the DSA risk assessment -, the fiscal adjustment to stabilise debt over the long term implied by the sustainability gap indicator points to high sustainability risks over the long term as a result of projected increase in the ageing costs.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to high risk in the long term. This indicator shows that an improvement of 8.1 pps. of GDP in the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term. This result is due to the projected substantial increase in ageing costs (contribution of 8.7 pps. of GDP), mitigated by a favourable initial budgetary position (-0.6 pps. of GDP). It is in particular the projected increase in public pension expenditure that drives up ageing costs (contribution of 5.8 pps. of GDP) and long-term care spending (contribution of 2.0 pps. of GDP). Under a more adverse scenario in the health care and long-term care areas (with non-demographic drivers pushing costs upward), the S2 indicator would increase to 10.1 pps. of GDP, thus still pointing to high fiscal risks in the long term ([89]).

Overall, Luxembourg is deemed at high fiscal sustainability risk in the long term. Despite low vulnerabilities linked to the low debt burden - captured by the DSA risk assessment (see section 15.2) -, the sustainability gap indicator S2 indicates that long-term sustainability risks for Luxembourg are high ([90]).

15.4. Additional mitigating and aggravating risk factors

Some additional mitigating and aggravating risk factors exist. The structure of the government debt, in terms of currency denomination and maturity, as well as the positive net international investment position help mitigating vulnerabilities. Yet, the bank loans-to-deposits ratio and the stock of government guarantees (12.9% of GDP in 2016) point to some contingent liability risks.

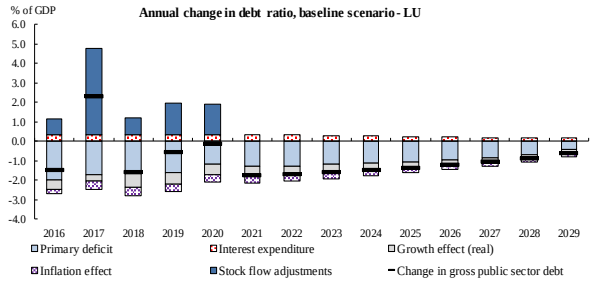
([88]) The difference between the 10th and 90th percentile in 2023 is of around 19.3 pps. of GDP.

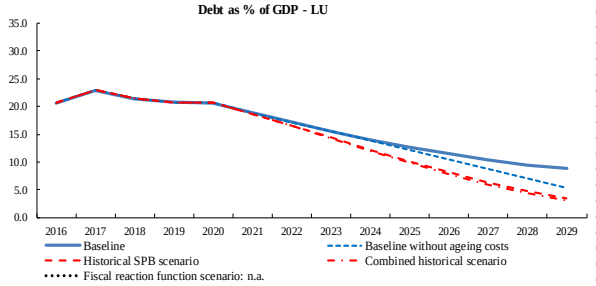
([89]) See section 4.3 in Volume 1 of this report for a detailed discussion of this scenario.

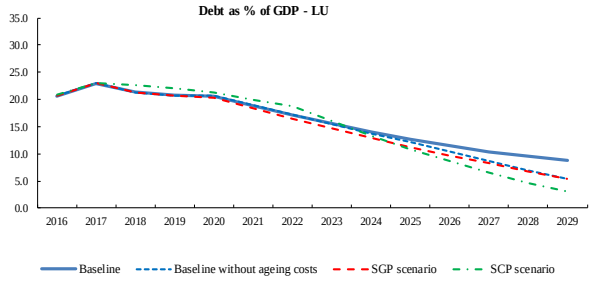
([90]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

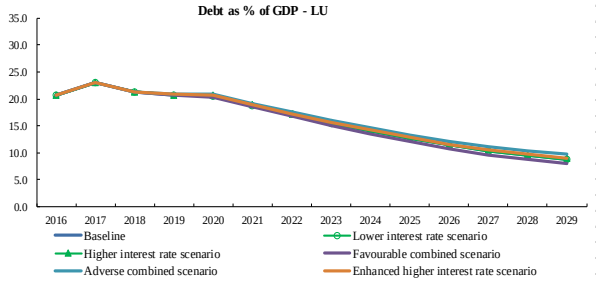
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

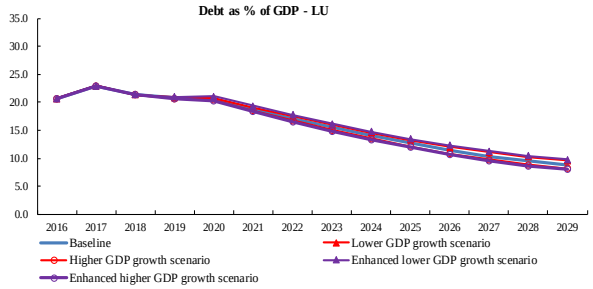
LU - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**20.7**	**23.0**	**21.4**	**20.8**	**20.6**	**18.8**	**17.1**	**15.5**	**14.0**	**12.7**	**11.4**	**10.4**	**9.5**	**8.9**
Changes in the ratio (-1+2+3)	*-1.5*	*2.3*	*-1.6*	*-0.6*	*-0.2*	*-1.8*	*-1.7*	*-1.6*	*-1.5*	*-1.4*	*-1.2*	*-1.1*	*-0.9*	*-0.6*
of which														
(1) Primary balance (1.1+1.2+1.3)	**2.0**	**1.7**	**1.7**	**1.6**	**1.2**	**1.3**	**1.2**	**1.2**	**1.1**	**1.0**	**1.0**	**0.8**	**0.7**	**0.4**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.8***	***1.9***	***1.7***	***1.4***	***1.1***	***1.2***	***1.2***	***1.2***	***1.1***	***1.0***	***1.0***	***0.8***	***0.7***	***0.4***
(1.1.1) Structural primary balance (bef. CoA)	*1.8*	*1.9*	*1.7*	*1.4*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*
(1.1.2) Cost of ageing						*0.0*	*0.0*	*0.1*	*0.2*	*0.4*	*0.5*	*0.7*	*1.0*	*1.2*
(1.1.3) Others (taxes and property incomes)						*0.1*	*0.1*	*0.2*	*0.2*	*0.3*	*0.4*	*0.4*	*0.5*	*0.5*
(1.2) Cyclical component	***0.2***	***-0.2***	***0.0***	***0.1***	***0.1***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-0.4**	**-0.4**	**-0.8**	**-0.7**	**-0.5**	**-0.5**	**-0.5**	**-0.4**	**-0.4**	**-0.3**	**-0.3**	**-0.2**	**-0.2**	**-0.2**
(2.1) Interest expenditure	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
(2.2) Growth effect	*-0.5*	*-0.3*	*-0.7*	*-0.6*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.3*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.2*
(2.3) Inflation effect	*-0.2*	*-0.4*	*-0.4*	*-0.4*	*-0.3*	*-0.4*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.2*
(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	**0.8**	**4.4**	**0.9**	**1.6**	**1.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.8*	*4.4*	*0.9*	*1.6*	*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	*0.0*	*0.0*	*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	1.6	1.3	1.1	0.8	0.9	0.9	0.9	0.8	0.8	0.7	0.6	0.5	0.3

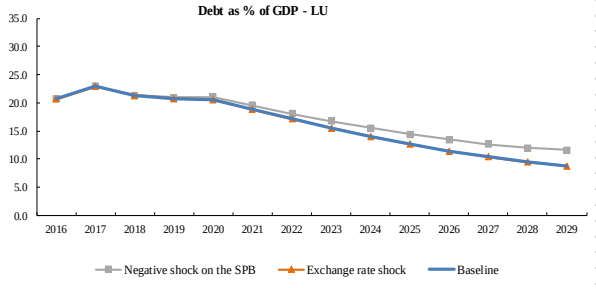


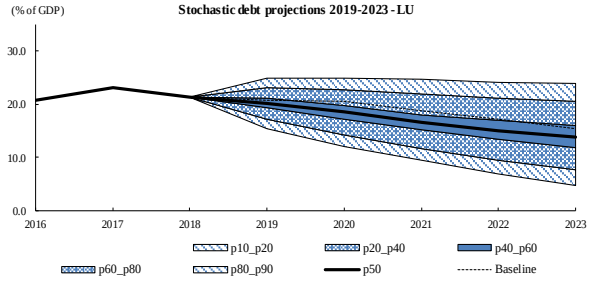


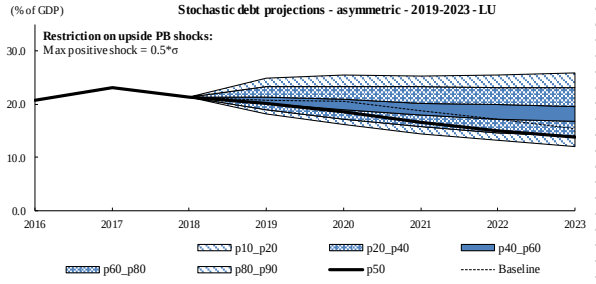












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	8.9	3.5	9.6	8.9	11.6				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	37.0%	29.0%							
			Probability debt higher						17.3%			
			Dif. between percentiles						19.3			
LOW (S0 = 0.1)	LOW	LOW (S1 = -4.8)								LOW	HIGH (S2 = 8.1)	HIGH

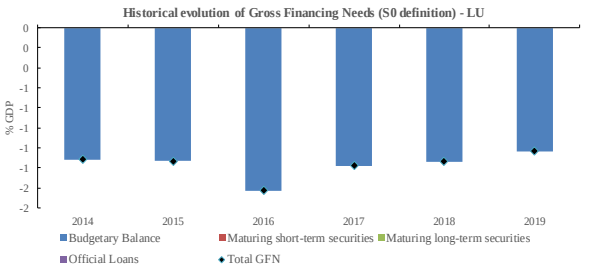
2.2. Sustainability indicators

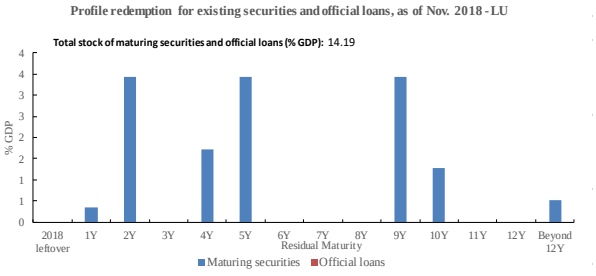
S0 indicator	2009	2018	Critical threshold
Overall index	**0.23**	**0.12**	**0.46**
Fiscal sub-index	0.26	0.00	0.36
Financial competitiveness sub-index	0.22	0.18	0.49

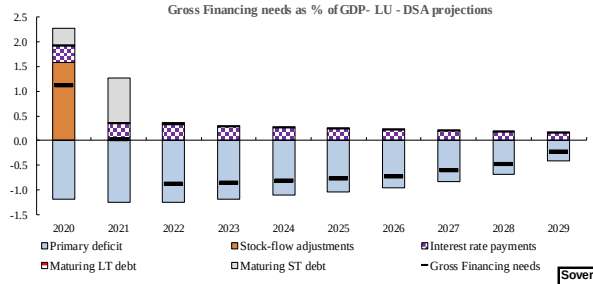
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-3.8**	**-4.8**	**-5.3**	**-4.5**
of which *Gap to the debt-stabilizing primary balance*	*-1.3*	*-1.7*	*-2.3*	*-1.7*
Cost of delaying adjustment	*-0.5*	*-0.7*	*-0.8*	*-0.6*
Debt requirement	*-3.1*	*-3.2*	*-3.8*	*-3.2*
Ageing costs	*1.1*	*0.8*	*1.5*	*1.0*
Required structural primary balance related to S1	**-3.2**	**-3.7**	**-3.4**	**-3.4**

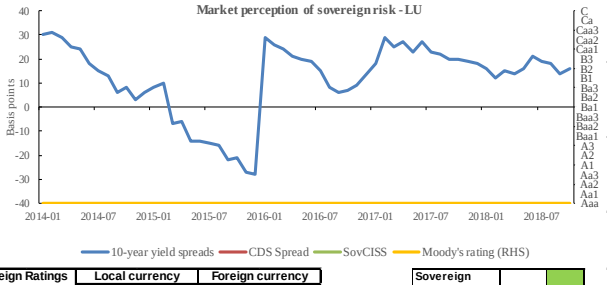
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**4.4**	**8.1**	**7.7**	**10.1**	**7.9**	**8.8**	**6.4**
of which Initial Budgetary position	-0.1	-0.6	-1.4	-0.6	-0.6	-0.6	-0.6
Ageing costs	4.5	8.7	9.1	10.7	8.5	9.4	6.9
of which Pensions	*2.6*	*5.8*	*6.0*	*5.8*	*5.8*	*6.1*	*4.6*
Health care	*0.4*	*0.8*	*0.8*	*1.1*	*0.7*	*0.8*	*0.7*
Long-term care	*1.2*	*2.0*	*2.1*	*3.6*	*1.8*	*2.3*	*1.6*
Others	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.2*	*0.1*
Required structural primary balance related to S2	**5.0**	**9.3**	**9.6**	**11.2**	**9.0**	**9.9**	**7.5**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, 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 Nov 2018	10-year	16.0

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

Government debt structure - LU (2017)	Share of short-term government debt (p.p.):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	3.7	0.0	42.7

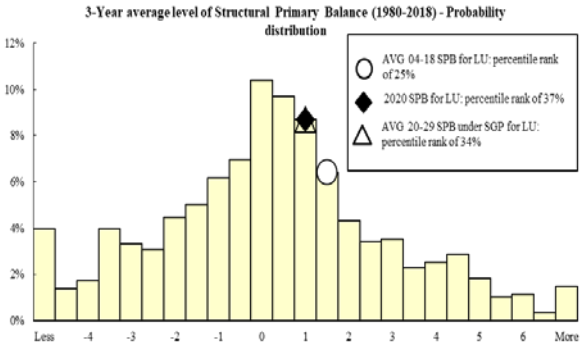
Net International Investment Position (IIP) - LU (2017)	Net IIP (% GDP):
	47.0

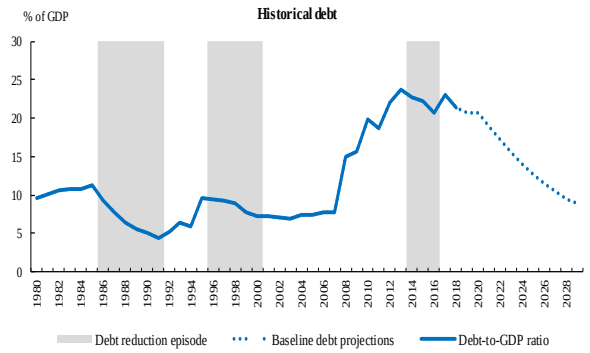
5. Risks related to government's contingent liabilities

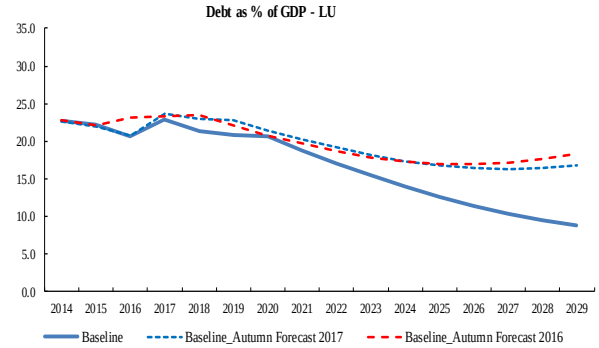
General government contingent liabilities		LU					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		7.8	8.9	11.3	12.9	n.a.	7.3
of which One-off guarantees		*7.1*	*8.2*	*10.5*	*12.0*	*n.a.*	*6.9*
Standardised guarantees		*0.8*	*0.8*	*0.8*	*0.9*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	3.2	4.9	3.5	4.0	3.7	0.8
	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	0.1
	Total	3.2	4.9	3.5	4.0	3.7	1.0

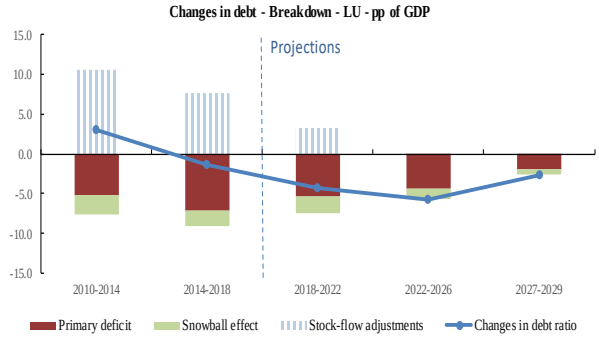
Government's contingent liability risks from banking sector - LU (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	-15.5	5.6	139.0	0.7	-0.4	43.9	0.01%	0.02%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Luxembourg	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.8	20.6	12.7	10.4	8.9	20.9	13.1	15.1
Primary balance	1.7	1.6	1.2	1.0	0.8	0.4	1.5	1.0	1.1
Structural primary balance (before CoA)	1.7	1.4	1.1	1.1	1.1	1.1	1.4	1.1	1.2
Real GDP growth	3.1	3.0	2.7	2.1	1.9	2.1	3.0	2.1	2.3
Potential GDP growth	2.6	2.7	2.8	2.1	1.9	2.1	2.7	2.2	2.3
Inflation rate	2.0	1.8	1.7	2.0	2.0	2.0	1.8	2.0	1.9
Implicit interest rate (nominal)	1.6	1.7	1.7	1.8	1.8	1.8	1.6	1.8	1.7
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Primary balance	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Structural primary balance (before CoA)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Real GDP growth	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.8	20.3	11.3	8.2	5.4	20.8	11.5	13.8
Primary balance	1.7	1.6	1.5	1.3	1.3	1.2	1.6	1.3	1.4
Structural primary balance	1.7	1.4	1.4	1.3	1.3	1.2	1.5	1.3	1.4
Real GDP growth	3.1	3.0	2.4	2.1	1.9	2.1	2.9	2.2	2.3
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	22.7	22.1	21.3	10.9	6.5	3.1	22.0	11.3	14.0
Primary balance	1.4	1.7	1.9	2.0	1.8	1.4	1.7	2.0	1.9
Structural primary balance (before CoA)	1.3	1.1	1.1	2.2	2.2	2.2	1.2	2.2	1.9
Real GDP growth	4.6	4.6	4.2	2.6	2.5	2.5	4.5	2.7	3.2
Potential GDP growth	3.4	3.5	3.6	2.6	2.5	2.5	3.5	2.8	3.0
Inflation rate	1.0	1.5	1.1	2.0	2.0	2.0	1.2	1.9	1.7
Implicit interest rate (nominal)	1.5	1.2	1.3	1.2	1.2	1.2	1.3	1.2	1.2
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.8	20.6	10.1	6.3	3.5	20.9	10.5	13.1
Primary balance	1.7	1.6	1.2	1.8	1.6	1.2	1.5	1.6	1.6
Structural primary balance (before CoA)	1.7	1.4	1.1	1.9	1.9	1.9	1.4	1.8	1.7
Real GDP growth	3.1	3.0	2.7	2.1	1.9	2.1	3.0	2.1	2.3
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.8	20.6	9.8	6.0	3.0	20.9	10.3	12.9
Primary balance	1.7	1.6	1.2	1.8	1.6	1.2	1.5	1.6	1.6
Structural primary balance (before CoA)	1.7	1.4	1.1	1.9	1.9	1.9	1.4	1.8	1.7
Real GDP growth	3.1	3.0	2.7	2.7	2.7	2.7	3.0	2.6	2.7
Implicit interest rate (nominal)	1.6	1.7	1.7	1.8	1.8	1.8	1.6	1.8	1.7
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.8	20.6	12.7	10.5	8.9	20.9	13.2	15.1
Implicit interest rate (nominal)	1.6	1.7	1.8	1.8	1.8	1.8	1.7	1.8	1.8
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.8	20.6	12.6	10.3	8.8	20.9	13.1	15.0
Implicit interest rate (nominal)	1.6	1.6	1.6	1.7	1.7	1.7	1.6	1.7	1.7
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.8	20.7	12.8	10.5	9.0	20.9	13.3	15.2
Implicit interest rate (nominal)	1.6	1.8	1.8	1.9	1.9	1.9	1.7	1.9	1.9
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.7	20.4	12.1	9.7	8.2	20.8	12.6	14.7
Real GDP growth	3.1	3.5	3.2	2.6	2.4	2.6	3.3	2.6	2.8
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.9	20.8	13.2	11.0	9.6	21.0	13.7	15.5
Real GDP growth	3.1	2.5	2.2	1.6	1.4	1.6	2.6	1.6	1.9
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.5	20.2	11.9	9.5	8.0	20.7	12.4	14.5
Real GDP growth	3.1	4.2	3.8	2.6	2.4	2.6	3.7	2.6	2.9
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	21.0	21.1	13.5	11.3	9.8	21.1	13.9	15.7
Real GDP growth	3.1	1.9	1.6	1.6	1.4	1.6	2.2	1.6	1.8
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.9	21.0	14.4	12.6	11.6	21.1	14.9	16.5
Primary balance	1.7	1.4	0.9	0.8	0.5	0.1	1.3	0.7	0.8
Structural primary balance (before CoA)	1.7	1.3	0.8	0.8	0.8	0.8	1.3	0.8	0.9
Real GDP growth	3.1	3.2	2.8	2.1	1.9	2.1	3.0	2.1	2.4
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.8	20.6	12.7	10.4	8.9	20.9	13.1	15.1
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.7	20.4	12.0	9.7	8.1	20.8	12.6	14.6
Implicit interest rate (nominal)	1.6	1.6	1.6	1.7	1.7	1.7	1.6	1.7	1.7
Real GDP growth	3.1	3.5	3.2	2.6	2.4	2.6	3.3	2.6	2.8
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	21.4	20.9	20.8	13.3	11.1	9.7	21.0	13.8	15.6
Implicit interest rate (nominal)	1.6	1.7	1.8	1.8	1.8	1.8	1.7	1.8	1.8
Real GDP growth	3.1	2.5	2.2	1.6	1.4	1.6	2.6	1.6	1.9

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Based on the European Commission Autumn 2018 Forecasts, the Hungary should experience some improvement in the structural primary balance (SPB), from a *deficit* of 1.3% of GDP in 2018 to a *deficit* of 0.6% of GDP in 2020. Real GDP growth should decrease, from 4.3% in 2018 (after 4.1% in 2017) to 2.6% in 2020. Supported by favourable contribution of the interest rate – growth rate differential, gross government debt would decrease over the forecast horizon, from 72.9% of GDP in 2018 to 68.6% of GDP in 2020, for the first time since 2007.

16.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Hungary, although some fiscal variables point to possible short-term challenges, especially if financial markets' perceptions were to rapidly change.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. Yet, the fiscal sub-index points to some short-term vulnerabilities (with a value above its critical threshold), notably driven by the low primary balance, high share of short-term debt and gross financing needs, negative net international investment position and relatively high yield spreads.

Financial markets' perceptions of sovereign risk however remain unfavourable, reflected in relatively high yield spreads.

16.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks appear, on the contrary, to be high for Hungary. While the sustainability gap indicator S1 points to medium risks, the DSA points to high risks. In particular, an increase in interest rates would pose high risks.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to medium risk in the medium term. This indicator shows that a cumulated improvement of 1.1 pp. of GDP of the SPB over 5 years, relative to the baseline 'no-fiscal policy change' scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. This would however not require an ambitious SPB by European standards ([91]). The positive S1 value obtained for Hungary is mainly due to the distance of the debt ratio from the 60% reference value (contribution of 0.7 pp. of GDP), and, to a lesser extent, to a too low initial budgetary positon (0.4 pp. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Hungary is deemed at high risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the interest rate scenario, pointing at high risks in the event of a rise in interest rates ([92]).

Baseline no-fiscal policy change scenario

Hungary is considered at medium risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would slightly decline until 2022, before raising again until the end of the projection period (t+10) - to reach above 68.7% of GDP in 2029. This non-reducing level (broadly unchanged compared to 2018) points to insufficient fiscal effort, under this no-fiscal policy change scenario (with an SPB unchanged at -0.6% of GDP) ([93]).

Government gross financing needs (GFN) ([94]) are projected to slightly increase over the projection period, reaching 10.5% of GDP in 2029, above

([91]) 47% of the SPBs recorded for the EU countries over 1980-2018 were greater than this value.
([92]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.
([93]) Over the period 1980-2018, in 67% of the cases, EU countries were able to reach an SPB value greater than -0.6% of GDP.
([94]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

their estimated value in 2019 (at close to 9.5% of GDP).

Alternative and stress test scenarios

Given the high initial stock of debt, negative shocks to growth, interest rates or the primary balance would have non-negligible impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at 73% of GDP) around 4 pp. of GDP higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Hungarian economy, points to a medium 36% probability of the debt ratio in 2023 being greater than in 2018. Moreover, such shocks also point to high uncertainty surrounding baseline projections, as can be seen from the relatively wide debt distribution cone ([95]).

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *deficit* of 0.3% of GDP), the Hungarian debt ratio in 2029 would be in fact 2 pp. of GDP lower (at 67% of GDP in 2029) than under the baseline scenario.

If, on the contrary, fiscal policy was evolving in line with the main provisions of the Stability and Growth Pact (SGP) ([96]), the Hungarian government debt would substantially decrease, to less than 57.7% of GDP in 2029 (11 pp. of GDP less than in the baseline scenario). However, this would require a higher average SPB over the projection horizon (at +0.7% of GDP over 2020-29) than forecasted for 2020. In this case, the debt ratio would decrease below the SGP threshold of 60% of GDP in 2029.

16.3. Long-term fiscal sustainability challenges

Over the long term, Hungary is deemed at high fiscal sustainability risk. While the sustainability gap indicator S2 points to medium risks, the DSA points to high risks.

([95]) The difference between the 10th and 90th percentile in 2023 is of around 41 pp. of GDP.

([96]) See Annex 5 in Volume 1 of this report for detailed explanations on the definition of the SGP scenario.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term (a positive fiscal gap at 4.1 pp. of GDP). This result is due to the projected increase in ageing costs (contribution of 2.7 pp. of GDP), and, to a lesser extent, to unfavourable initial budgetary position (1.5 pp. of GDP). It is the projected increase in both public pension and health care expenditure that drives up ageing costs (contributions of 1.5 pp. and 0.6 pp. of GDP, respectively). Moreover, under a more adverse scenario in the healthcare and long-term care areas (with non-demographic drivers pushing upward costs), the S2 indicator would point at a fiscal gap at 7.1 pp. of GDP, above the critical threshold (i.e. 6 pp.) pointing to high fiscal risks in the long term for that indicator.

Over the long term, Hungary is deemed at high fiscal sustainability risk. The medium risk related to the sustainability gap indicator S2 along with the vulnerabilities linked to a rise in interest rate - captured by the DSA risk assessment (see section 16.2) - imply that Hungary is deemed at high risk over the long term ([97]).

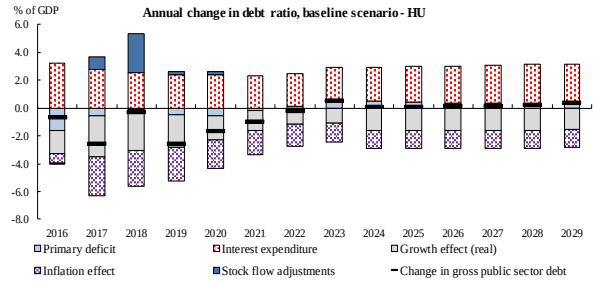
16.4. Additional mitigating and aggravating risk factors

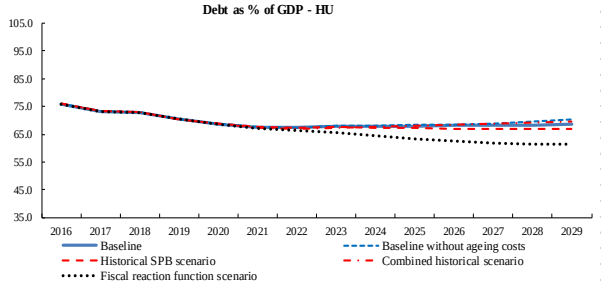
Some additional mitigating and aggravating risk factors exist. The structure of the Hungarian government debt, in terms of holding by non-residents, helps mitigating vulnerabilities. Yet, the high share of short-term and the negative net international investment position could be aggravating factors. Also, the share of non–performing loans point to some contingent liability risks.

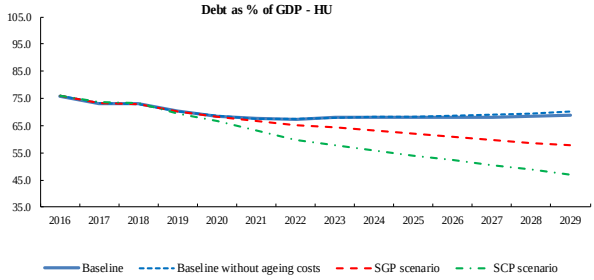
([97]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

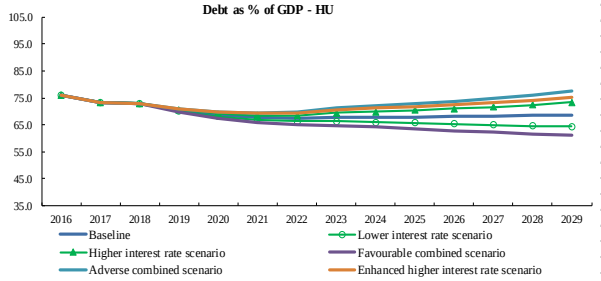
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

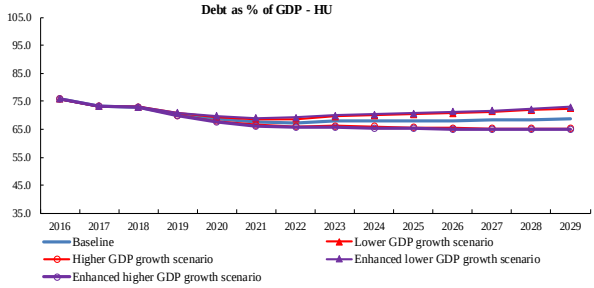
HU - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**75.9**	**73.3**	**72.9**	**70.3**	**68.6**	**67.6**	**67.4**	**67.9**	**67.9**	**68.0**	**68.1**	**68.2**	**68.4**	**68.7**
Changes in the ratio (-1+2+3)	*-0.7*	*-2.6*	*-0.3*	*-2.6*	*-1.7*	*-1.0*	*-0.2*	*0.5*	*0.0*	*0.1*	*0.1*	*0.1*	*0.2*	*0.3*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.6**	**0.6**	**0.1**	**0.5**	**0.6**	**0.2**	**-0.1**	**-0.5**	**-0.5**	**-0.4**	**-0.4**	**-0.3**	**-0.3**	**-0.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.4***	***-0.7***	***-1.3***	***-0.9***	***-0.6***	***-0.6***	***-0.5***	***-0.5***	***-0.5***	***-0.4***	***-0.4***	***-0.3***	***-0.3***	***-0.3***
(1.1.1) Structural primary balance (bef. CoA)	*1.4*	*-0.7*	*-1.3*	*-0.9*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
(1.1.2) Cost of ageing						*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.2*	*-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	***0.2***	***0.9***	***1.4***	***1.4***	***1.2***	***0.8***	***0.4***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.1***	***0.4***	***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**	**-2.9**	**-3.0**	**-2.3**	**-1.4**	**-0.8**	**-0.4**	**0.0**	**-0.5**	**-0.4**	**-0.3**	**-0.2**	**-0.1**	**0.1**
(2.1) Interest expenditure	*3.2*	*2.8*	*2.5*	*2.4*	*2.4*	*2.3*	*2.3*	*2.4*	*2.5*	*2.5*	*2.6*	*2.7*	*2.8*	*2.9*
(2.2) Growth effect	*-1.7*	*-2.9*	*-2.9*	*-2.3*	*-1.7*	*-1.4*	*-1.2*	*-1.1*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.5*
(2.3) Inflation effect	*-0.7*	*-2.8*	*-2.6*	*-2.3*	*-2.0*	*-1.8*	*-1.5*	*-1.3*	*-1.3*	*-1.3*	*-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	**0.0**	**0.9**	**2.8**	**0.2**	**0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.2*	*1.2*	*2.8*	*-0.3*	*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*	*-0.3*	*0.0*	*0.4*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-1.8	-3.4	-3.8	-3.3	-3.0	-3.0	-2.9	-2.9	-3.0	-3.0	-3.0	-3.1	-3.1	-3.2

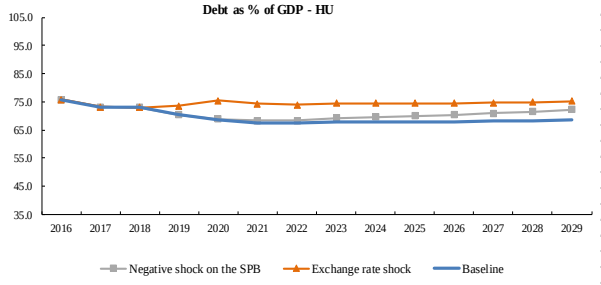


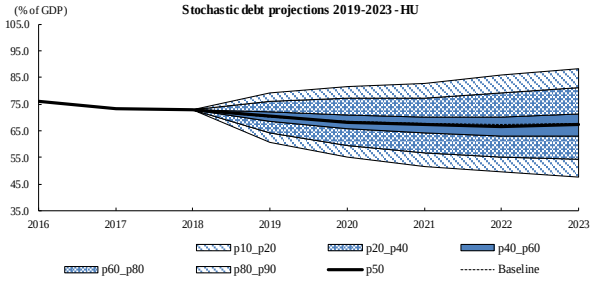


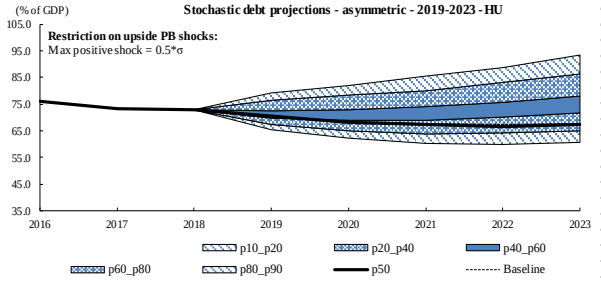












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	MEDIUM	MEDIUM	MEDIUM	HIGH	MEDIUM	MEDIUM			
			Debt level (2029)	68.7	67.0	72.4	73.4	72.2				
			Debt peak year	2018	2018	2018	2029	2018				
			Percentile rank	67.0%	66.0%							
			Probability debt higher						36.3%			
			Dif. between percentiles						40.8			
LOW (S0 = 0.3)	HIGH	MEDIUM (S1 = 1.1)								HIGH	MEDIUM (S2 = 4.1)	HIGH

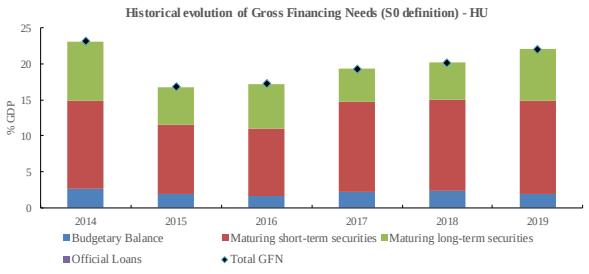
2.2. Sustainability indicators

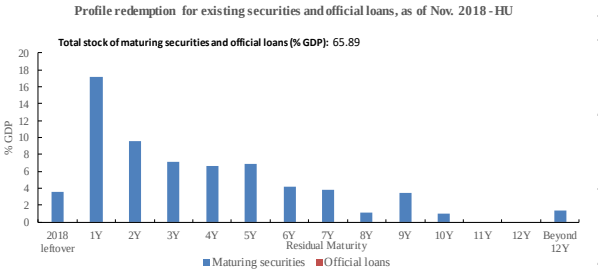
S0 indicator	2009	2018	Critical threshold
Overall index	**0.74**	**0.34**	**0.46**
Fiscal sub-index	0.56	0.69	0.36
Financial competitiveness sub-index	0.84	0.16	0.49

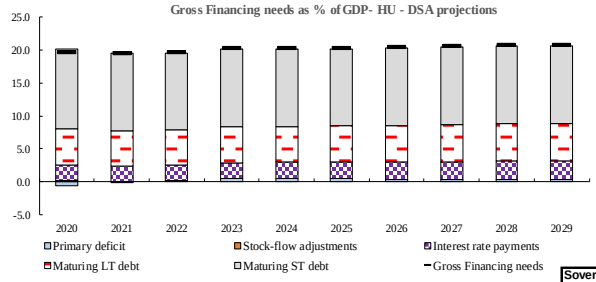
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**1.1**	**1.1**	**1.3**	**1.5**
of which *Gap to the debt-stabilizing primary balance*	*1.0*	*0.4*	*0.6*	*0.5*
Cost of delaying adjustment	*0.2*	*0.2*	*0.2*	*0.2*
Debt requirement	*0.7*	*0.7*	*0.5*	*0.7*
Ageing costs	*-0.7*	*-0.2*	*-0.1*	*0.2*
Required structural primary balance related to S1	**0.1**	**0.5**	**1.0**	**1.0**

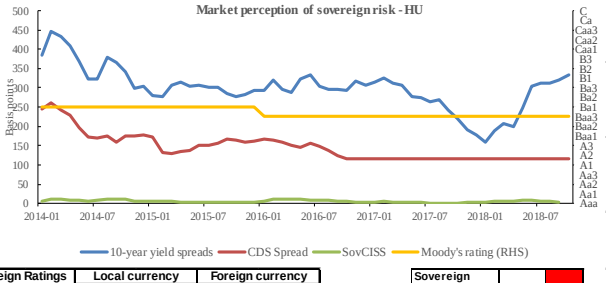
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**3.4**	**4.1**	**4.1**	**7.1**	**4.5**	**4.6**	**4.1**
of which Initial Budgetary position	2.0	1.5	1.3	1.5	1.6	1.5	1.9
Ageing costs	1.4	2.7	2.8	5.6	2.9	3.1	2.2
of which Pensions	*0.6*	*1.5*	*1.6*	*1.5*	*1.8*	*1.9*	*1.2*
Health care	*0.5*	*0.6*	*0.6*	*1.3*	*0.5*	*0.6*	*0.6*
Long-term care	*0.3*	*0.3*	*0.3*	*2.6*	*0.3*	*0.4*	*0.3*
Others	*0.0*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.2*
Required structural primary balance related to S2	**2.4**	**3.6**	**3.8**	**6.5**	**4.0**	**4.0**	**3.5**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, HU	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 Nov 2018	10-year	334.0

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

Government debt structure - HU (2017)	Share of short-term government debt (p.p.): 18.0	Share of government debt in foreign currency (%): 25.8	Share of government debt by non-residents (%): 37.5

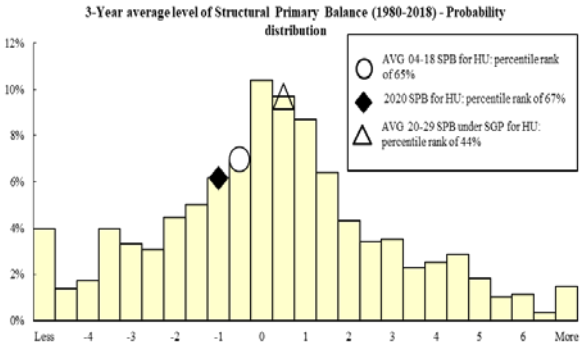
Net International Investment Position (IIP) - HU (2017)	Net IIP (% GDP): -52.9

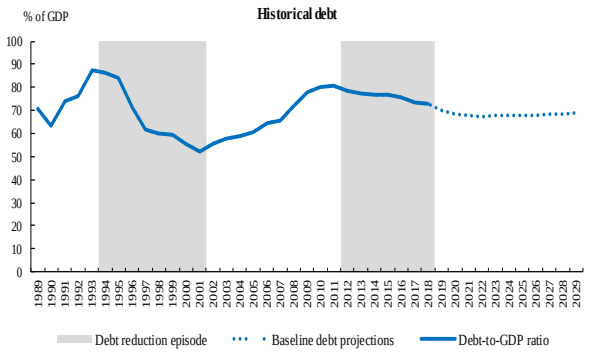
5. Risks related to government's contingent liabilities

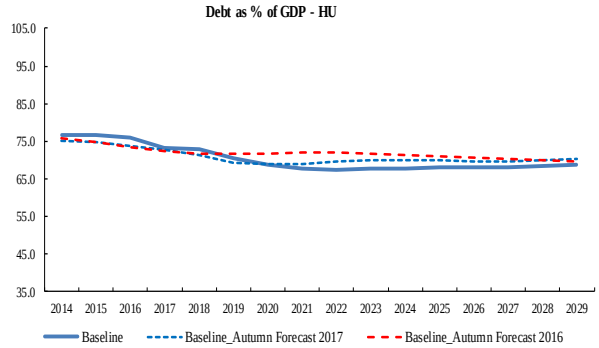
General government contingent liabilities		HU					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		8.6	7.8	8.4	8.1	n.a.	7.3
of which One-off guarantees		*8.1*	*7.5*	*8.1*	*7.9*	*n.a.*	*6.9*
Standardised guarantees		*0.5*	*0.3*	*0.2*	*0.2*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*2.4*	*2.2*	*1.8*	*1.7*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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	0.8
	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	0.1
	Total	0.0	0.0	0.0	0.0	0.0	1.0

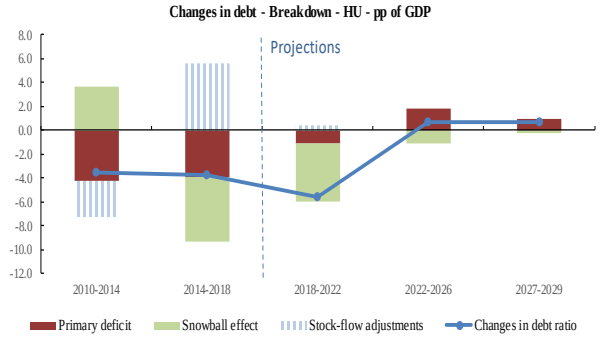
Government's contingent liability risks from banking sector - HU (2017)	Private sector credit flow (% GDP): 0.9	Change in nominal house price index: 7.5	Bank loans-to-deposits ratio (p.p.): 75.3	Share of non-performing loans (%): 8.9	Change in share of non-performing loans (p.p): -2.6	NPL coverage ratio 61.7	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Hungary	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.3	68.6	68.0	68.2	68.7	70.6	68.0	68.7
Primary balance	0.1	0.5	0.6	-0.4	-0.3	-0.3	0.4	-0.3	-0.1
Structural primary balance (before CoA)	-1.3	-0.9	-0.6	-0.6	-0.6	-0.6	-0.9	-0.6	-0.7
Real GDP growth	4.3	3.4	2.6	2.4	2.4	2.3	3.5	2.2	2.5
Potential GDP growth	3.2	3.4	3.1	2.4	2.4	2.3	3.2	2.5	2.7
Inflation rate	3.7	3.3	3.0	2.0	2.0	2.0	3.3	2.1	2.4
Implicit interest rate (nominal)	3.7	3.6	3.6	3.9	4.2	4.4	3.6	4.0	3.9
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.3	68.6	63.4	62.0	61.3	70.6	63.8	65.5
Primary balance	0.1	0.5	0.6	0.5	0.4	0.3	0.4	0.6	0.5
Structural primary balance (before CoA)	-1.3	-0.9	-0.6	0.4	0.1	0.0	-0.9	0.3	0.0
Real GDP growth	4.3	3.4	2.6	2.6	2.5	2.4	3.5	2.2	2.5
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.3	68.4	61.9	59.7	57.7	70.6	62.0	64.2
Primary balance	0.1	0.5	1.0	0.9	0.9	1.0	0.5	1.0	0.9
Structural primary balance	-1.3	-0.9	-0.2	0.9	0.9	1.0	-0.8	0.8	0.4
Real GDP growth	4.3	3.4	2.3	2.4	2.4	2.3	3.4	2.1	2.4
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	73.2	69.6	66.7	54.0	50.4	47.1	69.8	54.4	58.2
Primary balance	0.2	0.5	0.7	1.5	1.6	1.7	0.5	1.5	1.2
Structural primary balance (before CoA)	-0.6	-0.2	0.2	1.4	1.4	1.4	-0.2	1.3	0.9
Real GDP growth	4.3	4.1	4.0	2.5	2.5	2.3	4.1	2.8	3.2
Potential GDP growth	3.6	3.8	4.0	2.5	2.5	2.3	3.8	2.8	3.1
Inflation rate	2.7	3.1	3.0	2.0	2.0	2.0	2.9	2.2	2.4
Implicit interest rate (nominal)	3.6	3.5	3.5	3.9	4.2	4.4	3.5	3.9	3.8
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.3	68.6	67.2	66.9	67.0	70.6	67.2	68.1
Primary balance	0.1	0.5	0.6	-0.2	-0.1	0.0	0.4	-0.1	0.0
Structural primary balance (before CoA)	-1.3	-0.9	-0.6	-0.3	-0.3	-0.3	-0.9	-0.4	-0.5
Real GDP growth	4.3	3.4	2.6	2.4	2.4	2.3	3.5	2.2	2.5
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.3	68.6	67.9	68.7	69.5	70.6	68.1	68.7
Primary balance	0.1	0.5	0.6	-0.2	-0.1	0.0	0.4	-0.1	0.0
Structural primary balance (before CoA)	-1.3	-0.9	-0.6	-0.3	-0.3	-0.3	-0.9	-0.4	-0.5
Real GDP growth	4.3	3.4	2.6	1.7	1.7	1.7	3.5	1.9	2.3
Implicit interest rate (nominal)	3.7	3.6	3.6	4.0	4.2	4.3	3.6	4.0	3.9
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.6	69.1	70.4	71.7	73.4	70.9	70.6	70.6
Implicit interest rate (nominal)	3.7	3.9	4.0	4.6	5.0	5.3	3.9	4.6	4.5
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.1	68.1	65.6	64.9	64.4	70.4	65.6	66.8
Implicit interest rate (nominal)	3.7	3.2	3.2	3.2	3.4	3.6	3.4	3.3	3.3
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.8	69.6	71.8	73.2	75.1	71.1	71.9	71.7
Implicit interest rate (nominal)	3.7	4.2	4.4	4.8	5.1	5.4	4.1	4.8	4.7
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.0	67.9	65.7	65.3	65.2	70.3	65.8	66.9
Real GDP growth	4.3	3.9	3.1	2.9	2.9	2.8	3.8	2.7	3.0
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.7	69.3	70.3	71.2	72.4	71.0	70.4	70.5
Real GDP growth	4.3	2.9	2.1	1.9	1.9	1.8	3.1	1.7	2.1
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	69.8	67.5	65.3	64.9	64.8	70.1	65.3	66.5
Real GDP growth	4.3	4.3	3.4	2.9	2.9	2.8	4.0	2.7	3.1
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.9	69.8	70.8	71.7	72.9	71.2	70.8	70.9
Real GDP growth	4.3	2.6	1.7	1.9	1.9	1.8	2.9	1.7	2.0
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.4	69.0	70.1	71.0	72.2	70.8	70.1	70.3
Primary balance	0.1	0.3	0.2	-0.8	-0.7	-0.6	0.2	-0.7	-0.4
Structural primary balance (before CoA)	-1.3	-1.1	-0.9	-0.9	-0.9	-0.9	-1.1	-0.9	-1.0
Real GDP growth	4.3	3.6	2.7	2.4	2.4	2.3	3.5	2.2	2.6
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	73.6	75.4	74.5	74.7	75.2	74.0	74.6	74.4
Exchange rate depreciation	0.0%	11.5%	11.5%	0.0%	0.0%	0.0%	7.6%	0.0%	1.9%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	69.8	67.5	63.5	62.2	61.2	70.1	63.5	65.1
Implicit interest rate (nominal)	3.7	3.2	3.2	3.2	3.4	3.6	3.4	3.3	3.3
Real GDP growth	4.3	3.9	3.1	2.9	2.9	2.8	3.8	2.7	3.0
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	72.9	70.9	69.8	72.8	74.8	77.4	71.2	73.0	72.6
Implicit interest rate (nominal)	3.7	3.9	4.0	4.6	5.0	5.3	3.9	4.6	4.5
Real GDP growth	4.3	2.9	2.1	1.9	1.9	1.8	3.1	1.7	2.1

MALTA

Based on the European Commission 2018 Autumn Forecast, Malta is expected to experience a reduction in the structural primary balance (SPB), from a *surplus* of 2.5% of GDP in 2018 to a *surplus* of 2.2% of GDP in 2020. Real GDP growth is forecast to slow down, from 5.4% in 2018 (after 6.7% in 2017) to 4.4% in 2020. Supported by a favourable contribution of the interest rate – growth rate differential, gross government debt would decrease over the forecast horizon, from 47.9% of GDP in 2018 to 42.1% of GDP in 2020.

17.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Malta.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. Both the fiscal and financial competitiveness sub-indexes do not point to short-term vulnerabilities (each with a value below the critical threshold).

Financial markets' perceptions of sovereign risk remain favourable, confirmed by the 'A' rating assigned by the three major rating agencies to Maltese government debt and by the sovereign yield spreads.

17.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks appear to be low for Malta, both according to the sustainability gap indicator S1 and from a DSA perspective.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. With a value of -4.7 pps. of GDP, no adjustment in the SPB over the next five years beyond the forecast, relative to the baseline 'no-fiscal policy change' scenario, would be needed for the debt-to-GDP ratio to reach the reference value of 60% by 2033. This is primarily related to the favourable initial budgetary position (contribution of -3.6 pps. of GDP) and the initial low level of government debt (contribution of -1.5 pps. of GDP), which compensate for the projected age-related public spending (0.3 pp. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Malta is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([98]).

Baseline no-fiscal policy change scenario

Malta is considered at low risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would steadily decline throughout the projection period (t+10) to reach 17.8% of GDP in 2029. This projected decrease of around 30 pps. of GDP over a ten year period is largely driven by the SPB (unchanged at 2.2% of GDP) ([99]), which compensates for increasing ageing costs towards the end of the projection period, and favourable snowball effects (interest – growth rate differential).

Government gross financing needs (GFN) ([100]) are projected to decrease over the projection period, reaching a level of 0.3% of GDP in 2029, less than their estimated value in 2019 (at close to 5% of GDP).

Alternative and stress test scenarios

Given the low initial stock of debt, negative shocks to growth, interest rates or the primary balance would have a limited impact on the debt ratio. Standard negative sensitivity tests on nominal

([98]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.
([99]) Over the period 1980-2018, in 23% of the cases, EU countries were able to reach an SPB value greater than 2.2% of GDP.
([100]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

growth and interest rates would entail a slightly higher debt ratio in 2029 than in the baseline, although it would remain below 20% of GDP. A large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Maltese economy, points to a 8.1% probability of the debt ratio in 2023 being greater than in 2018, entailing low risks given the low starting level. However, such shocks point to some uncertainty surrounding baseline projections, as can be seen from the wide debt distribution cone ([101]).

If fiscal policy was reverting to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *surplus* of 1.0% of GDP), the debt ratio in 2029 would be about 8.5 pps. of GDP higher than in the baseline scenario.

17.3. Long-term fiscal sustainability challenges

Over the long term, Malta is deemed at medium fiscal sustainability risk. Notwithstanding the low vulnerabilities linked to the low debt burden – captured by the DSA risk assessment –, the fiscal adjustment to stabilise debt over the long term implied by the sustainability gap indicator points to medium sustainability risks over the long term due to the substantial increase in the projected ageing costs.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that an improvement of 3.3 pps. of GDP in the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term. This result is due to the projected substantial increase in ageing costs (contribution of 5.0 pps. of GDP), mitigated by a favourable initial budgetary position (contribution of -1.7 pps. of GDP). It is in particular the projected increase in public pension expenditure (contribution of 1.9 pps. of GDP) and healthcare spending (contribution of 1.8 pps. of GDP) that drives up ageing-related costs. Under a more adverse scenario in the health care and long-term care areas (with non-demographic drivers pushing costs upward), the S2 indicator would increase to 5.6 pps. of GDP, thus close to the high fiscal risk threshold in the long term ([102]).

Overall, Malta is deemed at medium fiscal sustainability risk in the long term. Despite low vulnerabilities linked to the low debt burden – captured by the DSA risk assessment (see section 17.2) – the sustainability gap indicator S2 indicates medium long-term sustainability risks for Malta ([103]).

17.4. Additional mitigating and aggravating risk factors

Some additional mitigating and aggravating risk factors exist. The structure of the Maltese government debt, in terms of currency denomination and maturity, as well as the positive net international investment position help mitigating vulnerabilities. Yet, the share of non-performing loans in the banking sector (at 3.5% in 2017) and the stock of the government guarantees (14.1% of GDP in 2016) point to some contingent liability risks.

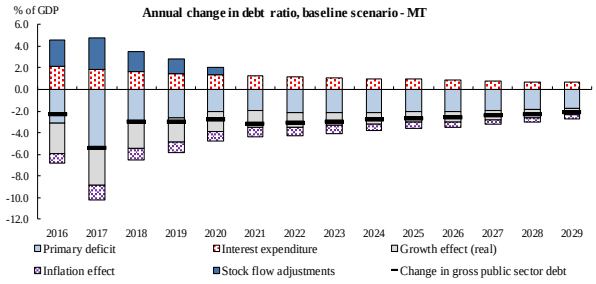
([101]) The difference between the 10th and 90th percentile in 2023 is of around 27.5 pps. of GDP.

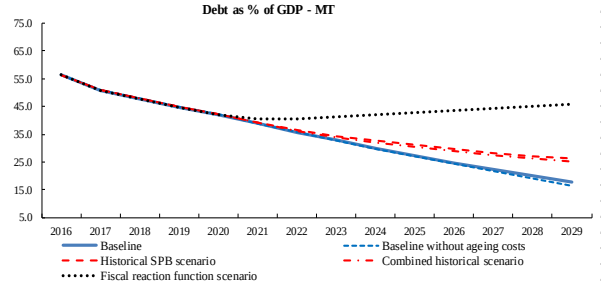
([102]) See section 4.3 in Volume 1 of this report for a detailed discussion of this scenario.

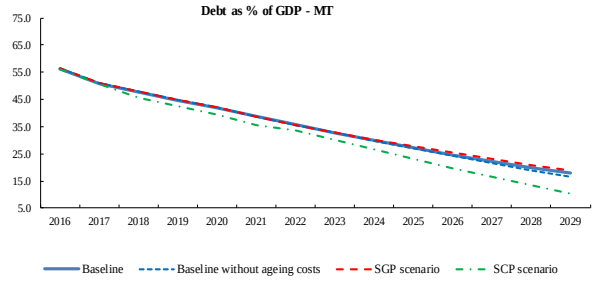
([103]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

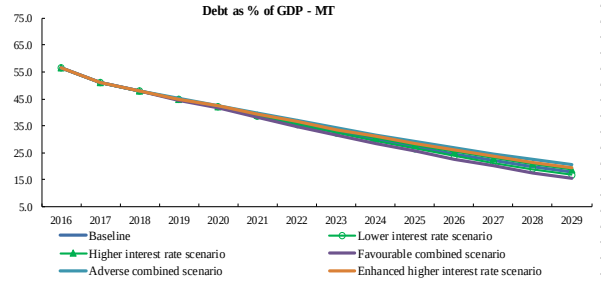
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

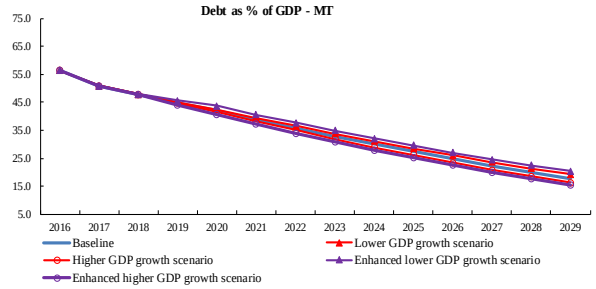
MT - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**56.3**	**50.9**	**47.9**	**44.8**	**42.1**	**38.9**	**35.8**	**32.8**	**30.0**	**27.3**	**24.6**	**22.2**	**19.9**	**17.8**
Changes in the ratio (-1+2+3)	*-2.3*	*-5.4*	*-3.0*	*-3.1*	*-2.8*	*-3.2*	*-3.1*	*-3.0*	*-2.8*	*-2.7*	*-2.7*	*-2.5*	*-2.3*	*-2.1*
of which														
(1) Primary balance (1.1+1.2+1.3)	**3.1**	**5.4**	**2.9**	**2.6**	**2.0**	**2.0**	**2.1**	**2.2**	**2.1**	**2.0**	**2.1**	**2.0**	**1.9**	**1.8**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***2.4***	***4.9***	***2.5***	***2.4***	***2.2***	***2.1***	***2.2***	***2.2***	***2.1***	***2.0***	***2.1***	***2.0***	***1.9***	***1.8***
(1.1.1) Structural primary balance (bef. CoA)	*2.4*	*4.9*	*2.5*	*2.4*	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*	*2.2*
(1.1.2) Cost of ageing						*0.1*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.2*	*0.3*	*0.4*
(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	***0.7***	***0.7***	***0.4***	***0.2***	***-0.2***	***-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	***-0.1***	***-0.3***	***0.0***	***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)	**-1.7**	**-3.0**	**-2.0**	**-1.7**	**-1.5**	**-1.2**	**-1.0**	**-0.8**	**-0.7**	**-0.7**	**-0.6**	**-0.5**	**-0.4**	**-0.4**
(2.1) Interest expenditure	*2.1*	*1.8*	*1.6*	*1.5*	*1.3*	*1.2*	*1.1*	*1.1*	*1.0*	*0.9*	*0.9*	*0.8*	*0.7*	*0.6*
(2.2) Growth effect	*-2.9*	*-3.4*	*-2.6*	*-2.2*	*-1.8*	*-1.6*	*-1.3*	*-1.2*	*-1.1*	*-1.0*	*-0.9*	*-0.8*	*-0.7*	*-0.6*
(2.3) Inflation effect	*-0.9*	*-1.4*	*-1.1*	*-1.0*	*-0.9*	*-0.9*	*-0.8*	*-0.7*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-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	**2.4**	**2.9**	**1.9**	**1.3**	**0.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*2.4*	*2.9*	*1.9*	*1.3*	*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	*0.0*	*0.0*	*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	3.1	0.9	0.9	0.9	0.9	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.1

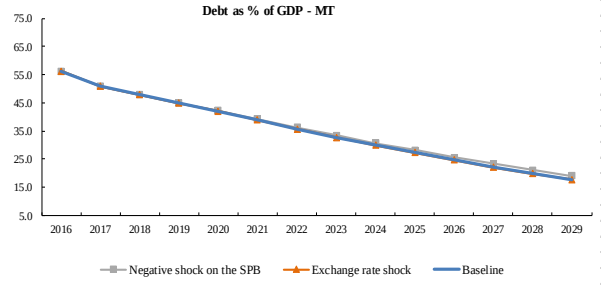


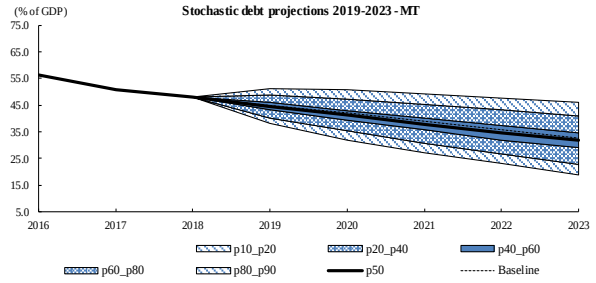


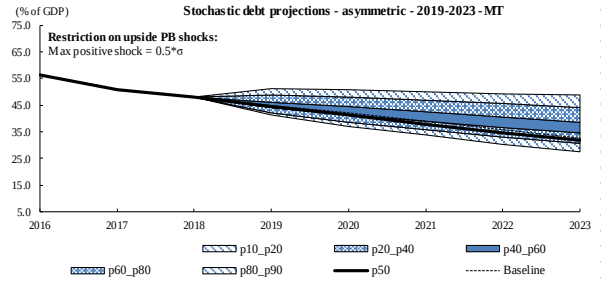












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	17.8	26.3	19.3	18.8	19.2				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	23.0%	35.0%							
			Probability debt higher						8.1%			
			Dif. between percentiles						27.5			
LOW (S0 = 0.1)	LOW	LOW (S1 = -4.7)								LOW	MEDIUM (S2 = 3.3)	MEDIUM

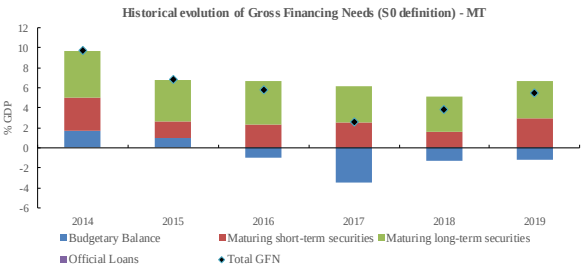
2.2. Sustainability indicators

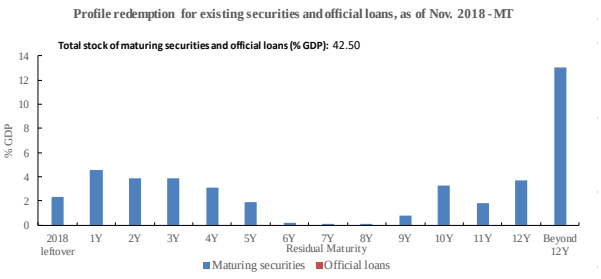
S0 indicator	2009	2018	Critical threshold
Overall index	**0.45**	**0.06**	**0.46**
Fiscal sub-index	0.20	0.04	0.36
Financial competitiveness sub-index	0.58	0.08	0.49

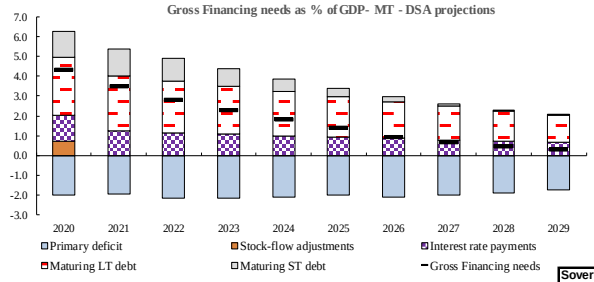
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-3.1**	**-4.7**	**-3.2**	**-4.2**
of which *Gap to the debt-stabilizing primary balance*	*-2.7*	*-2.9*	*-1.3*	*-2.9*
Cost of delaying adjustment	*-0.4*	*-0.7*	*-0.5*	*-0.6*
Debt requirement	*-0.9*	*-1.5*	*-2.2*	*-1.5*
Ageing costs	*0.9*	*0.3*	*0.6*	*0.8*
Required structural primary balance related to S1	**-1.1**	**-2.5**	**-2.3**	**-2.0**

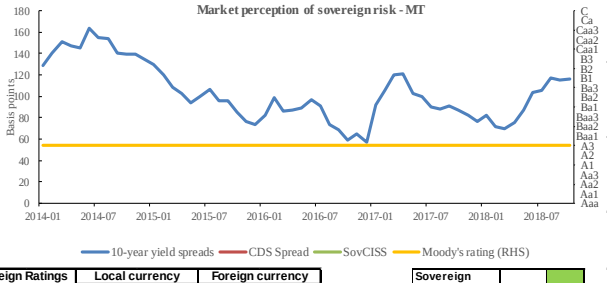
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**3.2**	**3.3**	**4.7**	**5.6**	**3.3**	**3.9**	**2.5**
of which Initial Budgetary position	-1.5	-1.7	-0.6	-1.7	-1.7	-1.7	-1.5
Ageing costs	4.6	5.0	5.2	7.3	5.0	5.6	4.0
of which Pensions	*2.0*	*1.9*	*2.0*	*1.9*	*2.0*	*2.2*	*1.3*
Health care	*1.4*	*1.8*	*1.9*	*2.9*	*1.7*	*1.9*	*1.6*
Long-term care	*0.9*	*1.0*	*1.0*	*2.2*	*0.9*	*1.1*	*0.9*
Others	*0.4*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.2*
Required structural primary balance related to S2	**5.2**	**5.5**	**5.6**	**7.8**	**5.5**	**6.1**	**4.6**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, MT	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	A3			
S&P	A-	A-2	A-	A-2
Fitch	A+		A+	F1+

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	116.0

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

Government debt structure - MT (2017)	Share of short-term government debt (p.p.):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	5.1	0.0	12.2

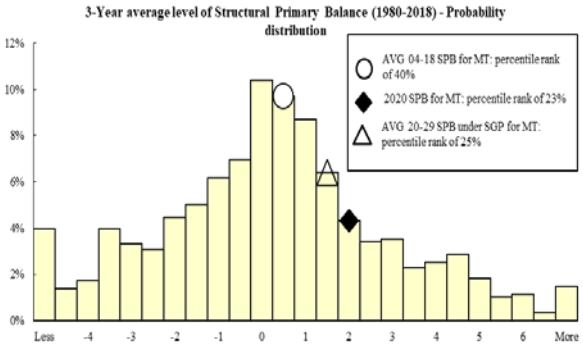
Net International Investment Position (IIP) - MT (2017)	Net IIP (% GDP):
	62.6

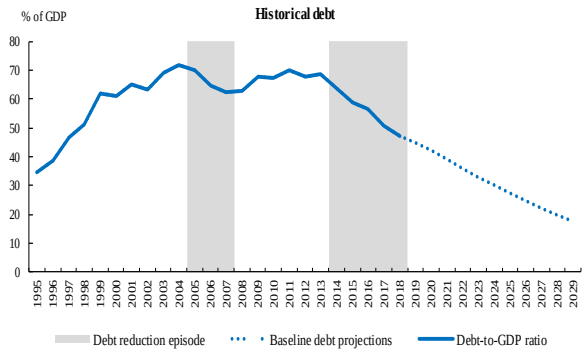
5. Risks related to government's contingent liabilities

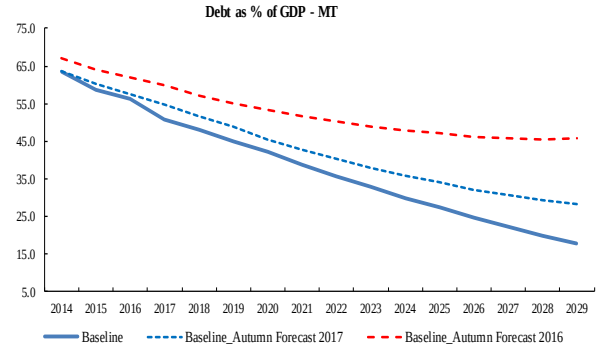
General government contingent liabilities		MT					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		12.7	15.7	15.1	14.1	n.a.	7.3
of which One-off guarantees		*12.7*	*15.7*	*15.1*	*14.1*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.1*	*0.1*	*0.1*	*0.1*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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.	0.8
	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.	0.1
	Total	n.a.	n.a.	n.a.	n.a.	n.a.	1.0

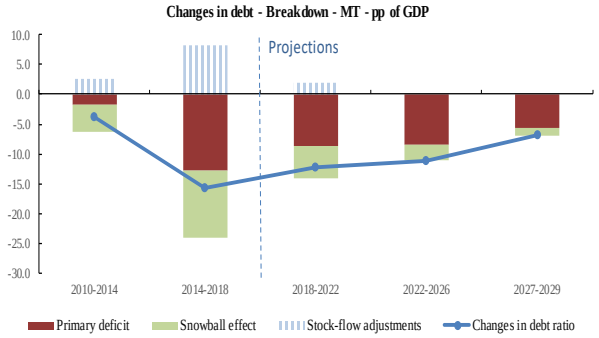
Government's contingent liability risks from banking sector - MT (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	2.9	5.3	52.6	3.5	-0.9	35.7	0.01%	0.06%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Malta	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.8	42.1	27.3	22.2	17.8	44.9	27.7	32.0
Primary balance	2.9	2.6	2.0	2.0	2.0	1.8	2.5	2.0	2.1
Structural primary balance (before CoA)	2.5	2.4	2.2	2.2	2.2	2.2	2.3	2.2	2.2
Real GDP growth	5.4	4.9	4.4	3.5	3.4	3.2	4.9	3.5	3.8
Potential GDP growth	6.1	5.4	5.2	3.5	3.4	3.2	5.6	3.5	4.0
Inflation rate	2.2	2.2	2.1	2.0	2.0	2.0	2.2	2.0	2.1
Implicit interest rate (nominal)	3.4	3.3	3.1	3.3	3.4	3.4	3.3	3.3	3.3
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.8	42.1	42.7	44.2	45.9	44.9	42.8	43.3
Primary balance	2.9	2.6	2.0	-1.6	-1.5	-1.3	2.5	-1.4	-0.4
Structural primary balance (before CoA)	2.5	2.4	2.2	-1.5	-1.3	-0.9	2.3	-1.2	-0.3
Real GDP growth	5.4	4.9	4.4	3.4	3.3	3.1	4.9	3.8	4.0
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.8	42.0	27.7	23.0	18.9	44.9	28.2	32.3
Primary balance	2.9	2.6	2.1	1.9	1.7	1.6	2.5	1.9	2.0
Structural primary balance	2.5	2.4	2.2	1.9	1.7	1.6	2.4	1.9	2.0
Real GDP growth	5.4	4.9	4.3	3.5	3.4	3.3	4.9	3.6	3.9
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	45.8	42.5	39.3	23.0	16.4	10.5	42.5	23.2	28.0
Primary balance	2.6	2.3	2.2	2.8	2.8	2.6	2.4	2.8	2.7
Structural primary balance (before CoA)	2.1	2.3	2.2	2.9	2.9	2.9	2.2	2.9	2.7
Real GDP growth	6.1	5.3	4.8	3.7	3.6	3.3	5.4	3.3	3.8
Potential GDP growth	6.0	5.9	5.2	3.7	3.6	3.3	5.7	3.3	3.9
Inflation rate	2.2	2.2	1.9	2.0	2.0	2.0	2.1	1.8	1.9
Implicit interest rate (nominal)	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.3	3.3
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.8	42.1	31.1	28.3	26.3	44.9	31.7	35.0
Primary balance	2.9	2.6	2.0	0.8	0.8	0.5	2.5	1.0	1.4
Structural primary balance (before CoA)	2.5	2.4	2.2	1.0	1.0	1.0	2.3	1.2	1.5
Real GDP growth	5.4	4.9	4.4	3.5	3.4	3.2	4.9	3.6	3.9
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.8	42.1	30.6	27.6	25.2	44.9	31.1	34.6
Primary balance	2.9	2.6	2.0	0.8	0.8	0.5	2.5	1.0	1.4
Structural primary balance (before CoA)	2.5	2.4	2.2	1.0	1.0	1.0	2.3	1.2	1.5
Real GDP growth	5.4	4.9	4.4	3.9	3.9	3.9	4.9	4.1	4.3
Implicit interest rate (nominal)	3.4	3.3	3.1	3.4	3.5	3.7	3.3	3.4	3.3
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.9	42.2	28.0	23.0	18.8	45.0	28.3	32.5
Implicit interest rate (nominal)	3.4	3.4	3.3	3.7	3.8	4.0	3.4	3.7	3.6
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.8	41.9	26.6	21.4	16.8	44.9	27.1	31.5
Implicit interest rate (nominal)	3.4	3.1	2.9	2.9	2.9	3.0	3.2	2.9	3.0
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	45.0	42.4	28.4	23.6	19.4	45.1	28.8	32.9
Implicit interest rate (nominal)	3.4	3.6	3.5	3.8	4.0	4.2	3.5	3.9	3.8
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.6	41.6	26.1	20.8	16.3	44.7	26.6	31.1
Real GDP growth	5.4	5.4	4.9	4.0	3.9	3.7	5.2	4.0	4.3
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	45.1	42.5	28.5	23.6	19.3	45.1	28.8	32.9
Real GDP growth	5.4	4.4	3.9	3.0	2.9	2.7	4.6	3.0	3.4
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.0	40.6	25.2	19.9	15.4	44.2	25.6	30.3
Real GDP growth	5.4	6.7	6.2	4.0	3.9	3.7	6.1	4.0	4.5
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	45.7	43.6	29.5	24.6	20.3	45.7	29.9	33.9
Real GDP growth	5.4	3.0	2.6	3.0	2.9	2.7	3.7	3.0	3.2
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.9	42.3	28.2	23.3	19.2	45.0	28.6	32.7
Primary balance	2.9	2.5	1.9	1.9	1.8	1.6	2.4	1.9	2.0
Structural primary balance (before CoA)	2.5	2.3	2.0	2.0	2.0	2.0	2.3	2.0	2.1
Real GDP growth	5.4	5.0	4.4	3.5	3.4	3.2	4.9	3.5	3.9
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.8	42.1	27.3	22.2	17.8	44.9	27.7	32.0
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	44.6	41.5	25.5	20.1	15.4	44.7	26.0	30.6
Implicit interest rate (nominal)	3.4	3.1	2.9	2.9	2.9	3.0	3.2	2.9	3.0
Real GDP growth	5.4	5.4	4.9	4.0	3.9	3.7	5.2	4.0	4.3
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	47.9	45.1	42.6	29.2	24.5	20.5	45.2	29.5	33.5
Implicit interest rate (nominal)	3.4	3.4	3.3	3.7	3.9	4.0	3.4	3.7	3.6
Real GDP growth	5.4	4.4	3.9	3.0	2.9	2.7	4.6	3.0	3.4

THE NETHERLANDS

Based on the European Commission 2018 Autumn Forecast, the Netherlands should experience a deterioration in the structural primary balance (SPB), from a *surplus* of 1.1% of GDP in 2018 to a *surplus* of 0.6% of GDP in 2020. Real GDP growth is expected to slow down, from 2.8% in 2018 to 1.8% in 2020. Supported by headline budget surpluses and favourable contribution of the snowball effect (interest – growth rate differential), gross government debt would decrease from 53.2% of GDP in 2018 to 46.9% of GDP in 2020.

18.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for the Netherlands.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below the critical thresholds.

Financial markets' perceptions of sovereign risk remain favourable, as confirmed by the ratings given by the three major rating agencies to Dutch debt, and by the 10-year sovereign yield spreads vis-à-vis the German 10-year bund, which remain below 20 basis points.

18.2. Medium-term fiscal sustainability challenges

Fiscal sustainability risks appear low over the medium term, both according to the sustainability gap indicator S1 and from a DSA perspective. The projected downward trend in the debt-to-GDP ratio in the baseline scenario contribute to this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risks in the medium term. With a value of -1.7 pps. of GDP, no additional fiscal effort would be needed in the SPB over five years, relative to the baseline 'no-fiscal policy change' scenario, for the debt-to-GDP ratio to reach the reference value of 60% by 2033. On the contrary, the negative value of the indicator suggests that, under S1 assumptions, in the Netherlands there would be some fiscal space. The S1 value is mainly related to the low level of government debt in the final forecast year (with a contribution of -1.0 pp. of GDP), but also to the favourable initial budgetary position (contribution of -1.2 pps. of GDP). Only ageing costs are projected to increase slightly (contribution of 0.4 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, the Netherlands is deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([104]).

Baseline no-fiscal policy change scenario

The Netherlands is considered at low risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would decline from 53.2% of GDP in 2018 until 38.2% of GDP in 2029. This projected decrease is largely driven by the development of the SPB on the back, until 2027, of a favourable snowball effect (interest – growth rate differential).

([104]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

Government gross financing needs (GFN) ([105]) are projected to slightly decrease over the projection period, reaching 6.8% of GDP in 2029, below their estimated value in 2019 (at close to 7.4% of GDP).

Alternative and stress test scenarios

Given the moderate initial stock of debt, negative shocks to growth, interest rates or the primary balance would not have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail an increase in the debt ratio of around 2.3 pps. of GDP in 2029 relative to the baseline. Based on the historical volatility of the Dutch economy, a variety of jointly simulated shocks to growth, interest rates and the primary balance, points to a 5% probability of the debt ratio in 2023 being greater than in 2018.

If fiscal policy was reverted to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *surplus* of 0.6% of GDP), the Dutch debt ratio in 2029 would remain at the same value (close to 38.2% of GDP in 2029) as under the baseline scenario.

18.3. Long-term fiscal sustainability challenges

Over the long term, the Netherlands is deemed at medium fiscal sustainability risk. Notwithstanding low vulnerabilities linked to the low debt burden – captured by the DSA risk assessment – the fiscal adjustment to stabilise debt over the long term, implied by the sustainability gap indicator (S2), points to medium sustainability risks over the long term.

([105]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that, relative to the baseline no-policy-change scenario, a cumulated improvement of 3.0 pps. of GDP in the SPB would be required to stabilise the debt-to-GDP ratio over the long term. This result is due to the projected increase in ageing costs (contribution of 2.8 pps. of GDP), and a slightly unfavourable initial budgetary position (contribution of 0.2 pps. of GDP). It is, in particular, the projected increase in long-term care expenditure that drives up ageing costs (contribution of 2.0 pps. of GDP). Under a more adverse scenario in the healthcare and long-term care areas (with non-demographic drivers pushing upward costs), the S2 indicator would increase to 4.9 pps. of GDP, hence remaining within the critical threshold, and pointing to medium fiscal risks in the long term ([106]).

Over the long term, the Netherlands is deemed at medium fiscal sustainability risk. Despite low vulnerabilities linked to the debt burden - captured by the DSA risk assessment (see section 18.2)**,** the sustainability gap indicator S2 implies that long-term fiscal sustainability risks are medium for the Netherlands ([107]).

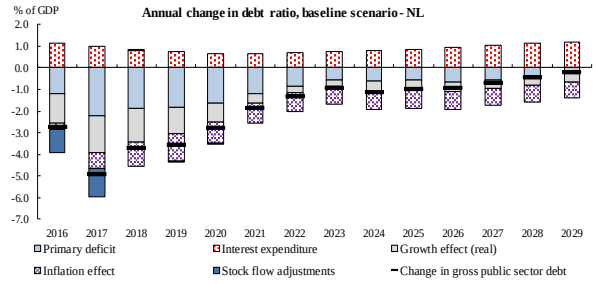
18.4. Additional mitigating and aggravating risk factors

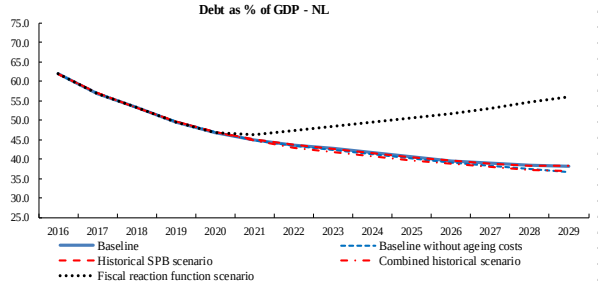
Some additional mitigating and aggravating risk factors exist. The low share of government debt held in foreign currency, the low share of government debt holdings by non-residents, as well as the positive net international investment position help mitigating vulnerabilities. Yet, the relatively high share of short-term government debt could be an aggravating factor. In addition, the relatively high bank loans-to-deposit ratio, the share of non-performing loans in the banking sector and the coverage ratio of non-performing loans point to some contingent liability risks (although the latter two remain modest compared to European standards).

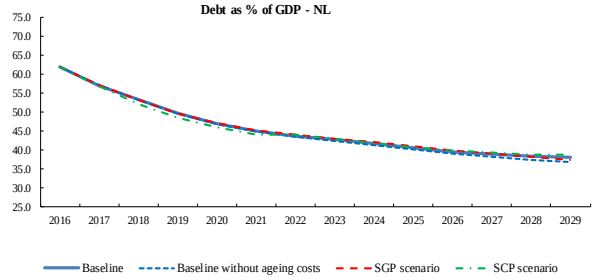
([106]) For more details on this scenario, see Section 4.3 of Chapter 4 in Volume 1 of this report.
([107]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

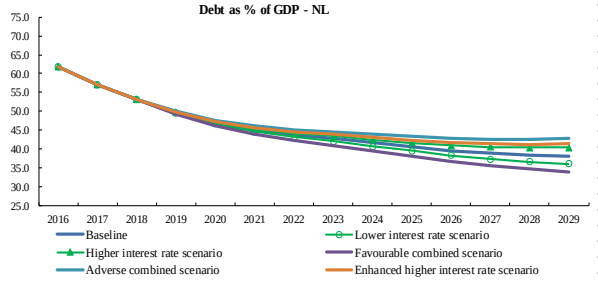
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

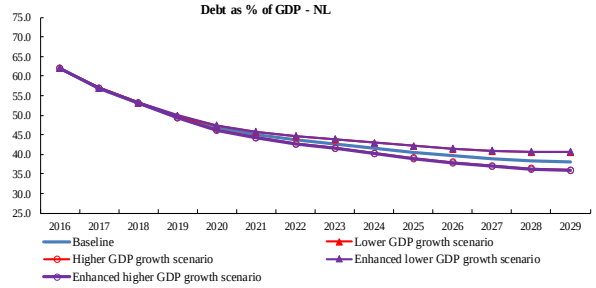
NL - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**61.9**	**57.0**	**53.2**	**49.6**	**46.9**	**45.0**	**43.7**	**42.7**	**41.6**	**40.6**	**39.6**	**38.9**	**38.4**	**38.2**
Changes in the ratio (-1+2+3)	*-2.8*	*-4.9*	*-3.7*	*-3.6*	*-2.8*	*-1.9*	*-1.3*	*-0.9*	*-1.1*	*-1.0*	*-1.0*	*-0.7*	*-0.5*	*-0.2*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.2**	**2.2**	**1.9**	**1.8**	**1.6**	**1.2**	**0.9**	**0.6**	**0.6**	**0.6**	**0.7**	**0.6**	**0.4**	**0.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.6***	***1.7***	***1.1***	***0.5***	***0.6***	***0.5***	***0.5***	***0.6***	***0.6***	***0.6***	***0.7***	***0.6***	***0.4***	***0.3***
(1.1.1) Structural primary balance (bef. CoA)	*1.6*	*1.7*	*1.1*	*0.5*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*
(1.1.2) Cost of ageing						*0.1*	*0.2*	*0.2*	*0.3*	*0.4*	*0.4*	*0.6*	*0.8*	*1.1*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.1*	*0.2*	*0.3*	*0.4*	*0.4*	*0.6*	*0.7*	*0.7*
(1.2) Cyclical component	***-0.7***	***0.0***	***0.6***	***1.0***	***1.0***	***0.7***	***0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.3***	***0.4***	***0.1***	***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)	**-0.5**	**-1.4**	**-1.8**	**-1.7**	**-1.1**	**-0.7**	**-0.5**	**-0.4**	**-0.5**	**-0.4**	**-0.3**	**-0.2**	**0.0**	**0.1**
(2.1) Interest expenditure	*1.2*	*1.0*	*0.8*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.8*	*0.9*	*0.9*	*1.0*	*1.1*	*1.2*
(2.2) Growth effect	*-1.4*	*-1.7*	*-1.5*	*-1.2*	*-0.8*	*-0.5*	*-0.3*	*-0.3*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.4*	*-0.4*
(2.3) Inflation effect	*-0.3*	*-0.7*	*-1.1*	*-1.3*	*-1.0*	*-0.9*	*-0.9*	*-0.9*	*-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	**-1.1**	**-1.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-1.1*	*-1.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(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	0.5	0.7	0.3	-0.3	-0.1	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.5	-0.7	-0.9

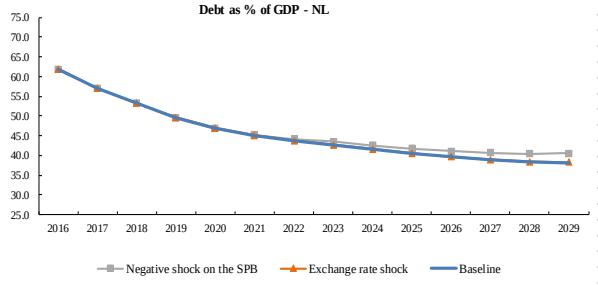


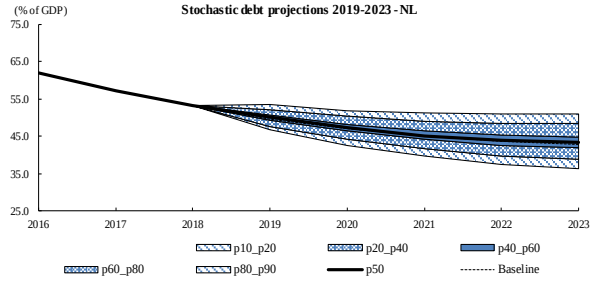


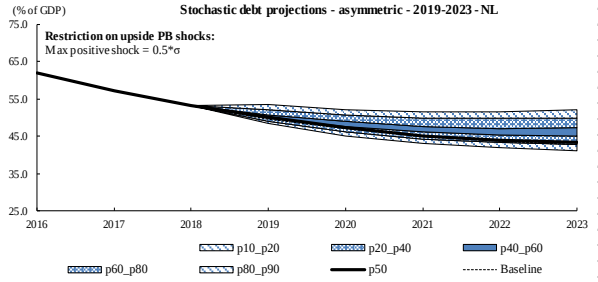












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	38.2	38.2	40.6	40.5	40.5				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	47.0%	47.0%							
			Probability debt higher						5.5%			
			Dif. between percentiles						14.7			
LOW (S0 = 0.1)	LOW	LOW (S1 = -1.7)								LOW	MEDIUM (S2 = 3)	MEDIUM

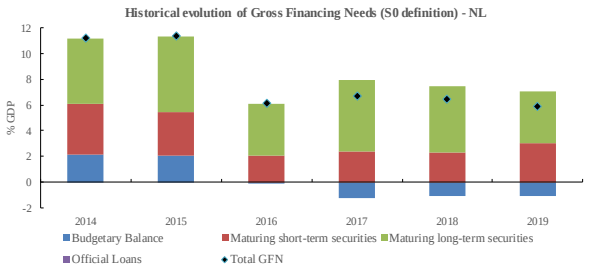
2.2. Sustainability indicators

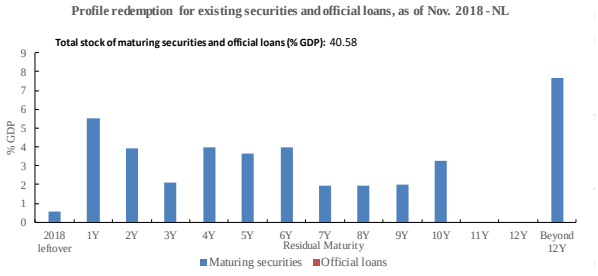
S0 indicator	2009	2018	Critical threshold
Overall index	**0.41**	**0.08**	**0.46**
Fiscal sub-index	0.57	0.00	0.36
Financial competitiveness sub-index	0.33	0.12	0.49

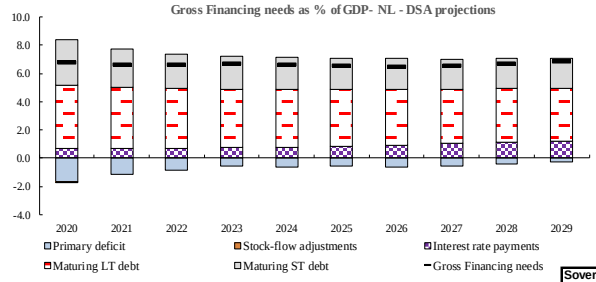
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-1.9**	**-1.7**	**-1.2**	**-1.5**
of which *Gap to the debt-stabilizing primary balance*	*-0.9*	*-0.9*	*-0.5*	*-0.9*
Cost of delaying adjustment	*-0.3*	*-0.3*	*-0.2*	*-0.2*
Debt requirement	*-0.6*	*-1.0*	*-1.3*	*-1.0*
Ageing costs	*-0.1*	*0.4*	*0.9*	*0.6*
Required structural primary balance related to S1	**-1.3**	**-1.2**	**-0.6**	**-0.9**

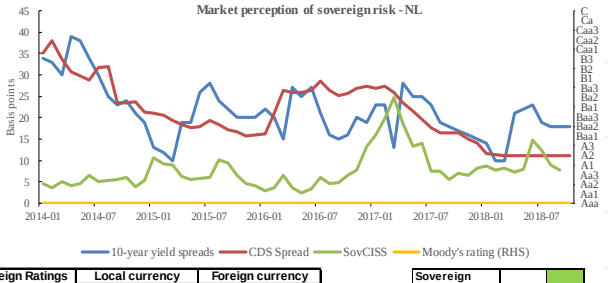
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**3.0**	**3.0**	**3.1**	**4.9**	**2.9**	**3.3**	**2.9**
of which Initial Budgetary position	0.5	0.2	0.2	0.3	0.3	0.2	0.4
Ageing costs	2.5	2.8	2.9	4.6	2.7	3.0	2.5
of which Pensions	*0.2*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.4*
Health care	*0.6*	*0.6*	*0.6*	*0.9*	*0.5*	*0.6*	*0.5*
Long-term care	*2.6*	*2.0*	*2.1*	*3.4*	*1.9*	*2.3*	*1.8*
Others	*-0.9*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.3*	*-0.2*
Required structural primary balance related to S2	**3.6**	**3.6**	**3.7**	**5.5**	**3.5**	**3.9**	**3.5**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, NL	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aaa		Aaa	P-1
S&P	AAAu	A-1+u	AAAu	A-1+u
Fitch	AAA		AAA	

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	18.0

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

Government debt structure - NL (2017)	Share of short-term government debt (p.p.):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	9.3	0.2	35.9

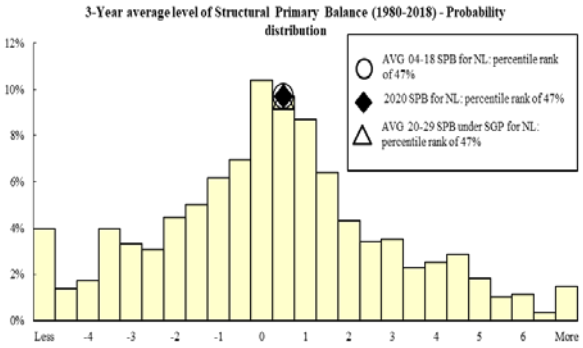
Net International Investment Position (IIP) - NL (2017)	Net IIP (% GDP):
	59.7

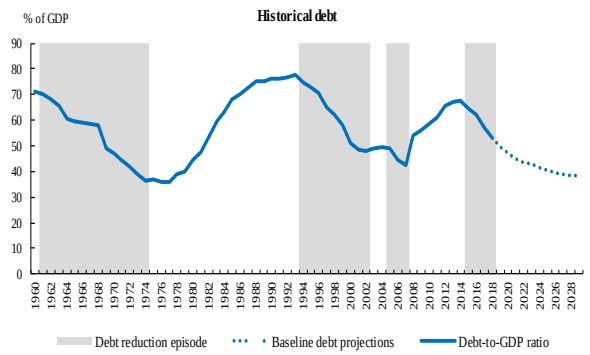
5. Risks related to government's contingent liabilities

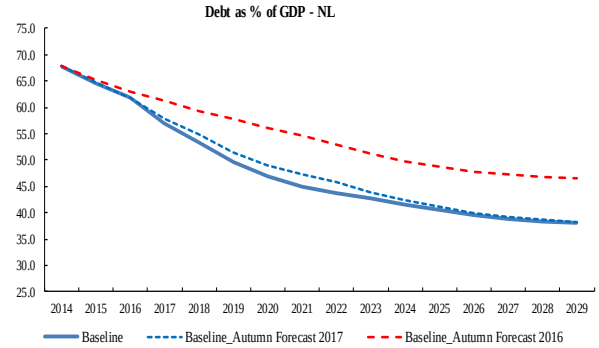
General government contingent liabilities		NL					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		9.6	6.8	3.9	3.7	n.a.	7.3
of which One-off guarantees		*9.1*	*6.3*	*3.6*	*3.3*	*n.a.*	*6.9*
Standardised guarantees		*0.5*	*0.5*	*0.4*	*0.4*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.3*	*0.4*	*0.4*	*0.4*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	5.2	1.6	0.0	0.0	0.0	0.8
	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	0.1
	Total	5.2	1.6	0.0	0.0	0.0	1.0

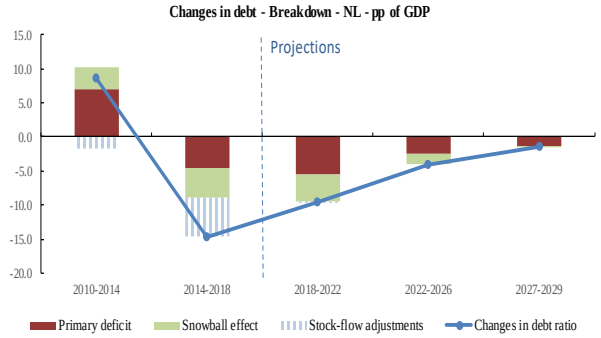
Government's contingent liability risks from banking sector - NL (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	3.0	7.5	124.8	2.3	-0.2	29.1	0.00%	0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Netherlands	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.6	46.9	40.6	38.9	38.2	49.9	41.0	43.2
Primary balance	1.9	1.8	1.6	0.6	0.6	0.3	1.8	0.6	0.9
Structural primary balance (before CoA)	1.1	0.5	0.6	0.6	0.6	0.6	0.7	0.6	0.6
Real GDP growth	2.8	2.4	1.8	1.2	1.1	1.0	2.3	1.0	1.3
Potential GDP growth	1.9	1.8	1.8	1.2	1.1	1.0	1.8	1.2	1.3
Inflation rate	2.0	2.4	2.0	2.0	2.0	2.0	2.1	2.0	2.0
Implicit interest rate (nominal)	1.5	1.4	1.4	2.1	2.7	3.2	1.4	2.2	2.0
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.6	46.9	50.6	53.1	56.1	49.9	50.9	50.6
Primary balance	1.9	1.8	1.6	-1.5	-1.3	-1.2	1.8	-1.4	-0.6
Structural primary balance (before CoA)	1.1	0.5	0.6	-1.5	-1.3	-0.9	0.7	-1.4	-0.9
Real GDP growth	2.8	2.4	1.8	1.1	0.9	0.9	2.3	1.1	1.4
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.6	47.0	40.9	39.0	37.3	49.9	41.1	43.3
Primary balance	1.9	1.8	1.5	0.6	0.8	0.9	1.7	0.8	1.0
Structural primary balance	1.1	0.5	0.4	0.6	0.8	0.9	0.7	0.6	0.7
Real GDP growth	2.8	2.4	1.9	1.1	1.0	1.0	2.4	1.0	1.3
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	52.1	48.4	46.0	40.9	39.3	38.8	48.8	41.2	43.1
Primary balance	1.5	1.5	1.2	0.6	0.6	0.3	1.4	0.6	0.8
Structural primary balance (before CoA)	0.7	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Real GDP growth	3.2	2.7	1.5	1.3	1.2	1.1	2.5	1.1	1.5
Potential GDP growth	2.2	2.2	2.0	1.3	1.2	1.1	2.1	1.2	1.4
Inflation rate	1.8	2.4	2.0	2.0	2.0	2.0	2.1	1.8	1.8
Implicit interest rate (nominal)	1.4	1.4	1.4	2.4	3.0	3.5	1.4	2.4	2.2
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.6	46.9	40.6	38.9	38.2	49.9	40.9	43.2
Primary balance	1.9	1.8	1.6	0.6	0.6	0.3	1.8	0.6	0.9
Structural primary balance (before CoA)	1.1	0.5	0.6	0.6	0.6	0.6	0.7	0.6	0.6
Real GDP growth	2.8	2.4	1.8	1.2	1.1	1.0	2.3	1.0	1.3
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.6	46.9	39.7	37.9	36.9	49.9	40.1	42.5
Primary balance	1.9	1.8	1.6	0.6	0.6	0.3	1.8	0.6	0.9
Structural primary balance (before CoA)	1.1	0.5	0.6	0.6	0.6	0.6	0.7	0.6	0.6
Real GDP growth	2.8	2.4	1.8	1.3	1.3	1.3	2.3	1.3	1.6
Implicit interest rate (nominal)	1.5	1.4	1.4	2.3	2.6	2.9	1.4	2.2	2.0
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.7	47.1	41.7	40.5	40.5	50.0	42.2	44.1
Implicit interest rate (nominal)	1.5	1.6	1.6	2.7	3.4	4.0	1.6	2.8	2.5
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.6	46.6	39.5	37.3	36.1	49.8	39.8	42.3
Implicit interest rate (nominal)	1.5	1.3	1.2	1.6	2.0	2.4	1.3	1.7	1.6
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.8	47.3	42.4	41.4	41.4	50.1	42.8	44.6
Implicit interest rate (nominal)	1.5	1.8	1.9	2.9	3.5	4.1	1.7	3.0	2.7
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.4	46.4	39.1	37.0	36.0	49.7	39.5	42.0
Real GDP growth	2.8	2.9	2.3	1.7	1.6	1.5	2.7	1.5	1.8
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.9	47.3	42.1	40.8	40.6	50.2	42.5	44.4
Real GDP growth	2.8	1.9	1.3	0.7	0.6	0.5	2.0	0.5	0.9
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.3	46.3	39.0	37.0	35.9	49.6	39.4	41.9
Real GDP growth	2.8	3.0	2.4	1.7	1.6	1.5	2.7	1.5	1.8
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	50.0	47.5	42.2	40.9	40.7	50.2	42.6	44.5
Real GDP growth	2.8	1.8	1.2	0.7	0.6	0.5	1.9	0.5	0.9
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.5	46.8	41.8	40.7	40.5	49.8	42.2	44.1
Primary balance	1.9	2.1	1.4	0.3	0.3	0.0	1.8	0.4	0.7
Structural primary balance (before CoA)	1.1	0.7	0.3	0.3	0.3	0.3	0.7	0.3	0.4
Real GDP growth	2.8	2.2	2.1	1.2	1.1	1.0	2.4	1.0	1.3
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.7	46.9	40.6	38.9	38.2	49.9	41.0	43.2
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	49.3	46.2	38.1	35.6	34.0	49.6	38.4	41.2
Implicit interest rate (nominal)	1.5	1.3	1.2	1.6	2.0	2.4	1.3	1.7	1.6
Real GDP growth	2.8	2.9	2.3	1.7	1.6	1.5	2.7	1.5	1.8
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	53.2	50.0	47.6	43.3	42.6	42.9	50.3	43.8	45.4
Implicit interest rate (nominal)	1.5	1.6	1.6	2.7	3.4	4.0	1.6	2.8	2.5
Real GDP growth	2.8	1.9	1.3	0.7	0.6	0.5	2.0	0.5	0.9

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Based on the European Commission 2018 Autumn Forecast, Austria's structural primary balance (SPB) would go from a surplus of 0.8% of GDP in 2018 to a surplus of 1.3% at the end of the forecast horizon in 2020. Real GDP growth is expected to slow down from 2.7% in 2018 (after 2.6% in 2017) to 1.8% in 2020. Gross government debt would decrease to 67.8% of GDP in 2020, compared to 74.5% in 2018. The forecasted debt reduction would be the result of the combination of primary surpluses, debt-decreasing stock-flow adjustments and a reverse snowball effect as nominal GDP growth would continue to exceed the interest payments on government debt.

19.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are anticipated for Austria.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below the critical thresholds.

Financial markets' perception of sovereign risk remains favourable. This is confirmed by the CDS spread and the sovereign yield spread versus the German Bund. The rating assigned to Austrian government debt by the three main rating agencies is stable at a favourable level.

19.2. Medium-term fiscal sustainability challenges

Similarly, fiscal sustainability risks appear low over the medium term, both according to the sustainability gap indicator S1 and the debt sustainability analysis. The strong budgetary position and the low sensitivity to possible macro-fiscal shocks underpin this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the medium-term sustainability gap indicator S1 points to a low risk. With a value of -0.8 pps. of GDP, no additional fiscal effort would be required over the next five years relative to the baseline no-policy-change scenario to stay below the 60% of GDP debt reference value in 2033. On the contrary, the indicator's negative value suggests that there is some fiscal space in Austria. This favourable medium-term outlook results from the initial budgetary position, namely the considerable primary surplus (-2 pps. of GDP contribution to S1 value). In contrast, government debt and ageing costs (0.6 pps. of GDP contribution each) raise the S1 value.

Debt sustainability analysis (DSA)

Over the medium term, Austria is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment from the baseline scenario is confirmed by alternative and stress test scenarios ([108]).

Baseline no-policy-change scenario

Austria faces low risks according to the baseline medium-term debt projections. Under normal economic conditions and a no-policy-change assumption after 2020, government debt would continue the steady decrease started in 2015, when debt peaked at 84.6% of GDP. It is expected to decrease from 74.5% of GDP in 2018 to 51.2% in 2029 on the back of a continuation of primary budget surpluses and a debt-reducing snowball effect. The latter's impact would fall, though, as economic growth converges to its potential.

Government gross financing needs (GFN) ([109]) are projected to decrease. Due to lower amounts of maturing long-term debt, financing needs would fall from 7.4% of GDP in 2019 to 5.9% in 2029.

Alternative and stress test scenarios

Given the initial debt stock, adverse shocks to growth, interest rates or the primary balance would be expected to lead to an increase in the debt ratio compared to the baseline. Standard

([108]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decision trees used to derive the overall DSA risk classification.

([109]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

negative sensitivity tests on nominal growth and interest rates would entail an increase in the debt ratio of about 2-3 pps. of GDP in 2029 relative to the baseline. Based on the historical volatility of the Austrian economy, a very large set of jointly simulated shocks to growth, interest rates and the primary balance gives a 12% probability of the debt ratio in 2023 being higher than in 2018. In addition, such shocks point to some uncertainty surrounding baseline projections, as can be seen from the wide debt distribution cone ([110]).

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its average level of the last 15 years, a surplus of 0.6% of GDP), the Austrian debt ratio would be about 5 pps. of GDP higher in 2019 than in the baseline scenario.

19.3. Long-term fiscal sustainability challenges

Over the long term, Austria is considered at medium fiscal sustainability risk. The sustainability gap indicator indicates that a fiscal adjustment is required to stabilise debt over the long run. The DSA risk assessment is less severe, due to the expected downward trend in the debt-to-GDP ratio.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 signals a medium risk in the long term. This indicator shows that, relative to the baseline no-policy-change scenario, an improvement of 2.6 pps. of GDP in the SPB would be required to prevent the debt-to-GDP ratio from increasing continuously over the long term. This S2 value is driven by the projected rise in age-related government expenditure, in particular long-term care (contribution of 1.4 pps. of GDP to S2 value), health care (1 pp.) and pensions (0.6 pps.). Under a more adverse scenario in the health care and long-term care areas (with non-demographic drivers pushing up costs) ([111]), the S2 indicator would increase to 4.1 pps. of GDP, thus still pointing to medium fiscal risks in the long term.

Overall, Austria is considered to have a medium fiscal sustainability risk in the long term. The signal from the sustainability gap indicator S2 prevails over the DSA risk assessment's indication of low risks (see section 19.2). This leads to the conclusion of medium risks regarding Austria's overall long-term fiscal sustainability ([112]).

19.4. Additional mitigating and aggravating risk factors

Some additional mitigating and aggravating risk factors exist. The structure of government debt in terms of currency denomination mitigates vulnerabilities. The same holds for Austria's slightly positive international investment position. In contrast, non-residents holding around two thirds of government debt constitutes an aggravating factor, as does the share of non-performing loans in the banking sector and the coverage ratio of those loans.

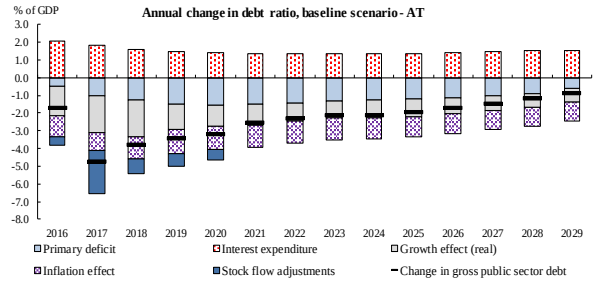
([110]) The difference between the 10th and 90th percentile in 2023 is around 26 pps. of GDP

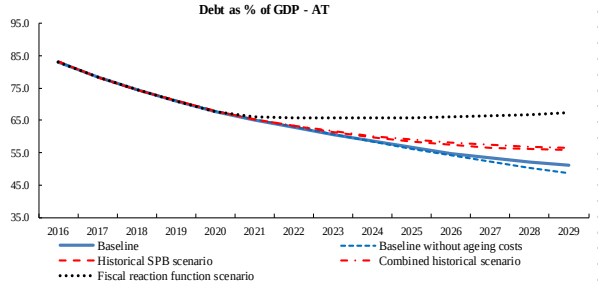
([111]) For more details on this scenario, see Section 4.3 of Chapter 4 in Volume 1 of this report.

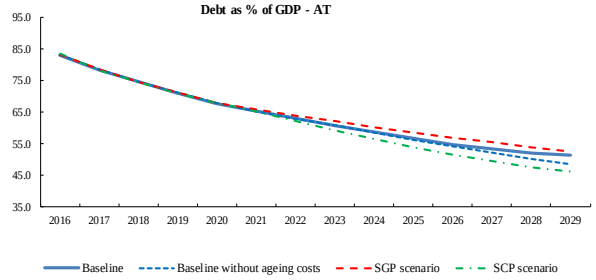
([112]) See Chapter 4 (Volume I) for detailed explanations about the method used to assess long-term sustainability risks.

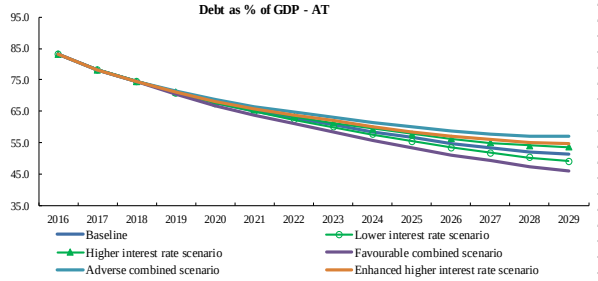
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

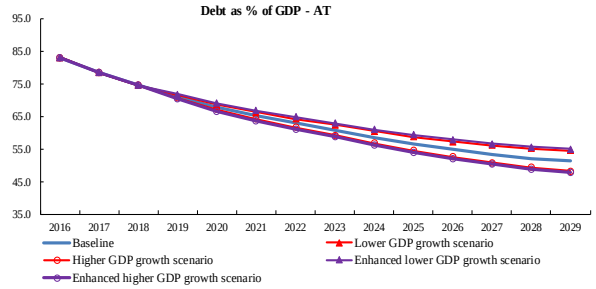
AT - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**83.0**	**78.3**	**74.5**	**71.0**	**67.8**	**65.2**	**62.9**	**60.7**	**58.6**	**56.6**	**54.8**	**53.3**	**52.1**	**51.2**
Changes in the ratio (-1+2+3)	*-1.7*	*-4.7*	*-3.8*	*-3.5*	*-3.2*	*-2.6*	*-2.4*	*-2.2*	*-2.1*	*-2.0*	*-1.8*	*-1.5*	*-1.2*	*-0.9*
of which														
(1) Primary balance (1.1+1.2+1.3)	**0.5**	**1.0**	**1.3**	**1.5**	**1.6**	**1.5**	**1.4**	**1.3**	**1.3**	**1.2**	**1.1**	**1.0**	**0.9**	**0.6**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.0***	***1.0***	***0.8***	***1.0***	***1.3***	***1.3***	***1.3***	***1.3***	***1.3***	***1.2***	***1.1***	***1.0***	***0.9***	***0.6***
(1.1.1) Structural primary balance (bef. CoA)	*1.0*	*1.0*	*0.8*	*1.0*	*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*	*0.0*	*0.0*	*0.1*	*0.2*	*0.3*	*0.5*	*0.6*	*0.9*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.3*	*0.2*
(1.2) Cyclical component	***-0.4***	***0.1***	***0.5***	***0.5***	***0.3***	***0.2***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.1***	***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**	**-1.2**	**-1.7**	**-1.3**	**-1.1**	**-1.1**	**-0.9**	**-0.9**	**-0.9**	**-0.8**	**-0.6**	**-0.5**	**-0.3**	**-0.3**
(2.1) Interest expenditure	*2.1*	*1.8*	*1.6*	*1.5*	*1.4*	*1.4*	*1.3*	*1.3*	*1.3*	*1.4*	*1.4*	*1.4*	*1.5*	*1.5*
(2.2) Growth effect	*-1.7*	*-2.0*	*-2.1*	*-1.4*	*-1.2*	*-1.2*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-0.9*	*-0.8*	*-0.8*	*-0.8*
(2.3) Inflation effect	*-1.2*	*-1.0*	*-1.2*	*-1.4*	*-1.3*	*-1.2*	*-1.2*	*-1.2*	*-1.2*	*-1.1*	*-1.1*	*-1.1*	*-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	**-0.5**	**-2.5**	**-0.9**	**-0.7**	**-0.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.5*	*-2.4*	*-0.8*	*-0.7*	*-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	-1.1	-0.8	-0.8	-0.5	-0.2	-0.1	0.0	0.0	-0.1	-0.1	-0.3	-0.4	-0.6	-0.9

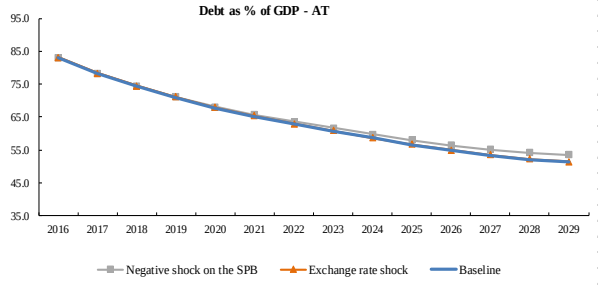


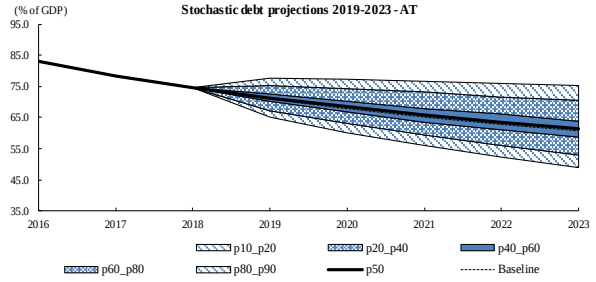


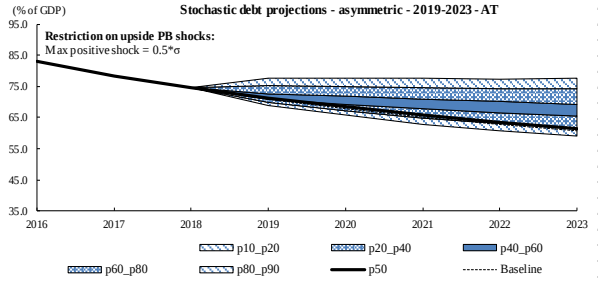












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	51.2	55.9	54.5	53.6	53.5				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	35.0%	44.0%							
			Probability debt higher						11.7%			
			Dif. between percentiles						26.3			
LOW (S0 = 0)	LOW	LOW (S1 = -0.8)								LOW	MEDIUM (S2 = 2.6)	MEDIUM

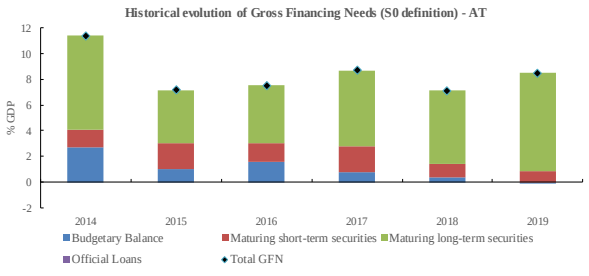
2.2. Sustainability indicators

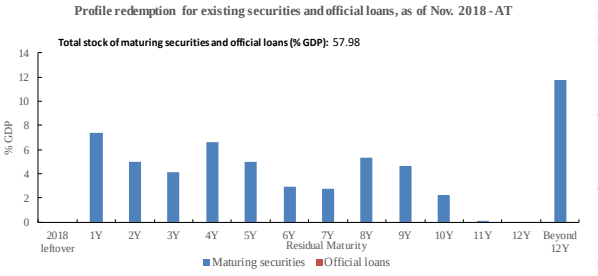
S0 indicator	2009	2018	Critical threshold
Overall index	**0.31**	**0.03**	**0.46**
Fiscal sub-index	0.64	0.07	0.36
Financial competitiveness sub-index	0.16	0.00	0.49

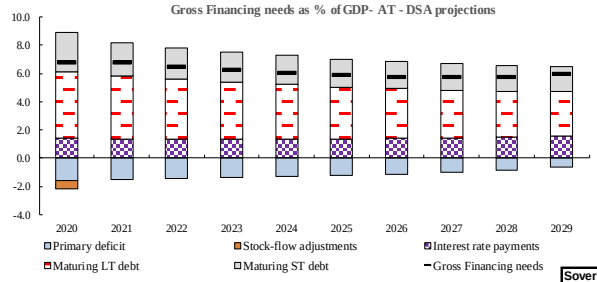
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**0.4**	**-0.8**	**0.4**	**-0.6**
of which *Gap to the debt-stabilizing primary balance*	*-1.4*	*-2.0*	*-0.9*	*-2.0*
Cost of delaying adjustment	*0.1*	*-0.1*	*0.1*	*-0.1*
Debt requirement	*1.1*	*0.6*	*0.0*	*0.6*
Ageing costs	*0.7*	*0.6*	*1.3*	*0.9*
Required structural primary balance related to S1	**1.1**	**0.4**	**1.0**	**0.7**

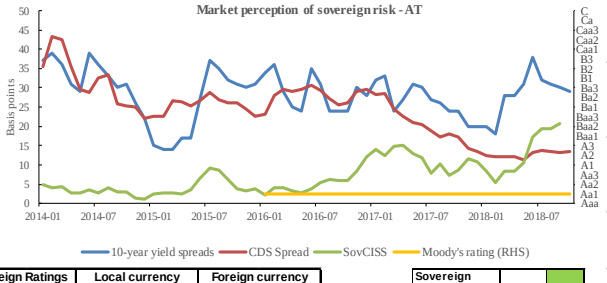
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**2.7**	**2.6**	**3.4**	**4.1**	**3.6**	**3.4**	**2.5**
of which Initial Budgetary position	0.1	-0.4	0.2	-0.3	-0.3	-0.4	-0.3
Ageing costs	2.6	3.1	3.2	4.5	3.8	3.8	2.8
of which Pensions	*0.5*	*0.6*	*0.6*	*0.6*	*1.6*	*1.1*	*0.6*
Health care	*0.9*	*1.0*	*1.1*	*1.6*	*0.9*	*1.1*	*0.9*
Long-term care	*1.0*	*1.4*	*1.5*	*2.3*	*1.3*	*1.6*	*1.2*
Others	*0.2*	*0.1*	*0.1*	*0.1*	*0.0*	*0.1*	*0.0*
Required structural primary balance related to S2	**3.5**	**3.9**	**4.0**	**5.4**	**4.8**	**4.6**	**3.8**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, 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 Nov 2018	10-year	29.0

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

Government debt structure - AT (2017)	Share of short-term government debt (p.p.): 2.9	Share of government debt in foreign currency (%): 4.2	Share of government debt by non-residents (%): 67.1

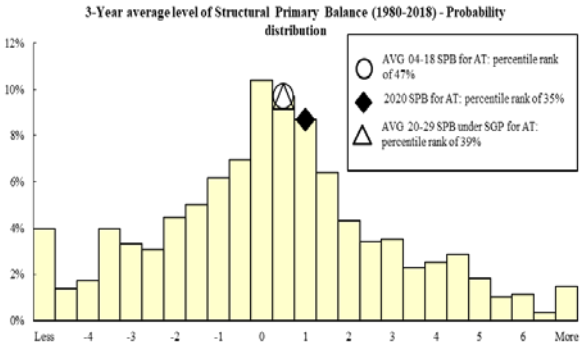
Net International Investment Position (IIP) - AT (2017)	Net IIP (% GDP): 3.7

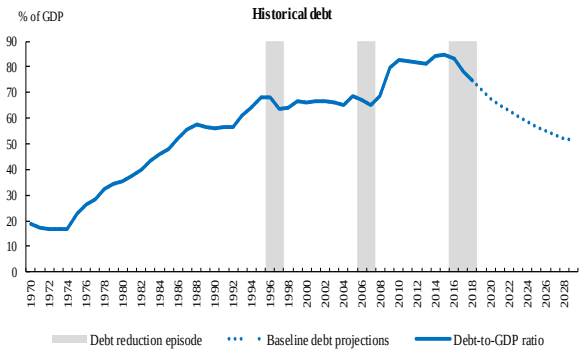
5. Risks related to government's contingent liabilities

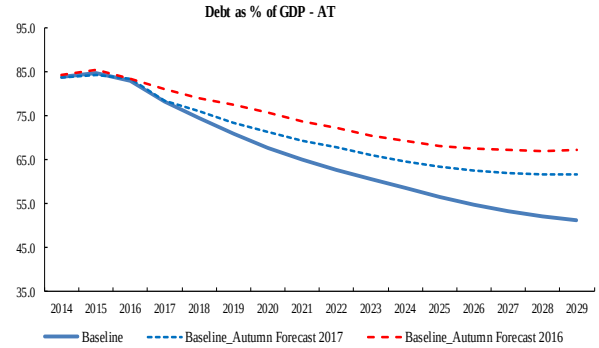
General government contingent liabilities		AT					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		:	33.4	23.1	20.5	n.a.	7.3
of which One-off guarantees		*44.5*	*33.4*	*23.1*	*20.5*	*n.a.*	*6.9*
Standardised guarantees		*:*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.1*	*0.1*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	3.2	1.0	0.5	0.5	0.0	0.8
	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	0.1
	Total	3.2	1.0	0.5	0.5	0.0	1.0

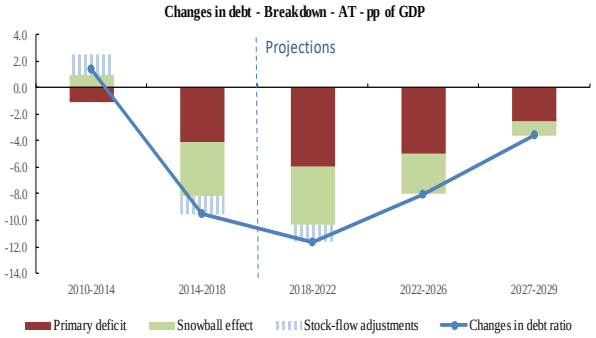
Government's contingent liability risks from banking sector - AT (2017)	Private sector credit flow (% GDP): 4.3	Change in nominal house price index: 5.3	Bank loans-to-deposits ratio (p.p.): 103.3	Share of non-performing loans (%): 3.7	Change in share of non-performing loans (p.p): -1.4	NPL coverage ratio 52.7	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Austria	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.0	67.8	56.6	53.3	51.2	71.1	57.3	60.7
Primary balance	1.3	1.5	1.6	1.2	1.0	0.6	1.4	1.2	1.2
Structural primary balance (before CoA)	0.8	1.0	1.3	1.3	1.3	1.3	1.0	1.3	1.2
Real GDP growth	2.7	2.0	1.8	1.7	1.6	1.6	2.2	1.7	1.8
Potential GDP growth	2.0	2.0	2.1	1.7	1.6	1.6	2.0	1.7	1.8
Inflation rate	1.6	1.9	1.8	2.0	2.0	2.0	1.8	2.0	1.9
Implicit interest rate (nominal)	2.1	2.1	2.1	2.4	2.7	3.1	2.1	2.5	2.4
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.0	67.8	65.8	66.3	67.5	71.1	66.2	67.4
Primary balance	1.3	1.5	1.6	-0.8	-0.7	-0.7	1.4	-0.7	-0.2
Structural primary balance (before CoA)	0.8	1.0	1.3	-0.8	-0.5	0.0	1.0	-0.6	-0.2
Real GDP growth	2.7	2.0	1.8	1.6	1.5	1.3	2.2	1.8	1.9
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.0	67.9	58.5	55.4	52.5	71.2	58.8	61.9
Primary balance	1.3	1.5	1.3	1.0	1.1	1.2	1.3	1.0	1.1
Structural primary balance	0.8	1.0	1.0	1.0	1.1	1.2	0.9	1.0	1.0
Real GDP growth	2.7	2.0	2.0	1.7	1.5	1.5	2.2	1.6	1.8
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	70.9	67.7	53.8	49.4	46.2	71.0	54.6	58.7
Primary balance	1.1	1.5	1.5	1.7	1.5	1.1	1.4	1.5	1.5
Structural primary balance (before CoA)	0.7	1.0	1.2	1.8	1.8	1.8	1.0	1.8	1.6
Real GDP growth	3.2	2.2	1.9	1.9	1.8	1.6	2.4	1.8	1.9
Potential GDP growth	2.0	2.1	2.4	1.9	1.8	1.6	2.2	1.9	2.0
Inflation rate	1.7	1.8	1.8	2.0	2.0	2.0	1.8	2.0	1.9
Implicit interest rate (nominal)	2.1	2.1	2.1	2.3	2.6	2.9	2.1	2.3	2.3
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.0	67.8	58.5	56.6	55.9	71.1	59.4	62.3
Primary balance	1.3	1.5	1.6	0.6	0.4	0.0	1.4	0.6	0.8
Structural primary balance (before CoA)	0.8	1.0	1.3	0.6	0.6	0.6	1.0	0.7	0.8
Real GDP growth	2.7	2.0	1.8	1.7	1.6	1.6	2.2	1.7	1.8
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.0	67.8	59.1	57.3	56.5	71.1	59.8	62.6
Primary balance	1.3	1.5	1.6	0.6	0.4	0.0	1.4	0.6	0.8
Structural primary balance (before CoA)	0.8	1.0	1.3	0.6	0.6	0.6	1.0	0.7	0.8
Real GDP growth	2.7	2.0	1.8	1.5	1.5	1.5	2.2	1.6	1.7
Implicit interest rate (nominal)	2.1	2.1	2.1	2.5	2.8	3.0	2.1	2.5	2.4
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.1	68.0	57.8	55.1	53.6	71.2	58.5	61.7
Implicit interest rate (nominal)	2.1	2.2	2.2	2.9	3.3	3.7	2.2	2.9	2.7
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	70.9	67.6	55.5	51.7	49.1	71.0	56.1	59.8
Implicit interest rate (nominal)	2.1	2.0	1.9	2.0	2.2	2.5	2.0	2.1	2.1
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.2	68.2	58.5	55.9	54.6	71.3	59.2	62.2
Implicit interest rate (nominal)	2.1	2.3	2.4	3.0	3.4	3.8	2.3	3.1	2.9
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	70.7	67.1	54.5	50.8	48.2	70.8	55.2	59.1
Real GDP growth	2.7	2.5	2.3	2.2	2.1	2.1	2.5	2.2	2.2
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.4	68.5	58.8	56.1	54.5	71.5	59.4	62.4
Real GDP growth	2.7	1.5	1.3	1.2	1.1	1.1	1.8	1.2	1.3
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	70.4	66.6	54.0	50.3	47.7	70.5	54.7	58.7
Real GDP growth	2.7	2.9	2.7	2.2	2.1	2.1	2.8	2.2	2.3
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.7	69.1	59.3	56.6	55.0	71.7	60.0	62.9
Real GDP growth	2.7	1.1	0.9	1.2	1.1	1.1	1.6	1.2	1.3
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.1	68.0	57.9	55.1	53.5	71.2	58.6	61.8
Primary balance	1.3	1.4	1.3	1.0	0.8	0.4	1.3	0.9	1.0
Structural primary balance (before CoA)	0.8	0.9	1.0	1.0	1.0	1.0	0.9	1.0	1.0
Real GDP growth	2.7	2.1	1.8	1.7	1.6	1.6	2.2	1.7	1.8
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.1	67.9	56.7	53.4	51.3	71.2	57.4	60.8
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	70.6	66.9	53.4	49.2	46.2	70.7	54.1	58.2
Implicit interest rate (nominal)	2.1	2.0	1.9	2.0	2.2	2.5	2.0	2.1	2.1
Real GDP growth	2.7	2.5	2.3	2.2	2.1	2.1	2.5	2.2	2.2
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	74.5	71.5	68.7	60.0	57.9	57.0	71.6	60.7	63.4
Implicit interest rate (nominal)	2.1	2.2	2.2	2.9	3.3	3.7	2.2	2.9	2.7
Real GDP growth	2.7	1.5	1.3	1.2	1.1	1.1	1.8	1.2	1.3

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Based on the European Commission 2018 Autumn Forecast, Poland should experience a slight improvement in the structural primary balance (SPB), from a *deficit* of 0.5% of GDP in 2018 to a *deficit* of 0.4% of GDP in 2020. Real GDP growth is expected to moderate, from 4.8% in 2018 (and 2017) to 3.3% in 2020. Supported by a favourable contribution of the interest – growth rate differential, gross government debt would decrease over the forecast horizon, from 49.2% of GDP in 2018 to 47.4% of GDP in 2020.

20.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Poland.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. Both the fiscal and financial competitiveness sub-indexes do not point to short-term vulnerabilities (each with a value below the critical threshold).

Financial markets' perceptions of sovereign risk remain favourable, confirmed by the 'A' rating assigned by the three major rating agencies to Polish government debt. In 2018, 10-year sovereign yield spreads versus the German bund, broadly stabilised at below but close to 300 basis points, below spreads observed in 2017.

20.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks appear to be low for Poland, both according to the sustainability gap indicator S1 and the debt sustainability analysis.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. With a value of -0.7 pp. of GDP, no adjustment in the SPB over five years, relative to the baseline 'no-fiscal policy change' scenario, would be needed for the debt-to-GDP ratio to reach the 60% of GDP debt reference by 2033. This is primarily explained by the initial low level of government debt (contribution of -1.0 pp. of GDP), which compensates for the projected increase in the age-related public spending (contribution of 0.3 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Poland also faces low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([113]).

Baseline no-fiscal policy change scenario

Poland is considered at low risk in the baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption after 2020, government debt would slightly decline and stabilise around 46% of GDP during 2021-2025, before raising again until the end of the projection period (t+10) to reach 48.0% of GDP in 2029. The still low but increasing level of debt towards the end of the projection period reflects insufficient fiscal effort (with an SPB unchanged at -0.4% of GDP) ([114]) to compensate for increasing ageing costs, as well as smaller favourable snowball effects (interest – growth rate differential).

Government gross financing needs (GFN) ([115]) are projected to slightly increase over the projection period, from 6.3% of GDP in 2019 to 7.1% of GDP in 2029.

Alternative and stress test scenarios

Given the low initial stock of debt, negative shocks to growth, interest rates or the primary balance would have a limited impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a

([113]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.
([114]) Over the period 1980-2018, in 66% of the cases, EU countries were able to reach an SPB value greater than -0.4% of GDP.
([115]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

debt-to-GDP ratio in 2029 at around 50.5%, i.e. around 2.5 pps. higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Polish economy, points to a 25% probability of the debt ratio in 2023 being greater than in 2018, entailing low risks given the low starting debt level.

If fiscal policy was reverting to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *deficit* of 1.6% of GDP), the debt-to-GDP ratio in 2029 would be about 8 pps. higher than in the baseline scenario.

If fiscal policy were evolving in line with the main provisions of the Stability and Growth Pact (SGP) ([116]), the Polish government debt would substantially decrease, to less than 40% of GDP in 2029 (about 10% of GDP less than in the baseline scenario). However, this would require a significantly higher average SPB over the projection horizon (at +0.4% of GDP over 2020-29) than forecast for 2020.

20.3. Long-term fiscal sustainability challenges

Over the long term, Poland is deemed at medium fiscal sustainability risk. Notwithstanding the low vulnerability linked to the low debt burden – captured by the DSA risk assessment –, the fiscal adjustment to stabilise debt over the long term implied by the sustainability gap indicator (S2) points to medium sustainability risks over the long term.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that an improvement of 2.2 pps. of GDP in the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long-term. This result is due to both the unfavourable initial budgetary position (1.1 pps. of GDP) and the projected increase in ageing costs (contribution of 1.1 pps. of GDP). The latter are primarily related to the projected increase in healthcare expenditure (contribution of 0.6 pps. of GDP) and long-term care spending (contribution of 0.5 pps. of GDP). Under a more adverse scenario where fiscal policy reverts to its historical pattern (with SPB gradually converging to its last 15 year historical average), the S2 indicator would increase to 3.6 pps. of GDP, thus still pointing to medium fiscal risks in the long term.

Overall, Poland is deemed at medium fiscal sustainability risk in the long term. Despite low vulnerabilities linked to the low debt burden captured by the DSA risk assessment (see section 20.2), the sustainability gap indicator S2 indicates medium long-term sustainability risks for Poland ([117]).

20.4. Additional mitigating and aggravating risk factors

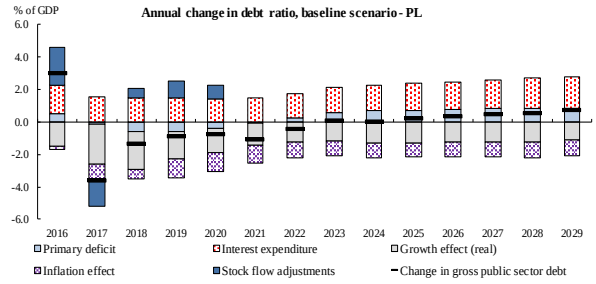
Some additional mitigating and aggravating risk factors exist. The maturity structure of the Polish government debt helps mitigating vulnerabilities. The structure of the debt in terms of foreign currency denomination and high share of debt holdings by non-residents, as well as the negative net international investment position could be aggravating factors. The share of non–performing loans in the banking sector point to some contingent liability risks.

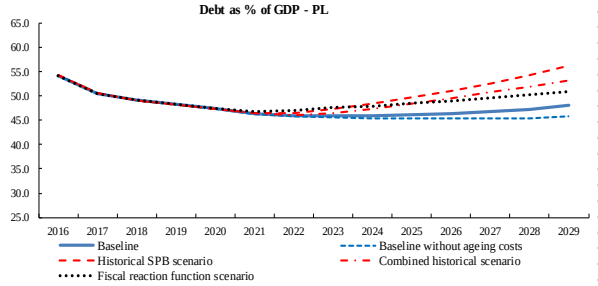
([116]) See Annex 5 in Volume 1 of this report for detailed explanation of the definition of the SGP scenario.

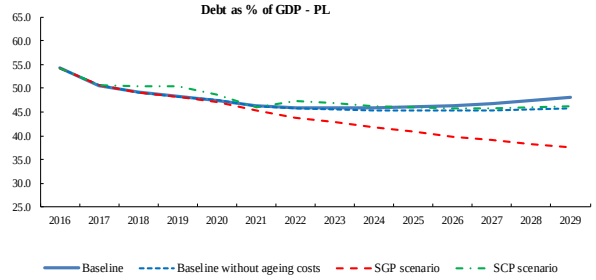
([117]) See Chapter 4 (Volume 1) for detailed explanation of the method used to assess long-term sustainability risks.

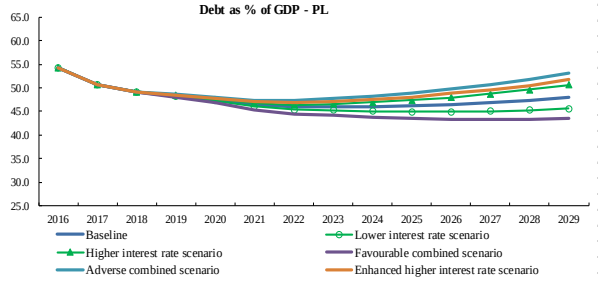
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

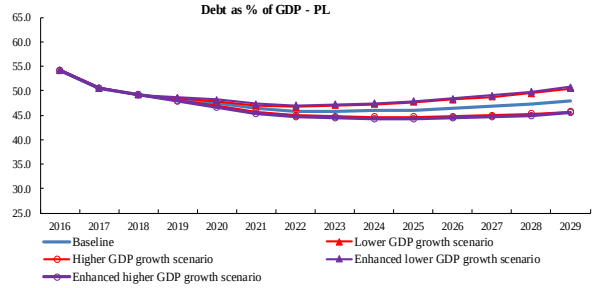
PL - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**54.2**	**50.6**	**49.2**	**48.3**	**47.4**	**46.3**	**45.9**	**45.9**	**45.9**	**46.1**	**46.4**	**46.8**	**47.3**	**48.0**
Changes in the ratio (-1+2+3)	*2.9*	*-3.7*	*-1.4*	*-0.9*	*-0.8*	*-1.1*	*-0.5*	*0.0*	*0.0*	*0.2*	*0.3*	*0.4*	*0.5*	*0.7*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-0.5**	**0.2**	**0.6**	**0.6**	**0.4**	**0.1**	**-0.2**	**-0.6**	**-0.7**	**-0.7**	**-0.8**	**-0.8**	**-0.8**	**-0.8**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.2***	***-0.3***	***-0.5***	***-0.5***	***-0.4***	***-0.5***	***-0.5***	***-0.6***	***-0.7***	***-0.7***	***-0.8***	***-0.8***	***-0.8***	***-0.8***
(1.1.1) Structural primary balance (bef. CoA)	*-0.2*	*-0.3*	*-0.5*	*-0.5*	*-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						*0.0*	*0.1*	*0.2*	*0.2*	*0.3*	*0.3*	*0.4*	*0.4*	*0.4*
(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	***-0.3***	***0.5***	***1.1***	***1.1***	***0.8***	***0.5***	***0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**0.1**	**-1.9**	**-1.4**	**-1.4**	**-1.3**	**-1.0**	**-0.7**	**-0.6**	**-0.7**	**-0.5**	**-0.5**	**-0.4**	**-0.3**	**-0.1**
(2.1) Interest expenditure	*1.7*	*1.6*	*1.5*	*1.4*	*1.4*	*1.5*	*1.5*	*1.5*	*1.6*	*1.6*	*1.7*	*1.8*	*1.9*	*1.9*
(2.2) Growth effect	*-1.5*	*-2.4*	*-2.3*	*-1.7*	*-1.5*	*-1.4*	*-1.2*	*-1.2*	*-1.3*	*-1.3*	*-1.3*	*-1.2*	*-1.3*	*-1.1*
(2.3) Inflation effect	*-0.2*	*-1.0*	*-0.6*	*-1.2*	*-1.2*	*-1.1*	*-1.0*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-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	**2.4**	**-1.6**	**0.6**	**1.1**	**0.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*1.7*	*-1.2*	*0.7*	*0.9*	*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	*0.7*	*-0.4*	*-0.1*	*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	-1.9	-1.9	-2.0	-2.0	-1.8	-1.9	-2.0	-2.1	-2.2	-2.4	-2.5	-2.6	-2.7	-2.8

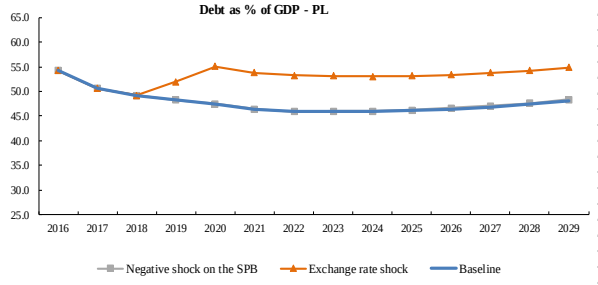


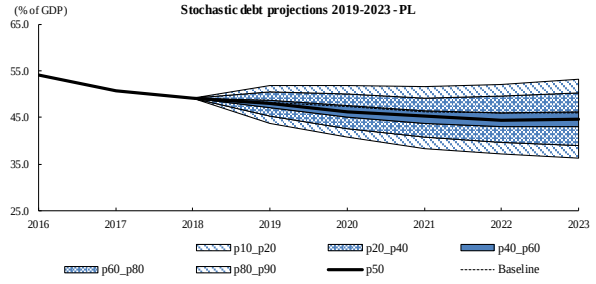


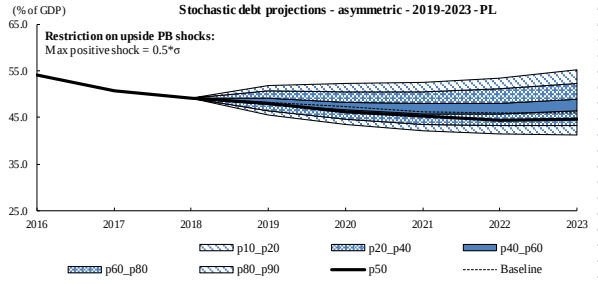












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	48.0	56.1	50.5	50.6	48.3				
			Debt peak year	2018	2029	2029	2029	2018				
			Percentile rank	66.0%	76.0%							
			Probability debt higher						24.6%			
			Dif. between percentiles						16.8			
LOW (S0 = 0.2)	LOW	LOW (S1 = -0.7)								LOW	MEDIUM (S2 = 2.2)	MEDIUM

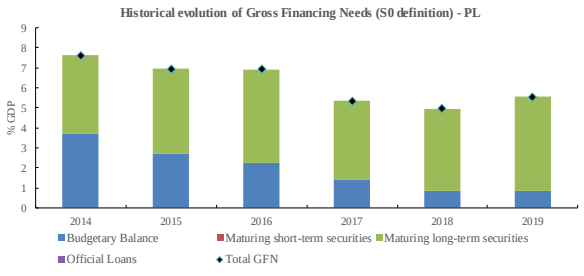
2.2. Sustainability indicators

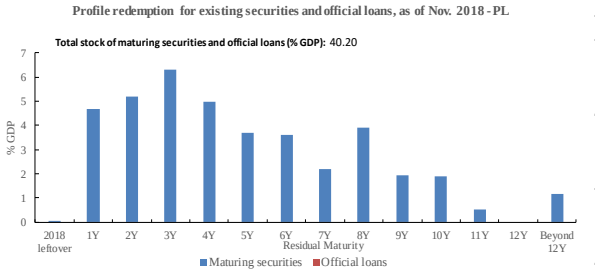
S0 indicator	2009	2018	Critical threshold
Overall index	**0.55**	**0.18**	**0.46**
Fiscal sub-index	0.22	0.00	0.36
Financial competitiveness sub-index	0.73	0.27	0.49

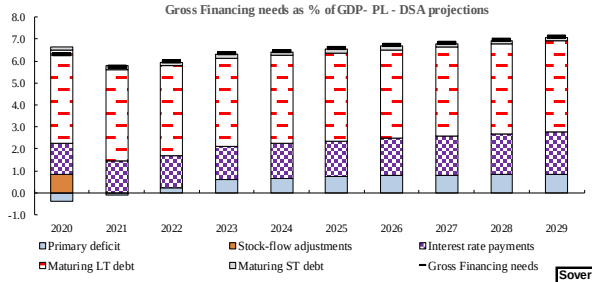
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**0.6**	**-0.7**	**1.5**	**-0.4**
of which *Gap to the debt-stabilizing primary balance*	*0.8*	*0.1*	*1.8*	*0.1*
Cost of delaying adjustment	*0.1*	*-0.1*	*0.2*	*-0.1*
Debt requirement	*-0.5*	*-1.0*	*-0.9*	*-1.0*
Ageing costs	*0.3*	*0.3*	*0.4*	*0.5*
Required structural primary balance related to S1	**-0.4**	**-1.1**	**0.0**	**-0.8**

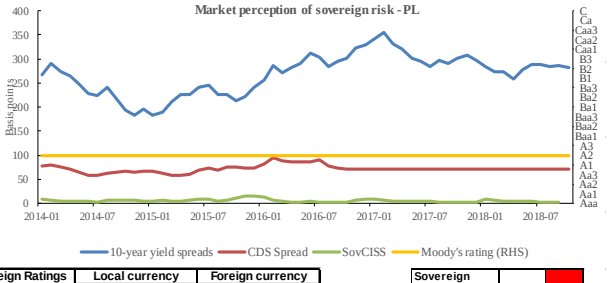
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**3.1**	**2.2**	**3.6**	**3.3**	**2.7**	**2.5**	**2.4**
of which Initial Budgetary position	1.9	1.1	2.4	1.1	1.2	1.1	1.3
Ageing costs	1.2	1.1	1.2	2.2	1.5	1.4	1.0
of which Pensions	*-0.1*	*-0.4*	*-0.4*	*-0.4*	*0.1*	*-0.2*	*-0.3*
Health care	*0.8*	*0.6*	*0.7*	*1.2*	*0.5*	*0.6*	*0.6*
Long-term care	*0.6*	*0.5*	*0.6*	*1.0*	*0.5*	*0.6*	*0.5*
Others	*0.0*	*0.4*	*0.4*	*0.4*	*0.3*	*0.4*	*0.3*
Required structural primary balance related to S2	**2.1**	**1.8**	**2.0**	**2.8**	**2.3**	**2.1**	**1.9**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, PL	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency 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 Nov 2018	10-year	282.0

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

Government debt structure - PL (2017)	Share of short-term government debt (p.p.): 0.8	Share of government debt in foreign currency (%): 31.8	Share of government debt by non-residents (%): 52.5

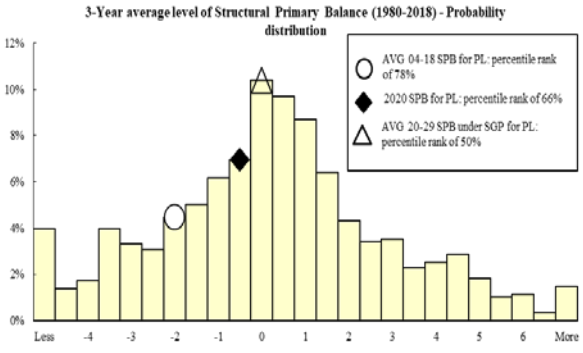
Net International Investment Position (IIP) - PL (2017)	Net IIP (% GDP): -61.2

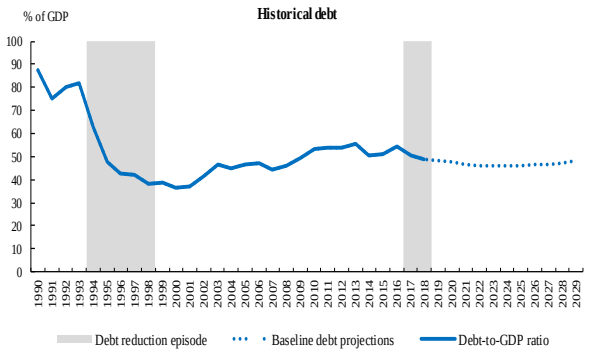
5. Risks related to government's contingent liabilities

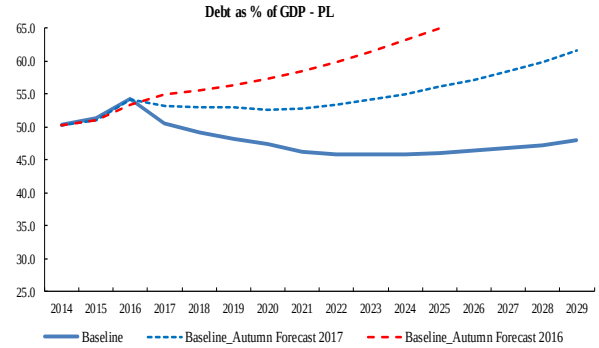
General government contingent liabilities		PL					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		6.7	7.4	6.6	7.1	n.a.	7.3
of which One-off guarantees		*6.6*	*7.0*	*6.0*	*6.5*	*n.a.*	*6.9*
Standardised guarantees		*0.1*	*0.4*	*0.6*	*0.7*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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.	0.8
	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.	0.1
	Total	n.a.	n.a.	n.a.	n.a.	n.a.	1.0

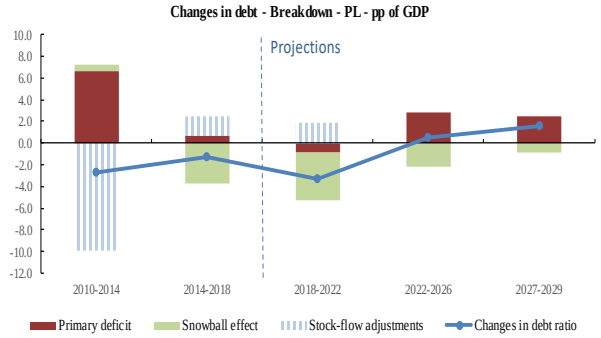
Government's contingent liability risks from banking sector - PL (2017)	Private sector credit flow (% GDP): 2.7	Change in nominal house price index: 3.8	Bank loans-to-deposits ratio (p.p.): 97.8	Share of non-performing loans (%): 5.8	Change in share of non-performing loans (p.p): -0.3	NPL coverage ratio 59.3	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Poland	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.3	47.4	46.1	46.8	48.0	48.3	46.5	47.0
Primary balance	0.6	0.6	0.4	-0.7	-0.8	-0.8	0.5	-0.6	-0.3
Structural primary balance (before CoA)	-0.5	-0.5	-0.4	-0.4	-0.4	-0.4	-0.5	-0.4	-0.4
Real GDP growth	4.8	3.7	3.3	2.9	2.8	2.5	3.9	2.8	3.1
Potential GDP growth	3.5	3.7	3.8	2.9	2.8	2.5	3.7	3.0	3.2
Inflation rate	1.1	2.4	2.5	2.0	2.0	2.0	2.0	2.1	2.1
Implicit interest rate (nominal)	3.1	3.1	3.1	3.7	4.0	4.3	3.1	3.7	3.6
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.3	47.4	48.5	49.6	51.0	48.3	48.6	48.6
Primary balance	0.6	0.6	0.4	-1.0	-1.0	-0.8	0.5	-0.9	-0.6
Structural primary balance (before CoA)	-0.5	-0.5	-0.4	-0.7	-0.6	-0.4	-0.5	-0.8	-0.7
Real GDP growth	4.8	3.7	3.3	2.9	2.8	2.5	3.9	2.8	3.1
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.3	47.1	40.8	39.0	37.6	48.2	41.0	42.8
Primary balance	0.6	0.6	0.9	0.5	0.5	0.5	0.7	0.6	0.6
Structural primary balance	-0.5	-0.5	0.1	0.5	0.5	0.5	-0.3	0.5	0.3
Real GDP growth	4.8	3.7	2.9	2.9	2.8	2.5	3.8	2.8	3.0
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	50.4	50.4	48.7	46.0	45.8	46.1	49.8	46.2	47.1
Primary balance	-0.7	0.0	0.4	-0.1	-0.1	-0.2	-0.1	0.0	0.0
Structural primary balance (before CoA)	-1.3	-0.6	-0.2	0.2	0.2	0.2	-0.7	0.2	0.0
Real GDP growth	3.8	3.8	3.7	2.6	2.5	2.1	3.8	2.3	2.7
Potential GDP growth	3.7	3.7	3.8	2.6	2.5	2.1	3.7	2.4	2.7
Inflation rate	2.3	2.3	2.5	2.0	2.0	2.0	2.4	1.8	2.0
Implicit interest rate (nominal)	3.0	3.2	3.2	3.8	4.1	4.3	3.1	3.8	3.6
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.3	47.4	49.7	52.7	56.1	48.3	50.3	49.8
Primary balance	0.6	0.6	0.4	-1.9	-1.9	-2.0	0.5	-1.5	-1.0
Structural primary balance (before CoA)	-0.5	-0.5	-0.4	-1.6	-1.6	-1.6	-0.5	-1.4	-1.1
Real GDP growth	4.8	3.7	3.3	2.9	2.8	2.5	3.9	2.9	3.2
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.3	47.4	48.4	50.8	53.2	48.3	48.9	48.8
Primary balance	0.6	0.6	0.4	-1.9	-1.9	-2.0	0.5	-1.5	-1.0
Structural primary balance (before CoA)	-0.5	-0.5	-0.4	-1.6	-1.6	-1.6	-0.5	-1.4	-1.1
Real GDP growth	4.8	3.7	3.3	3.5	3.5	3.5	3.9	3.6	3.7
Implicit interest rate (nominal)	3.1	3.1	3.1	3.8	4.0	4.1	3.1	3.7	3.6
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.3	47.6	47.3	48.7	50.6	48.4	47.9	48.0
Implicit interest rate (nominal)	3.1	3.3	3.4	4.4	4.7	5.1	3.2	4.4	4.1
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.2	47.3	44.9	45.1	45.6	48.2	45.3	46.0
Implicit interest rate (nominal)	3.1	3.0	2.9	3.1	3.3	3.5	3.0	3.1	3.1
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.4	47.8	48.1	49.6	51.7	48.4	48.6	48.5
Implicit interest rate (nominal)	3.1	3.4	3.6	4.6	4.9	5.2	3.4	4.6	4.3
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.0	47.0	44.6	45.0	45.8	48.1	45.1	45.8
Real GDP growth	4.8	4.2	3.8	3.4	3.3	3.0	4.2	3.3	3.6
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.5	47.9	47.6	48.8	50.5	48.5	48.1	48.2
Real GDP growth	4.8	3.2	2.8	2.4	2.3	2.0	3.6	2.3	2.6
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	47.9	46.7	44.4	44.7	45.5	47.9	44.8	45.6
Real GDP growth	4.8	4.5	4.1	3.4	3.3	3.0	4.5	3.3	3.6
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.6	48.2	47.9	49.1	50.7	48.7	48.3	48.4
Real GDP growth	4.8	2.8	2.4	2.4	2.3	2.0	3.4	2.3	2.6
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.2	47.4	46.2	47.1	48.3	48.3	46.7	47.1
Primary balance	0.6	0.6	0.4	-0.8	-0.8	-0.9	0.5	-0.6	-0.3
Structural primary balance (before CoA)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Real GDP growth	4.8	3.6	3.3	2.9	2.8	2.5	3.9	2.8	3.1
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	52.0	55.1	53.1	53.8	54.9	52.1	53.6	53.2
Exchange rate depreciation	0.0%	23.2%	23.2%	0.0%	0.0%	0.0%	15.5%	0.0%	3.9%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.0	46.8	43.5	43.3	43.5	48.0	43.8	44.9
Implicit interest rate (nominal)	3.1	3.0	2.9	3.1	3.3	3.5	3.0	3.1	3.1
Real GDP growth	4.8	4.2	3.8	3.4	3.3	3.0	4.2	3.3	3.6
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.2	48.6	48.1	48.9	50.7	53.2	48.6	49.4	49.2
Implicit interest rate (nominal)	3.1	3.3	3.4	4.4	4.7	5.1	3.2	4.3	4.1
Real GDP growth	4.8	3.2	2.8	2.4	2.3	2.0	3.6	2.3	2.6

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Based on the European Commission 2018 Autumn Forecast, Portugal should maintain a robust structural primary balance (SPB), slightly declining from 2.5% of GDP in 2018 to 2.3% in 2020. Real GDP growth should slow down, from 2.2% in 2018 (after 2.8% in 2017) to 1.7% in 2020. Supported by a favourable contribution of the interest rate – growth rate differential, gross government debt would decrease, albeit at a decelerating pace, from 121.5% of GDP in 2018 to 116.8% in 2020, the lowest level since 2011.

21.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Portugal, although some vulnerabilities to possible changes in the financial markets' conditions are still present.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, as well as the fiscal and the financial competitiveness sub-indexes.

Financial markets' perceptions of sovereign risk have remained favourable, reflected in lower and stable CDS spreads and a gradually improving ratings. Despite some interest rate volatility, yields on sovereign bonds have overall consolidated the relatively low levels reached in early 2018.

21.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks appear, on the contrary, to be high for Portugal, both according to the sustainability gap indicator S1 and from a DSA perspective. The still high debt-to-GDP ratio over the medium term, under the baseline and in some alternative scenarios contribute to this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to high risk in the medium term. This indicator shows that a cumulated improvement of 4.3 pps. of GDP of the SPB over 5 years, relative to the baseline 'no-fiscal policy change' scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. This would require an ambitious SPB by European standards ([118]). The very significant S1 value obtained for Portugal is mainly due to the distance of the debt ratio from the 60% reference value (contribution of 4.1 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Portugal is also deemed at high risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([119]).

Baseline no-fiscal policy change scenario

Portugal is considered at high risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would steadily decline until the end of the projection period (t+10) - to reach a level just below 107% of GDP by 2029. This still high level, under the no-fiscal policy change scenario (with an SPB unchanged at 2.3% of GDP) ([120]), reflects the need to compensate for increasing ageing costs, as well as unfavourable snowball effects (interest – growth rate differential) throughout the projection period (i.e. from 2021 onwards).

Government gross financing needs (GFN) ([121]) are projected to increase over the projection period, reaching 19% of GDP in 2029, well above their estimated value in 2019 (at close to 13% of GDP).

([118]) Only 1% of the SPBs recorded for the EU countries over 1980-2018 were greater than this value.
([119]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.
([120]) Over the period 1980-2018, in 22% of the cases, EU countries were able to reach an SPB value greater than 2.3% of GDP.
([121]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

Alternative and stress test scenarios

Given the high initial stock of debt, negative shocks to growth, interest rates or the primary balance would have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at around 113% of GDP) about 6 pp. of GDP higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Portuguese economy, points to a 26% probability of the debt ratio in 2023 being greater than in 2018, entailing medium risks given the high starting level. Moreover, such shocks also point to high uncertainty surrounding baseline projections, as can be seen from the relatively wide debt distribution cone ([122]).

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *deficit* of -0.5% of GDP), the Portuguese debt ratio in 2029 would be as much as 19 pp. of GDP higher (at 126% of GDP in 2029) than in the baseline.

If, on the contrary, fiscal policy was evolving in line with the main provisions of the Stability and Growth Pact (SGP) ([123]), the Portuguese government debt would substantially decrease, to 90% of GDP in 2029 (close to 17 pp. of GDP less than in the baseline scenario). However, this would require a significantly higher average SPB over the projection horizon (at +3.6% of GDP over 2020-29) than forecasted for 2020. While rapidly converging, the debt ratio would remain above the Treaty reference value of 60% of GDP in 2029.

21.3. Long-term fiscal sustainability challenges

Over the long term, Portugal is deemed at medium fiscal sustainability risk. Despite the low negative sustainability gap indicator to stabilise debt over the long term, the vulnerabilities linked to the high debt burden - captured by the DSA risk assessment - imply that Portugal is deemed at medium risk over the long term.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to limited risk in the long term. This indicator shows that a relatively small improvement of the SPB (+0.7 pps. of GDP), relative to the baseline 'no-fiscal policy change scenario', would be required to stabilise the debt-to-GDP ratio over the long term. This result is due to the projected overall moderate increase in ageing costs (contribution of +0.9 pps. of GDP) and favourable initial budgetary position (contribution of -0.1 pps. of GDP). It is in particular the projected decrease in public pension expenditure that contains ageing costs (contribution of -0.7 pps. of GDP), given substantial reforms implemented in this area. However, under a scenario assuming an initial budgetary position more in line with historical average, the S2 indicator would increase to above 3 pps. of GDP, hence beyond the critical threshold pointing to medium fiscal risks in the long term.

Over the long term, Portugal is deemed at medium fiscal sustainability risk. Despite the low sustainability gap S2 indicator, the vulnerabilities linked to the high debt burden – captured by the DSA risk assessment (see section 21.2) – imply that Portugal is deemed at medium risk over the long term ([124]).

21.4. Additional mitigating and aggravating risk factors

Some additional mitigating and aggravating risk factors exist. The structure of the Portuguese government debt, in terms of currency denomination helps mitigating vulnerabilities. Yet, the high share of short-term debt and holdings by non-residents could be an aggravating factor, as well as the negative net international investment position. Also, the share of non–performing loans in the banking sector points to some contingent liability risks.

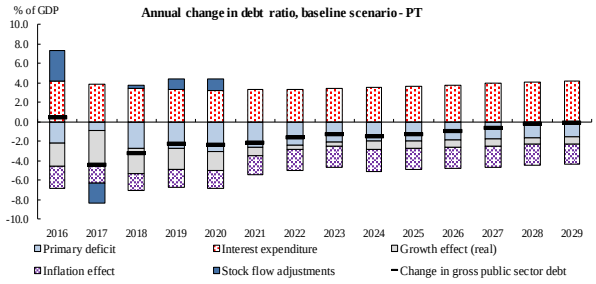
([122]) The difference between the 10th and 90th percentile in 2023 is of around 42 pp. of GDP.

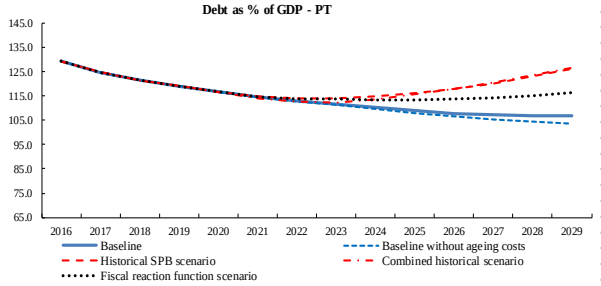
([123]) See Annex 5 in Volume 1 of this report for detailed explanations on the definition of the SGP scenario.

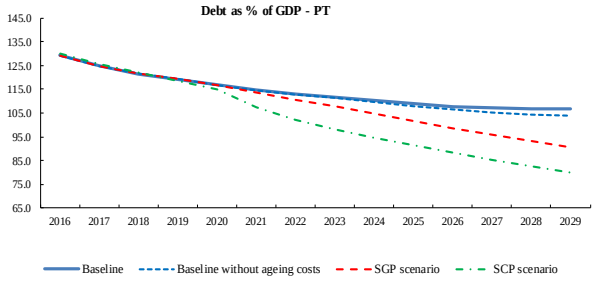
([124]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

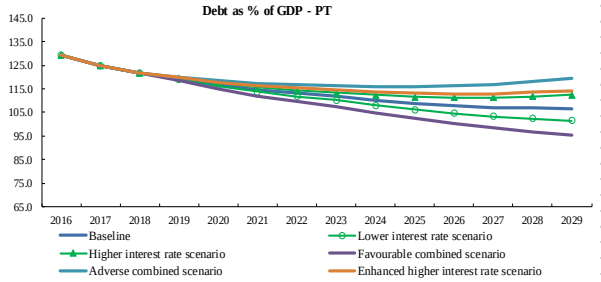
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

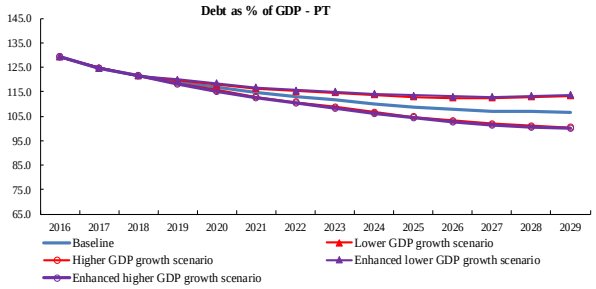
PT - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**129.2**	**124.8**	**121.5**	**119.2**	**116.8**	**114.6**	**113.0**	**111.7**	**110.1**	**108.8**	**107.8**	**107.1**	**106.8**	**106.7**
Changes in the ratio (-1+2+3)	*0.5*	*-4.5*	*-3.3*	*-2.3*	*-2.4*	*-2.2*	*-1.6*	*-1.3*	*-1.6*	*-1.3*	*-1.0*	*-0.7*	*-0.3*	*-0.1*
of which														
(1) Primary balance (1.1+1.2+1.3)	**2.2**	**0.9**	**2.7**	**2.7**	**3.0**	**2.7**	**2.4**	**2.1**	**2.0**	**1.9**	**1.9**	**1.8**	**1.6**	**1.5**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***2.1***	***2.5***	***2.5***	***2.4***	***2.3***	***2.2***	***2.1***	***2.1***	***2.0***	***1.9***	***1.9***	***1.8***	***1.6***	***1.5***
(1.1.1) Structural primary balance (bef. CoA)	*2.1*	*2.5*	*2.5*	*2.4*	*2.3*	*2.3*	*2.3*	*2.3*	*2.3*	*2.3*	*2.3*	*2.3*	*2.3*	*2.3*
(1.1.2) Cost of ageing						*0.1*	*0.1*	*0.2*	*0.2*	*0.3*	*0.4*	*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	***-0.3***	***0.4***	***0.6***	***0.7***	***0.7***	***0.5***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.4***	***-2.0***	***-0.4***	***-0.4***	***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**	**-1.6**	**-0.9**	**-0.7**	**-0.6**	**0.5**	**0.7**	**0.8**	**0.4**	**0.6**	**0.8**	**1.1**	**1.4**	**1.4**
(2.1) Interest expenditure	*4.2*	*3.8*	*3.5*	*3.3*	*3.2*	*3.3*	*3.3*	*3.4*	*3.5*	*3.6*	*3.8*	*3.9*	*4.1*	*4.2*
(2.2) Growth effect	*-2.4*	*-3.5*	*-2.6*	*-2.2*	*-2.0*	*-0.9*	*-0.5*	*-0.4*	*-0.9*	*-0.8*	*-0.8*	*-0.7*	*-0.7*	*-0.7*
(2.3) Inflation effect	*-2.2*	*-1.9*	*-1.7*	*-1.8*	*-1.8*	*-1.9*	*-2.1*	*-2.2*	*-2.2*	*-2.2*	*-2.1*	*-2.1*	*-2.1*	*-2.1*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**3.1**	**-2.0**	**0.3**	**1.1**	**1.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*3.1*	*-2.0*	*0.3*	*1.1*	*1.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-2.1	-1.3	-0.9	-0.9	-1.0	-1.1	-1.2	-1.4	-1.5	-1.7	-1.9	-2.2	-2.5	-2.7

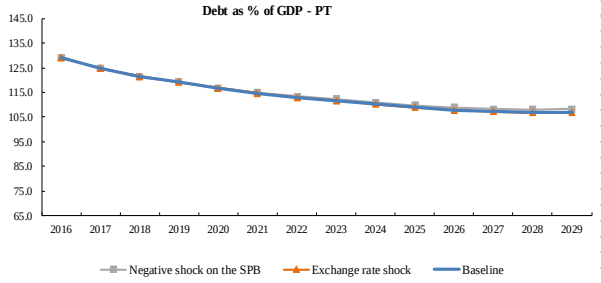


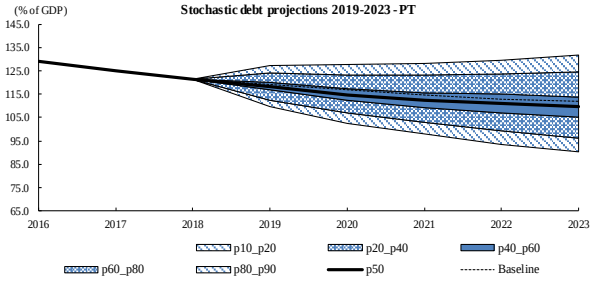


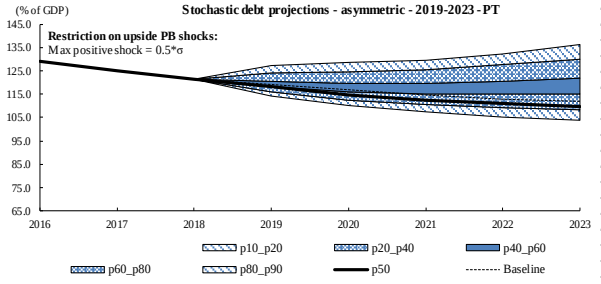












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
LOW (S0 = 0.3)	HIGH	HIGH (S1 = 4.3)	Risk category	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM	HIGH	LOW (S2 = 0.7)	MEDIUM
			Debt level (2029)	106.7	126.0	113.4	112.4	108.2				
			Debt peak year	2018	2029	2018	2018	2018				
			Percentile rank	22.0%	55.0%							
			Probability debt higher						25.6%			
			Dif. between percentiles						41.7			

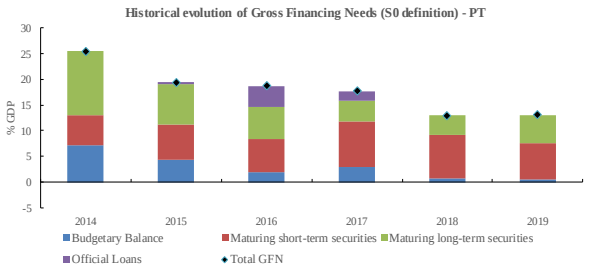
2.2. Sustainability indicators

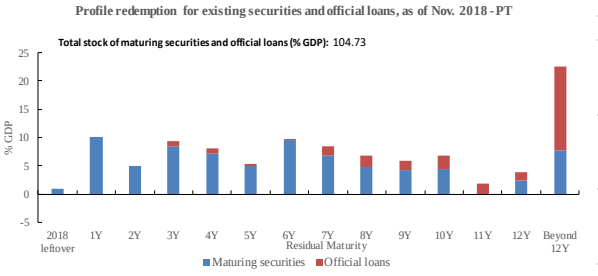
S0 indicator	2009	2018	Critical threshold
Overall index	**0.82**	**0.33**	**0.46**
Fiscal sub-index	1.00	0.31	0.36
Financial competitiveness sub-index	0.72	0.33	0.49

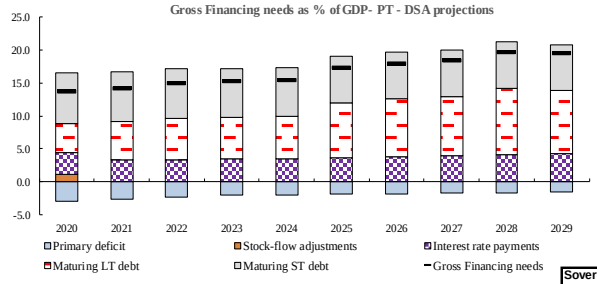
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**5.0**	**4.3**	**8.9**	**4.7**
of which *Gap to the debt-stabilizing primary balance*	*-0.1*	*-0.9*	*2.7*	*-0.9*
Cost of delaying adjustment	*0.8*	*0.7*	*1.5*	*0.8*
Debt requirement	*4.4*	*4.1*	*3.8*	*4.1*
Ageing costs	*-0.1*	*0.5*	*0.9*	*0.7*
Required structural primary balance related to S1	**6.6**	**6.6**	**8.4**	**6.9**

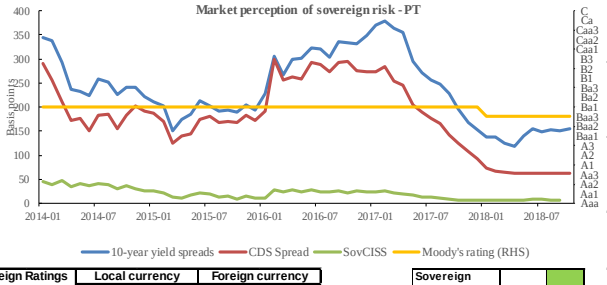
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**1.0**	**0.7**	**3.7**	**2.3**	**1.6**	**1.5**	**1.5**
of which Initial Budgetary position	0.7	-0.1	2.7	-0.1	0.1	-0.1	0.6
Ageing costs	0.3	0.9	0.9	2.4	1.5	1.6	0.9
of which Pensions	*-0.5*	*-0.7*	*-0.8*	*-0.7*	*0.0*	*-0.2*	*-0.4*
Health care	*1.7*	*1.6*	*1.7*	*2.2*	*1.5*	*1.7*	*1.5*
Long-term care	*0.2*	*0.5*	*0.6*	*1.5*	*0.5*	*0.6*	*0.5*
Others	*-1.1*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
Required structural primary balance related to S2	**2.6**	**3.0**	**3.2**	**4.5**	**3.8**	**3.8**	**3.8**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, PT	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Baa3	(P)P-3	Baa3	
S&P	BBB-u	A-3u	BBB-u	A-3u
Fitch	BBB		BBB	WD

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	156.0

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

Government debt structure - PT (2017)	Share of short-term government debt (p.p.): 17.3	Share of government debt in foreign currency (%): 0.0	Share of government debt by non-residents (%): 54.0

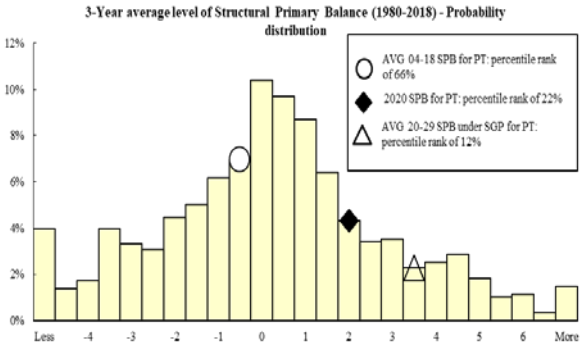
Net International Investment Position (IIP) - PT (2017)	Net IIP (% GDP): -104.9

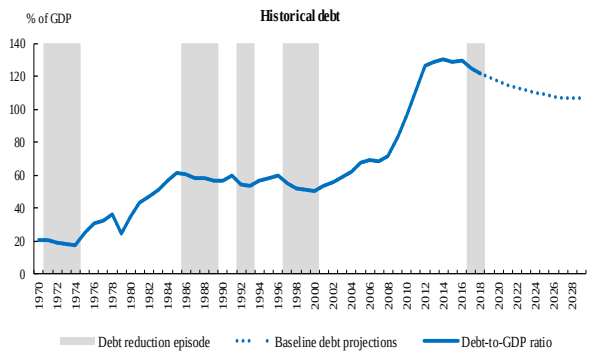
5. Risks related to government's contingent liabilities

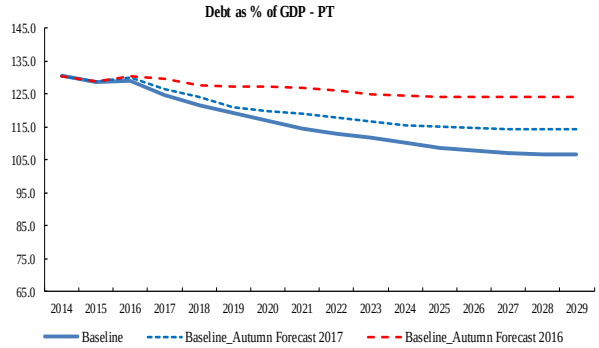
General government contingent liabilities		PT					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		12.4	13.3	6.7	5.6	n.a.	7.3
of which One-off guarantees		*12.4*	*13.3*	*6.7*	*5.6*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*4.0*	*3.8*	*3.4*	*3.2*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	9.0	9.6	3.5	2.5	3.4	0.8
	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	0.1
	Total	9.0	9.6	3.5	2.5	3.4	1.0

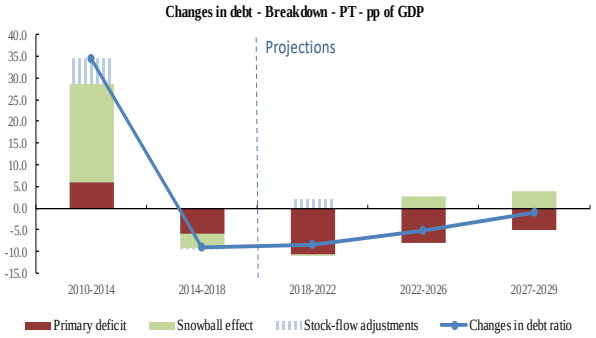
Government's contingent liability risks from banking sector - PT (2017)	Private sector credit flow (% GDP): 1.3	Change in nominal house price index: 9.2	Bank loans-to-deposits ratio (p.p.): 88.0	Share of non-performing loans (%): 15.2	Change in share of non-performing loans (p.p): -4.2	NPL coverage ratio 48.6	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.01%	Adverse scenario 0.03%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Portugal	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.2	116.8	108.8	107.1	106.7	119.2	109.6	112.0
Primary balance	2.7	2.7	3.0	1.9	1.8	1.5	2.8	2.0	2.2
Structural primary balance (before CoA)	2.5	2.4	2.3	2.3	2.3	2.3	2.4	2.3	2.3
Real GDP growth	2.2	1.8	1.7	0.8	0.7	0.7	1.9	0.7	1.0
Potential GDP growth	1.6	1.7	1.6	0.8	0.7	0.7	1.7	0.8	1.0
Inflation rate	1.4	1.5	1.5	2.0	2.0	2.0	1.5	1.9	1.8
Implicit interest rate (nominal)	2.9	2.8	2.8	3.4	3.7	4.1	2.8	3.4	3.3
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.2	116.8	113.4	114.3	116.2	119.2	114.3	115.5
Primary balance	2.7	2.7	3.0	0.7	0.7	0.8	2.8	0.9	1.4
Structural primary balance (before CoA)	2.5	2.4	2.3	1.0	1.1	1.5	2.4	1.2	1.5
Real GDP growth	2.2	1.8	1.7	0.8	0.6	0.6	1.9	0.7	1.0
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.2	116.7	101.5	95.8	90.4	119.1	101.8	106.1
Primary balance	2.7	2.7	3.7	3.7	3.8	3.9	3.0	3.8	3.6
Structural primary balance	2.5	2.4	2.9	3.7	3.8	3.9	2.6	3.7	3.4
Real GDP growth	2.2	1.8	1.2	0.7	0.7	0.7	1.7	0.6	0.9
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	122.2	118.4	114.9	91.4	85.3	79.8	118.5	92.2	98.8
Primary balance	2.9	3.4	3.9	3.8	3.7	3.4	3.4	3.8	3.7
Structural primary balance (before CoA)	3.0	3.1	3.6	4.0	4.0	4.0	3.2	4.0	3.8
Real GDP growth	2.3	2.3	2.3	0.8	0.8	0.9	2.3	1.1	1.4
Potential GDP growth	1.9	2.3	2.2	0.8	0.8	0.9	2.1	1.1	1.4
Inflation rate	1.4	1.4	1.4	2.0	2.0	2.0	1.4	1.9	1.8
Implicit interest rate (nominal)	2.9	2.9	2.8	3.4	3.6	3.8	2.9	3.4	3.2
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.2	116.8	116.2	120.3	126.0	119.2	117.9	118.2
Primary balance	2.7	2.7	3.0	-0.8	-1.0	-1.2	2.8	-0.3	0.5
Structural primary balance (before CoA)	2.5	2.4	2.3	-0.5	-0.5	-0.5	2.4	0.0	0.6
Real GDP growth	2.2	1.8	1.7	0.8	0.7	0.7	1.9	0.9	1.1
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.2	116.8	115.7	120.7	126.7	119.2	117.5	117.9
Primary balance	2.7	2.7	3.0	-0.8	-1.0	-1.2	2.8	-0.3	0.5
Structural primary balance (before CoA)	2.5	2.4	2.3	-0.5	-0.5	-0.5	2.4	0.0	0.6
Real GDP growth	2.2	1.8	1.7	0.4	0.4	0.4	1.9	0.8	1.1
Implicit interest rate (nominal)	2.9	2.8	2.8	3.5	3.8	3.9	2.8	3.5	3.3
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.4	117.3	111.6	111.2	112.4	119.4	112.6	114.3
Implicit interest rate (nominal)	2.9	3.0	3.0	3.9	4.4	4.8	3.0	3.9	3.7
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.0	116.3	106.2	103.3	101.4	118.9	106.8	109.8
Implicit interest rate (nominal)	2.9	2.6	2.6	2.9	3.1	3.4	2.7	2.9	2.9
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.7	117.8	113.0	112.8	114.3	119.7	114.0	115.4
Implicit interest rate (nominal)	2.9	3.2	3.3	4.0	4.4	4.9	3.1	4.1	3.8
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	118.6	115.6	104.9	102.0	100.4	118.6	105.6	108.9
Real GDP growth	2.2	2.3	2.2	1.3	1.2	1.2	2.2	1.2	1.4
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.8	118.0	113.0	112.5	113.4	119.7	113.8	115.3
Real GDP growth	2.2	1.3	1.2	0.3	0.2	0.2	1.6	0.2	0.5
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	118.4	115.2	104.4	101.6	100.0	118.4	105.2	108.5
Real GDP growth	2.2	2.5	2.4	1.3	1.2	1.2	2.4	1.2	1.5
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	120.0	118.4	113.5	113.0	113.9	120.0	114.3	115.7
Real GDP growth	2.2	1.2	1.0	0.3	0.2	0.2	1.5	0.2	0.5
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.2	116.9	109.7	108.2	108.2	119.2	110.5	112.6
Primary balance	2.7	2.6	2.9	1.8	1.6	1.4	2.7	1.8	2.1
Structural primary balance (before CoA)	2.5	2.3	2.1	2.1	2.1	2.1	2.3	2.1	2.2
Real GDP growth	2.2	1.9	1.8	0.8	0.7	0.7	1.9	0.7	1.0
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	119.2	116.8	108.8	107.1	106.7	119.2	109.6	112.0
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	118.4	115.1	102.3	98.3	95.4	118.3	103.0	106.8
Implicit interest rate (nominal)	2.9	2.6	2.6	2.9	3.1	3.4	2.7	2.9	2.9
Real GDP growth	2.2	2.3	2.2	1.3	1.2	1.2	2.2	1.2	1.4
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	121.5	120.0	118.5	115.8	116.8	119.4	120.0	116.9	117.7
Implicit interest rate (nominal)	2.9	3.0	3.0	3.9	4.4	4.8	3.0	3.9	3.7
Real GDP growth	2.2	1.3	1.2	0.3	0.2	0.2	1.6	0.2	0.5

ROMANIA

Based on the European Commission 2018 Autumn Forecast, Romania is set to experience a worsening in the structural primary balance (SPB), from a *deficit* of 1.9% of GDP in 2018 to a *deficit* of 3.1% of GDP in 2020. Real GDP growth is projected to amount to around 3.6% - 3.8% between 2018 and 2020 (a deceleration from 7.3% in 2017). Despite support from a favourable contribution of the interest rate – growth rate differential, the primary deficit effect would prevail and gross government debt would increase over the forecast period, from 35.1% of GDP in 2018 to 38.2% of GDP in 2020.

22.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Romania.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. None of the fiscal and financial competitiveness sub-indexes point to short-term vulnerabilities (each having a value below the critical threshold).

Financial markets' perceptions of sovereign risk remain medium-grade, with a 'BBB- stable' or equivalent rating given by the three major rating agencies to Romanian government debt. The 10-year sovereign yield spreads vis-à-vis the 10-year German bund are relatively high and have been increasing in recent years.

22.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks appear to be medium for Romania, both according to the sustainability gap indicator S1 and from a DSA perspective. The relatively high and still increasing stock of debt at the end of projections in the baseline scenario, and the sensitivity to possible macro-fiscal shocks contribute to this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to medium risk in the medium term. This indicator shows that a cumulated improvement of 1.5 pps. of GDP of the SPB over 5 years, relative to the baseline 'no-fiscal policy change' scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. The significant S1 value obtained for Romania is essentially due to the unfavourable initial budgetary position (contribution of 3.2 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Romania is also deemed at medium risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([125]).

Baseline no-fiscal policy change scenario

Romania is considered at medium risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would increase to nearly 62% of GDP at the end of the projection period (t+10) in 2029. This relatively high and still increasing level (growing fast compared to 2018) points to a lack of fiscal effort under the no-fiscal policy change scenario (with an SPB unchanged at -3.1% of GDP between 2020 and 2029) ([126]). Consequently, debt is set to increase despite favourable interest rate – growth rate differential (snowball effect) over the entire projection period.

Government gross financing needs (GFN) ([127]) are projected to nearly double over the projection period, reaching 14% of GDP in 2029, above their estimated value in 2019 (at close to 8% of GDP).

([125]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([126]) Over the period 1980-2018, in 89% of the cases, EU countries were able to reach an SPB value greater than -3.1% of GDP.

([127]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

Alternative and stress test scenarios

Adverse shocks to growth, interest rates or the primary balance would impact the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio of 65% of GDP in 2029, around 3 pps. of GDP higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Romanian economy, points to a 79% probability of the debt ratio in 2023 being greater than in 2018. In addition, such shocks point to important uncertainty surrounding the baseline projections, evident from the wide debt distribution cone ([128]).

If fiscal policy were to revert to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *deficit* of 2.2% of GDP), the Romanian debt ratio would be around 55% of GDP in 2029, i.e. about 6 pps. of GDP lower compared to the baseline scenario.

If, on the contrary, fiscal policy evolves in line with the main provisions of the Stability and Growth Pact (SGP) ([129]), the Romanian government debt would decrease somewhat vis-à-vis its current level, to less than 33% of GDP in 2029 (29 pps. of GDP less than in the baseline scenario). This evolution would keep the debt ratio below the critical threshold of 60% of GDP, and would thus contribute to a significant reduction of medium-term fiscal sustainability risks. However, this would require a significantly higher average SPB over the projection period (at +0.05% of GDP over 2020-29) than forecast for 2020. In this case, the debt ratio would remain below the SGP threshold of 60% of GDP in 2029.

22.3. Long-term fiscal sustainability challenges

Over the long term, Romania is deemed at medium fiscal sustainability risk. The sustainability gap indicator to stabilise debt over the long term combined with vulnerabilities from the debt burden reflected in the DSA imply that Romania is deemed at medium risk over the long term.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that a substantial improvement of the SPB would be required relative to the baseline no-fiscal policy change scenario to stabilise the debt-to-GDP ratio over the long term (a fiscal gap of 5.9 pps. of GDP). This result is due mainly to the unfavourable initial budgetary position and to the projected increase in ageing costs (contributions of 3.7 pps. and 2.1 pps. of GDP respectively). Under a more adverse scenario, the AWG risk ([130]), the S2 indicator would reach 9 pps. of GDP, hence shifting fiscal risks to high in the long term.

Over the long term, Romania is deemed at medium fiscal sustainability risk. The sustainability gap indicator to stabilise debt over the long term combined with vulnerabilities from the debt burden reflected in the DSA (see section 22.2) imply that Romania is deemed at medium risk over the long term ([131]).

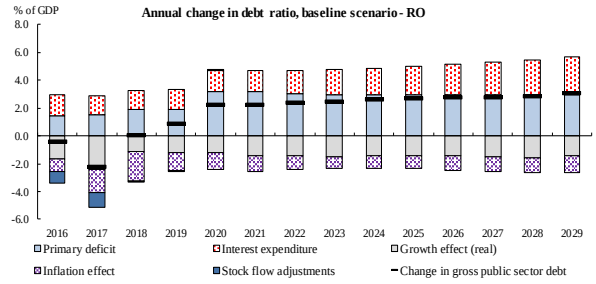
22.4. Additional mitigating and aggravating risk factors

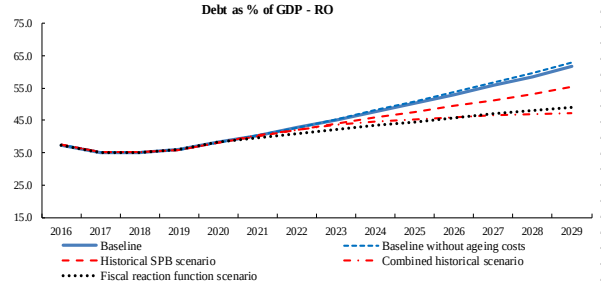
Some additional mitigating and aggravating risk factors exist. The structure of the Romanian government debt in terms of maturity longer than one year helps mitigate vulnerabilities. Yet, the high share of government debt in foreign currency and the important holdings of debt by non-residents could be aggravating factors, as well as the negative net international investment position. Not least, the share of non–performing loans in the banking sector points to some contingent liability risks.

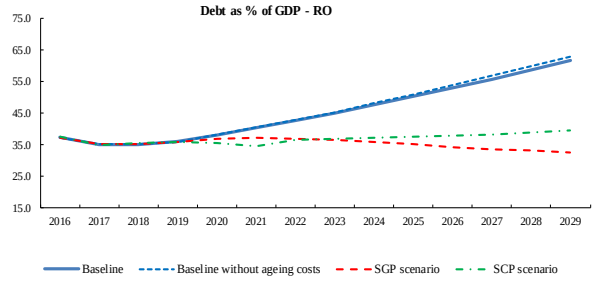
([128]) The difference between the 10th and 90th percentile in 2023 is of around 36 pps. of GDP.
([129]) See Annex 5 in Volume 1 of this report for detailed explanations on the definition of the SGP scenario.
([130]) For more details on this scenario see Section 4.3 of Chapter 4 in Volume 1 of this report.
([131]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

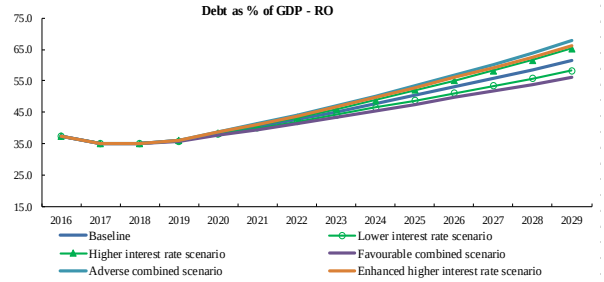
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

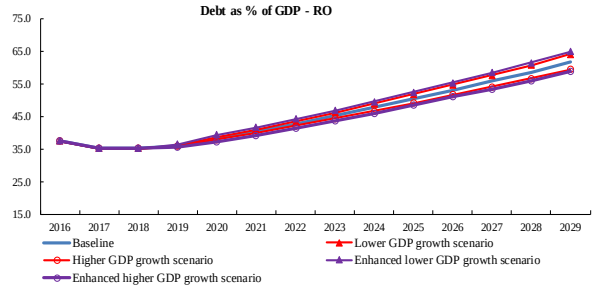
RO - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**37.3**	**35.1**	**35.1**	**35.9**	**38.2**	**40.4**	**42.7**	**45.1**	**47.7**	**50.3**	**53.0**	**55.8**	**58.6**	**61.6**
Changes in the ratio (-1+2+3)	*-0.5*	*-2.2*	*0.0*	*0.9*	*2.2*	*2.2*	*2.3*	*2.5*	*2.6*	*2.6*	*2.7*	*2.7*	*2.8*	*3.0*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-1.4**	**-1.5**	**-1.9**	**-1.9**	**-3.2**	**-3.2**	**-3.1**	**-3.0**	**-3.0**	**-3.0**	**-3.0**	**-3.0**	**-3.0**	**-3.0**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.7***	***-2.0***	***-1.9***	***-2.0***	***-3.1***	***-3.1***	***-3.0***	***-3.0***	***-3.0***	***-3.0***	***-3.0***	***-3.0***	***-3.0***	***-3.0***
(1.1.1) Structural primary balance (bef. CoA)	*-0.7*	*-2.0*	*-1.9*	*-2.0*	*-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						*0.0*	*-0.1*	*-0.1*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*
(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	***-0.4***	***0.5***	***0.2***	***0.1***	***-0.1***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.4***	***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)	**-1.1**	**-2.7**	**-1.9**	**-1.0**	**-0.9**	**-1.0**	**-0.7**	**-0.5**	**-0.4**	**-0.3**	**-0.3**	**-0.2**	**-0.2**	**0.1**
(2.1) Interest expenditure	*1.5*	*1.3*	*1.4*	*1.4*	*1.5*	*1.6*	*1.7*	*1.8*	*1.9*	*2.0*	*2.2*	*2.3*	*2.5*	*2.7*
(2.2) Growth effect	*-1.7*	*-2.4*	*-1.1*	*-1.2*	*-1.2*	*-1.4*	*-1.4*	*-1.5*	*-1.4*	*-1.4*	*-1.5*	*-1.5*	*-1.6*	*-1.5*
(2.3) Inflation effect	*-0.9*	*-1.7*	*-2.1*	*-1.3*	*-1.2*	*-1.1*	*-1.0*	*-0.8*	*-0.9*	*-0.9*	*-1.0*	*-1.0*	*-1.1*	*-1.1*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-0.8**	**-1.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-1.0*	*-1.3*	*-0.2*	*-0.1*	*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	*0.2*	*0.2*	*0.2*	*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	-2.2	-3.4	-3.3	-3.4	-4.6	-4.7	-4.7	-4.8	-4.9	-5.0	-5.1	-5.3	-5.5	-5.6

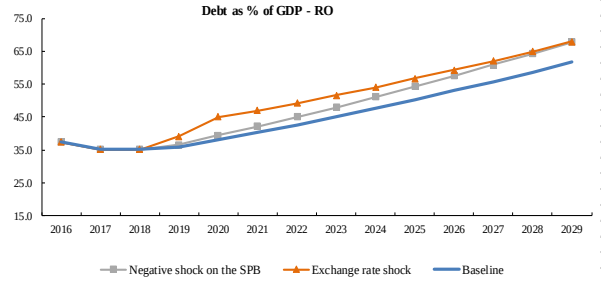


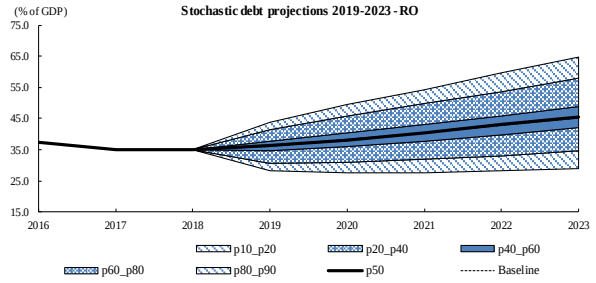


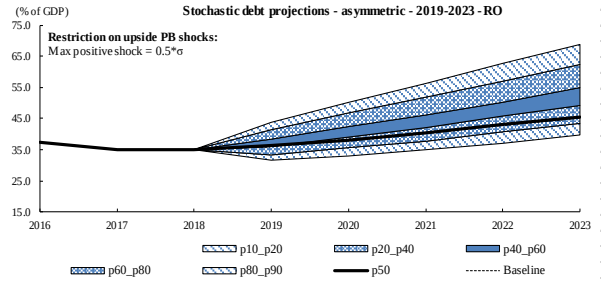












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis						DSA	S2	Long term
				Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections			
			Risk category	MEDIUM	LOW	MEDIUM	MEDIUM	MEDIUM	MEDIUM		
			Debt level (2029)	61.6	55.3	64.0	65.2	67.8			
			Debt peak year	2029	2029	2029	2029	2029			
			Percentile rank	89.0%	84.0%						
			Probability debt higher						78.7%		
			Dif. between percentiles						35.7		
LOW (S0 = 0.3)	MEDIUM	MEDIUM (S1 = 1.5)								MEDIUM (S2 = 5.9)	MEDIUM

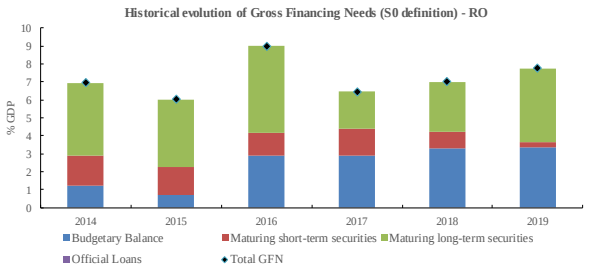
2.2. Sustainability indicators

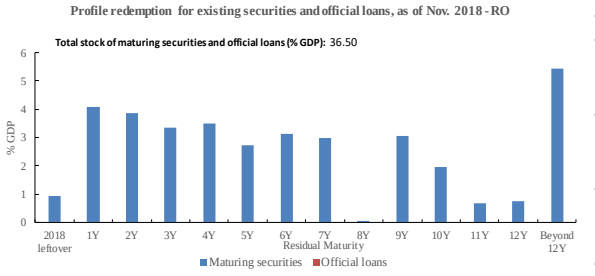
S0 indicator	2009	2018	Critical threshold
Overall index	**0.70**	**0.30**	**0.46**
Fiscal sub-index	0.46	0.26	0.36
Financial competitiveness sub-index	0.81	0.33	0.49

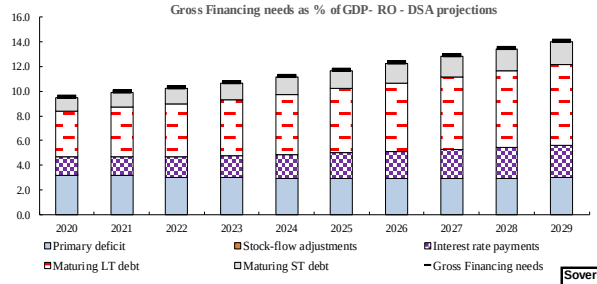
S1 indicator	2017 DSM	FSR 2018		
		COM no-policy change scenario	Historical SPB scenario	AWG risk scenario
Overall index	**2.1**	**1.5**	**2.0**	**2.0**
of which *Gap to the debt-stabilizing primary balance*	*3.0*	*3.0*	*2.6*	*3.1*
Cost of delaying adjustment	*0.3*	*0.2*	*0.3*	*0.3*
Debt requirement	*-1.5*	*-1.6*	*-1.0*	*-1.6*
Ageing costs	*0.3*	*-0.1*	*0.1*	*0.3*
Required structural primary balance related to S1	**-0.9**	**-1.5**	**-0.1**	**-1.0**

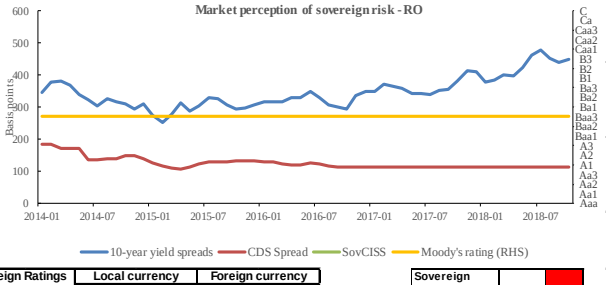
S2 indicator	2017 DSM	FSR 2018					
		COM no-policy change scenario	Historical SPB scenario	AWG risk scenario	TFP risk scenario	High life expectancy scenario	Higher interest rate scenario
Overall index	**5.1**	**5.9**	**5.3**	**9.0**	**6.2**	**6.2**	**5.8**
of which Initial Budgetary position	3.7	3.7	3.0	3.7	3.8	3.7	3.9
Ageing costs	1.4	2.1	2.3	5.2	2.4	2.5	1.8
of which Pensions	*0.0*	*1.0*	*1.0*	*1.0*	*1.3*	*1.2*	*0.8*
Health care	*0.5*	*0.7*	*0.7*	*1.5*	*0.6*	*0.7*	*0.6*
Long-term care	*0.5*	*0.2*	*0.2*	*2.5*	*0.2*	*0.2*	*0.2*
Others	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.2*
Required structural primary balance related to S2	**2.1**	**2.8**	**3.1**	**5.9**	**3.1**	**3.1**	**2.7**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, RO	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	Baa3		Baa3	
S&P	BBB-	A-3	BBB-	A-3
Fitch	BBB-	F3	BBB-	F3

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	450.0

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

Government debt structure - RO (2017)	Share of short-term government debt (p.p.):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	5.0	51.7	48.5

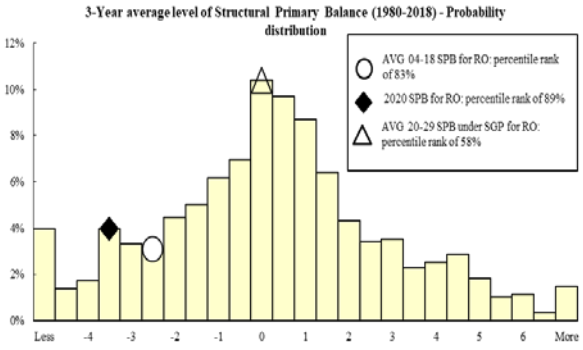
Net International Investment Position (IIP) - RO (2017)	Net IIP (% GDP):
	-47.7

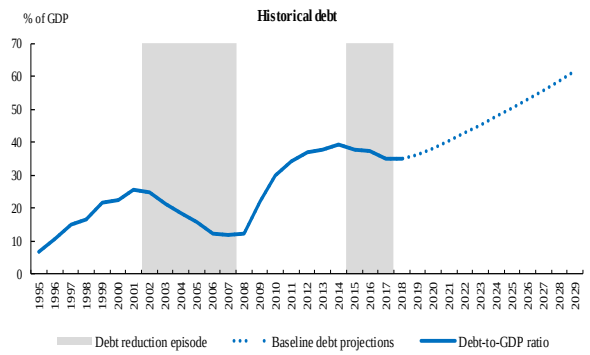
5. Risks related to government's contingent liabilities

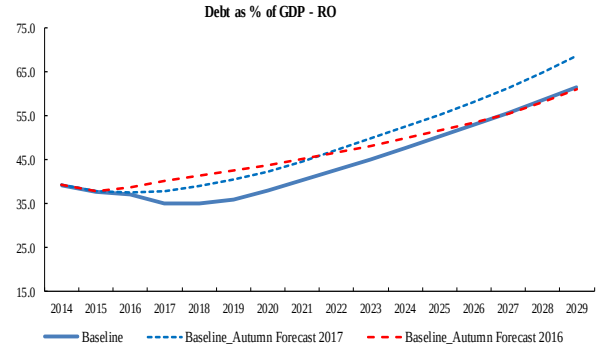
General government contingent liabilities		RO					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		1.8	2.2	2.2	2.2	n.a.	7.3
of which One-off guarantees		*0.9*	*0.8*	*0.5*	*0.4*	*n.a.*	*6.9*
Standardised guarantees		*0.8*	*1.3*	*1.8*	*1.9*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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.	0.8
	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.	0.1
	Total	n.a.	n.a.	n.a.	n.a.	n.a.	1.0

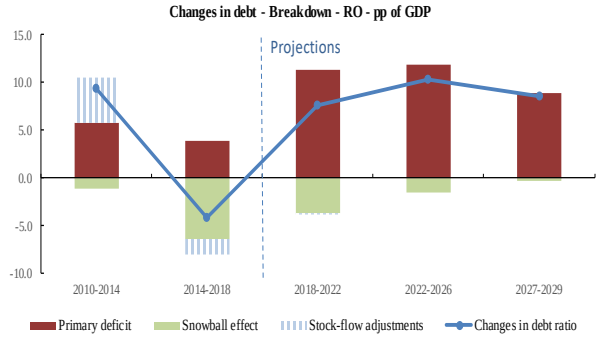
Government's contingent liability risks from banking sector - RO (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	1.7	6.1	66.2	6.5	-3.5	67.6	0.00%	0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Romania	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	35.9	38.2	50.3	55.8	61.6	36.4	50.6	47.0
Primary balance	-1.9	-1.9	-3.2	-3.0	-3.0	-3.0	-2.3	-3.0	-2.8
Structural primary balance (before CoA)	-1.9	-2.0	-3.1	-3.1	-3.1	-3.1	-2.3	-3.1	-2.9
Real GDP growth	3.6	3.8	3.6	3.1	3.0	2.6	3.6	3.3	3.4
Potential GDP growth	4.6	4.1	4.1	3.1	3.0	2.6	4.3	3.2	3.5
Inflation rate	6.5	3.8	3.5	2.0	2.0	2.0	4.6	2.2	2.8
Implicit interest rate (nominal)	4.4	4.4	4.4	4.5	4.6	4.8	4.4	4.5	4.5
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	35.9	38.2	44.6	46.9	49.2	36.4	44.5	42.5
Primary balance	-1.9	-1.9	-3.2	-1.5	-1.3	-1.1	-2.3	-1.5	-1.7
Structural primary balance (before CoA)	-1.9	-2.0	-3.1	-1.6	-1.4	-1.2	-2.3	-1.6	-1.8
Real GDP growth	3.6	3.8	3.6	3.1	2.9	2.5	3.6	3.1	3.2
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	35.9	37.0	35.0	33.7	32.6	36.0	35.0	35.3
Primary balance	-1.9	-1.9	-1.5	0.5	0.5	0.5	-1.8	0.2	-0.3
Structural primary balance	-1.9	-2.0	-1.4	0.5	0.5	0.5	-1.8	0.2	-0.3
Real GDP growth	3.6	3.8	2.4	3.2	3.0	2.6	3.2	3.1	3.1
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.4	35.8	35.4	37.5	38.3	39.6	35.5	37.5	37.0
Primary balance	-1.7	-1.1	-0.5	-0.6	-0.6	-0.6	-1.1	-0.5	-0.7
Structural primary balance (before CoA)	-1.9	-1.5	-1.0	-0.7	-0.7	-0.7	-1.5	-0.7	-0.9
Real GDP growth	6.1	5.7	5.7	3.0	2.9	2.4	5.8	2.8	3.6
Potential GDP growth	5.2	5.4	5.3	3.0	2.9	2.4	5.3	2.8	3.4
Inflation rate	2.1	1.9	1.9	2.0	2.0	2.0	2.0	1.8	1.8
Implicit interest rate (nominal)	4.4	4.1	4.1	4.4	4.6	4.7	4.2	4.4	4.4
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	35.9	38.2	47.5	51.2	55.3	36.4	47.6	44.8
Primary balance	-1.9	-1.9	-3.2	-2.1	-2.1	-2.1	-2.3	-2.3	-2.3
Structural primary balance (before CoA)	-1.9	-2.0	-3.1	-2.2	-2.2	-2.2	-2.3	-2.3	-2.3
Real GDP growth	3.6	3.8	3.6	3.1	3.0	2.6	3.6	3.2	3.3
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	35.9	38.2	45.4	46.5	47.3	36.4	44.8	42.7
Primary balance	-1.9	-1.9	-3.2	-2.1	-2.1	-2.1	-2.3	-2.3	-2.3
Structural primary balance (before CoA)	-1.9	-2.0	-3.1	-2.2	-2.2	-2.2	-2.3	-2.3	-2.3
Real GDP growth	3.6	3.8	3.6	3.9	3.9	3.9	3.6	3.8	3.7
Implicit interest rate (nominal)	4.4	4.4	4.4	2.9	2.4	2.0	4.4	3.1	3.4
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	36.0	38.4	52.0	58.3	65.2	36.5	52.4	48.4
Implicit interest rate (nominal)	4.4	4.7	4.8	5.3	5.5	5.7	4.7	5.3	5.2
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	35.9	38.0	48.8	53.4	58.3	36.3	48.9	45.7
Implicit interest rate (nominal)	4.4	4.2	4.0	3.7	3.7	3.8	4.2	3.7	3.9
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	36.1	38.6	52.8	59.3	66.3	36.6	53.2	49.0
Implicit interest rate (nominal)	4.4	4.9	5.2	5.5	5.6	5.8	4.9	5.5	5.4
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	35.8	37.9	49.1	54.0	59.3	36.2	49.3	46.0
Real GDP growth	3.6	4.3	4.1	3.6	3.5	3.1	4.0	3.8	3.8
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	36.1	38.5	51.7	57.6	64.0	36.6	52.0	48.1
Real GDP growth	3.6	3.3	3.1	2.6	2.5	2.1	3.3	2.8	2.9
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	35.4	37.2	48.4	53.4	58.7	35.9	48.6	45.4
Real GDP growth	3.6	5.3	5.2	3.6	3.5	3.1	4.7	3.8	4.0
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	36.5	39.3	52.4	58.3	64.7	36.9	52.7	48.7
Real GDP growth	3.6	2.2	2.0	2.6	2.5	2.1	2.6	2.8	2.7
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	36.6	39.4	54.3	60.8	67.8	37.0	54.5	50.1
Primary balance	-1.9	-2.7	-3.7	-3.5	-3.5	-3.6	-2.8	-3.6	-3.4
Structural primary balance (before CoA)	-1.9	-2.8	-3.6	-3.6	-3.6	-3.6	-2.8	-3.6	-3.4
Real GDP growth	3.6	4.4	3.4	3.1	3.0	2.6	3.8	3.3	3.4
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	39.2	45.0	56.7	62.0	67.9	39.7	56.9	52.6
Exchange rate depreciation	0.0%	15.1%	15.1%	0.0%	0.0%	0.0%	10.1%	0.0%	2.5%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	35.7	37.6	47.5	51.7	56.1	36.1	47.6	44.8
Implicit interest rate (nominal)	4.4	4.2	4.0	3.7	3.7	3.8	4.2	3.7	3.9
Real GDP growth	3.6	4.3	4.1	3.6	3.5	3.1	4.0	3.8	3.8
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	35.1	36.2	38.7	53.4	60.2	67.8	36.7	53.8	49.5
Implicit interest rate (nominal)	4.4	4.7	4.8	5.3	5.5	5.7	4.7	5.3	5.2
Real GDP growth	3.6	3.3	3.1	2.6	2.5	2.1	3.3	2.8	2.9

SLOVENIA

Based on the European Commission 2018 Autumn Forecast, Slovenia should experience a deterioration in the structural primary balance (SPB), from a *surplus* of 1.2% of GDP in 2018 to a *surplus* of 0.6% of GDP in 2020. Real GDP growth should slow down, from 4.3% in 2018 (after 4.9% in 2017) to 3.0% in 2020. Supported by a favourable contribution of the interest rate – growth rate differential, gross government debt would continue to decrease over the forecast period, from 70.2% of GDP in 2018 to 62.6% of GDP in 2020.

23.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Slovenia.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. None of the fiscal and financial competitiveness sub-indexes point to short-term vulnerabilities (each having a value below the critical threshold).

Financial markets' perception of sovereign risk remains favourable. This is confirmed by the stable rating assigned to Slovenian debt by the three major rating agencies, as well as by the 10-year yield spread vis-à-vis the German 10-year bund, which has been below 100 bps over the past two years.

23.2. Medium-term fiscal sustainability challenges

Over the medium term, overall fiscal sustainability risks appear to be medium for Slovenia, with medium risks according to the sustainability gap indicator S1 and low risks from a DSA perspective.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to medium risk in the medium term. This indicator shows that a cumulated improvement of 0.2 pp. of GDP of the SPB over 5 years, relative to the baseline 'no-fiscal policy change' scenario, would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033. The S1 value obtained for Slovenia is mainly due to the projected age-related public spending (contribution of 1.2 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Slovenia is deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([132]).

Baseline no-fiscal policy change scenario

Slovenia is considered at low risk in the baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would decline until 2027, before rising again slightly until the end of the projection period (t+10) - to reach above 53% of GDP in 2029. This moderate and decreasing level compared to 2018 is driven by the assumed fiscal effort under the no-fiscal policy change scenario (with an SPB unchanged at 0.6% of GDP), supported by favourable interest rate – growth rate differential (snowball effects) all over the projection period. These two effects combined fully compensate the increasing ageing costs up to 2027, but offset the latter only partly in 2028-2029, when the debt ratio picks up.

Government gross financing needs (GFN) ([133]) are projected to slightly increase over the projection period, reaching about 10% of GDP in 2029, above their estimated value in 2019 (at close to 8% of GDP).

Alternative and stress test scenarios

Given the moderate initial stock of debt, adverse shocks to growth, interest rates or the primary balance would have little impact on the debt ratio.

([132]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([133]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at about 56% of GDP) around 3 pps. of GDP higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Slovenian economy, points to a 6% probability of the debt ratio in 2023 being greater than in 2018. In addition, such shocks point to uncertainty surrounding the baseline projections, evident from the relatively wide debt distribution cone ([134]).

If fiscal policy were to revert to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *deficit* of approximately 0.3% of GDP), the Slovenian debt ratio in 2029 would be some 7 pps. of GDP higher (at above 60% of GDP in 2029) than under the baseline scenario.

If, on the contrary, fiscal policy was evolving in line with the main provisions of the Stability and Growth Pact (SGP) ([135]), the Slovenian government debt would substantially decrease, to nearly 38% of GDP in 2029 (some 15 pps. of GDP less than in the baseline scenario). However, this would require a higher average SPB over the projection period (at approximately +1.6% of GDP over 2020-29) than forecast for 2020.

23.3. Long-term fiscal sustainability challenges

Over the long term, Slovenia is deemed at medium fiscal sustainability risk, notwithstanding low vulnerabilities linked to the low debt burden – captured by the DSA risk assessment. The fiscal adjustment to stabilise debt over the long term implied by the sustainability gap indicator (S2) points to medium sustainability risks over the long term due to projected high increase in the ageing costs.

([134]) The difference between the 10th and 90th percentile in 2023 is of around 24 pps. of GDP.

([135]) See Annex 5 in Volume 1 of this report for detailed explanations on the definition of the SGP scenario.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that that an improvement of the SPB would be required relative to the baseline no-fiscal policy change scenario to stabilise the debt-to-GDP ratio over the long term (a fiscal gap of 5.5 pps. of GDP). This result is essentially due to the projected increase in ageing costs given insufficient reforms in this area. Under a more adverse scenario, the 'AWG risk' ([136]), the S2 indicator would reach almost 8 pps. of GDP, hence shifting fiscal risks to high in the long term.

Over the long term, Slovenia is deemed at medium fiscal sustainability risk. Despite the low debt vulnerabilities captured by the DSA risk assessment (see section 23.2) ([137]), the fiscal adjustment to stabilise debt over the long term implied by the sustainability gap indicator S2 points to medium sustainability risks over the long term.

23.4. Additional mitigating and aggravating risk factors

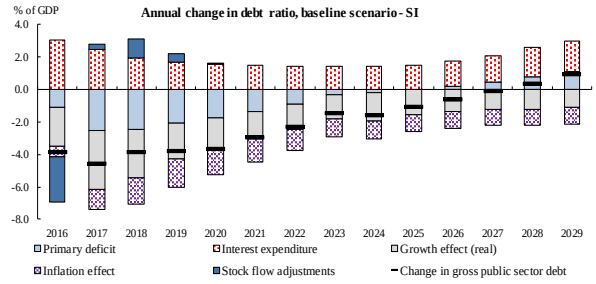
Some additional mitigating and aggravating risk factors exist. The structure of Slovenian government debt, in terms of currency denomination and maturity, helps mitigating vulnerabilities. Yet, the high share of debt holdings by non-residents could be an aggravating factor, as well as the negative net international investment position. Moreover, the share of non–performing loans in the banking sector points to some contingent liability risks.

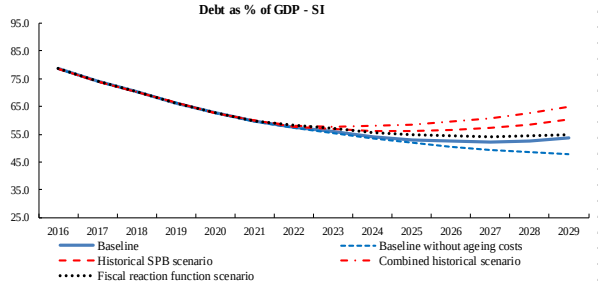
([136]) For more details on this scenario see Section 4.3 of Chapter 4 in Volume 1 of this report.

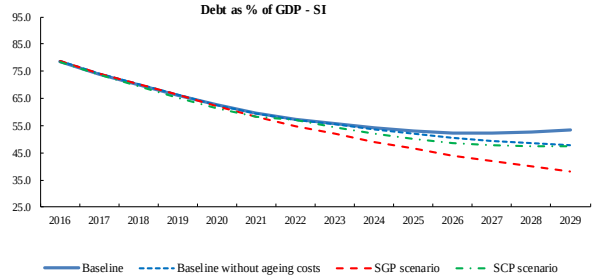
([137]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

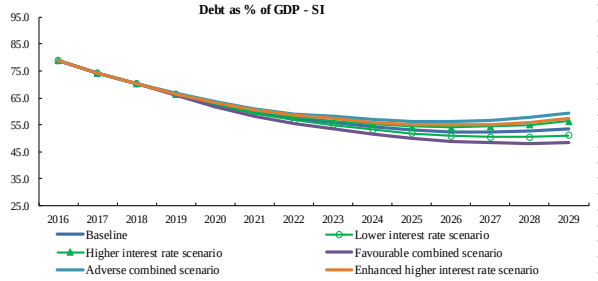
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

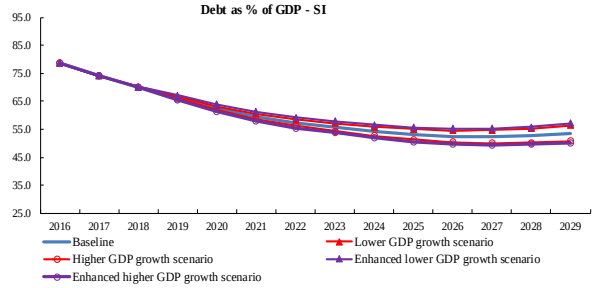
SI - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**78.7**	**74.1**	**70.2**	**66.3**	**62.6**	**59.6**	**57.3**	**55.8**	**54.2**	**53.1**	**52.4**	**52.3**	**52.6**	**53.5**
Changes in the ratio (-1+2+3)	*-3.9*	*-4.6*	*-3.9*	*-3.8*	*-3.7*	*-3.0*	*-2.3*	*-1.5*	*-1.6*	*-1.1*	*-0.7*	*-0.1*	*0.3*	*0.9*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.1**	**2.6**	**2.4**	**2.1**	**1.8**	**1.3**	**0.9**	**0.3**	**0.2**	**0.0**	**-0.2**	**-0.4**	**-0.8**	**-1.1**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***2.0***	***2.1***	***1.2***	***0.7***	***0.6***	***0.5***	***0.5***	***0.3***	***0.2***	***0.0***	***-0.2***	***-0.4***	***-0.8***	***-1.1***
(1.1.1) Structural primary balance (bef. CoA)	*2.0*	*2.1*	*1.2*	*0.7*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*
(1.1.2) Cost of ageing						*0.0*	*0.0*	*0.2*	*0.4*	*0.5*	*0.7*	*1.0*	*1.3*	*1.6*
(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***	***0.5***	***1.3***	***1.4***	***1.2***	***0.8***	***0.4***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.1***	***-0.1***	***-0.1***	***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)	**0.0**	**-2.3**	**-2.6**	**-2.3**	**-1.9**	**-1.7**	**-1.4**	**-1.2**	**-1.4**	**-1.1**	**-0.9**	**-0.6**	**-0.4**	**-0.2**
(2.1) Interest expenditure	*3.0*	*2.5*	*2.0*	*1.7*	*1.6*	*1.5*	*1.4*	*1.4*	*1.4*	*1.5*	*1.6*	*1.7*	*1.8*	*1.9*
(2.2) Growth effect	*-2.4*	*-3.6*	*-3.0*	*-2.2*	*-1.9*	*-1.7*	*-1.6*	*-1.5*	*-1.8*	*-1.5*	*-1.4*	*-1.2*	*-1.2*	*-1.1*
(2.3) Inflation effect	*-0.6*	*-1.2*	*-1.6*	*-1.7*	*-1.6*	*-1.4*	*-1.3*	*-1.1*	*-1.1*	*-1.1*	*-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	**-2.8**	**0.3**	**1.2**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-2.8*	*0.3*	*1.2*	*0.5*	*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	-1.0	-0.4	-0.8	-1.0	-1.0	-1.0	-0.9	-1.1	-1.3	-1.5	-1.8	-2.1	-2.6	-3.0

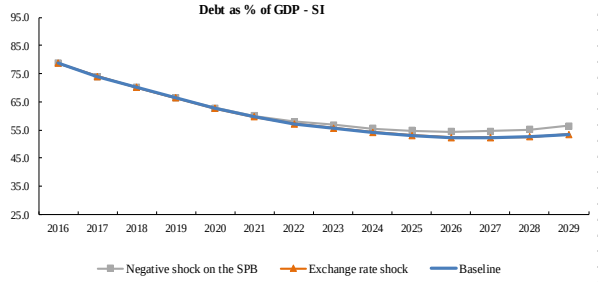


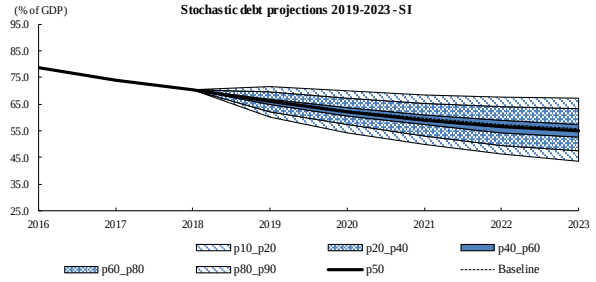


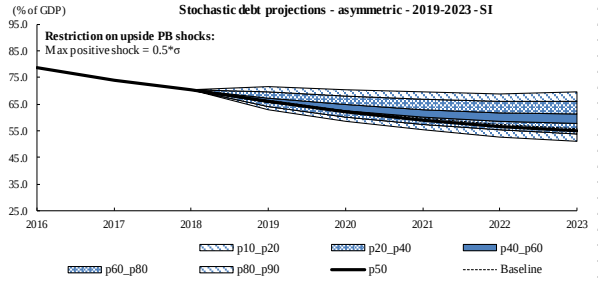












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	MEDIUM	LOW	LOW	LOW	LOW			
LOW (S0 = 0.1)	MEDIUM	MEDIUM (S1 = 0.2)	Debt level (2029)	53.5	60.4	56.4	56.3	56.4		LOW	MEDIUM (S2 = 5.5)	MEDIUM
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	48.0%	62.0%							
			Probability debt higher						6.0%			
			Dif. between percentiles						23.5			

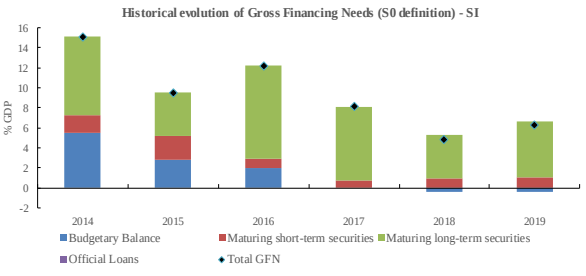
2.2. Sustainability indicators

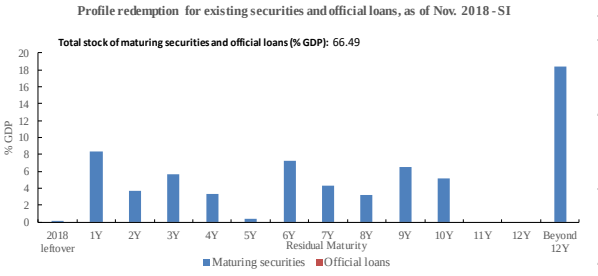
S0 indicator	2009	2018	Critical threshold
Overall index	**0.64**	**0.13**	**0.46**
Fiscal sub-index	0.56	0.07	0.36
Financial competitiveness sub-index	0.68	0.16	0.49

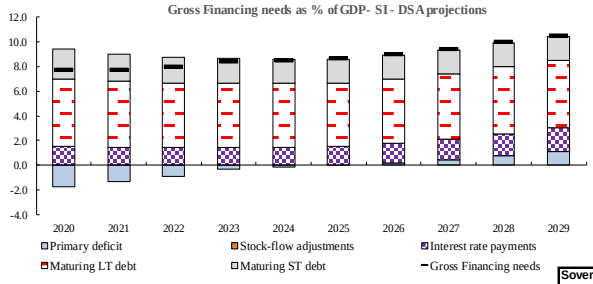
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**1.3**	**0.2**	**2.8**	**0.6**
of which *Gap to the debt-stabilizing primary balance*	*-0.8*	*-1.2*	*0.6*	*-1.2*
Cost of delaying adjustment	*0.2*	*0.0*	*0.4*	*0.1*
Debt requirement	*0.9*	*0.2*	*-0.3*	*0.2*
Ageing costs	*1.0*	*1.2*	*2.1*	*1.5*
Required structural primary balance related to S1	**1.7**	**0.7**	**2.4**	**1.2**

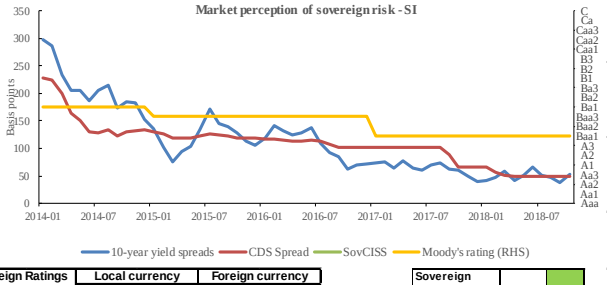
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**6.1**	**5.5**	**6.8**	**7.9**	**5.7**	**6.3**	**5.3**
of which Initial Budgetary position	0.5	0.3	1.3	0.4	0.4	0.3	0.6
Ageing costs	5.6	5.2	5.5	7.5	5.2	6.0	4.7
of which Pensions	*3.4*	*3.3*	*3.5*	*3.3*	*3.5*	*3.9*	*3.0*
Health care	*0.8*	*0.8*	*0.8*	*1.4*	*0.7*	*0.8*	*0.8*
Long-term care	*1.0*	*0.7*	*0.7*	*2.3*	*0.7*	*0.8*	*0.6*
Others	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*
Required structural primary balance related to S2	**6.5**	**6.1**	**6.4**	**8.4**	**6.2**	**6.9**	**5.9**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, SI	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Baa1		Baa1	
S&P	A+	A-1	A+	A-1
Fitch	A-		A-	

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	52.0

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

Government debt structure - SI (2017)	Share of short-term government debt (p.p.): 2.7	Share of government debt in foreign currency (%): 0.1	Share of government debt by non-residents (%): 66.6

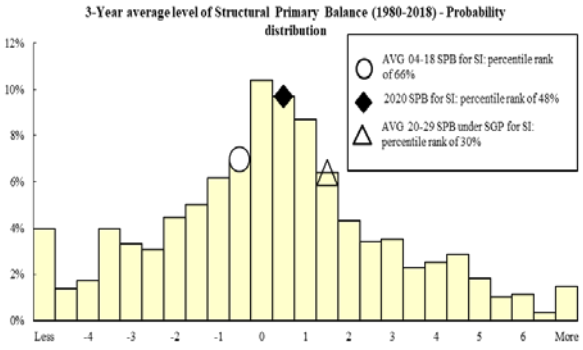
Net International Investment Position (IIP) - SI (2017)	Net IIP (% GDP): -32.3

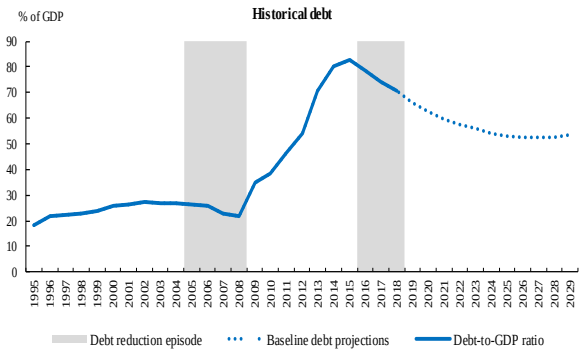
5. Risks related to government's contingent liabilities

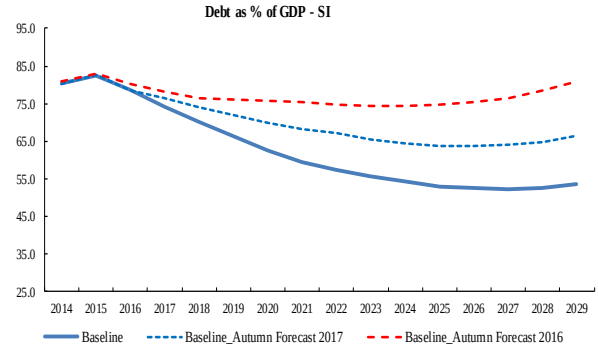
General government contingent liabilities		SI					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		17.3	14.4	10.6	9.6	n.a.	7.3
of which One-off guarantees		*17.3*	*14.4*	*10.6*	*9.6*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	4.2	1.1	0.0	0.0	0.0	0.8
	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	0.1
	Total	4.2	1.1	0.0	0.0	0.0	1.0

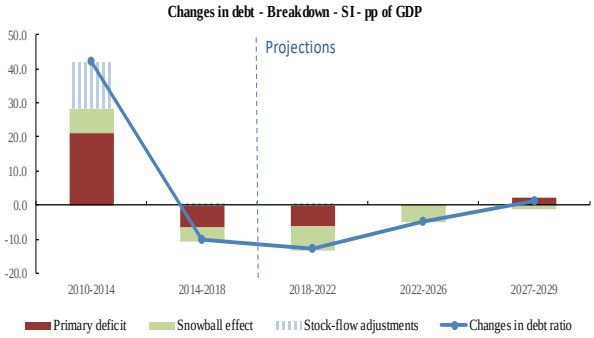
Government's contingent liability risks from banking sector - SI (2017)	Private sector credit flow (% GDP): 0.8	Change in nominal house price index: 8.0	Bank loans-to-deposits ratio (p.p.): 69.3	Share of non-performing loans (%): 10.5	Change in share of non-performing loans (p.p): -3.9	NPL coverage ratio 62.9	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.01%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Slovenia	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.3	62.6	53.1	52.3	53.5	66.4	54.5	57.5
Primary balance	2.4	2.1	1.8	0.0	-0.4	-1.1	2.1	0.0	0.5
Structural primary balance (before CoA)	1.2	0.7	0.6	0.6	0.6	0.6	0.8	0.6	0.6
Real GDP growth	4.3	3.3	3.0	3.0	2.4	2.1	3.5	2.7	2.9
Potential GDP growth	2.7	3.1	3.4	3.0	2.4	2.1	3.1	3.0	3.0
Inflation rate	2.2	2.6	2.5	2.0	2.0	2.0	2.4	2.1	2.2
Implicit interest rate (nominal)	2.8	2.5	2.5	2.9	3.3	3.8	2.6	3.0	2.9
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.3	62.6	54.8	54.2	54.7	66.4	55.9	58.5
Primary balance	2.4	2.1	1.8	-0.3	-0.4	-0.4	2.1	-0.1	0.5
Structural primary balance (before CoA)	1.2	0.7	0.6	0.3	0.6	1.2	0.8	0.4	0.5
Real GDP growth	4.3	3.3	3.0	3.0	2.3	1.9	3.5	2.6	2.9
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.3	62.2	46.4	42.0	38.1	66.2	47.2	51.9
Primary balance	2.4	2.1	2.6	1.6	1.6	1.6	2.4	1.7	1.9
Structural primary balance	1.2	0.7	1.4	1.6	1.6	1.6	1.1	1.6	1.5
Real GDP growth	4.3	3.3	2.4	3.0	2.4	2.1	3.3	2.7	2.8
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	69.3	65.2	61.5	50.1	47.7	47.3	65.3	51.4	54.9
Primary balance	2.4	2.0	2.1	1.1	0.6	0.0	2.2	1.0	1.3
Structural primary balance (before CoA)	0.9	0.3	0.9	1.6	1.6	1.6	0.7	1.6	1.4
Real GDP growth	5.1	3.8	3.2	2.6	2.4	1.8	4.0	2.2	2.7
Potential GDP growth	2.8	3.1	3.3	2.6	2.4	1.8	3.1	2.3	2.5
Inflation rate	2.4	2.6	2.3	2.0	2.0	2.0	2.4	2.0	2.1
Implicit interest rate (nominal)	2.9	2.6	2.5	3.1	3.6	3.9	2.7	3.2	3.0
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.3	62.6	56.1	57.2	60.4	66.4	57.7	59.9
Primary balance	2.4	2.1	1.8	-1.0	-1.4	-2.1	2.1	-0.8	-0.1
Structural primary balance (before CoA)	1.2	0.7	0.6	-0.4	-0.4	-0.4	0.8	-0.3	0.0
Real GDP growth	4.3	3.3	3.0	3.0	2.4	2.1	3.5	2.8	3.0
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.3	62.6	58.5	60.9	64.9	66.4	60.0	61.6
Primary balance	2.4	2.1	1.8	-1.0	-1.4	-2.1	2.1	-0.8	-0.1
Structural primary balance (before CoA)	1.2	0.7	0.6	-0.4	-0.4	-0.4	0.8	-0.3	0.0
Real GDP growth	4.3	3.3	3.0	1.9	1.9	1.9	3.5	2.2	2.5
Implicit interest rate (nominal)	2.8	2.5	2.5	3.4	3.8	4.2	2.6	3.3	3.1
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.4	62.8	54.4	54.3	56.3	66.5	56.0	58.6
Implicit interest rate (nominal)	2.8	2.6	2.7	3.4	4.0	4.6	2.7	3.5	3.3
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.2	62.4	51.8	50.4	51.0	66.3	53.2	56.5
Implicit interest rate (nominal)	2.8	2.4	2.3	2.3	2.6	3.0	2.5	2.4	2.5
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.5	63.1	55.2	55.2	57.3	66.6	56.7	59.2
Implicit interest rate (nominal)	2.8	2.8	2.9	3.6	4.1	4.7	2.8	3.7	3.5
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.0	62.0	51.3	50.0	50.8	66.1	52.7	56.1
Real GDP growth	4.3	3.8	3.5	3.5	2.9	2.6	3.9	3.2	3.4
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.7	63.3	55.0	54.7	56.4	66.7	56.5	59.0
Real GDP growth	4.3	2.8	2.5	2.5	1.9	1.6	3.2	2.2	2.5
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	65.6	61.3	50.6	49.4	50.2	65.7	52.1	55.5
Real GDP growth	4.3	4.4	4.0	3.5	2.9	2.6	4.3	3.2	3.5
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	67.0	64.0	55.7	55.3	57.1	67.1	57.1	59.6
Real GDP growth	4.3	2.3	1.9	2.5	1.9	1.6	2.8	2.2	2.4
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.3	62.8	54.7	54.5	56.4	66.4	56.2	58.8
Primary balance	2.4	2.1	1.5	-0.3	-0.8	-1.4	2.0	-0.3	0.3
Structural primary balance (before CoA)	1.2	0.7	0.2	0.2	0.2	0.2	0.7	0.2	0.4
Real GDP growth	4.3	3.3	3.2	3.0	2.4	2.1	3.6	2.7	2.9
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.3	62.6	53.1	52.3	53.5	66.4	54.5	57.5
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	65.9	61.8	50.0	48.2	48.4	66.0	51.4	55.0
Implicit interest rate (nominal)	2.8	2.4	2.3	2.3	2.6	3.0	2.5	2.4	2.5
Real GDP growth	4.3	3.8	3.5	3.5	2.9	2.6	3.9	3.2	3.4
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	70.2	66.7	63.5	56.4	56.7	59.4	66.8	57.9	60.2
Implicit interest rate (nominal)	2.8	2.6	2.7	3.4	4.0	4.6	2.7	3.5	3.3
Real GDP growth	4.3	2.8	2.5	2.5	1.9	1.6	3.2	2.2	2.5

SLOVAKIA

Based on the European Commission 2018 Autumn Forecast, Slovakia should experience a slight improvement in the structural primary balance (SPB), from a *surplus* of 0.4% of GDP in 2018 to a *surplus* of 0.5% of GDP in 2020. Real GDP growth is expected to slow from 4.0% in 2018 (after 3.2% in 2017) to 3.5% in 2020. Supported by a favourable contribution of the snowball effect (interest–growth rate differential), gross government debt would decrease from 48.8% of GDP in 2018 to 44.2% of GDP in 2020.

24.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Slovakia.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below the critical thresholds.

Financial market perceptions of sovereign risk remain favourable, as confirmed by the ratings given by the three major rating agencies to Slovak government debt, and by the 10-year sovereign yield spreads vis-à-vis the German 10-year bund, which remain at approximately 60 basis points.

24.2. Medium-term fiscal sustainability challenges

Fiscal sustainability risks appear low over the medium term, both according to the sustainability gap indicator S1 and from a DSA perspective.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risks in the medium term. With a value of -2.9 pps. of GDP, no additional fiscal effort would be needed in the SPB over five years, relative to the baseline 'no-fiscal policy change' scenario, for the debt-to-GDP ratio to reach the reference value of 60% by 2033. On the contrary, the negative value of the indicator suggests that, under S1 assumptions, in Slovakia there would be some fiscal space. The S1 value is mainly related to the low level of government debt in the final forecast year (with a contribution of -1.3 pps. of GDP contribution), but also to the favourable initial budgetary position (contribution of -1.7 pps. of GDP). Only ageing costs are projected to increase slightly (contribution of 0.1 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Slovakia is deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([138]).

Baseline no-fiscal policy change scenario

Slovakia is considered at low risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would decline from 48.8% of GDP in 2018 to 31.9% of GDP in 2029. This projected decrease is largely driven by the SPB on the back of a favourable snowball effect (interest–growth rate differential), until the end of the projection period.

Government gross financing needs (GFN) ([139]) are projected to slightly decrease over the projection period, reaching 2.5% of GDP in 2029, below their estimated value in 2019 (at 2.8% of GDP).

([138]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([139]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

Alternative and stress test scenarios

Given the limited initial stock of debt, negative shocks to growth, interest rates or the primary balance would not have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on interest rates and nominal growth would entail an increase in the debt ratio of about 1.1-2 pps. of GDP in 2029 relative to the baseline. Based on the historical volatility of the Slovak economy, a variety of jointly simulated shocks to growth, interest rates and the primary balance point to a 20% probability of the debt ratio in 2023 being greater than in 2018, entailing low risks given the low starting level. However, such shocks point to some uncertainty surrounding baseline projections, as can be seen from the wide debt distribution cone ([140]).

If fiscal policy was reverted to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *deficit* of -1.7% of GDP), the Slovak debt ratio in 2029 would be as much as 15.6 pps. of GDP higher (close to 47.5% of GDP in 2029) than under the baseline scenario.

24.3. Long-term fiscal sustainability challenges

Over the long term, Slovakia is deemed at medium fiscal sustainability risk. Notwithstanding low vulnerabilities linked to the low debt burden – captured by the DSA risk assessment – the fiscal adjustment to stabilise debt over the long term, implied by the sustainability gap indicator, points to medium sustainability risks over the long term.

([140]) The difference between the 10th and 90th percentile in 2023 is of around 27.4 pps. of GDP.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that, relative to the baseline no-policy-change scenario, a cumulated improvement of 2.5 pps. of GDP in the SPB would be required to stabilise the debt-to-GDP ratio over the long term. This result is due to the projected increase in ageing costs (contribution of 2.4 pps. of GDP), and a slightly unfavourable initial budgetary position (0.1 pps. of GDP). It is in particular the projected increase in pension (contribution of 0.9 pps. of GDP), health care (contribution of 0.9 pps. of GDP), and long-term care (contribution of 0.4 pps. of GDP) expenditure that drives up ageing costs. Under a more adverse scenario in the healthcare and long-term care areas (with non-demographic drivers pushing up costs), the S2 indicator would increase further (to 4.4 pps. of GDP), still pointing to medium risks ([141]).

Over the long term, Slovakia is deemed at medium fiscal sustainability risk. Despite low vulnerabilities linked to the debt burden - captured by the DSA risk assessment (see section 24.2) - the positive sustainability gap indicator S2 implies that long-term fiscal sustainability risks are medium for Slovakia ([142]).

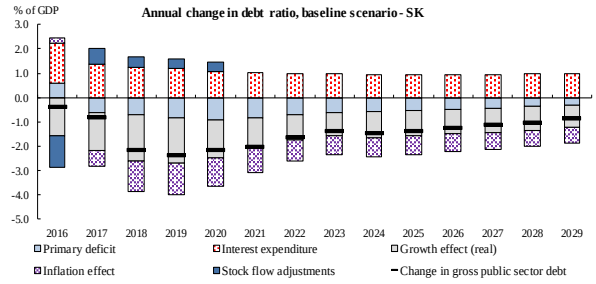
24.4. Additional mitigating and aggravating risk factors

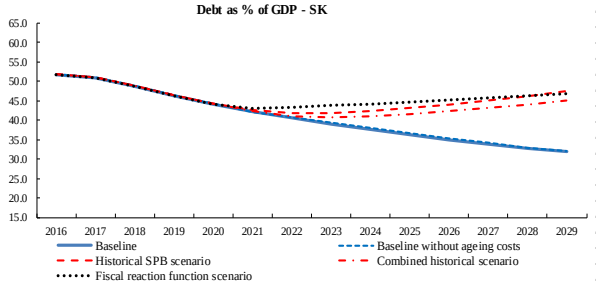
Some additional mitigating and aggravating risk factors exist. The low share of government debt, as well as that of government debt in foreign currency, help mitigating vulnerabilities. Yet, the high share of government debt holdings by non-residents, and the negative net international investment position could be aggravating factors. In addition, the bank loans-to-deposit ratio, the share of non-performing loans in the banking sector, and the coverage ratio of non-performing loans point to some contingent liability risks.

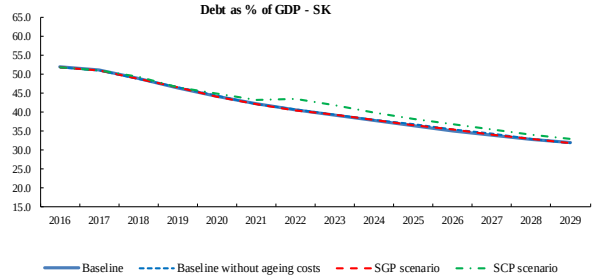
([141]) For more details on this scenario, see Section 4.3 of Chapter 4 in Volume 1 of this report.
([142]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

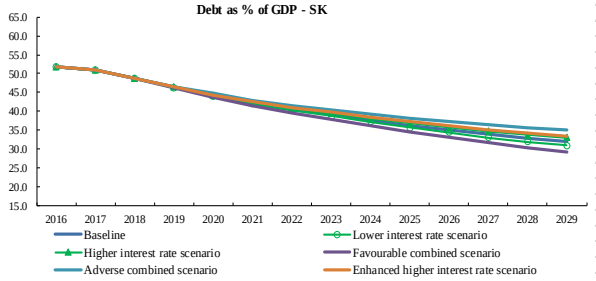
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

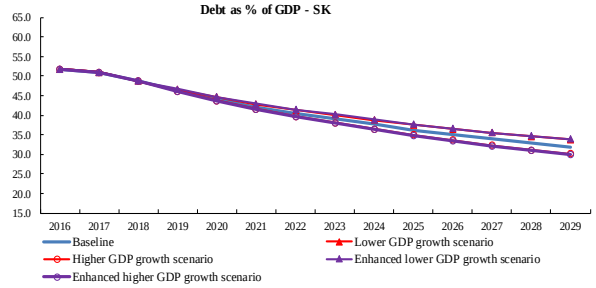
SK - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**51.8**	**50.9**	**48.8**	**46.4**	**44.2**	**42.2**	**40.5**	**39.1**	**37.7**	**36.3**	**35.0**	**33.9**	**32.8**	**31.9**
Changes in the ratio (-1+2+3)	*-0.4*	*-0.8*	*-2.2*	*-2.4*	*-2.2*	*-2.0*	*-1.6*	*-1.4*	*-1.5*	*-1.4*	*-1.3*	*-1.2*	*-1.0*	*-0.9*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-0.6**	**0.6**	**0.7**	**0.8**	**0.9**	**0.8**	**0.7**	**0.6**	**0.6**	**0.5**	**0.5**	**0.4**	**0.4**	**0.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.4***	***0.5***	***0.4***	***0.3***	***0.5***	***0.5***	***0.5***	***0.6***	***0.6***	***0.5***	***0.5***	***0.4***	***0.4***	***0.3***
(1.1.1) Structural primary balance (bef. CoA)	*-0.4*	*0.5*	*0.4*	*0.3*	*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						*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*0.0*	*0.1*	*0.1*	*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	***-0.1***	***0.1***	***0.3***	***0.5***	***0.5***	***0.3***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**0.3**	**-0.8**	**-1.9**	**-2.0**	**-1.6**	**-1.2**	**-0.9**	**-0.8**	**-0.9**	**-0.8**	**-0.8**	**-0.7**	**-0.7**	**-0.6**
(2.1) Interest expenditure	*1.6*	*1.4*	*1.3*	*1.2*	*1.1*	*1.0*	*1.0*	*1.0*	*1.0*	*0.9*	*0.9*	*1.0*	*1.0*	*1.0*
(2.2) Growth effect	*-1.6*	*-1.6*	*-1.9*	*-1.9*	*-1.5*	*-1.2*	*-1.0*	*-1.0*	*-1.1*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-0.9*
(2.3) Inflation effect	*0.2*	*-0.6*	*-1.3*	*-1.3*	*-1.2*	*-1.0*	*-0.9*	*-0.8*	*-0.8*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.6*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-1.3**	**0.6**	**0.4**	**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	*-1.3*	*0.6*	*0.4*	*0.4*	*0.4*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-2.1	-0.9	-0.8	-0.8	-0.6	-0.5	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.6	-0.7

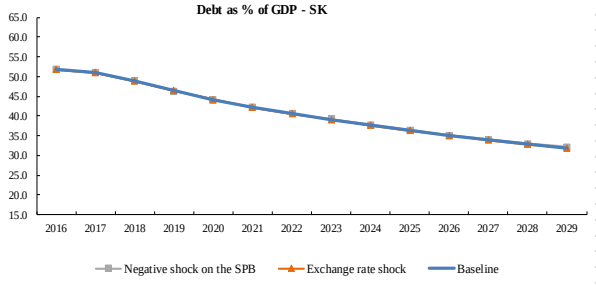


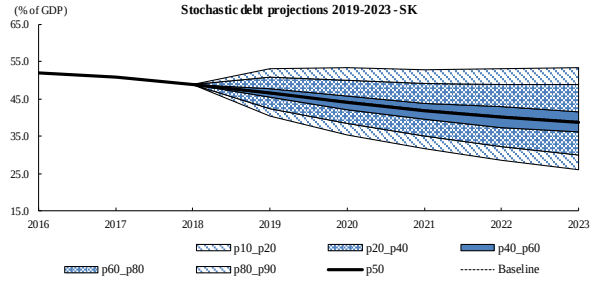


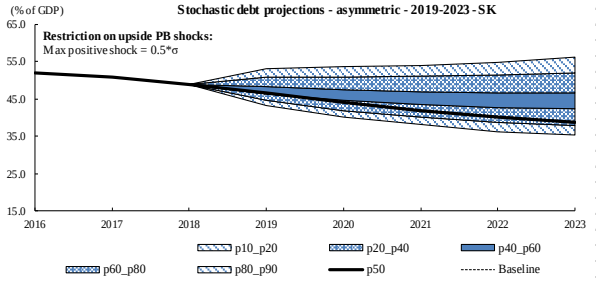












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	31.9	47.5	33.9	33.0	32.2				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	50.0%	75.0%							
			Probability debt higher						20.2%			
			Dif. between percentiles						27.4			
LOW (S0 = 0.3)	LOW	LOW (S1 = -2.9)								LOW	MEDIUM (S2 = 2.5)	MEDIUM

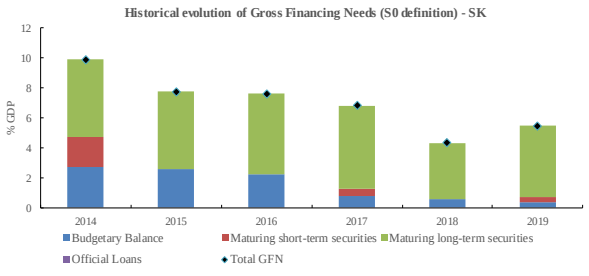
2.2. Sustainability indicators

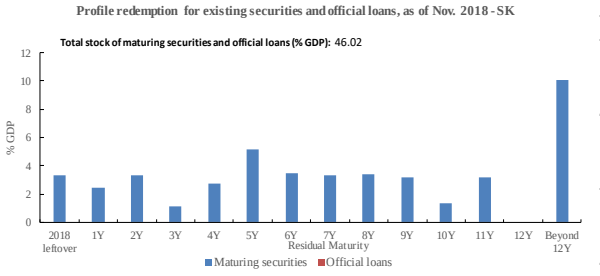
S0 indicator	2009	2018	Critical threshold
Overall index	**0.50**	**0.27**	**0.46**
Fiscal sub-index	0.47	0.00	0.36
Financial competitiveness sub-index	0.52	0.40	0.49

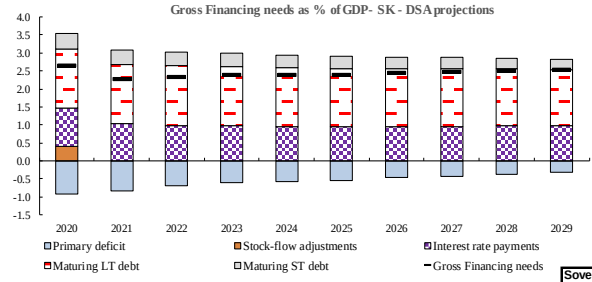
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-2.6**	**-2.9**	**0.3**	**-2.4**
of which *Gap to the debt-stabilizing primary balance*	*-1.4*	*-1.3*	*1.4*	*-1.2*
Cost of delaying adjustment	*-0.4*	*-0.4*	*0.0*	*-0.3*
Debt requirement	*-1.0*	*-1.3*	*-1.4*	*-1.3*
Ageing costs	*0.2*	*0.1*	*0.2*	*0.5*
Required structural primary balance related to S1	**-2.0**	**-2.4**	**-1.5**	**-2.0**

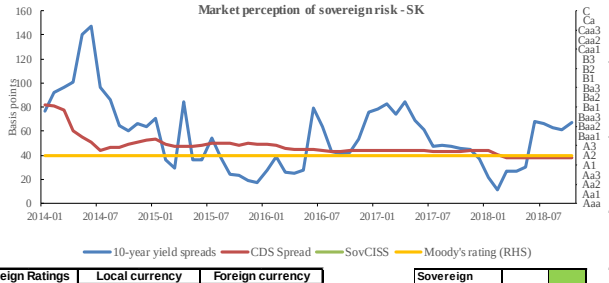
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**2.4**	**2.5**	**4.9**	**4.4**	**2.7**	**2.5**	**2.2**
of which Initial Budgetary position	0.1	0.1	2.3	0.1	0.2	0.1	0.3
Ageing costs	2.3	2.4	2.5	4.3	2.6	2.4	2.0
of which Pensions	*1.2*	*0.9*	*0.9*	*0.9*	*1.2*	*1.0*	*0.6*
Health care	*1.3*	*0.9*	*1.0*	*1.9*	*0.8*	*0.9*	*0.9*
Long-term care	*0.2*	*0.4*	*0.5*	*1.4*	*0.4*	*0.5*	*0.4*
Others	*-0.3*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
Required structural primary balance related to S2	**3.0**	**3.0**	**3.1**	**4.9**	**3.2**	**2.9**	**2.7**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, 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 Nov 2018	10-year	67.0

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

Government debt structure - SK (2017)	Share of short-term government debt (p.p.): 0.9	Share of government debt in foreign currency (%): 0.1	Share of government debt by non-residents (%): 57.5

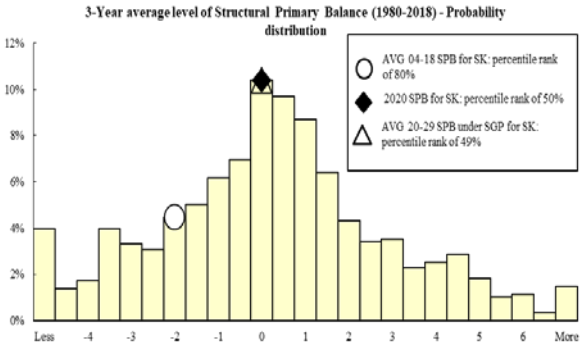
Net International Investment Position (IIP) - SK (2017)	Net IIP (% GDP): -65.6

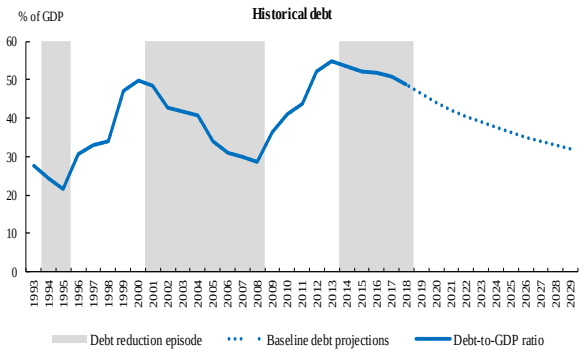
5. Risks related to government's contingent liabilities

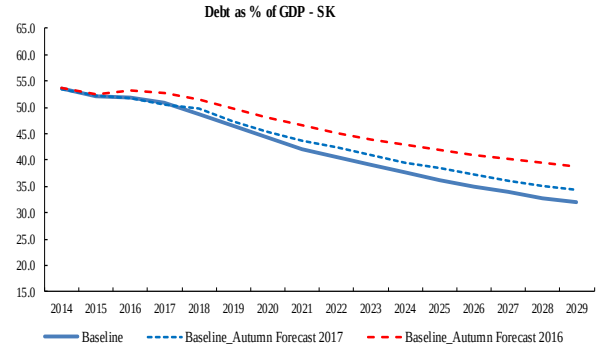
General government contingent liabilities		SK					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		0.1	0.0	0.0	0.0	n.a.	7.3
of which One-off guarantees		*0.1*	*0.0*	*0.0*	*0.0*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*1.5*	*1.3*	*1.1*	*3.2*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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.	0.8
	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.	0.1
	Total	n.a.	n.a.	n.a.	n.a.	n.a.	1.0

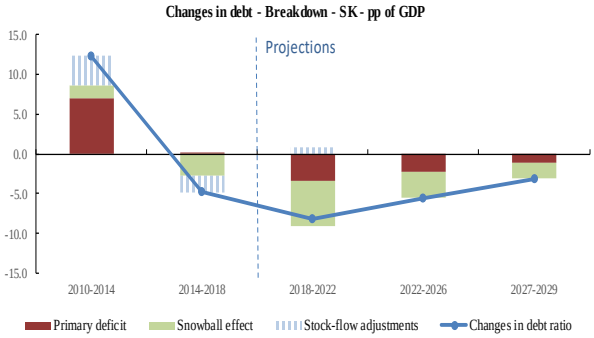
Government's contingent liability risks from banking sector - SK (2017)	Private sector credit flow (% GDP): 5.9	Change in nominal house price index: 5.9	Bank loans-to-deposits ratio (p.p.): 110.6	Share of non-performing loans (%): 3.4	Change in share of non-performing loans (p.p): -0.9	NPL coverage ratio 59.8	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Slovakia	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.4	44.2	36.3	33.9	31.9	46.4	36.6	39.1
Primary balance	0.7	0.8	0.9	0.5	0.4	0.3	0.8	0.5	0.6
Structural primary balance (before CoA)	0.4	0.3	0.5	0.5	0.5	0.5	0.4	0.5	0.4
Real GDP growth	4.0	4.1	3.5	2.9	3.0	2.9	3.9	2.8	3.1
Potential GDP growth	3.4	3.6	3.6	2.9	3.0	2.9	3.5	3.0	3.1
Inflation rate	2.6	2.7	2.6	2.0	2.0	2.0	2.6	2.1	2.2
Implicit interest rate (nominal)	2.6	2.6	2.4	2.6	2.9	3.1	2.5	2.7	2.7
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.4	44.2	44.7	45.7	46.8	46.4	44.8	45.2
Primary balance	0.7	0.8	0.9	-1.4	-1.3	-1.2	0.8	-1.2	-0.7
Structural primary balance (before CoA)	0.4	0.3	0.5	-1.5	-1.3	-1.1	0.4	-1.3	-0.9
Real GDP growth	4.0	4.1	3.5	2.9	2.9	2.8	3.9	3.0	3.2
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.4	44.1	36.6	34.2	31.9	46.4	36.7	39.2
Primary balance	0.7	0.8	1.0	0.5	0.5	0.5	0.9	0.5	0.6
Structural primary balance	0.4	0.3	0.6	0.5	0.5	0.5	0.4	0.5	0.5
Real GDP growth	4.0	4.1	3.4	2.9	3.0	2.9	3.8	2.8	3.1
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	49.3	46.5	44.9	38.3	35.4	33.1	46.9	38.5	40.6
Primary balance	0.5	0.9	1.1	0.8	0.7	0.6	0.8	0.8	0.8
Structural primary balance (before CoA)	0.4	0.6	0.8	0.8	0.8	0.8	0.6	0.8	0.8
Real GDP growth	4.2	4.5	3.9	3.0	3.0	2.9	4.2	2.7	3.1
Potential GDP growth	3.7	4.0	3.9	3.0	3.0	2.9	3.9	2.7	3.0
Inflation rate	1.8	2.0	2.2	2.0	2.0	2.0	2.0	1.8	1.9
Implicit interest rate (nominal)	2.6	2.6	2.5	2.9	3.1	3.4	2.6	2.9	2.8
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.4	44.2	43.2	45.1	47.5	46.4	43.9	44.5
Primary balance	0.7	0.8	0.9	-1.7	-1.8	-1.9	0.8	-1.3	-0.8
Structural primary balance (before CoA)	0.4	0.3	0.5	-1.7	-1.7	-1.7	0.4	-1.4	-0.9
Real GDP growth	4.0	4.1	3.5	2.9	3.0	2.9	3.9	3.0	3.2
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.4	44.2	41.7	43.2	45.1	46.4	42.4	43.4
Primary balance	0.7	0.8	0.9	-1.7	-1.8	-1.9	0.8	-1.3	-0.8
Structural primary balance (before CoA)	0.4	0.3	0.5	-1.7	-1.7	-1.7	0.4	-1.4	-0.9
Real GDP growth	4.0	4.1	3.5	3.7	3.7	3.7	3.9	3.9	3.9
Implicit interest rate (nominal)	2.6	2.6	2.4	3.0	3.4	3.6	2.5	3.0	2.9
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.4	44.3	36.8	34.7	33.0	46.5	37.2	39.5
Implicit interest rate (nominal)	2.6	2.7	2.6	3.0	3.3	3.7	2.6	3.0	2.9
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.3	44.1	35.8	33.1	30.9	46.4	36.1	38.6
Implicit interest rate (nominal)	2.6	2.5	2.3	2.3	2.5	2.6	2.5	2.4	2.4
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.4	44.4	37.2	35.1	33.5	46.5	37.5	39.8
Implicit interest rate (nominal)	2.6	2.7	2.7	3.1	3.4	3.8	2.7	3.2	3.1
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.2	43.8	35.0	32.3	30.1	46.2	35.3	38.1
Real GDP growth	4.0	4.6	4.0	3.4	3.5	3.4	4.2	3.3	3.6
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.6	44.6	37.6	35.5	33.9	46.7	37.9	40.1
Real GDP growth	4.0	3.6	3.0	2.4	2.5	2.4	3.5	2.3	2.6
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.1	43.7	34.9	32.2	30.1	46.2	35.3	38.0
Real GDP growth	4.0	4.7	4.1	3.4	3.5	3.4	4.3	3.3	3.6
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.6	44.7	37.7	35.6	33.9	46.7	38.0	40.2
Real GDP growth	4.0	3.5	2.9	2.4	2.5	2.4	3.5	2.3	2.6
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.3	44.1	36.4	34.0	32.2	46.4	36.7	39.1
Primary balance	0.7	0.9	0.9	0.5	0.4	0.3	0.8	0.5	0.6
Structural primary balance (before CoA)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Real GDP growth	4.0	4.0	3.6	2.9	3.0	2.9	3.9	2.8	3.1
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.4	44.2	36.3	33.9	31.9	46.4	36.6	39.1
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.1	43.7	34.5	31.6	29.2	46.2	34.8	37.7
Implicit interest rate (nominal)	2.6	2.5	2.3	2.3	2.5	2.6	2.5	2.4	2.4
Real GDP growth	4.0	4.6	4.0	3.4	3.5	3.4	4.2	3.3	3.6
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	48.8	46.6	44.7	38.2	36.3	35.0	46.7	38.5	40.6
Implicit interest rate (nominal)	2.6	2.7	2.6	3.0	3.3	3.7	2.6	3.0	2.9
Real GDP growth	4.0	3.6	3.0	2.4	2.5	2.4	3.5	2.3	2.6

FINLAND

Based on the European Commission 2018 Autumn Forecast, Finland should experience a slight improvement in the structural primary balance (SPB), moving from a balanced position in 2018 to a *surplus* of 0.2% of GDP in 2020. Real GDP growth is expected to slow down, from 2.9% in 2018 (after 2.8% in 2017) to 1.9% in 2020. Supported by a favourable contribution of the snowball effect (interest– growth rate differential), gross government debt would decrease from 59.8% of GDP in 2018 to 57.5% of GDP in 2020.

25.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Finland.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The fiscal and the financial competitiveness sub-indexes both have values below the critical thresholds.

Financial markets' perceptions of sovereign risk remain favourable, as confirmed by the ratings given by the three major rating agencies to Finnish debt, and by the 10-year sovereign yield spreads vis-à-vis the German 10-year bund, which remain below 30 basis points.

25.2. Medium-term fiscal sustainability challenges

Fiscal sustainability risks appear low over the medium term, both according to the sustainability gap indicator S1 and from a DSA perspective.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. With a value of -0.1 pps. of GDP, no additional fiscal effort would be needed in the SPB over five years, relative to the baseline 'no-fiscal policy change' scenario, for the debt-to-GDP ratio to reach the reference value of 60% by 2033. On the contrary, the negative value of the indicator suggests that, under S1 assumptions, in Finland there would be some fiscal space. The S1 value is mainly related to the level of government debt (below 60% in the initial forecast year), but also to the favourable initial budgetary position (contribution of -1.2 pps. of GDP). On the other hand, ageing costs are projected to increase (contribution of 1.3 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Finland is deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([143]).

Baseline no-fiscal policy change scenario

Finland is considered at low risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would decline from 59.8% of GDP in 2018 until 55.1% of GDP in 2029. This projected decrease is largely driven by a favourable snowball effect (interest–growth rate differential) in combination, until 2021, with a positive SPB.

Government gross financing needs (GFN) ([144]) are projected to increase over the projection period, reaching 7.6% of GDP in 2029, below their estimated value in 2019 (at close to 6.6% of GDP).

([143]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([144]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

Alternative and stress test scenarios

Given the moderate initial stock of debt, negative shocks to growth, interest rates or the primary balance would not have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on interest rates and nominal growth would entail an increase in the debt ratio of about 1.8 - 3 pps. of GDP in 2029 relative to the baseline. Based on the historical volatility of the Finnish economy, a variety of jointly simulated shocks to growth, interest rates and the primary balance point to a 27% probability of the debt ratio in 2023 being greater than in 2018.

If fiscal policy was reverted to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *surplus* of 1.7% of GDP), the Finnish debt ratio in 2029 would be as much as 11.1 pps. of GDP lower (close to 44.0% of GDP in 2029) than under the baseline scenario.

25.3. Long-term fiscal sustainability challenges

Over the long term, Finland is deemed at medium fiscal sustainability risk. Notwithstanding low vulnerabilities linked to the low debt burden – captured by the DSA risk assessment – the fiscal adjustment to stabilise debt over the long term, implied by the sustainability gap indicator, points to medium sustainability risks over the long term.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that, relative to the baseline no-policy-change scenario, a cumulated improvement of 2.7 pps. of GDP in the SPB would be required to stabilise the debt-to-GDP ratio over the long term. This result is due to the projected increase in ageing costs (contribution of 2.0 pps. of GDP), and a slightly unfavourable initial budgetary position (0.7 pps. of GDP). It is in particular the projected increase in long-term care expenditure (contribution of 1.6 pps. of GDP) that drives up ageing costs. However, under a more adverse scenario in the healthcare and long-term care areas (with non-demographic drivers pushing up costs), the S2 indicator would increase further to 3.7 pps. of GDP, hence beyond the critical threshold, and still pointing to medium fiscal risks in the long term ([145]).

Over the long term, Finland is deemed at medium fiscal sustainability risk. Despite low vulnerabilities linked to the debt burden - captured by the DSA risk assessment (see section 25.2) - the positive sustainability gap indicator S2 implies that long-term fiscal sustainability risks are medium for Finland ([146]).

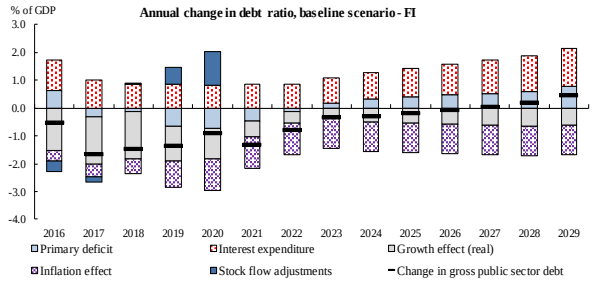
25.4. Additional mitigating and aggravating risk factors

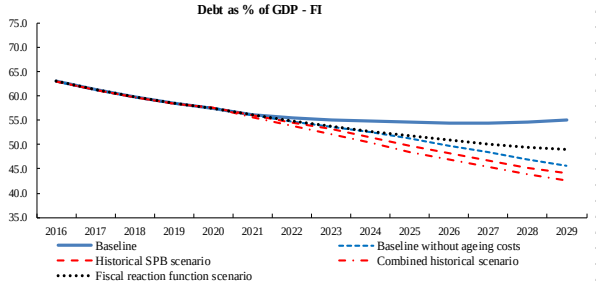
Some additional mitigating and aggravating risk factors exist. The low share of government debt in foreign currency, as well as the positive net international investment position help mitigating vulnerabilities. Yet, the high share of short-term government debt, and the high share of government debt holdings by non-residents could be aggravating factors. In addition, the growing stock of state guarantees (mainly for export credit), the bank loans-to-deposit ratio and the coverage ratio of non-performing loans point to some contingent liability risks.

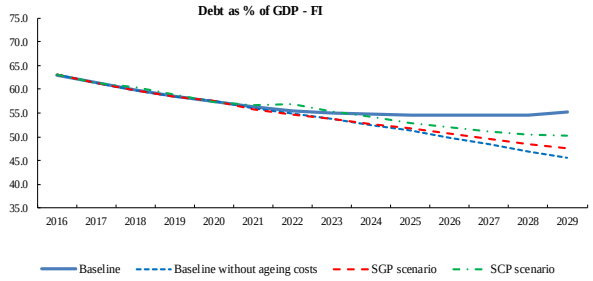
([145]) For more details on this scenario, see Section 4.3 of Chapter 4 in Volume 1 of this report.
([146]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

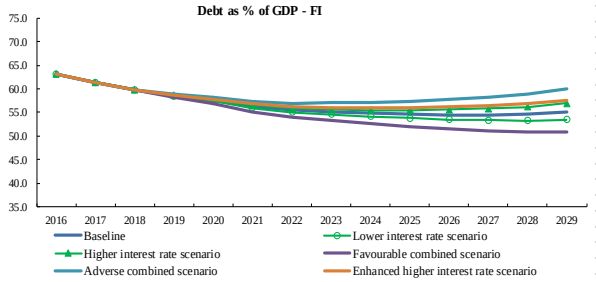
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

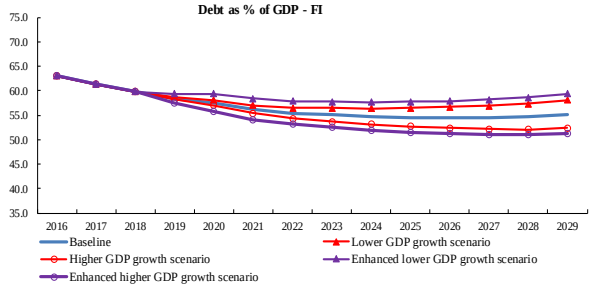
FI - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**63.0**	**61.3**	**59.8**	**58.5**	**57.5**	**56.2**	**55.4**	**55.1**	**54.8**	**54.6**	**54.5**	**54.5**	**54.7**	**55.1**
Changes in the ratio (-1+2+3)	*-0.6*	*-1.7*	*-1.5*	*-1.4*	*-0.9*	*-1.3*	*-0.8*	*-0.3*	*-0.3*	*-0.2*	*-0.1*	*0.0*	*0.2*	*0.5*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-0.6**	**0.3**	**0.1**	**0.6**	**0.7**	**0.5**	**0.1**	**-0.2**	**-0.3**	**-0.4**	**-0.5**	**-0.5**	**-0.6**	**-0.8**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.5***	***0.8***	***0.0***	***0.2***	***0.2***	***0.1***	***-0.1***	***-0.2***	***-0.3***	***-0.4***	***-0.5***	***-0.5***	***-0.6***	***-0.8***
(1.1.1) Structural primary balance (bef. CoA)	*0.5*	*0.8*	*0.0*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
(1.1.2) Cost of ageing						*0.2*	*0.5*	*0.8*	*1.0*	*1.2*	*1.4*	*1.6*	*1.8*	*1.9*
(1.1.3) Others (taxes and property incomes)						*0.1*	*0.3*	*0.4*	*0.5*	*0.7*	*0.8*	*0.9*	*1.0*	*1.0*
(1.2) Cyclical component	***-1.2***	***-0.5***	***0.2***	***0.3***	***0.5***	***0.4***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***-0.1***	***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)	**-0.8**	**-1.2**	**-1.4**	**-1.3**	**-1.4**	**-0.9**	**-0.7**	**-0.5**	**-0.6**	**-0.6**	**-0.6**	**-0.5**	**-0.4**	**-0.3**
(2.1) Interest expenditure	*1.1*	*1.0*	*0.9*	*0.8*	*0.8*	*0.9*	*0.9*	*0.9*	*0.9*	*1.0*	*1.1*	*1.2*	*1.3*	*1.4*
(2.2) Growth effect	*-1.5*	*-1.7*	*-1.7*	*-1.3*	*-1.1*	*-0.6*	*-0.4*	*-0.4*	*-0.5*	*-0.5*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
(2.3) Inflation effect	*-0.4*	*-0.5*	*-0.5*	*-0.9*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-0.4**	**-0.2**	**0.0**	**0.6**	**1.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.4*	*0.0*	*0.3*	*0.5*	*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*	*-0.2*	*-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	-0.5	-0.2	-0.8	-0.6	-0.7	-0.8	-0.9	-1.1	-1.3	-1.4	-1.6	-1.7	-1.9	-2.2

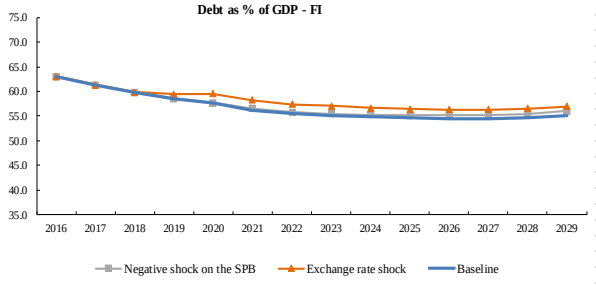


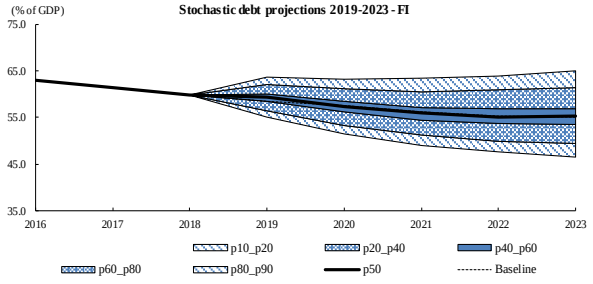


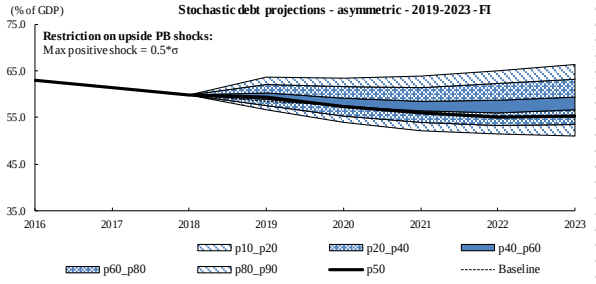












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Lower GDP growth	Higher interest rate	Negative shock on SPB	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW		
			Debt level (2029)	55.1	44.0	58.1	56.9	56.0			
			Debt peak year	2018	2018	2018	2018	2018			
			Percentile rank	55.0%	34.0%						
			Probability debt higher						27.2%		
			Dif. between percentiles						18.6		
LOW (S0 = 0.1)	LOW	LOW (S1 = -0.1)								LOW	MEDIUM (S2 = 2.7)	MEDIUM

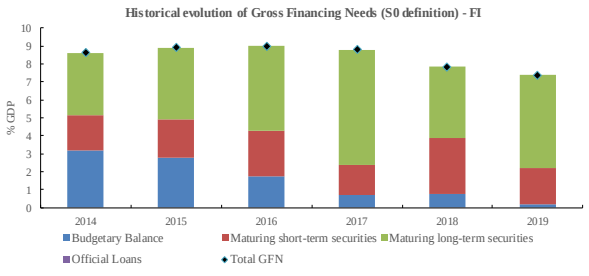
2.2. Sustainability indicators

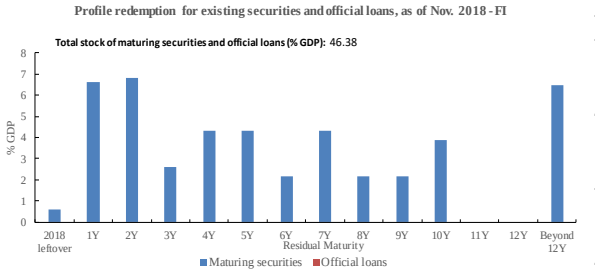
S0 indicator	2009	2018	Critical threshold
Overall index	**0.33**	**0.14**	**0.46**
Fiscal sub-index	0.35	0.08	0.36
Financial competitiveness sub-index	0.31	0.17	0.49

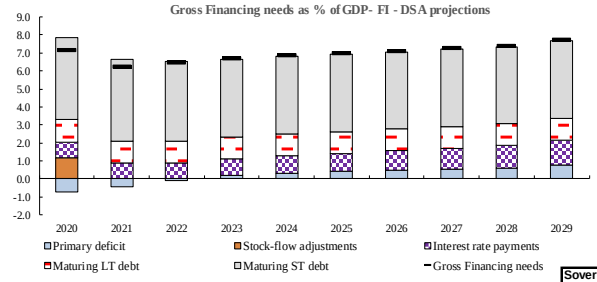
S1 indicator	2017 DSM	FSR 2018		
		COM no-policy change scenario	Historical SPB scenario	AWG risk scenario
Overall index	**1.5**	**-0.1**	**-1.7**	**0.1**
of which *Gap to the debt-stabilizing primary balance*	*-0.3*	*-1.2*	*-2.6*	*-1.2*
Cost of delaying adjustment	*0.2*	*0.0*	*-0.3*	*0.0*
Debt requirement	*0.1*	*-0.2*	*-0.7*	*-0.2*
Ageing costs	*1.5*	*1.3*	*1.8*	*1.5*
Required structural primary balance related to S1	**1.1**	**0.1**	**0.0**	**0.3**

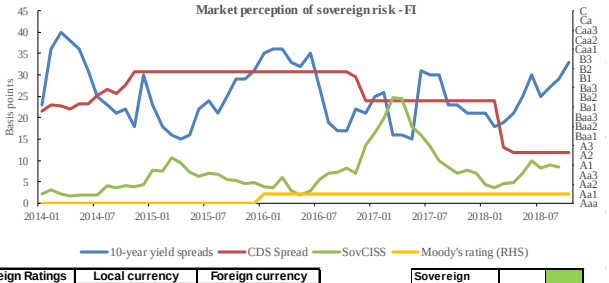
S2 indicator	2017 DSM	FSR 2018					
		COM no-policy change scenario	Historical SPB scenario	AWG risk scenario	TFP risk scenario	High life expectancy scenario	Higher interest rate scenario
Overall index	**2.8**	**2.7**	**1.2**	**3.7**	**3.2**	**3.0**	**2.6**
of which Initial Budgetary position	1.4	0.7	-0.8	0.7	0.7	0.7	0.7
Ageing costs	1.3	2.0	2.1	3.0	2.4	2.3	1.9
of which Pensions	*-0.8*	*0.1*	*0.1*	*0.1*	*0.6*	*0.2*	*0.0*
Health care	*0.5*	*0.5*	*0.5*	*0.9*	*0.5*	*0.5*	*0.5*
Long-term care	*1.5*	*1.6*	*1.7*	*2.1*	*1.6*	*1.9*	*1.5*
Others	*0.1*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.3*	*-0.1*
Required structural primary balance related to S2	**2.3**	**2.9**	**2.9**	**3.9**	**3.3**	**3.2**	**2.8**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, FI	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	Aa1		Aa1	
S&P	AA+	A-1+	AA+	A-1+
Fitch	AA+		AA+	F1+

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	33.0

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

Government debt structure - FI (2017)	Share of short-term government debt (p.p.):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	10.4	2.9	67.4

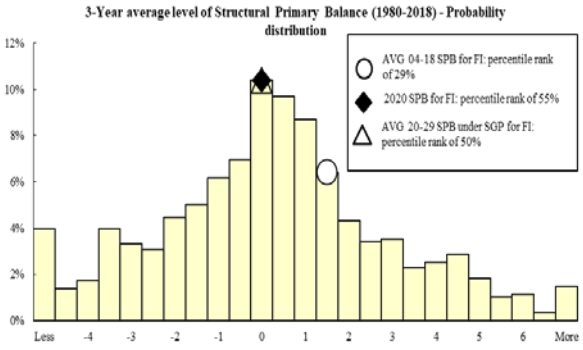
Net International Investment Position (IIP) - FI (2017)	Net IIP (% GDP):
	2.4

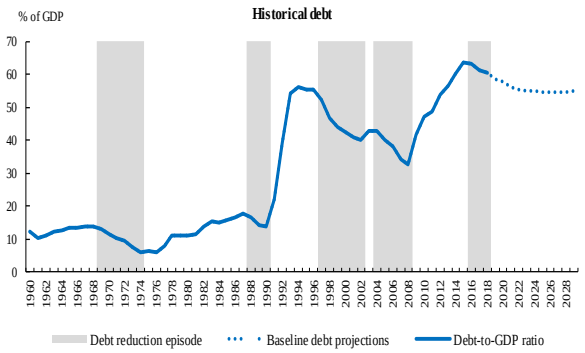
5. Risks related to government's contingent liabilities

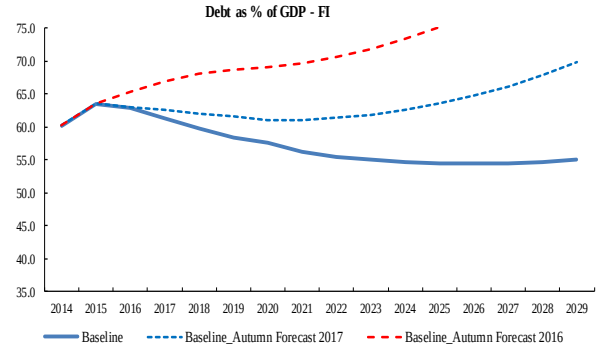
General government contingent liabilities		FI					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		20.2	23.6	28.5	28.1	n.a.	7.3
of which One-off guarantees		*19.4*	*22.8*	*27.6*	*27.0*	*n.a.*	*6.9*
Standardised guarantees		*0.7*	*0.8*	*1.0*	*1.1*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
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	0.8
	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	0.1
	Total	0.0	0.0	0.0	0.0	0.0	1.0

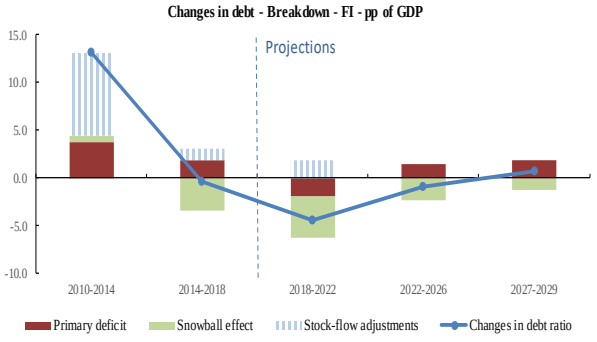
Government's contingent liability risks from banking sector - FI (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	8.2	1.6	166.0	1.5	-0.1	27.3	0.00%	0.01%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Finland	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.5	57.5	54.6	54.5	55.1	58.6	55.0	55.9
Primary balance	0.1	0.6	0.7	-0.4	-0.5	-0.8	0.5	-0.3	-0.1
Structural primary balance (before CoA)	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
Real GDP growth	2.9	2.2	1.9	1.0	1.2	1.2	2.3	1.0	1.3
Potential GDP growth	1.8	1.8	1.6	1.0	1.2	1.2	1.7	1.1	1.3
Inflation rate	0.9	1.6	2.0	2.0	2.0	2.0	1.5	2.0	1.9
Implicit interest rate (nominal)	1.5	1.5	1.5	1.9	2.2	2.6	1.5	2.0	1.8
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.5	57.5	51.8	50.1	49.0	58.6	52.1	53.7
Primary balance	0.1	0.6	0.7	0.4	0.2	0.2	0.5	0.4	0.4
Structural primary balance (before CoA)	0.0	0.2	0.2	0.9	0.9	1.1	0.1	0.9	0.7
Real GDP growth	2.9	2.2	1.9	1.0	1.2	1.0	2.3	0.9	1.3
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.5	57.4	51.7	49.6	47.6	58.6	51.7	53.4
Primary balance	0.1	0.6	0.9	0.4	0.5	0.6	0.5	0.5	0.5
Structural primary balance	0.0	0.2	0.3	0.4	0.5	0.6	0.2	0.5	0.4
Real GDP growth	2.9	2.2	1.8	1.0	1.2	1.2	2.3	1.0	1.3
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	60.4	58.9	57.4	53.0	51.2	50.2	58.9	53.3	54.7
Primary balance	0.3	0.6	0.9	0.5	0.4	0.1	0.6	0.6	0.6
Structural primary balance (before CoA)	0.3	0.3	0.6	1.0	1.0	1.0	0.4	1.0	0.9
Real GDP growth	2.6	2.2	1.8	1.3	1.4	1.2	2.2	1.1	1.4
Potential GDP growth	1.7	1.8	1.6	1.3	1.4	1.2	1.7	1.1	1.3
Inflation rate	1.5	2.0	1.8	2.0	2.0	2.0	1.8	1.8	1.8
Implicit interest rate (nominal)	1.5	1.4	1.5	2.1	2.5	2.7	1.5	2.1	2.0
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.5	57.5	49.8	46.7	44.0	58.6	49.9	52.1
Primary balance	0.1	0.6	0.7	1.1	1.0	0.7	0.5	1.0	0.8
Structural primary balance (before CoA)	0.0	0.2	0.2	1.7	1.7	1.7	0.1	1.4	1.1
Real GDP growth	2.9	2.2	1.9	1.0	1.2	1.2	2.3	0.9	1.2
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.5	57.5	48.6	45.3	42.6	58.6	48.8	51.3
Primary balance	0.1	0.6	0.7	1.1	1.0	0.7	0.5	1.0	0.8
Structural primary balance (before CoA)	0.0	0.2	0.2	1.7	1.7	1.7	0.1	1.4	1.1
Real GDP growth	2.9	2.2	1.9	1.1	1.1	1.1	2.3	1.1	1.4
Implicit interest rate (nominal)	1.5	1.5	1.5	1.8	1.9	2.0	1.5	1.8	1.7
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.5	57.7	55.4	55.8	56.9	58.7	55.9	56.6
Implicit interest rate (nominal)	1.5	1.6	1.6	2.2	2.7	3.1	1.6	2.3	2.1
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.4	57.4	53.8	53.3	53.5	58.5	54.1	55.2
Implicit interest rate (nominal)	1.5	1.3	1.3	1.6	1.8	2.1	1.4	1.6	1.6
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.6	57.9	55.9	56.4	57.6	58.8	56.4	57.0
Implicit interest rate (nominal)	1.5	1.7	1.8	2.3	2.8	3.2	1.7	2.4	2.2
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.2	57.0	52.7	52.2	52.3	58.3	53.2	54.5
Real GDP growth	2.9	2.7	2.4	1.5	1.7	1.7	2.7	1.5	1.8
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.8	58.1	56.5	56.9	58.1	58.9	56.9	57.4
Real GDP growth	2.9	1.7	1.4	0.5	0.7	0.7	2.0	0.5	0.9
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	57.5	55.7	51.6	51.1	51.3	57.7	52.0	53.4
Real GDP growth	2.9	3.8	3.6	1.5	1.7	1.7	3.4	1.5	2.0
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	59.4	59.4	57.8	58.2	59.3	59.6	58.2	58.5
Real GDP growth	2.9	0.5	0.3	0.5	0.7	0.7	1.2	0.5	0.7
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.6	57.7	55.1	55.2	56.0	58.7	55.6	56.3
Primary balance	0.1	0.5	0.6	-0.5	-0.6	-0.9	0.4	-0.4	-0.2
Structural primary balance (before CoA)	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Real GDP growth	2.9	2.3	1.9	1.0	1.2	1.2	2.4	1.0	1.3
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	59.4	59.5	56.4	56.3	56.9	59.6	56.9	57.5
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.1	56.8	52.0	51.1	50.8	58.3	52.3	53.8
Implicit interest rate (nominal)	1.5	1.3	1.3	1.6	1.8	2.1	1.4	1.6	1.6
Real GDP growth	2.9	2.7	2.4	1.5	1.7	1.7	2.7	1.5	1.8
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	59.8	58.8	58.3	57.4	58.2	59.9	59.0	57.8	58.1
Implicit interest rate (nominal)	1.5	1.6	1.6	2.2	2.7	3.1	1.6	2.3	2.1
Real GDP growth	2.9	1.7	1.4	0.5	0.7	0.7	2.0	0.5	0.9

SWEDEN

Based on the European Commission 2018 Autumn Forecast, Sweden's structural primary balance (SPB) should improve slightly from a *surplus* of 1.2% of GDP in 2018 to a *surplus* of 1.3% of GDP in 2020. Real GDP growth is forecast to decelerate from 2.4% in 2018 (it was 2.1% in 2017) to 1.8% in 2019 and 2020. In addition, the favourable interest rate – growth rate differential should contribute to the decline in gross government debt over the forecast period from 37.8% of GDP in 2018 to 33.5% of GDP in 2020.

26.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for Sweden.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold. The same is valid for all fiscal and financial competitiveness sub-indexes, which have values below the critical thresholds and suggest, therefore, no short-term vulnerabilities.

Financial markets' perceptions of sovereign risk remain favourable. The three major rating agencies have given Swedish government debt a 'AAA stable' rating and the 10-year sovereign yield spreads vis-à-vis the German 10-year bund remain below 30 bps.

26.2. Medium-term fiscal sustainability challenges

Similarly, fiscal sustainability risks appear to be low for Sweden over the medium term, according to the sustainability gap indicator S1 and from a DSA perspective. The low and decreasing debt to GDP ratio at the end of projections in the baseline scenario, and resilience to possible macro-fiscal shocks underpin this assessment.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to low risk in the medium term. The S1 value of -4.6 pps. of GDP indicates that no additional fiscal effort would be needed in the SPB over five years, relative to the baseline 'no-fiscal policy change' scenario, for the debt-to-GDP ratio to reach the reference value of 60% by 2033. On the contrary, the indicator shows that under S1 assumptions there would be some fiscal space. The S1 value is driven by the favourable initial budgetary position (contribution of -2.6 pps. of GDP) and the low level of government debt in the last forecast year (with a contribution of -2.2 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, Sweden is also deemed at low risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the baseline scenario, confirmed by alternative and stress test scenarios ([147]).

Baseline no-fiscal policy change scenario

Sweden is considered at low risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would follow a declining path until the end of the projection period (t+10) - to reach around 16% of GDP in 2029. This low and decreasing level compared to 2018 is driven by the structural primary surpluses assumed under the no-fiscal policy change scenario (with an SPB unchanged at 1.3% of GDP) ([148]) supported by favourable interest rate – growth rate differential (snowball effects) over the projection period. These two effects more than offset the projected increase in ageing costs.

Alternative and stress test scenarios

Given the low stock of initial debt, adverse shocks to growth, interest rates or the primary balance would not have a sizeable impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a similar debt ratio in 2029 (at about 17% and 16%

([147]) See Annex 6 in Volume 1 of this report for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.

([148]) Over the period 1980-2018, in only 27% of the cases, EU countries were able to reach an SPB value greater than 1.7% of GDP.

of GDP, respectively) around 1 pp. of GDP higher than in the baseline. A very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the Swedish economy, points to a 1% probability of the debt ratio in 2023 being greater than in 2018.

If fiscal policy were to revert to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *surplus* of 1.9% of GDP, the debt ratio in 2029 would be 4 pps. of GDP lower (at nearly 12% of GDP in 2029) than under the baseline scenario.

26.3. Long-term fiscal sustainability challenges

Over the long term, Sweden is deemed at low fiscal sustainability risk, according to both the long-term sustainability gap indicator S2 and from a DSA perspective.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to limited risk in the long term. Relative to the baseline no-policy-change scenario, only a relatively small improvement in the SPB would be required to stabilise the debt-to-GDP ratio over the long term (a fiscal gap of 1.1 pps. of GDP). This results essentially from the projected increase in ageing costs (contribution of 1.8 pps. of GDP), mitigated only partly by the favourable initial budgetary position (-0.7 pps. of GDP). However, under a more adverse scenario, the 'AWG risk' ([149]), the S2 indicator would reach 2.2 pps. of GDP, shifting fiscal risks to medium in the long term.

Over the long term, Sweden is deemed at low fiscal sustainability risk, both according to the long-term sustainability gap indicator S2 and from a DSA perspective. (see section 26.2) ([150]).

([149]) For more details on this scenario see Section 4.3 of Chapter 4 in Volume 1 of this report.

([150]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

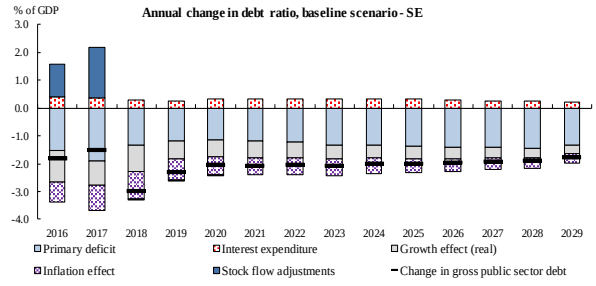
26.4. Additional mitigating and aggravating risk factors

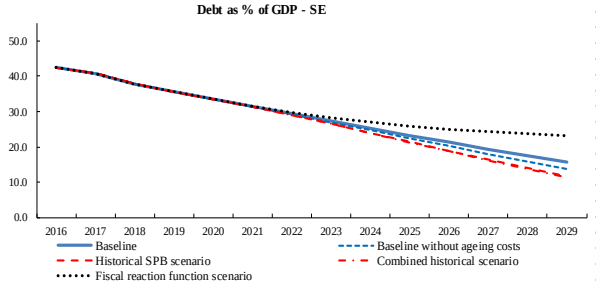
Some additional mitigating and aggravating risk factors exist. Swedish government debt has a favourable structure in terms of currency denomination and share of debt holdings by non-residents. Yet, the high share of short-term government debt, representing 25% of total government debt, could represent a vulnerability in terms of funding pressures. ([151])

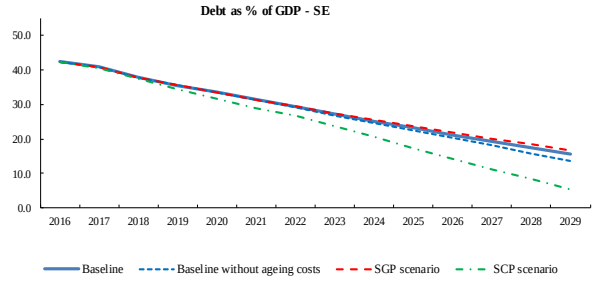
([151]) However, given the low total debt burden as a share of GDP, the share of short-term debt as a share of GDP is contained.

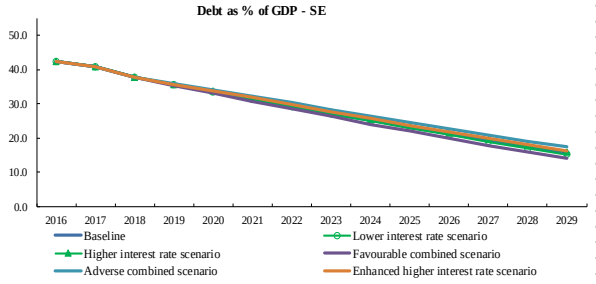
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

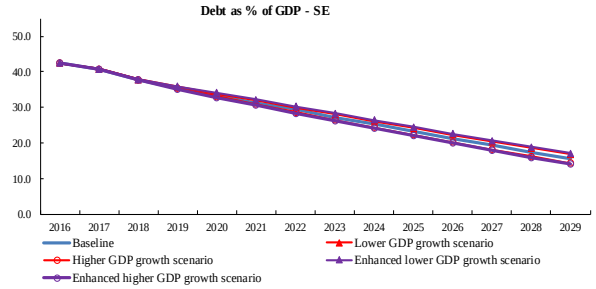
SE - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**42.4**	**40.8**	**37.8**	**35.5**	**33.5**	**31.4**	**29.3**	**27.2**	**25.2**	**23.2**	**21.2**	**19.3**	**17.4**	**15.6**
Changes in the ratio (-1+2+3)	*-1.8*	*-1.5*	*-3.0*	*-2.3*	*-2.1*	*-2.1*	*-2.1*	*-2.1*	*-2.0*	*-2.0*	*-2.0*	*-2.0*	*-1.9*	*-1.8*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.5**	**1.9**	**1.3**	**1.2**	**1.2**	**1.2**	**1.2**	**1.3**	**1.3**	**1.4**	**1.4**	**1.4**	**1.4**	**1.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.2***	***1.7***	***1.2***	***1.2***	***1.3***	***1.3***	***1.3***	***1.3***	***1.3***	***1.4***	***1.4***	***1.4***	***1.4***	***1.3***
(1.1.1) Structural primary balance (bef. CoA)	*1.2*	*1.7*	*1.2*	*1.2*	*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						*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.3*	*0.3*	*0.3*	*0.4*
(1.1.3) Others (taxes and property incomes)						*0.1*	*0.1*	*0.2*	*0.2*	*0.3*	*0.4*	*0.4*	*0.5*	*0.5*
(1.2) Cyclical component	***0.3***	***0.2***	***0.2***	***0.0***	***-0.1***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-1.4**	**-1.4**	**-1.6**	**-1.1**	**-0.9**	**-0.9**	**-0.8**	**-0.8**	**-0.7**	**-0.6**	**-0.6**	**-0.5**	**-0.5**	**-0.4**
(2.1) Interest expenditure	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*
(2.2) Growth effect	*-1.1*	*-0.9*	*-0.9*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.4*	*-0.3*	*-0.3*
(2.3) Inflation effect	*-0.7*	*-0.9*	*-1.0*	*-0.7*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.3*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**1.1**	**1.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*1.0*	*1.8*	*-0.3*	*-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*	*0.0*	*0.3*	*0.3*	*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	1.4	0.9	0.9	1.0	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.1

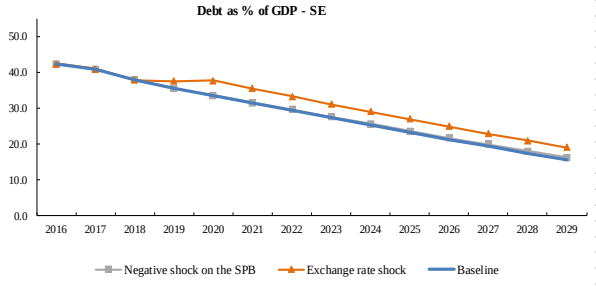


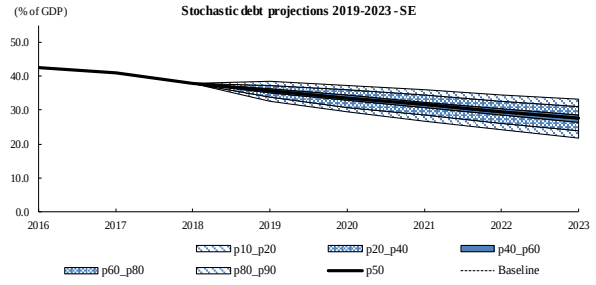


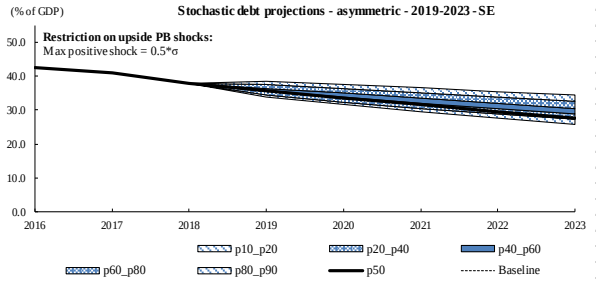












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	15.6	11.7	16.9	16.0	16.3				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	34.0%	28.0%							
			Probability debt higher						1.1%			
			Dif. between percentiles						11.3			
LOW (S0 = 0.2)	LOW	LOW (S1 = -4.6)								LOW	LOW (S2 = 1.1)	LOW

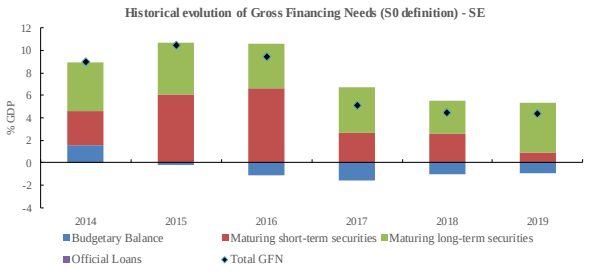
2.2. Sustainability indicators

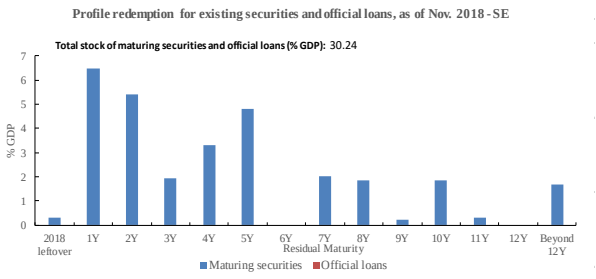
S0 indicator	2009	2018	Critical threshold
Overall index	**0.31**	**0.20**	**0.46**
Fiscal sub-index	0.15	0.00	0.36
Financial competitiveness sub-index	0.40	0.31	0.49

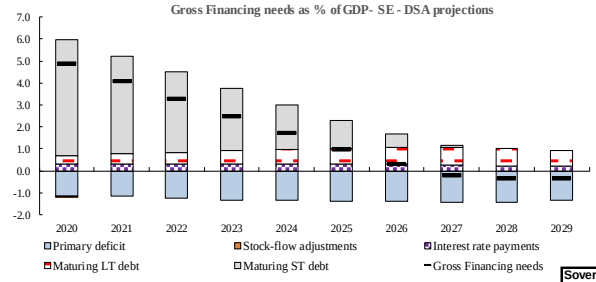
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**-3.9**	**-4.6**	**-5.7**	**-4.4**
of which *Gap to the debt-stabilizing primary balance*	*-1.6*	*-2.1*	*-2.4*	*-2.1*
Cost of delaying adjustment	*-0.6*	*-0.6*	*-0.8*	*-0.6*
Debt requirement	*-2.0*	*-2.2*	*-2.9*	*-2.2*
Ageing costs	*0.3*	*0.3*	*0.4*	*0.5*
Required structural primary balance related to S1	**-3.0**	**-3.3**	**-3.8**	**-3.1**

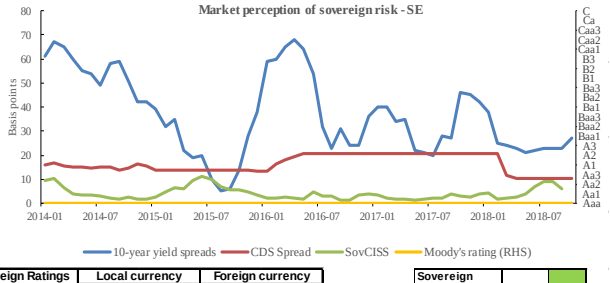
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**0.5**	**1.1**	**0.6**	**2.2**	**1.0**	**1.6**	**0.8**
of which Initial Budgetary position	-0.4	-0.7	-1.3	-0.7	-0.7	-0.7	-0.7
Ageing costs	0.9	1.8	1.9	2.9	1.7	2.4	1.5
of which Pensions	*-0.6*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.2*	*-0.5*
Health care	*0.3*	*0.6*	*0.6*	*1.1*	*0.5*	*0.6*	*0.5*
Long-term care	*1.1*	*1.4*	*1.4*	*1.9*	*1.3*	*1.7*	*1.2*
Others	*0.2*	*0.3*	*0.4*	*0.3*	*0.3*	*0.4*	*0.3*
Required structural primary balance related to S2	**1.5**	**2.4**	**2.4**	**3.5**	**2.3**	**2.9**	**2.1**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, SE	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency 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 Nov 2018	10-year	27.0

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

Government debt structure - SE (2017)	Share of short-term government debt (p.p.): 24.9	Share of government debt in foreign currency (%): 23.6	Share of government debt by non-residents (%): 22.7

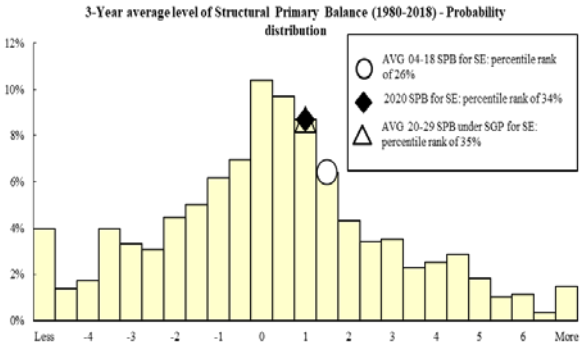
Net International Investment Position (IIP) - SE (2017)	Net IIP (% GDP): 1.8

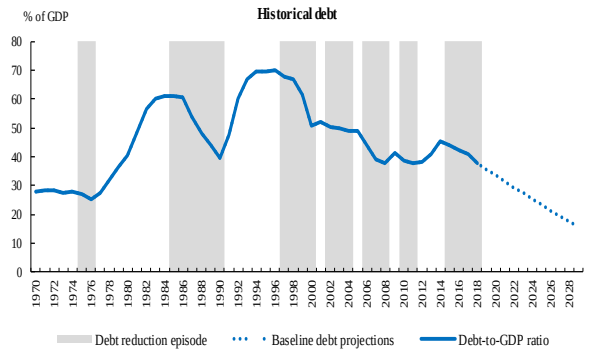
5. Risks related to government's contingent liabilities

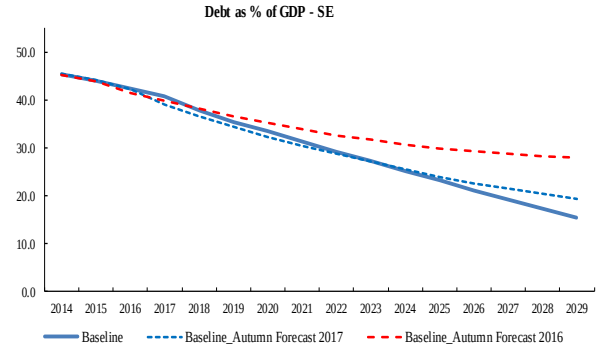
General government contingent liabilities		SE					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		14.2	11.6	11.1	10.5	n.a.	7.3
of which One-off guarantees		*14.2*	*11.6*	*11.1*	*10.5*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	2.5	0.2	0.0	0.0	0.0	0.8
	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	0.1
	Total	2.5	0.2	0.0	0.0	0.0	1.0

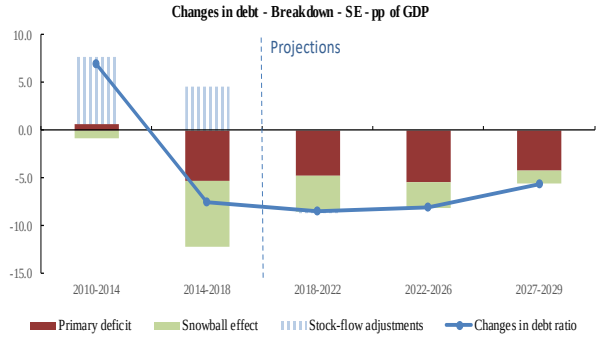
Government's contingent liability risks from banking sector - SE (2017)	Private sector credit flow (% GDP): 13.1	Change in nominal house price index: 6.4	Bank loans-to-deposits ratio (p.p.): 208.9	Share of non-performing loans (%): 1.0	Change in share of non-performing loans (p.p): 0.0	NPL coverage ratio 29.5	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Reference scenario 0.00%	Adverse scenario 0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Sweden	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.5	33.5	23.2	19.3	15.6	35.6	23.3	26.4
Primary balance	1.3	1.2	1.2	1.4	1.4	1.3	1.2	1.3	1.3
Structural primary balance (before CoA)	1.2	1.2	1.3	1.3	1.3	1.3	1.2	1.3	1.3
Real GDP growth	2.4	1.8	1.8	1.8	1.8	1.9	2.0	1.9	1.9
Potential GDP growth	2.4	2.1	2.0	1.8	1.8	1.9	2.2	1.8	1.9
Inflation rate	2.5	2.0	1.8	2.0	2.0	2.0	2.1	2.0	2.0
Implicit interest rate (nominal)	0.8	0.7	1.0	1.3	1.3	1.3	0.8	1.2	1.1
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.5	33.5	25.8	24.2	23.2	35.6	26.5	28.7
Primary balance	1.3	1.2	1.2	0.4	0.2	0.0	1.2	0.5	0.7
Structural primary balance (before CoA)	1.2	1.2	1.3	0.3	0.1	0.0	1.2	0.4	0.6
Real GDP growth	2.4	1.8	1.8	2.0	1.9	1.9	2.0	2.0	2.0
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.5	33.5	23.6	20.1	16.8	35.6	23.8	26.8
Primary balance	1.3	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2
Structural primary balance	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Real GDP growth	2.4	1.8	1.8	1.8	1.9	1.9	2.0	1.9	1.9
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.3	34.2	31.6	17.4	11.3	5.5	34.4	17.4	21.7
Primary balance	1.3	1.3	1.7	2.7	2.8	2.7	1.4	2.7	2.3
Structural primary balance (before CoA)	1.2	1.4	1.8	2.6	2.6	2.6	1.5	2.6	2.3
Real GDP growth	2.8	2.2	2.1	1.9	2.0	1.9	2.4	1.7	1.9
Potential GDP growth	2.2	2.3	2.3	1.9	2.0	1.9	2.3	1.7	1.9
Inflation rate	2.0	1.8	1.9	2.0	2.0	2.0	1.9	1.6	1.6
Implicit interest rate (nominal)	0.9	1.0	1.2	2.0	2.0	2.0	1.0	1.9	1.7
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.5	33.5	21.4	16.4	11.7	35.6	21.5	25.0
Primary balance	1.3	1.2	1.2	1.9	2.0	1.9	1.2	1.8	1.7
Structural primary balance (before CoA)	1.2	1.2	1.3	1.9	1.9	1.9	1.2	1.8	1.6
Real GDP growth	2.4	1.8	1.8	1.8	1.8	1.9	2.0	1.8	1.8
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.5	33.5	21.2	16.2	11.4	35.6	21.3	24.9
Primary balance	1.3	1.2	1.2	1.9	2.0	1.9	1.2	1.8	1.7
Structural primary balance (before CoA)	1.2	1.2	1.3	1.9	1.9	1.9	1.2	1.8	1.6
Real GDP growth	2.4	1.8	1.8	2.1	2.1	2.1	2.0	2.0	2.0
Implicit interest rate (nominal)	0.8	0.7	1.0	1.2	1.2	1.2	0.8	1.1	1.0
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.6	33.6	23.6	19.7	16.0	35.7	23.6	26.7
Implicit interest rate (nominal)	0.8	0.9	1.1	1.4	1.5	1.4	0.9	1.4	1.3
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.4	33.3	22.9	18.9	15.2	35.5	23.0	26.1
Implicit interest rate (nominal)	0.8	0.5	0.8	1.1	1.2	1.2	0.7	1.1	1.0
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.7	33.7	23.8	19.9	16.2	35.7	23.9	26.8
Implicit interest rate (nominal)	0.8	1.1	1.3	1.5	1.5	1.5	1.1	1.4	1.3
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.3	33.1	22.3	18.2	14.3	35.4	22.4	25.7
Real GDP growth	2.4	2.3	2.3	2.3	2.3	2.4	2.3	2.4	2.3
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.7	33.8	24.2	20.4	16.9	35.8	24.3	27.1
Real GDP growth	2.4	1.3	1.3	1.3	1.3	1.4	1.6	1.4	1.4
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.2	32.8	22.0	17.9	14.1	35.3	22.1	25.4
Real GDP growth	2.4	2.7	2.7	2.3	2.3	2.4	2.6	2.4	2.4
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.9	34.1	24.5	20.7	17.1	35.9	24.5	27.4
Real GDP growth	2.4	0.8	0.8	1.3	1.3	1.4	1.3	1.4	1.4
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.5	33.5	23.6	19.8	16.3	35.6	23.7	26.7
Primary balance	1.3	1.2	1.1	1.3	1.3	1.3	1.2	1.3	1.3
Structural primary balance (before CoA)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Real GDP growth	2.4	1.7	1.8	1.8	1.8	1.9	2.0	1.9	1.9
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	37.6	37.6	26.9	22.8	19.0	37.7	27.0	29.7
Exchange rate depreciation	0.0%	10.4%	10.4%	0.0%	0.0%	0.0%	7.0%	0.0%	1.7%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.3	33.0	21.9	17.8	14.0	35.4	22.1	25.4
Implicit interest rate (nominal)	0.8	0.5	0.8	1.1	1.1	1.1	0.7	1.1	1.0
Real GDP growth	2.4	2.3	2.3	2.3	2.3	2.4	2.3	2.4	2.3
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	37.8	35.8	33.9	24.6	20.9	17.4	35.9	24.6	27.4
Implicit interest rate (nominal)	0.8	0.9	1.1	1.4	1.5	1.5	0.9	1.4	1.3
Real GDP growth	2.4	1.3	1.3	1.3	1.3	1.4	1.6	1.4	1.4

UNITED KINGDOM

Based on the European Commission Autumn 2018 Forecasts, the United Kingdom should experience further improvement in the structural primary balance (SPB), from a *surplus* of 0.7% of GDP in 2018 to a *surplus* of 1.2% of GDP in 2020. Real GDP growth should remain broadly stable, from 1.3% in 2018 (after 1.7% in 2017) to 1.2% in 2020. Supported by some favourable contribution of the interest rate – growth rate differential, gross government debt would decrease over the forecast horizon, from 86.0% of GDP in 2018 to 82.6% of GDP in 2020, for the first time since 2011.

27.1. Short-term fiscal sustainability challenges

Over the short term (within one year), no significant risks of fiscal stress are foreseen for the United Kingdom.

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, as well as the fiscal and the financial competitiveness sub-indexes.

Financial markets' perceptions of sovereign risk are favourable, reflected in low and stable 10-year sovereign yield spreads vis-à-vis the German Bund and high ratings.

27.2. Medium-term fiscal sustainability challenges

Over the medium term, fiscal sustainability risks appear, on the contrary, to be high for the United Kingdom. While the sustainability gap indicator S1 points to medium risks, the DSA points to high risks. In particular, reverting to historical behaviour – i.e. a structural primary deficit – would pose high risks.

Medium-term fiscal sustainability challenges: S1 indicator

The analysis of the sustainability gap indicator S1 points to medium risk in the medium term. This indicator shows that a cumulated improvement of 1.3 pps. of GDP of the SPB over 5 years would be required to bring the debt-to-GDP ratio to the reference value of 60% by 2033, relative to the baseline 'no-fiscal policy change' scenario. This would require reaching and maintaining an ambitious SPB by European standards ([152]). The positive S1 value obtained for the United Kingdom is mainly due to the distance of the debt ratio from the 60% reference value (contribution of 1.7 pps. of GDP), and, to a lesser extent, to projected age-related public spending (0.7 pps. of GDP), while the favourable initial budgetary position provides some mitigating impact (-1.4 pps. of GDP).

Debt sustainability analysis (DSA)

Over the medium term, the United Kingdom is deemed at high risk from a debt sustainability analysis (DSA) perspective. This risk assessment is driven by results from the historical scenario, pointing at high risks in case of a reversal to historical behaviour – i.e. a structural primary deficit ([153]).

Baseline no-fiscal policy change scenario

The United Kingdom would be considered at medium risk in baseline medium-term debt projections. Under normal economic conditions, and a 'no-fiscal policy change' assumption, government debt would steadily decline until the end of the projection period (t+10) but remain relatively high at 74% of GDP in 2029. Reducing the debt-to-GDP ratio more substantially would call for more fiscal effort than under this no-fiscal policy change scenario (with an SPB unchanged at the projected 2020 level of 1.2% of GDP) ([154]), also in view of the need to compensate for increasing ageing costs and diminishing support from favourable snowball effects (interest – growth rate differential) towards the end of the projection period.

Government gross financing needs (GFN) ([155]) are projected to slightly increase over the projection

([152]) Only 20% of the SPBs recorded for the EU countries over 1980-2018 were greater than this value.
([153]) See Annex 6 for detailed explanations of the criteria and decisions trees used to derive the overall DSA risk classification.
([154]) Over the period 1980-2018, in 34% of the cases, EU countries were able to reach an SPB value greater than 1.2% of GDP.
([155]) This measure covers financing needs created by the budgetary deficit, the amortisation of maturing debt

period, reaching 9.3% of GDP in 2029, above their estimated value in 2019 (at close to 8.8% of GDP).

Alternative and stress test scenarios

Given the high initial stock of debt, negative shocks to growth, interest rates or the primary balance would have non-negligible impact on the debt ratio. In particular, standard negative sensitivity tests on nominal growth and interest rates would entail a debt ratio in 2029 (at 78% of GDP) around 4 pps. of GDP higher than in the baseline. Yet, a very large set of jointly simulated shocks to growth, interest rates and the primary balance, based on the historical volatility of the British economy, points to a low 17% probability of the debt ratio in 2023 being greater than in 2018.

If fiscal policy was reverting back to historical behaviour (with the SPB gradually converging to its last 15-year historical average, a *deficit* of 2.1% of GDP), the British debt ratio in 2029 would be as much as 23 pps. of GDP higher (at 97% of GDP in 2029) than under the baseline scenario, pointing at high fiscal sustainability risks.

If, on the contrary, fiscal policy was evolving in line with the main provisions of the Stability and Growth Pact (SGP) ([156]), the British government debt would substantially decrease, to less than 67% of GDP in 2029 (close to 7 pps. of GDP less than in the baseline scenario). However, this would require a higher average SPB over the projection horizon (at +1.6% of GDP over 2020-29) than forecasted for 2020. Even in this case, the debt ratio would remain above the SGP threshold of 60% of GDP in 2029.

27.3. Long-term fiscal sustainability challenges

Over the long term, the United Kingdom is deemed at high fiscal sustainability risk. The moderate sustainability gap indicator to stabilise debt over the long term and the higher vulnerabilities captured by the DSA risk assessment imply that the United Kingdom is deemed at high risk over the long term.

securities and loans (including official loans if any), as well as other debt creating flows (stock-flow adjustments).

([156]) See Annex 5 in Volume 1 of this report for detailed explanations on the definition of the SGP scenario.

Long-term fiscal sustainability challenges: S2 indicator and DSA

The analysis of the sustainability gap indicator S2 points to medium risk in the long term. This indicator shows that some improvement of the SPB, relative to the baseline no-fiscal policy change scenario, would be required to stabilise the debt-to-GDP ratio over the long term (a fiscal gap at 3 pps. of GDP). This result is due to the projected increase in ageing costs (contribution of 3.3 pps. of GDP), mitigated by the favourable initial budgetary position (-0.3 pps. of GDP). It is the projected increase in both public pension and health and long-term care expenditure that drives up ageing costs (contributions of 1.3 pps. and 2.1 pps. of GDP, respectively). Moreover, under a scenario assuming an initial budgetary position more in line with historical average, the S2 indicator would point at a fiscal gap at 6.5 pps. of GDP, above the critical threshold (i.e. 6 pps.) pointing to high fiscal risks in the long term for that indicator.

Over the long term, the United Kingdom is deemed at high fiscal sustainability risk. The medium risk related to sustainability gap indicator S2 along with the vulnerabilities linked to historical behaviour - captured by the DSA risk assessment (see section 27.2) - imply that the United Kingdom is deemed at high risk over the long term ([157]).

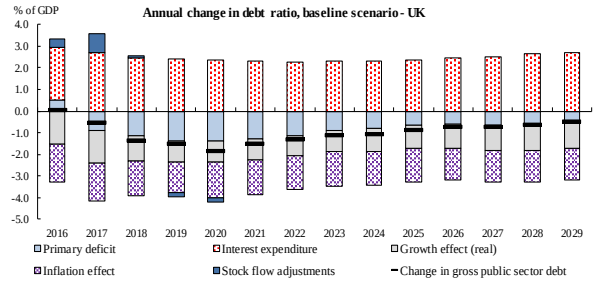
27.4. Additional mitigating and aggravating risk factors

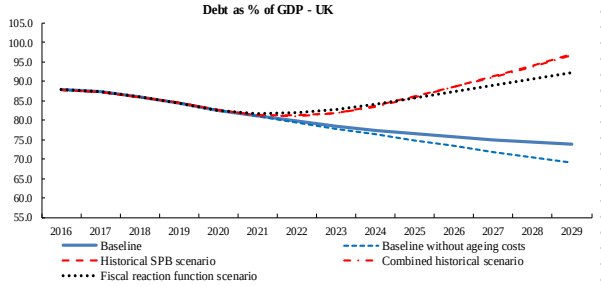
Some additional mitigating and aggravating risk factors exist. The structure of the government debt, in terms of currency denomination, and the contained negative net international investment position, helps mitigating vulnerabilities. Yet, the high share of short-term debt could be an aggravating factor. Also, the low non–performing loans coverage ratio point to some contingent liability risks.

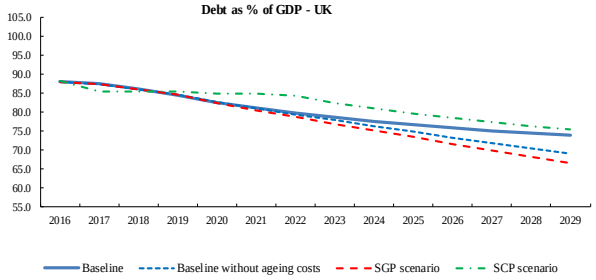
([157]) See Chapter 4 (Volume 1) for detailed explanations about the method used to assess long-term sustainability risks.

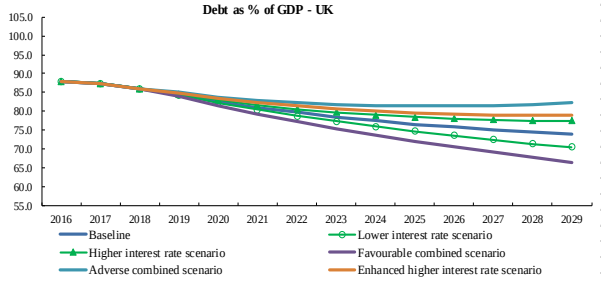
1. General Government Gross Debt projections under baseline, alternative scenarios and sensitivity tests

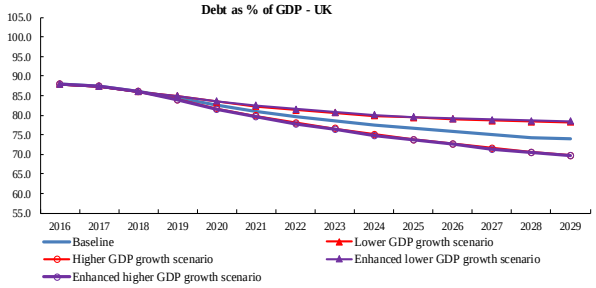
UK - Debt projections baseline scenario	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**87.9**	**87.4**	**86.0**	**84.5**	**82.6**	**81.1**	**79.7**	**78.5**	**77.5**	**76.6**	**75.8**	**75.0**	**74.4**	**73.9**
Changes in the ratio (-1+2+3)	*0.0*	*-0.5*	*-1.4*	*-1.5*	*-1.8*	*-1.5*	*-1.4*	*-1.2*	*-1.1*	*-0.9*	*-0.8*	*-0.8*	*-0.7*	*-0.5*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-0.5**	**0.9**	**1.1**	**1.4**	**1.4**	**1.3**	**1.1**	**0.9**	**0.8**	**0.7**	**0.6**	**0.7**	**0.7**	**0.5**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.9***	***0.4***	***0.7***	***1.1***	***1.2***	***1.1***	***1.1***	***0.9***	***0.8***	***0.7***	***0.6***	***0.7***	***0.7***	***0.5***
(1.1.1) Structural primary balance (bef. CoA)	*-0.9*	*0.4*	*0.7*	*1.1*	*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*	*0.5*	*0.6*	*0.7*	*0.7*	*0.7*	*0.8*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
(1.2) Cyclical component	***0.4***	***0.5***	***0.5***	***0.3***	***0.2***	***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)	**-0.8**	**-0.5**	**-0.3**	**0.0**	**-0.3**	**-0.3**	**-0.2**	**-0.2**	**-0.3**	**-0.2**	**-0.1**	**-0.1**	**0.0**	**0.0**
(2.1) Interest expenditure	*2.4*	*2.7*	*2.5*	*2.4*	*2.3*	*2.3*	*2.3*	*2.3*	*2.3*	*2.4*	*2.4*	*2.5*	*2.6*	*2.7*
(2.2) Growth effect	*-1.5*	*-1.5*	*-1.1*	*-1.0*	*-1.0*	*-1.0*	*-0.9*	*-1.0*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.2*	*-1.2*
(2.3) Inflation effect	*-1.8*	*-1.7*	*-1.6*	*-1.4*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-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	**0.4**	**0.9**	**0.1**	**-0.2**	**-0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.4*	*0.9*	*0.1*	*-0.2*	*-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	-3.4	-2.3	-1.8	-1.3	-1.1	-1.1	-1.2	-1.4	-1.5	-1.7	-1.8	-1.9	-2.0	-2.2

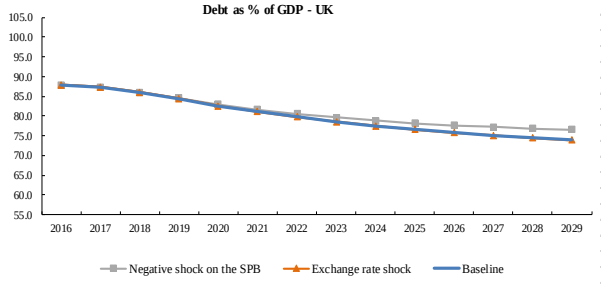


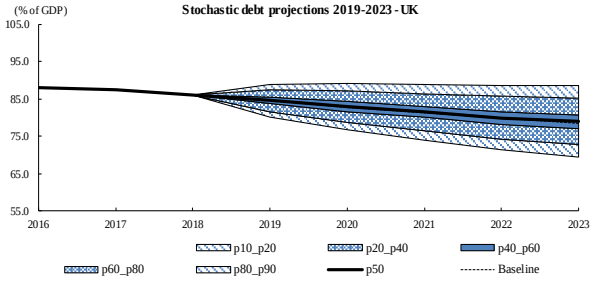


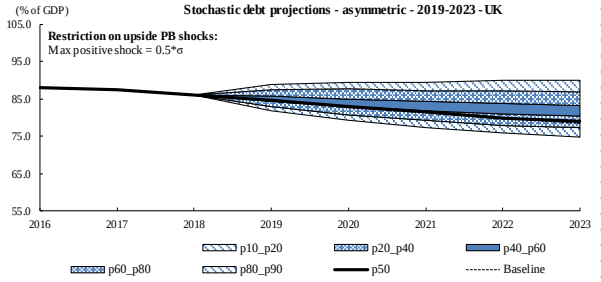












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis	Baseline	Historical SPB	Negative shock on GDP growth	Positive shock on interest rate	Negative shock on the SPB	Stochastic projections	DSA	S2	Long term
LOW (S0 = 0.4)	HIGH	MEDIUM (S1 = 1.3)	Risk category	MEDIUM	HIGH	MEDIUM	MEDIUM	MEDIUM	LOW	HIGH	MEDIUM (S2 = 3)	HIGH
			Debt level (2029)	73.9	96.9	78.3	77.6	76.5				
			Debt peak year	2018	2029	2018	2018	2018				
			Percentile rank	36.0%	75.0%							
			Probability debt higher						17.0%			
			Dif. between percentiles						19.3			

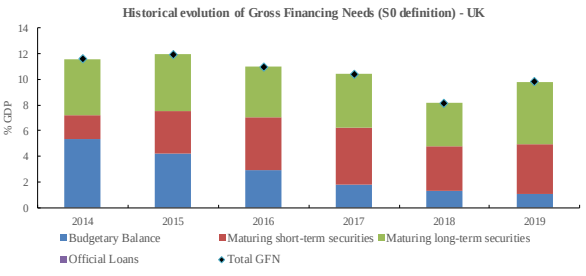
2.2. Sustainability indicators

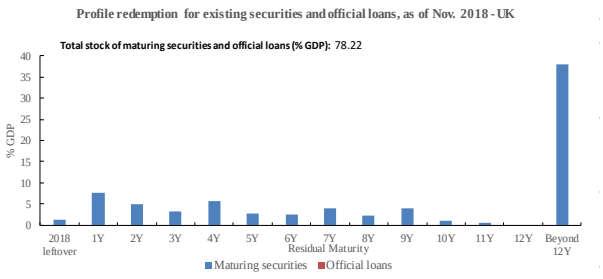
S0 indicator	2009	2018	Critical threshold
Overall index	**0.51**	**0.42**	**0.46**
Fiscal sub-index	0.53	0.31	0.36
Financial competitiveness sub-index	0.49	0.47	0.49

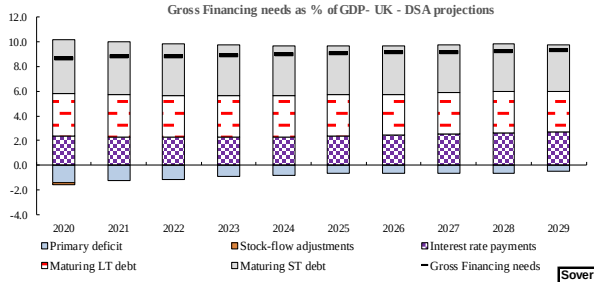
S1 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario
Overall index	**2.1**	**1.3**	**6.3**	**1.5**
of which *Gap to the debt-stabilizing primary balance*	*-1.0*	*-1.4*	*2.4*	*-1.4*
Cost of delaying adjustment	*0.3*	*0.2*	*1.0*	*0.2*
Debt requirement	*1.9*	*1.7*	*1.8*	*1.7*
Ageing costs	*0.9*	*0.7*	*1.1*	*0.9*
Required structural primary balance related to S1	**3.0**	**2.5**	**4.2**	**2.7**

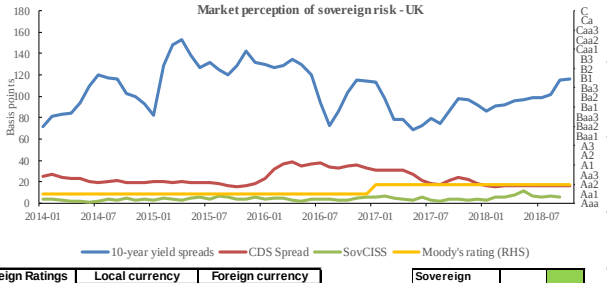
S2 indicator	2017 DSM	FSR 2018 COM no-policy change scenario	FSR 2018 Historical SPB scenario	FSR 2018 AWG risk scenario	FSR 2018 TFP risk scenario	FSR 2018 High life expectancy scenario	FSR 2018 Higher interest rate scenario
Overall index	**2.1**	**3.0**	**6.5**	**4.1**	**3.2**	**3.7**	**2.9**
of which Initial Budgetary position	-0.1	-0.3	3.1	-0.3	-0.2	-0.3	0.0
Ageing costs	2.2	3.3	3.4	4.3	3.4	3.9	2.9
of which Pensions	*0.9*	*1.3*	*1.4*	*1.3*	*1.6*	*1.7*	*1.2*
Health care	*0.9*	*1.1*	*1.1*	*1.8*	*1.0*	*1.2*	*1.0*
Long-term care	*0.3*	*1.0*	*1.0*	*1.3*	*0.9*	*1.1*	*0.8*
Others	*0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
Required structural primary balance related to S2	**3.0**	**4.2**	**4.4**	**5.3**	**4.4**	**4.9**	**4.2**

3. Financing needs and financial information









Sovereign Ratings as of Nov 2018, UK	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aa2		Aa2	
S&P	AAu	A-1+u	AAu	A-1+u
Fitch	AA		AA	F1+

Sovereign yield spreads (bp)* - as of Nov 2018	10-year	116.0

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

Government debt structure - UK (2017)	Share of short-term government debt (p.p.):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	15.7	0.0	n.a.

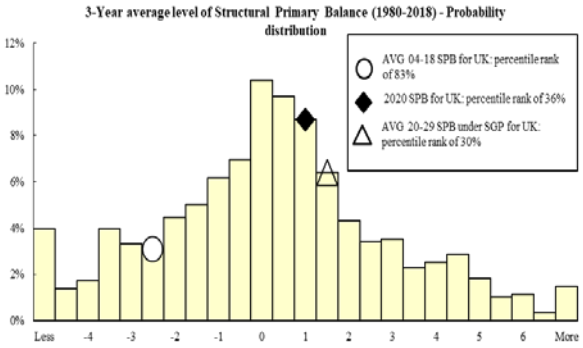
Net International Investment Position (IIP) - UK (2017)	Net IIP (% GDP):
	-8.6

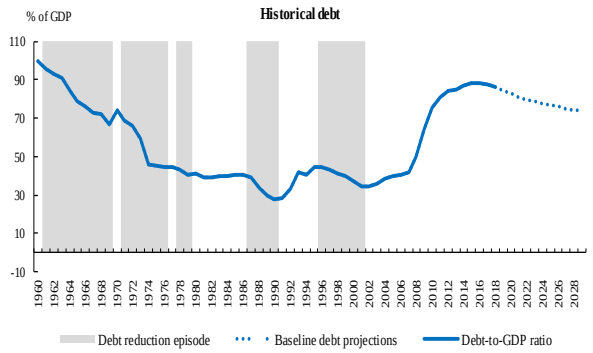
5. Risks related to government's contingent liabilities

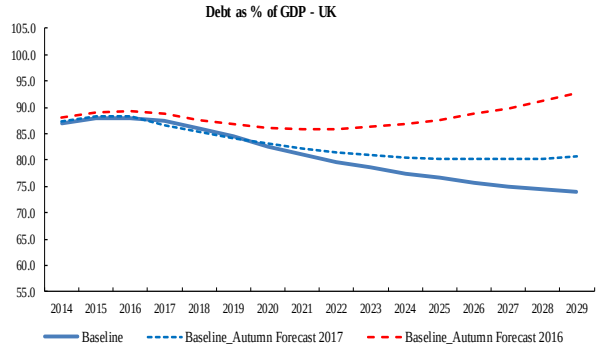
General government contingent liabilities		UK					EU
		2011	2013	2015	2016	2017	2016
State guarantees (% GDP)		15.3	9.3	8.6	8.3	n.a.	7.3
of which One-off guarantees		*15.3*	*9.3*	*8.6*	*8.3*	*n.a.*	*6.9*
Standardised guarantees		*0.0*	*0.0*	*0.1*	*0.1*	*n.a.*	*0.4*
Public-private partnerships (PPPs) (% GDP)		*2.1*	*1.9*	*1.7*	*1.5*	*n.a.*	*0.5*
		2011	2013	2015	2016	2017	2017
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	5.4	0.0	0.0	0.0	0.0	0.8
	Securities issued under liquidity schemes	4.8	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.1
	Total	10.2	0.0	0.0	0.0	0.0	1.0

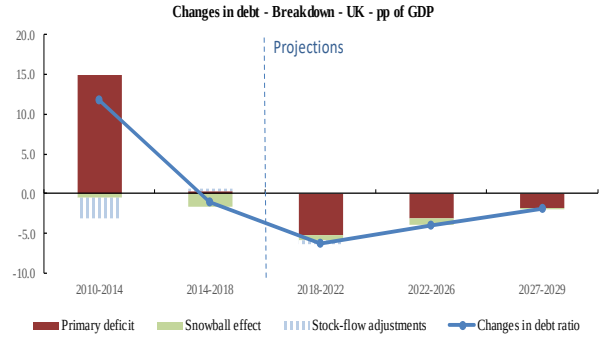
Government's contingent liability risks from banking sector - UK (2017)	Private sector credit flow (% GDP):	Change in nominal house price index:	Bank loans-to-deposits ratio (p.p.):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Reference scenario	Adverse scenario
	8.4	4.5	92.0	1.5	-0.4	32.0	0.00%	0.00%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, United-Kingdom	Levels						Averages		
1. Baseline no-policy change scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.5	82.6	76.6	75.0	73.9	84.4	76.9	78.8
Primary balance	1.1	1.4	1.4	0.7	0.7	0.5	1.3	0.8	0.9
Structural primary balance (before CoA)	0.7	1.1	1.2	1.2	1.2	1.2	1.0	1.2	1.2
Real GDP growth	1.3	1.2	1.2	1.4	1.5	1.7	1.2	1.4	1.4
Potential GDP growth	1.5	1.4	1.4	1.4	1.5	1.7	1.4	1.5	1.5
Inflation rate	1.9	1.6	2.0	2.0	2.0	2.0	1.8	2.0	2.0
Implicit interest rate (nominal)	2.9	2.9	2.9	3.2	3.5	3.7	2.9	3.2	3.1
2. Fiscal reaction function scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.5	82.6	85.7	88.9	92.3	84.4	86.1	85.7
Primary balance	1.2	1.4	1.4	-1.7	-1.6	-1.4	1.3	-1.3	-0.7
Structural primary balance (before CoA)	0.7	1.1	1.2	-1.2	-1.1	-0.7	1.0	-0.9	-0.4
Real GDP growth	1.3	1.2	1.2	1.4	1.5	1.4	1.2	1.6	1.5
3. SGP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.5	82.5	73.4	70.0	66.6	84.3	73.5	76.2
Primary balance	1.2	1.4	1.8	1.5	1.6	1.7	1.4	1.6	1.6
Structural primary balance	0.7	1.1	1.6	1.5	1.6	1.7	1.1	1.6	1.5
Real GDP growth	1.3	1.2	0.9	1.4	1.5	1.7	1.1	1.4	1.3
4. SCP scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	85.4	85.3	84.9	79.6	77.4	75.5	85.2	80.0	81.3
Primary balance	0.8	0.7	0.9	1.0	1.0	0.9	0.8	1.0	1.0
Structural primary balance (before CoA)	0.4	0.5	0.8	1.4	1.4	1.4	0.6	1.3	1.2
Real GDP growth	1.5	1.3	1.3	1.5	1.6	1.7	1.4	1.6	1.5
Potential GDP growth	1.4	1.4	1.4	1.5	1.6	1.7	1.4	1.6	1.5
Inflation rate	1.5	1.6	1.6	2.0	2.0	2.0	1.6	1.9	1.9
Implicit interest rate (nominal)	3.1	2.9	2.8	3.2	3.5	3.7	2.9	3.2	3.2
5. Historical SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.5	82.6	86.1	91.2	96.9	84.4	87.2	86.5
Primary balance	1.2	1.4	1.4	-2.6	-2.6	-2.8	1.3	-1.9	-1.1
Structural primary balance (before CoA)	0.7	1.1	1.2	-2.1	-2.1	-2.1	1.0	-1.5	-0.9
Real GDP growth	1.3	1.2	1.2	1.4	1.5	1.7	1.2	1.7	1.6
6. Combined historical scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.5	82.6	86.0	91.2	96.8	84.4	87.1	86.4
Primary balance	1.2	1.4	1.4	-2.6	-2.6	-2.8	1.3	-1.9	-1.1
Structural primary balance (before CoA)	0.7	1.1	1.2	-2.1	-2.1	-2.1	1.0	-1.5	-0.9
Real GDP growth	1.3	1.2	1.2	1.5	1.5	1.5	1.2	1.7	1.6
Implicit interest rate (nominal)	2.9	2.9	2.9	3.4	3.5	3.7	2.9	3.3	3.2
7. Higher IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.6	83.0	78.5	77.8	77.6	84.5	79.0	80.4
Implicit interest rate (nominal)	2.9	3.1	3.1	3.6	4.0	4.4	3.0	3.7	3.5
8. Lower IR scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.3	82.2	74.7	72.5	70.5	84.2	75.0	77.3
Implicit interest rate (nominal)	2.9	2.7	2.6	2.7	2.9	3.1	2.7	2.8	2.8
9. Higher IR scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.8	83.4	79.5	79.0	79.0	84.7	80.0	81.2
Implicit interest rate (nominal)	2.9	3.3	3.4	3.8	4.1	4.5	3.2	3.8	3.7
10. Higher growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.0	81.8	73.8	71.6	69.8	83.9	74.2	76.7
Real GDP growth	1.3	1.7	1.7	1.9	2.0	2.2	1.6	1.9	1.8
11. Lower growth scenario (standard DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.9	83.5	79.4	78.7	78.3	84.8	79.8	81.0
Real GDP growth	1.3	0.7	0.7	0.9	1.0	1.2	0.9	0.9	0.9
12. Higher growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	83.9	81.6	73.6	71.4	69.6	83.8	74.0	76.5
Real GDP growth	1.3	1.8	1.8	1.9	2.0	2.2	1.7	1.9	1.9
13. Lower growth scenario (enhanced DSA)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	85.0	83.7	79.6	78.9	78.5	84.9	80.0	81.2
Real GDP growth	1.3	0.5	0.6	0.9	1.0	1.2	0.8	0.9	0.9
14. Lower SPB scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.6	83.0	78.2	77.2	76.5	84.5	78.6	80.0
Primary balance	1.2	1.1	1.1	0.4	0.4	0.3	1.1	0.5	0.7
Structural primary balance (before CoA)	0.7	0.8	1.0	1.0	1.0	1.0	0.8	1.0	0.9
Real GDP growth	1.3	1.4	1.2	1.4	1.5	1.7	1.3	1.4	1.4
15. Exchange rate depreciation scenario	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	84.5	82.6	76.6	75.0	73.9	84.4	76.9	78.8
Exchange rate depreciation	0.0%	12.9%	12.9%	0.0%	0.0%	0.0%	8.6%	0.0%	2.2%
16. Favourable combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	83.9	81.4	72.1	69.2	66.5	83.7	72.4	75.2
Implicit interest rate (nominal)	2.9	2.7	2.6	2.7	2.9	3.1	2.7	2.8	2.8
Real GDP growth	1.3	1.7	1.7	1.9	2.0	2.2	1.6	1.9	1.8
17. Adverse combined scenario (GDP & IR)	**2018**	**2019**	**2020**	**2025**	**2027**	**2029**	**2018-20**	**2021-29**	**2018-29**
Gross public debt	86.0	85.1	83.9	81.4	81.5	82.2	85.0	81.9	82.6
Implicit interest rate (nominal)	2.9	3.1	3.1	3.6	4.0	4.4	3.0	3.7	3.5
Real GDP growth	1.3	0.7	0.7	0.9	1.0	1.2	0.9	0.9	0.9

ANNEX

DATA SOURCES AND INFORMATION

The projections presented in this report are based on Autumn 2018 Commission forecast and on Council / Commission Ageing Report 2018. The cut-off date for the preparation of the report was 8 November 2018 (publication date of the Commission Autumn forecast 2018). Therefore, it does not integrate developments that may have occurred since this date.

SECTION 3

Financing needs and financial information

Historical evolution of Gross Financing Needs ('S0 definition')

Budgetary Balance – AMECO, Net lending (+) or net borrowing (-), General government – ESA 2010, as % of GDP at current prices.

Maturing short-term securities – ECB, Government Finance Statistics (GFS) database, Short-term government debt securities (non-consolidated, outstanding amounts) with short-term original maturity (up to 1 year), Monthly, as % of GDP.

Maturing long-term securities – ECB, Government Finance Statistics (GFS) database, Long-term government debt securities (non-consolidated, outstanding amounts), Long-term original maturity (over 1 year) with short-term residual maturity (up to 1 year), Monthly, as % of GDP.

Official Loans – ECFIN Country Desks (Cyprus, Ireland, Portugal), Programme Loans Repayment Schedule, Yearly, as % of GDP.

GDP – Actual nominal GDP for 2014-2019 (European Commission 2018 Autumn Forecast).

Profile redemption for existing securities and official loans

Maturing securities – Bloomberg, Active sovereign securities, Yearly outstanding amounts, as % of GDP, Extracted on November 2018. In some cases, the scheduled redemption profile may not take into account some 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 2018 (European Commission 2018 Autumn Forecast) is used to compute the total stock of maturing securities and official loans as share of GDP, throughout the scheduled redemption period.

Gross Financing Needs as % of GDP – DSA Projections

Sources – See Box 2.4 of the Debt Sustainability Monitor 2016, European Commission

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 – Bloomberg, Daily close, Basis points, Extracted on November 2018, 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 on November 2018.

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, 2017 data, General government consolidated gross debt, Original maturity of less than 1 year, as % of total, Available for all countries except the NL and UK.

Share of short-term government debt (for the NL and UK) – Eurostat, 2017 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, 2017 data, Debt by currency of issue, General Government, Foreign Currency, % of total, Available for all countries except DK, FI, SE, and the UK.

Share of government debt in foreign currency (for DK, FI, SE and the UK) – ECB, 2017 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, 2017 data, General government consolidated gross debt, Rest of the world, Total-all maturities, % of total, Available for all countries except the UK.

Net International Investment Position (IIP) – Eurostat, 2017 data, % of GDP.

SECTION 5

Risks related to government's contingent liabilities

Risks related to government's contingent liabilities

State guarantees – Eurostat, 2016 data, % of GDP.

One-off guarantees – Eurostat, 2016 data, % of GDP.

Standardised guarantees – Eurostat, 2016 data, % of GDP.

Public-private partnerships (PPPs) – Eurostat, 2016 data, % of GDP.

Contingent liabilities of general government related to support to financial institutions – Eurostat, 2017 data, % of GDP.

Government's contingent liability risks from the banking sector

Private sector credit flow – Eurostat (MIP scoreboard), 2017 data, % of GDP.

Change in nominal house price index – European Commission, DG ECFIN, Unit B1 House Price Database, 2017 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, December 2017 data.

Share of non-performing loans – European Banking Authority (EBA), Risk indicator, Ratio of non-performing loans and advances (NPL ratio), December 2017 data.

Non-Performing Loans (NPL) coverage ratio – European Banking Authority (EBA), Risk indicator, Coverage ratio of non-performing loans and advances, December 2017 data.

Probability of government contingent liabilities exceeding 3% of GDP due to banking losses and recapitalisation needs, under a reference and an adverse scenario – SYMBOL-based estimation of the probability of at least 3% of GDP deterioration of public finances in the event of a systemic banking crisis similar to the recent financial crisis. The *reference scenario* assumes that only systemic stressed banks go into resolution. The *adverse scenario* assumes that all stressed banks go into resolution and that the recovery rate on NPLs is 80% lower than under the reference scenario.

SECTION 6

Realism of baseline assumptions

3-year average level of Structural Primary Balance – Probability distribution – The realism of underlying fiscal projections (in 3 scenarios: baseline, historical, SGP) is assessed by plotting the distribution of past fiscal balances (measured by the 3-year average of the SPB) of all EU countries over the last 15 years, and measuring, for each country and each scenario, the percentile rank of the specific value of the fiscal balance against the overall distribution.

Historical debt

Debt-to-GDP ratio – IMF, Global Debt Database, up to 2017 data, %. The data for the period 2018-29 are European Commission projections. A debt reduction episode is defined as a period of at least 2 pps. of debt-to-GDP cumulative reduction over at least two consecutive years.

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