

### 3. LONG-TERM FISCAL SUSTAINABILITY ANALYSIS

#### Main takeaways

**The new long-term risk classification is based on two complementary fiscal gap indicators that show the fiscal effort required to achieve two specific long-term fiscal goals.** The S2 indicator measures the fiscal effort needed to stabilise public debt over the long term. The revised S1 indicator measures the fiscal effort required to bring the government debt-to-GDP ratio to 60% in 2070, hence capturing vulnerabilities due to high debt levels. The methodological approach differs from the Fiscal Sustainability Report 2021, which determined long-term fiscal risks based on the S2 indicator and the DSA results. The revised S1 indicator provides a better long-term complement to the S2 indicator, as based on a similar time horizon (see Box 3.1).

**Combining the S2 and S1 results, the overall long-term fiscal sustainability risks are considered to be high in seven Member States.** The driving factor behind the high-risk assessment is the S2 indicator and largely reflects increasing ageing costs. The latter is due to the significant projected increase in pension spending (largest component in Luxembourg, Hungary, Malta, Slovenia and Slovakia), as well as in healthcare and/or long-term care spending (largest component in Belgium and the Netherlands).

**The overall long-term fiscal sustainability risks are considered to be medium in twelve Member States.** The driving factor behind this risk assessment is generally the S2 indicator, reflecting projected increases in ageing costs (largest component in Czechia, Germany, Ireland, Austria and Finland) and/or an unfavourable initial budgetary position (largest component in Bulgaria, Croatia, Poland and Romania). Only in the cases of Spain, France and Italy, the overall risk classification is modified by the S1 indicator, with a significant fiscal effort needed to reduce the debt-to-GDP ratio from current high levels to 60% by 2070.

**The overall long-term fiscal sustainability risks are considered to be low in eight Member States.** This reflects either the expected reducing long-term impact of past pension reforms (as in Greece and Portugal) and/or the favourable initial budgetary position (as in Denmark, Estonia, Latvia, Lithuania and Sweden in terms of debt level, or Cyprus in terms of structural primary balance).

**Compared to the 2021 Fiscal Sustainability Report, long-term risks remained unchanged in twenty Member States, are higher in one Member State and lower in six Member States.** For the Netherlands, long-term risks are now high compared to medium in 2021 due to a less favourable initial budgetary position. The lower long-term risk classifications are due to an improvement of the value of the S2 indicator (Czechia, Spain and Italy), capturing a more favourable initial budgetary position, and/or reflect the methodological change using the revised S1 instead of the DSA as a complementary indicator to the S2 in the overall risk classification (for Greece, Cyprus and Portugal). However, the more favourable assessment for these countries is conditional to them maintaining the comfortable structural primary balance expected in 2024 over the long term.

Table 3.1: Overview of overall long-term risk classifications, S2 and S1

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

Source: Commission services.

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

- the *S2 indicator* measures the fiscal effort required to stabilise government debt in the long term;
- the *S1 indicator* measures the fiscal effort required to bring the government debt-to-GDP ratio to 60% by 2070.

**This approach differs from the one used in the 2021 Fiscal Sustainability Report, which assessed long-term risks based on the S2 indicator and the DSA.** The time horizon of the S1 indicator has been extended so that it now provides a better complement to the S2 signal than the medium-term-oriented DSA. These methodological revisions and the rationale behind them are discussed in Box 3.1 at the end of this chapter.

**The Chapter is structured as follows.** Section 3.1 describes the results for the S2 indicator, Section 3.2 focuses on the findings of the S1 indicator, before Section 3.3 concludes with the overall risk classification.

### 3.1. THE S2 INDICATOR

#### S2 – baseline

**The S2 indicator measures the permanent adjustment of the structural primary balance (SPB) in 2024 that would be required to stabilise public debt over the long term.** It consists of two components, namely (i) the ‘initial budgetary position’, which measures the gap between the initial SPB and the debt-stabilising structural primary balance and (ii) the future ageing costs.

**The S2 indicator identifies seven Member States as having high fiscal risk in the long term** (see Graph 3.1, Table 3.1). Member States are

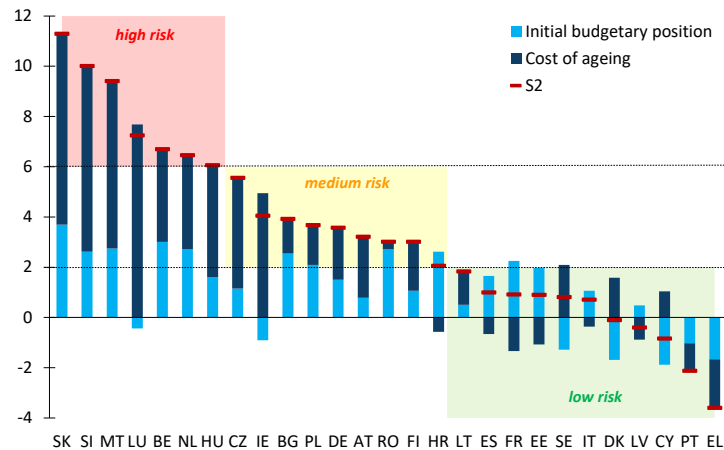
considered at high risk if an overall adjustment of at least 6 pps. of GDP would be needed to stabilise debt in the long term. For Slovakia and Slovenia the required adjustment is estimated to exceed 10 pps. of GDP. For Malta, Luxembourg, Belgium, the Netherlands and Hungary the S2 implies an adjustment between 6.1 and 9.4 pps. of GDP.

**Based on the S2, nine Member States are considered to face medium fiscal risks in the long term.** Member States are considered at medium risk if an overall adjustment between 2 and 6 pps. of GDP would be needed to stabilise debt in the long term. The S2 indicator points to medium risks in Czechia, Ireland, Bulgaria, Poland, Germany, Austria, Romania, Finland, and Croatia.

**The S2 signals low fiscal risks for eleven countries in the long term.** Member States are considered at low risk if an overall adjustment below 2 pps. of GDP would be needed to stabilise debt in the long term. According to the S2 indicator, the following countries are considered at low risk: Lithuania, Spain, France, Estonia, Sweden, Italy, Denmark, Latvia, Cyprus, Portugal and Greece.

**For a majority of countries, both the initial budgetary position and the projected ageing costs matter for the S2 indicator.** The ‘initial budgetary position’ measures the gap between the initial SPB and the debt-stabilising structural primary balance. It thus ignores future ageing costs, which are measured separately. The sum of initial budgetary position and the projected ageing costs determines the overall S2 value. In all Member States except for Greece and Portugal, a fiscal adjustment is required based on at least one of the two components. In Denmark, Ireland, Greece, Cyprus, Luxembourg, Portugal and Sweden, the initial budgetary position is negative, which means that the structural primary balance could deteriorate without destabilising the debt ratio – not accounting for any ageing costs (see Table 3.1). In Estonia, Greece, Spain, France, Croatia, Italy, Latvia and Portugal, the projected ageing costs are negative, i.e. declining, which implies that a lower fiscal adjustment is feasible to stabilise debt all else being equal.

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



Source: Commission services.

For the EU as a whole, both the unfavourable initial budgetary position and the ageing costs are important drivers of the S2 indicator. In the EU as a whole, S2 indicates that an average fiscal adjustment of 2.7 pps. of GDP would be required to stabilise debt in the long term. The initial budgetary situation necessitates an adjustment of 1.4 pps. of GDP, while ageing costs add another 1.3 pps. to the sustainability gap.

For high-risk countries, ageing costs are the main determinant of the S2. For Slovakia, Luxembourg, Slovenia and Malta, the ageing component exceeds 6 pps. of GDP, meaning that ageing costs alone suffice to put these countries in the high-risk category. The projected increase in ageing costs in those countries mainly stems from pension expenditure and, to a lesser extent, from healthcare and long-term care expenditure (see Table 3.2).

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

	S2	S2 components					
		Initial budgetary position	Cost of ageing	Cost of ageing components			
				Pensions*	Health-care	Long-term care	Edu-cation
BE	6.7	3.0	3.7	1.6	0.5	1.9	-0.2
BG	3.9	2.5	1.4	0.8	0.2	0.1	0.3
CZ	5.5	1.1	4.4	1.9	0.7	1.3	0.4
DK	-0.1	-1.7	1.6	-1.5	0.6	2.8	-0.3
DE	3.6	1.5	2.1	1.0	0.4	0.1	0.5
EE	0.9	2.0	-1.1	-1.7	0.6	0.3	-0.3
IE	4.0	-0.9	4.9	2.3	1.2	1.6	-0.1
ES	-3.6	-1.7	-1.9	-2.1	0.6	0.0	-0.5
EL	1.0	1.7	-0.7	-2.0	1.1	0.6	-0.4
FR	0.9	2.2	-1.3	-2.2	0.6	0.7	-0.4
HR	2.0	2.6	-0.6	-1.1	0.5	0.1	-0.1
IT	0.7	1.1	-0.4	-1.7	0.8	0.8	-0.3
CY	-0.8	-1.9	1.0	0.9	0.3	0.2	-0.4
LV	-0.4	0.5	-0.9	-1.1	0.2	0.1	-0.1
LT	1.8	0.5	1.3	0.2	0.5	0.6	0.0
LU	7.2	-0.4	7.7	6.0	0.9	1.2	-0.4
HU	6.1	1.6	4.5	3.2	0.6	0.5	0.1
MT	9.4	2.7	6.7	3.1	2.2	1.4	-0.1
NL	6.5	2.7	3.7	1.1	0.6	2.1	-0.1
AT	3.2	0.8	2.4	-0.1	1.0	1.5	0.0
PL	3.7	2.1	1.6	-0.7	1.2	1.2	0.0
PT	-2.1	-1.0	-1.1	-2.9	1.3	0.4	0.2
RO	3.0	2.7	0.3	-0.7	0.7	0.3	-0.1
SI	10.0	2.6	7.4	5.4	1.0	1.0	0.1
SK	11.3	3.7	7.6	4.1	1.6	1.6	0.4
FI	3.0	1.1	1.9	0.5	0.6	1.6	-0.8
SE	0.8	-1.3	2.1	0.0	0.6	1.8	-0.4
EU	2.7	1.4	1.3	-0.2	0.7	0.9	-0.1
EA	2.7	1.5	1.2	-0.2	0.7	0.8	-0.1

\* net of taxes on pensions and compulsory social security contributions paid by pensioners

Source: Commission services.

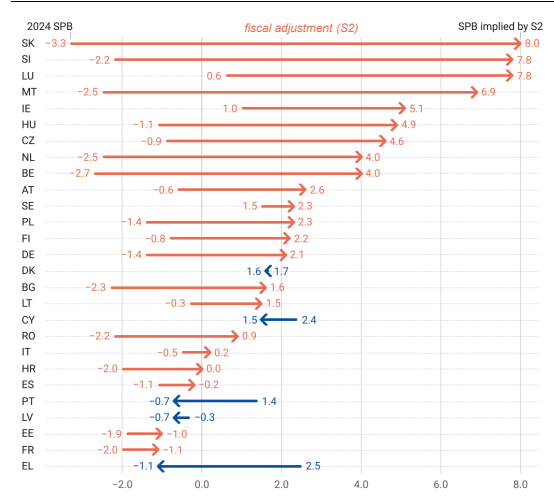
### S2 – implied structural primary balance

In most countries a significant improvement of the SPB would be needed to stabilise the debt ratio in the long term. The required SPB to stabilise the debt ratio in the long term can be calculated as the sum of the structural primary balance in 2024 – the end of the forecast period – and the fiscal adjustment required to stabilise the debt ratio in the long term as measured by S2. As shown in Graph 3.2, to stabilise debt in the long run an improvement of the SPB of around 8 pps. of GDP would be needed for Slovakia, Slovenia and Luxembourg, of about 7 pps. for Malta and of around 4-5 pps. of GDP in the cases of Ireland, Hungary, Czechia, the Netherlands and Belgium.

For many Member States, the S2 indicator implies particularly demanding fiscal positions compared with historical evidence. A comparison with past fiscal performance gives an idea about the plausibility of effectively achieving the required SPBs. The required SPB can be compared with the distribution of available SPBs for each country since 1980.<sup>(41)</sup> This allows assessing how realistic the required fiscal position is, relative to actual past performance. In particular, it identifies the cases where the S2 implies an SPB that would be challenging to sustain in the long term, assuming this required SPB can be achieved in the first place. Graph 3.3 orders the required SPBs according to their percentile ranks. It shows that the required SPB has never been achieved in Slovakia, Slovenia, Poland, Austria, the Netherlands, Malta, Luxembourg, Lithuania and Czechia. In Hungary, Ireland, the SPB implied by S2 was reached only occasionally; in Romania and Germany, at most a couple of times over the past three decades; in Belgium, Croatia and Cyprus about one third of the time.

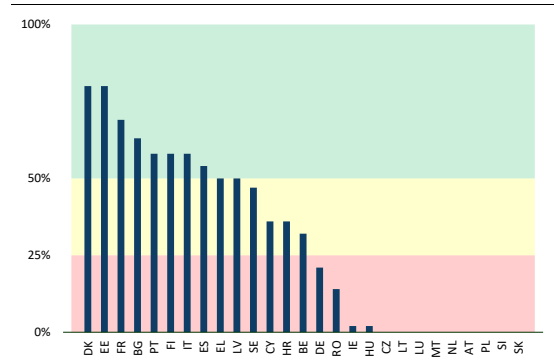
<sup>(41)</sup> For some countries, data are not available for the entire period since 1980.

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



Source: Commission services.

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



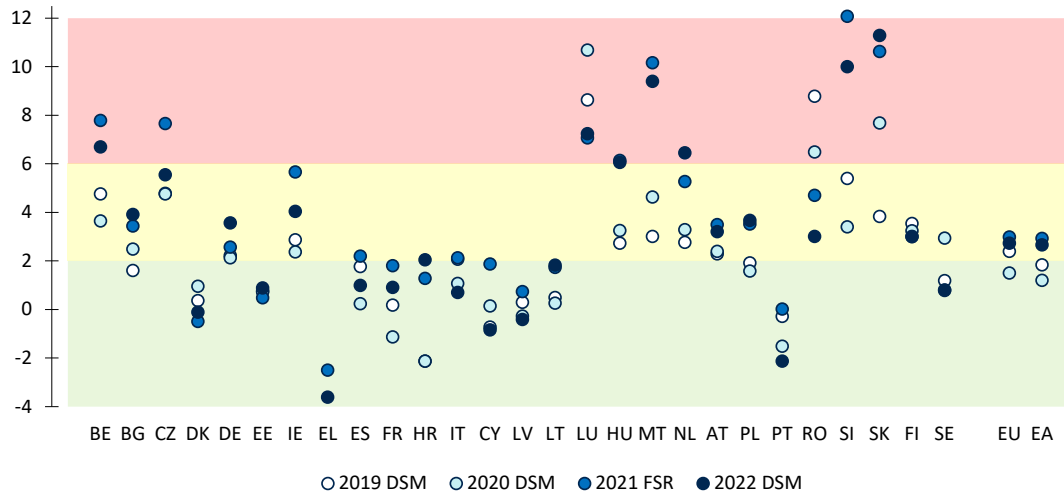
Based on available SPBs since 1980.

Source: Commission services.

### S2 – comparison with previous results

For the EU on average, the S2 indicator has declined compared with last year, but increased compared with the years before. Graph 3.4 compares the latest S2 with those in the 2019 and 2020 Debt Sustainability Monitors (DSM) and in the 2021 Fiscal Sustainability Report. The latest S2 values are for the EU on average higher than in 2019 (+0.3 pp. of GDP) and 2020 (+ 1.2 pps. of GDP), but slightly lower than in 2021 (-0.3 pp. of GDP). Compared to the 2021 FSR, the largest negative differences are recorded in Cyprus, Czechia, Portugal, Slovenia, Romania, Greece, Ireland and Italy. The Member States that recorded a higher S2 compared to the 2021 FSR are the

Graph 3.4: S2 – comparison across recent Commission forecasts



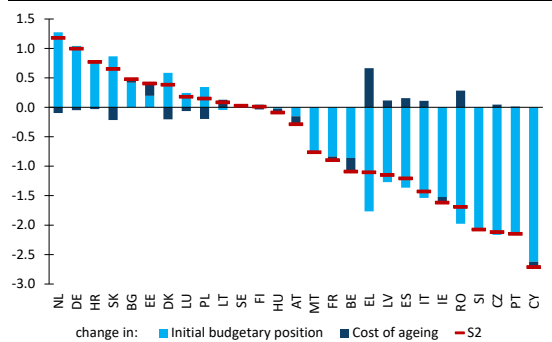
- No S2 indicator was calculated for EL in the 2019 and 2020 DSMs;
- 2019 DSM: Commission 2019 autumn forecast & 2018 Ageing Report (ageing costs 2022-2070);
- 2020 DSM: Commission 2020 autumn forecast & 2018 Ageing Report (updated for HR, IT, RO & SK to reflect pension reforms; ageing costs included once the pre-crisis SPB was projected to be reached);
- 2021 FSR: Commission 2021 autumn forecast & 2021 Ageing Report (ageing costs 2024-2070).

**Source:** Commission services.

Netherlands, Germany, Slovakia and Croatia. The S2 risk classification ranges from medium – in the 2021 FSR – to high for the Netherlands and from low to medium for Croatia. For the remaining Member States, the classification either improves, i.e. for Czechia (high to medium) and for Spain and Italy (medium to low), or remains stable.

projections. Graph 3.5 provides a comparison with the S2 calculated in the 2021 FSR, including a breakdown of the difference between the initial budgetary position and ageing costs. It shows that the SPB is the key driver behind the changes in the S2, causing the S2 to increase in about half of the Member States and decrease in the others. In absolute terms, the more favourable SPB for Cyprus, Czechia, Portugal, Slovenia, Romania, Greece, Ireland and Italy reduced the S2 by between 1.5 pps. and 2.5 pps. of GDP.

Graph 3.5: S2 – difference to 2021 FSR (pps. of GDP)



**Source:** Commission services.

**The decrease in the S2 in several countries compared to previous year is mainly due to an improvement of the initial budgetary position, i.e. a more favourable structural primary balance.** The 2021 FSR was based on the Commission 2021 autumn forecast and on the projections from the 2021 Ageing Report ageing

### S2 – sensitivity analysis

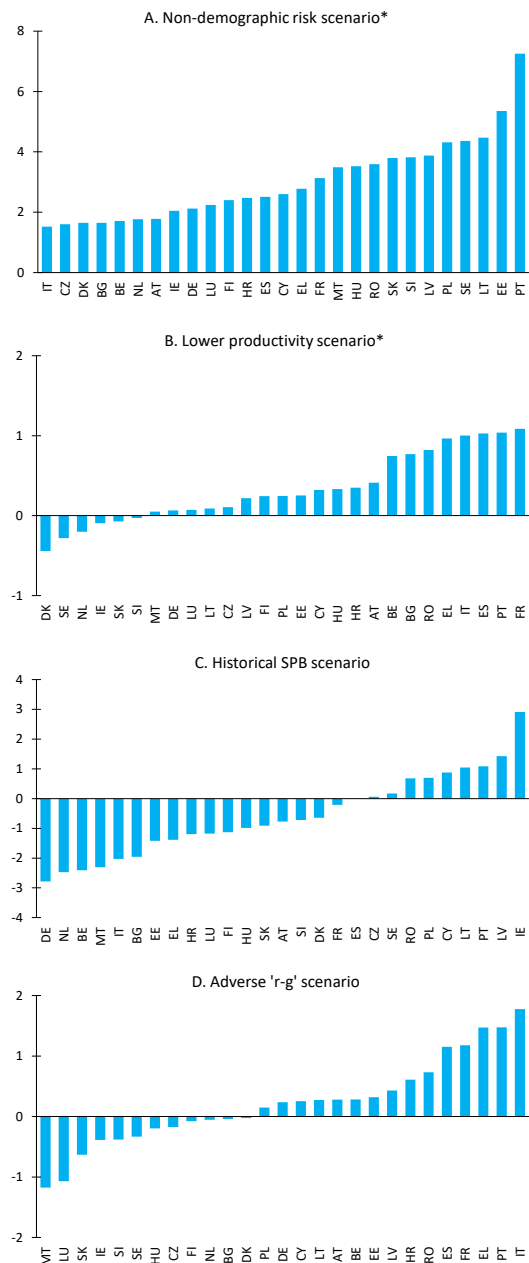
**Since the S2 indicator is sensitive to changes in key assumptions, four sensitivity scenarios were run.** Long-term fiscal projections are surrounded by uncertainty. This uncertainty can be assessed by comparing the baseline results with alternative scenarios. Four such scenarios are considered. Box 3.2 provides the technical assumptions for each of these scenarios, as well as the detailed results. Graph 3.6 presents the results in terms of deviation from the baseline.

- The **non-demographic risk scenario** adjusts the healthcare and long-term care expenditure projections for possible developments in non-demographic factors such as technological

progress and convergence process. Under this scenario, the S2 would be considerably higher in all Member States (see Graph 3.6-A). For Portugal, Estonia, Lithuania, Sweden and Poland, the S2 would be at least 4 pps. of GDP higher than the baseline result. Compared to the baseline, six additional countries are considered at high risk, namely Czechia, Estonia, Ireland, Lithuania, Poland, and Romania. Moreover, Spain, France, Italy, Latvia, Portugal and Sweden are considered at medium risk compared to low risk in the baseline.

- The **lower productivity scenario** determines the S2 value in case ageing cost projections are based on lower-than-assumed productivity growth. For a majority of countries, the S2 value would be limitedly affected by such scenario (see Graph 3.6-B), with the impact notably reflecting pension benefit indexation rules. For most countries, this scenario would increase the S2 indicator. The adverse impact of lower productivity is highest in France, Portugal, Spain Italy and Greece (around 1 pp. of GDP higher than in the baseline).
- The **historical SPB scenario** assumes that the SPB converges to its historical average level, thus improving the initial budgetary position when the SPB forecast for 2024 is below the historical average, as is the case for most countries. Convergence to past fiscal performance significantly reduces the fiscal effort required to stabilise debt over time (see Graph 3.6-C). For Germany, the Netherlands, Belgium, Malta, Italy and Bulgaria the S2 is around 2 pps. of GDP lower than in the baseline. Under this scenario, the risk classification would deteriorate in some countries, namely from low to medium risk in Lithuania and from medium to high risk in Ireland. At the same time, the risk classification would improve in several countries, namely from high to medium risk in Belgium, Hungary and the Netherlands and from medium to low risk in Bulgaria, Germany, Croatia and Finland.

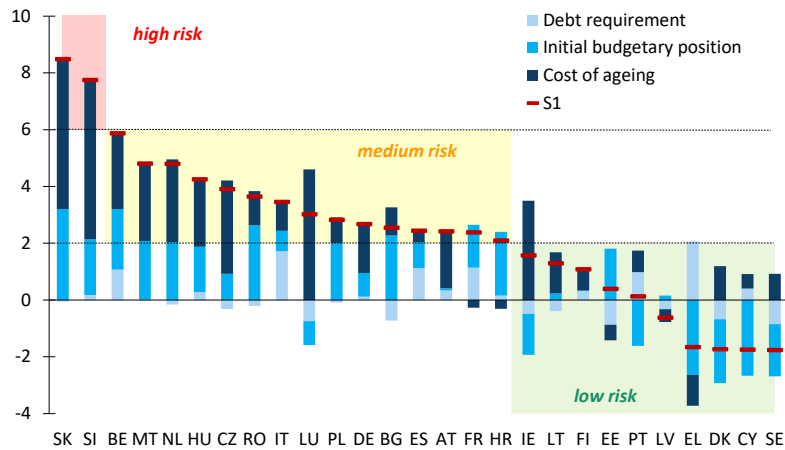
Graph 3.6: S2 – sensitivity analysis (deviations from baseline in pps. of GDP)



\*2021 Ageing Report scenario; see Box 3.2.  
Source: Commission services.

The **adverse 'r-g' scenario** assumes a 1 pp. higher difference between interest rates and GDP growth. This implies a less favourable snowball effect and, especially for countries with high debt stocks, a higher required fiscal adjustment to stabilise the debt ratio. Italy, Portugal, Greece, France and Spain would be the most affected if the interest-rate growth differential were indeed to widen (see

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



Source: Commission services.

Graph 3.6-D). Their S2 value would go up by more than 1 pp. of GDP since a larger improvement in the SPB would be needed to counteract the impact on the debt ratio of a higher r-g. Under this scenario, Spain, Italy, France and Latvia move from low to medium risk, while Hungary moves from high to medium risk.

### 3.2. THE S1 INDICATOR

#### S1 – baseline

The new S1 indicator measures the permanent fiscal effort needed in 2024 to bring the debt-to-GDP to 60% by 2070. The S1 indicator consists of three components, namely (i) the ‘initial budgetary position’, which measures the gap between the 2024 SPB and the debt-stabilising structural primary balance, (ii) the debt requirement, which is related to the distance of the current debt-to-GDP ratio to the 60% reference value and (iii) the future ageing costs.

According to the S1 indicator, two Member States are identified as having high risks in the long term. Member States are considered at high risk if an overall adjustment of more than 6 pps. of GDP would be needed to bring debt to 60% of GDP by 2070. The two high risk countries are Slovakia and Slovenia with an adjustment requirement of around 8 pps. of GDP (see Graph 3.7).

**The S1 indicator signals medium fiscal risk for fifteen Member in the long term.** Member States are considered at medium risk if an overall adjustment between 2 and 6 pps. of GDP would be needed to bring debt back to 60% of GDP by 2070. The following 14 countries fall in the medium risk category: Belgium, Malta, the Netherlands, Hungary, Czechia, Romania, Italy, Luxembourg, Poland, Germany, Bulgaria, Spain, Austria, France and Croatia.

**Ten Member States are considered to have low fiscal risks in the long term according to the S1 indicator.** Member States are considered at medium risk if an overall adjustment below 2 pps. of GDP would be needed to bring debt to 60% of GDP by 2070. According to the S1 indicator, the low risk countries are: Ireland, Lithuania, Finland, Estonia, Portugal, Latvia, Greece, Denmark, Cyprus and Sweden.

**For the EU as a whole, the S1 is driven in particular by ageing costs followed by the initial budgetary position and the debt requirement.** Table 3.3 breaks down the overall S1 value into its three components. For the EU as a whole, the average S2 of 2.6 pps. of GDP is composed of (i) 1.3 pps. of GDP to absorb the budgetary impact of rising ageing costs – in particular healthcare and long-term care expenditure –, (ii) 0.8 pp. to close the gap between the 2024 SPB and the debt-stabilising structural primary balance and (iii) 0.6 pp. to bring government debt down from an



expected 84.1% of GDP in 2024 to 60% in 2070. This average hides important country differences.

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

	S1							
	S1 components							Cost of ageing
	Initial budgetary position	Debt requirement	Cost of ageing components					
			Pen-sions*	Health-care	Long-term care	Edu-cation		
BE	5.9	2.1	1.1	2.7	1.4	0.4	1.1	-0.2
BG	2.5	2.3	-0.7	1.0	0.5	0.2	0.1	0.2
CZ	3.9	0.9	-0.3	3.3	1.6	0.6	0.8	0.3
DK	-1.7	-2.3	-0.7	1.2	-1.1	0.5	2.0	-0.2
DE	2.7	0.8	0.1	1.7	0.9	0.3	0.2	0.4
EE	0.4	1.8	-0.9	-0.5	-1.0	0.5	0.2	-0.2
IE	1.6	-1.4	-0.5	3.5	1.9	0.8	0.9	-0.1
EL	-1.7	-2.6	2.1	-1.1	-1.2	0.5	0.0	-0.4
ES	2.4	0.9	1.1	0.4	-0.5	0.9	0.4	-0.4
FR	2.4	1.5	1.1	-0.3	-0.9	0.5	0.4	-0.3
HR	2.1	2.2	0.2	-0.3	-0.6	0.4	0.1	-0.2
IT	3.5	0.7	1.7	1.0	0.0	0.7	0.6	-0.2
CY	-1.7	-2.7	0.4	0.5	0.6	0.2	0.1	-0.4
LV	-0.6	0.2	-0.3	-0.5	-0.7	0.3	0.1	-0.1
LT	1.3	0.2	-0.4	1.5	0.6	0.4	0.4	0.0
LU	3.0	-0.8	-0.7	4.6	3.7	0.6	0.7	-0.4
HU	4.2	1.6	0.3	2.4	1.7	0.5	0.3	0.0
MT	4.8	2.1	0.0	2.7	1.1	1.2	0.7	-0.3
NL	4.8	2.0	-0.2	2.9	0.9	0.5	1.6	-0.1
AT	2.4	0.1	0.3	2.0	0.3	0.7	1.0	0.0
PL	2.8	2.0	-0.1	0.9	-0.6	0.8	0.7	-0.1
PT	0.1	-1.6	1.0	0.8	-0.7	1.1	0.3	0.1
RO	3.6	2.6	-0.2	1.2	0.5	0.6	0.2	-0.1
SI	7.7	2.0	0.2	5.6	4.1	0.8	0.6	0.0
SK	8.5	3.2	-0.1	5.3	2.9	1.2	0.9	0.3
FI	1.1	0.0	0.3	0.7	-0.1	0.4	1.1	-0.7
SE	-1.8	-1.8	-0.8	0.9	-0.2	0.4	1.1	-0.4
EU	2.6	0.8	0.5	1.3	0.2	0.5	0.6	-0.1
EA	2.8	0.9	0.7	1.3	0.3	0.5	0.5	-0.1

\* net of taxes on pensions and compulsory social security contributions paid by pensioners

Source: Commission services.

**As for S2, for most countries and in particular for those with the highest S1 values, ageing costs are the main determinant of S1.** In sixteen countries, the increase in ageing costs by 2070 is the main driver of the S1 indicator. A high ageing cost contribution is primarily driven by rising pension expenditure (e.g. for Slovenia, Luxembourg, Slovakia, Ireland and Czechia), though higher spending for healthcare and long-term care also play a role. In fact, healthcare and long-term care spending are estimated to push up S1 for all Member States, while falling pension expenditure reduces the sustainability gap in several cases, reflecting past pension reforms.

**In most Member States, the unfavourable budgetary position also increases the S1 indicator.** The unfavourable budgetary position in 2024 causes debt to increase in 20 Member States in 2024. Bridging the gap with the debt-stabilising SPB requires an improvement of the SPB of about 2-3 pps. of GDP in Slovakia, Romania, Bulgaria, Croatia, Malta, Slovenia and the Netherlands. Seven countries can allow their SPB to deteriorate to a varying extent before debt stabilises all else being equal.

**The government debt ratio in 2024 exceeding the 60% threshold further leads to an increase in the S1 in about half of the countries.** Since the S1 indicator requires debt ratios to converge to 60% of GDP, the larger the gap to this mark, the larger the required fiscal adjustment. For countries below the 60% mark, the required effort is negative, i.e. a deterioration of the SPB is compatible with reaching the 60% of GDP target. On the other hand, countries with debt above 60% of GDP in 2024 need to improve their SPB. Projected debt ratios for 2024 range from 156.9% of GDP for Greece to 21.9% for Estonia. As a result, they have the largest and smallest debt requirement contributions to S1, 2.1 pps. and -0.9 pp. of GDP respectively (see Table 3.3). Debt convergence requires a fiscal adjustment of 1-2 pps. of GDP in Italy, Portugal, Spain, Belgium and France, which, together with Greece, have the highest projected debt for 2024.

### S1 – implied structural primary balance

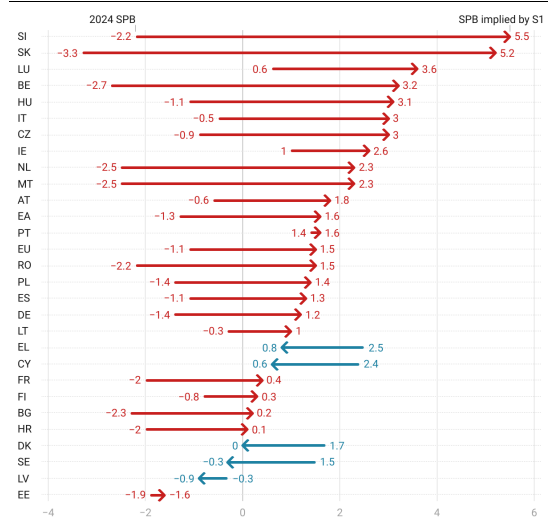
**The S1 adjustment determines the SPB required for convergence towards a debt-to-GDP ratio of 60% in 2070.** This required SPB is the sum of the structural primary balance in 2024 – the end of the forecast period – and the S1 value. An SPB of more than 5% of GDP would be needed in Slovenia and Slovakia to bring government debt to 60% of GDP (see Graph 3.8). For Luxembourg, Belgium, Hungary, Italy, Czechia and Ireland the required SPB amounts to about 2.5-3.5% of GDP.

**The percentile rank of the required SPB gives an indication of the plausibility of the fiscal adjustment implied by S1.** The required SPB can be benchmarked against the distribution of available SPBs for each country since 1980.<sup>(42)</sup> This allows assessing how realistic the required fiscal position is relative to past performance. Graph 3.9 orders the required SPBs according to their percentile ranks. The required SPB has never been achieved and sustained in Slovakia, Portugal, Italy, France and Spain. In Poland, Slovenia, Greece, Hungary, Austria and Belgium, the SPB implied by S1 was achieved less than 25% of the time during the past three decades.

<sup>(42)</sup> For some countries, data are not available for the entire period since 1980.

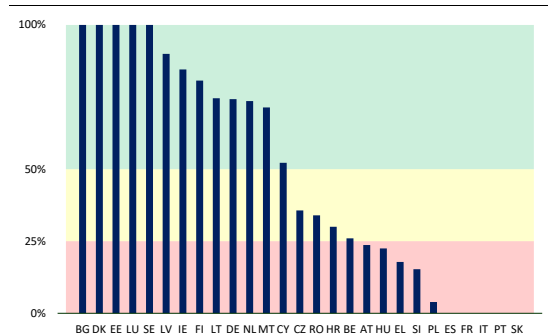


Graph 3.8: **S1 – required structural primary balance (% of GDP)**



Source: Commission services.

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



Based on available SPBs in 1980-2021.

Source: Commission services.

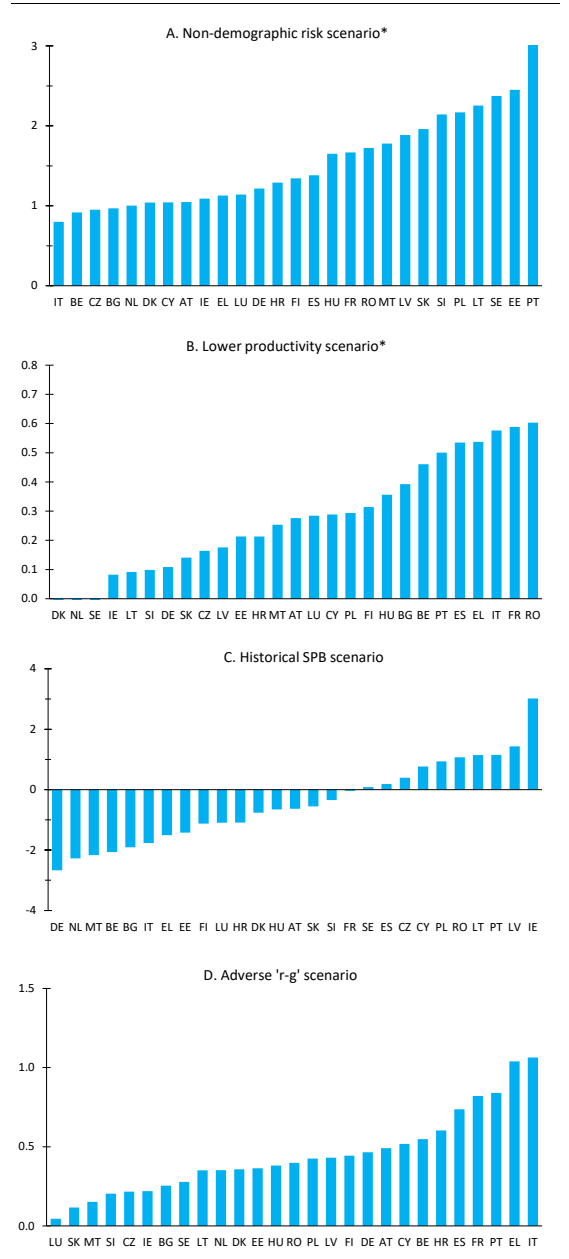
**S1 – sensitivity analysis**

Since the S1 indicator is sensitive to changes in key assumptions, four sensitivity scenarios were run. The same scenarios as for the S2 indicator are considered (see definitions in the previous section and in Box 3.2). Graph 3.10 presents the results in terms of deviations from the baseline.

- Under the **non-demographic risk scenario**, the S1 is about 1-3 pps. of GDP higher for all Member States (see Graph 3.10-A). The biggest differences are for Portugal, Estonia, Sweden, Lithuania, Poland and Slovenia with an S1 of at least 2 pps. above the baseline value. Belgium and Malta are considered at

high fiscal risk under this scenario. The risk category moves from low to medium for Estonia, Ireland, Lithuania, Portugal and Finland. It would move from medium to high for Belgium and Malta.

Graph 3.10: **S1 – sensitivity analyses (deviations from baseline in pps. of GDP)**



\*2021 Ageing Report scenario; see also Box 3.2.

Source: Commission services.

- Under the **lower productivity scenario**, the S1 does not change much compared to the baseline assumptions (see Graph 3.10-B). For Romania,

France, Italy, Greece and Spain, the S1 indicator is at least 0.5 pp. of GDP higher than in the baseline. Only for Belgium the long-term fiscal risk categorisation changes, going from medium to high risk.

- Under the **historical SPB scenario**, the budgetary position generally improves, considering that for most countries the SPB forecast for 2024 is below the historical average. As a consequence, this lowers the S1. If a repeat of past fiscal performance were assumed, the fiscal effort to reduce the debt ratio to 60% of GDP would fall by around 2 pps. of GDP in Germany, the Netherlands, Malta, Belgium, Bulgaria and Italy (see Graph 3.10-C). As regards the S1 risk classification, Bulgaria, Germany Croatia, Italy, Luxembourg and Austria would go from medium to low risk. Ireland and Lithuania would make the opposite move considering that moving to the historical SPB implies a deterioration of the fiscal position forecast for 2024.
- Under the **adverse ‘r-g’ scenario**, a less favourable snowball effect is assumed so that a higher fiscal adjustment is needed to push the debt ratio towards the 60% mark, in particular for countries with current high debt ratios. Italy, Greece, Portugal, France and Spain would be the most affected by a higher interest-growth rate differential (see Graph 3.10-D). Their S1 value would go up by around 1 pp. of GDP because a larger improvement in the SPB would be needed to offset the increase in the debt ratio caused by a higher ‘r-g’. Under this scenario, Belgium would be at high instead of medium risk country.

### 3.3. OVERALL LONG-TERM FISCAL SUSTAINABILITY RISKS

**The overall long-term fiscal sustainability risks are assessed based on both the S2 and S1 indicator.** As discussed in Box 3.1, the S2 indicator provides the starting point for the overall assessment of long-term fiscal risks. In addition, the S1 indicator, capturing vulnerabilities due to high debt levels, might lead to a one-notch deterioration of the risk classification. Table 3.4 shows the risk classifications based on both

indicators separately and provides the overall long-term risk classification.

- **Seven Member States have high fiscal sustainability risks in the long term** (Belgium, Luxembourg, Hungary, Malta, the Netherlands, Slovenia and Slovakia). The driving factor behind this risk assessment for all countries is the S2 indicator, and largely reflects increasing ageing costs. The latter is due to the significant projected increase in pension spending (largest component in Luxembourg, Hungary, Malta, Slovenia and Slovakia), as well as in health care and/or long-term care spending (largest component in Belgium and the Netherlands).
- **Twelve Member States face medium fiscal sustainability risks in the long term** (Bulgaria, Czechia, Germany, Ireland, Spain, France, Croatia, Italy, Austria, Poland, Romania and Finland). The driving factor behind this risk assessment is generally the S2 indicator, reflecting projected increases in ageing costs (largest component in Czechia, Germany, Ireland, Austria and Finland) and/or an unfavourable initial budgetary position (largest component in Bulgaria, Croatia, Poland and Romania). Only in the cases of Spain, France and Italy, the overall risk classification is modified by the S1 indicator, which causes a deterioration of the overall risk classification from low to medium risk over the long term, given debt vulnerabilities captured by the S1 indicator.
- **Eight Member States have low fiscal sustainability risks in the long term** (Denmark, Estonia, Greece, Cyprus, Latvia, Lithuania, Portugal and Sweden). This reflects either the expected favourable long-term impact of past pension reforms (as in Greece and Portugal) and / or the favourable initial budgetary position (as in Denmark, Estonia, Latvia, Lithuania and Sweden in terms of debt level, or Cyprus in terms of structural primary balance).

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

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

Source: Commission services.

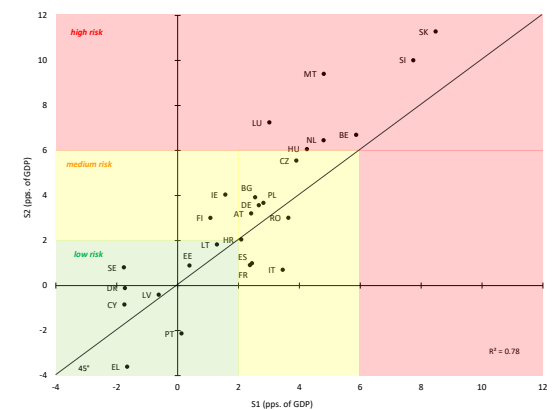
**In most cases, the S1 indicator confirms the conclusion derived from the S2 indicator alone.**

The S2 and S1 indicators show a high correlation despite capturing somewhat different targets: debt stabilisation over the long term – irrespective of the debt level – versus debt convergence to the 60% of GDP reference threshold (see Graph 3.11).<sup>(43)</sup> S1 and S2 depend on present values which are calculated over different periods. Anything that weighs on public finances over an infinite horizon, rather than only until 2070, will imply a larger present value. In the case of Belgium, for instance, the cost of ageing is projected to be higher in 2070 than it is now. If we assume that that high level does not stop in 2070 but continues over an infinite horizon (as we do to calculate S2), the present value of this ‘eternal’ high cost is larger. The same holds for interest expenditure, implying that stabilising a high debt over an infinite horizon is more demanding than over around 50 years, hence a higher initial budgetary position (see also Box 3.1). As a result, the signals provided by both indicators are identical for 17 countries. In ten cases, the risk classification based on S1 differs from that based on S2. In 24 cases, the S2 signal determines the overall long-term risk classification. Only in the

<sup>(43)</sup> The correlation between S1 and S2, as measured by the R squared value, amounts to 0.78 (see Graph 3.11).

cases of Spain, France and Italy, the overall risk classification is modified by the S1 indicator.

Graph 3.11: Relationship between S2 and S1



Source: Commission services.

**Compared to the FSR 2021, overall long-term fiscal sustainability risks ... :**

- **remained unchanged in twenty countries** (see Table 3.5 for a comparison).
- **increased in one country.** For the Netherlands, long-term risks are now high, compared to medium in the FSR 2021. This deterioration is driven by a worsening of the S2 indicator due to more unfavourable initial budgetary position.
- **declined in six countries.** There are two reasons for these changes: First, an improvement of the value of the S2 indicator (Czechia, Spain and Italy), capturing a more favourable initial budgetary position. Second, the methodological change using the revised S1 instead of the DSA as a complementary indicator to the S2 in the overall risk classification (for Greece, Cyprus and Portugal) (see Box 3.1). However, the more favourable assessment for these countries is conditional to them maintaining the comfortable structural primary balance expected in 2024 over the long term.

Table 3.5: Overall long-term risk classifications in the 2021 FSR and the 2022 DSM

		2022 DSM		
		Low	Medium	High
2021 FSR	Low	DK, EE, LV, LT, SE		
	Medium	<b>EL, CY, PT</b>	BG, DE, HR, IE, FR, AT, PL, RO, FI	<b>NL</b>
	High		<b>CZ, ES, IT</b>	BE, LU, HU, MT, SI, SK

Note: The risk classification of countries in bold and green/red has improved/deteriorated compared to the 2021 FSR.

Source: Commission services.

### Box 3.1: Methodology behind the long-term fiscal sustainability analysis

**This box explains the methodology behind the Commission’s long-term fiscal sustainability analysis.** Long-term fiscal sustainability relates to the achievement of governments’ intertemporal budget constraint. This constraint, also known as the solvency condition, refers to a country’s capacity to meet its net debt obligations through future primary surpluses. Other things being equal, the higher the projected cost of ageing, the more difficult it is to fulfil the intertemporal budget constraint, as higher revenue – in present terms – is required to cover these costs, in addition to the other non-interest expenditure and debt service.

**The fiscal sustainability challenges that arise from demographic ageing in the EU have been monitored for several decades.** Since the early 2000s, the Commission and the Economic Policy Committee prepare on a regular basis long-term budgetary projections. The 2021 Ageing Report, published in May 2021, provides the latest update of these projections, covering the period up to 2070. To account for these ageing costs, a long-term fiscal gap indicator was introduced in the 2006 Fiscal Sustainability Report, the ‘S2 fiscal sustainability indicator’. The S1 indicator also factors in future ageing costs as well as the EU fiscal rules’ debt anchor. Together they determine the long-term risk classification.

**The box is structured as follows.** First, it describes the methodology of the S2 indicator. Second, it presents a revised S1 indicator, which is used as a complement to the S2 indicator. It also explains why the revised S1 indicator is used as a complement instead of the Commission’s debt sustainability analysis (DSA) for the assessment of long-term sustainability risks, and why the DSA alone provides a sufficiently comprehensive assessment of medium-term risks. Finally, for transparency, it compares the long-term risk classification obtained with the new with the previous methodology.

#### The S2 indicator

**The S2 indicator is the central element of the long-term sustainability analysis.** It is based on the

infinite version of the government budget constraint. More specifically,

- this fiscal sustainability gap indicator shows the immediate and permanent adjustment to the current structural primary balance – subsequently kept constant at the adjusted value forever – that is required to stabilise the debt-to-GDP ratio over the infinite horizon; <sup>(1)</sup>
- this upfront adjustment is assumed to take place in 2025, i.e. the first projection year after the Commission 2022 autumn forecast;
- the 2024 structural primary balance – the primary balance adjusted for the cycle and one-off fiscal measures – as provided by the Commission 2022 autumn forecast serves as starting point, providing a proxy for the ‘no-fiscal policy change’ assumption;
- ageing costs as projected in the 2021 Ageing Report are accounted for as from 2025 onwards, as this change in (net) expenditure affects the structural primary balance; <sup>(2)</sup>
- beyond the T+10 horizon, interest rate assumptions and GDP projections are from the 2021 Ageing Report. Over the long term, a progressive normalisation of financing conditions is assumed, with the ‘r-g’ differential stabilising at around 0.5 pp. for the EU.
- the following thresholds are used to assess the scale of the sustainability challenge: if the S2 value (in percentage points of GDP) is lower than 2, the country is assigned ‘low risk’; if S2 is between 2 and 6, the country is assigned ‘medium risk’; and if S2 is above 6, the country is assigned ‘high risk’. These threshold values are identical to those applied in earlier reports.

**S2’s focus on the intertemporal budget constraint remains relevant for several reasons.** First, the interest-rate growth differential has increased in recent years, putting upward pressure on public finances; Second, ageing costs are projected to

<sup>(1)</sup> See Annex A8 for the precise calculation of the S2 and S1 indicators.

<sup>(2)</sup> The S2 and S1 indicators include pension expenditure net of taxes on pensions and compulsory social security contributions paid by pensioners, as well as health care, long-term care and education expenditure.

*(Continued on the next page)*

*Box (continued)*

increase in many countries, putting permanent pressure on the primary balance. Finally, the current historically high level of debt, after a succession of crises, and future structural headwinds confirm the relevance of assessing fiscal sustainability challenges also over the long-term.

**At the same time, S2 measures the size of long-term fiscal imbalances without relying on a specific debt target.** The intertemporal budget constraint implies that public debt stabilises in the long term, in the sense that future structural primary balances cover future debt servicing and ageing costs. It says nothing about the level at which this stabilisation takes place, thus ignoring risks linked to high debt levels. The adjustment implied by the S2 indicator might in fact lead to debt stabilising at (very) high levels. As a result, based solely on S2, some countries might be deemed on a sustainable long-term path despite their debt ratios stabilising at a high levels. <sup>(3)</sup>

**To address this shortcoming, in previous reports the S2 indicator was qualified by the DSA results to assess the overall long-term fiscal sustainability challenges.** The S2 indicator provides an important, although partial signal for the assessment of long-term fiscal risks. It measures the permanent fiscal adjustment that is required to prevent debt from embarking on an ever-increasing path, accounting for projected ageing costs. However, the S2 indicator does not impose any restriction on the level at which debt stabilises. This is why, in previous reports, the DSA results were used to complement the S2 signal and account for risks stemming from high debt levels.

**The revised S1 indicator**

**This report combines the S2 indicator with a revised S1 indicator instead of the DSA.** The Commission DSA's horizon is limited to 10 years beyond the current year – 2033 in this report. This medium-term horizon contrasts with S2's long-term (infinite) horizon. For this reason, it is preferable to complement S2 with the S1 indicator, which has a similar (long-term) horizon. In its previous design, the S1 indicator measured the fiscal effort needed to converge to a debt target of 60% of GDP in 15 years

<sup>(3)</sup> For a detailed discussion of the strengths and shortcomings of the S2 indicator, see Box 3.2 in European Commission (2018), Debt Sustainability Monitor 2017, European Economy, Institutional Paper 71.

beyond the horizon of the Commission forecast – which would have been by 2039 in this report. To shift the focus to the long term, the target date in this report is postponed to 2070, the last year for which projections of the budgetary cost of population ageing are available, based on the 2021 Ageing Report. For closer consistency with the S2 indicator, two additional changes were introduced. First, the fiscal adjustment is no longer measured as a cumulated effort over 5 years but as an immediate and permanent one-off adjustment, as is done for S2. Second, the revised S1 indicator uses the same thresholds as S2 to delimitate the low, medium and high risk categories, namely below 2 pps. of GDP, between 2 pps. and 6 pps. of GDP, and above 6 pps. of GDP, respectively.

**S1 is a fiscal gap indicator that relies on a finite version of the budget constraint, imposing convergence to a debt target of 60% of GDP.** More specifically,

- S1 measures the upfront fiscal adjustment to the structural primary balance required to reach a debt-to-GDP ratio of 60% in 2070, the end-point of the latest Ageing Report projections;
- this upfront adjustment is assumed to take place in 2025, i.e. the first projection year after the Commission 2022 autumn forecast;
- in past Fiscal Sustainability Reports and Debt Sustainability Monitors, when the S1 indicator informed the medium-term risk classification, the 60% target was to be reached after 15 years and the adjustment was spread over 5 years. In fact, the revised S1 indicator implies a return to the approach used in the 2006 and 2009 Fiscal Sustainability Reports, when the 60% target was to be reached in the long term;
- as done for the S2 indicator, the 2024 structural primary balance as provided by the Commission 2022 autumn forecast serves as starting point;

*(Continued on the next page)*



Box (continued)

- as done for the S2 indicator, ageing costs are explicitly accounted for as of 2025, i.e. beyond the Commission 2022 autumn forecast;
- in terms of risk signal, the S1 thresholds have been aligned with the S2 thresholds, i.e. if the S1 value (in percentage points of GDP) is lower than 2, the country is assigned ‘low risk’; if S1 is between 2 and 6, the country is assigned ‘medium risk’; and if S1 is above 6, the country is assigned ‘high risk’.

**While the S1 and S2 are both fiscal gap indicators that measure the required fiscal effort to achieve long-term fiscal goals, two differences exist.** First, the components of S1 and S2 differ. Both indicators have two components in common, namely the initial budgetary position and the cost of ageing. However, in the case of S1 the “debt requirement” is the third requirement. For a high-debt country, everything else unchanged, that third component is positive and would imply that  $S1 > S2$ . Second, S1 and S2 depend on present values which are calculated over different periods. Anything that weighs on public finances over an infinite horizon, rather than only until 2070, will imply a larger present value. In the case of Belgium, for instance, the cost of ageing is projected to be higher in 2070 than it is now. If we assume that that high level does not stop in 2070 but continues over an infinite horizon (as we do to calculate S2), the present value of this ‘eternal’ high cost is larger. The same holds for interest expenditure, implying that stabilising a high debt over an infinite horizon is more demanding than over around 50 years, hence a higher IBP.

#### Overall long-term risk classification

**The overall long-term risk classification is based on the S2 complemented by the revised S1 indicators.** Table 1 shows how S2 and S1 indicators combine into the overall long-term risk classification. As with the DSA before, the S1 signal can worsen the outcome based on S2 by one notch, but it can never improve the S2 results.

#### Conclusion

**This report introduces a new assessment of overall long-term risk based on two complementary fiscal gap indicators.** The S1 indicator provides an anchor to the 60% of GDP Treaty reference value, an element that the S2 indicator disregards. Redesigning the S1 indicator as

a companion to the S2 indicator implies returning to the approach used in the 2006 and 2009 Fiscal Sustainability Reports, when the 60% of GDP target was meant to be reached in the long term. This new approach, announced in the 2021 Fiscal Sustainability Report, is deemed preferable to complementing the S2 results with the DSA, with the use of two indicators with similar time horizons.

**As a consequence of this new approach, the medium-term risk assessment fully relies on the DSA.** As explained in Chapter 2, the DSA is well equipped to be the sole determinant of the medium-term risk classification. It captures medium-term challenges in a comprehensive way, as it includes the impact of ageing-related costs, alternative scenarios and a wide range of possible shocks. Moreover, it takes into account not only projected debt paths but also their feasibility in light of past practice. This also simplifies the framework, as the DSA is now fully and exclusively associated with the medium term (see Graph 1).

**Compared with the 2021 FSR approach, the revised approach changes the overall long-term risk classification for only 4 countries.** These are Greece, Croatia, Cyprus and Portugal, which all move to a lower risk category. Moreover, compared with an approach solely based on the S2 indicator, the combined use of S2 and the revised S1 indicator affects the risk category (for the worst) only in three cases, namely Spain, France and Italy. This rightly reflects the high debt level and the gap to the 60% of GDP threshold in these cases. For other countries, the long-term risk category is only driven by the S2 results (see Table 2).

(Continued on the next page)

Box (continued)

Table 1: Determination of overall long-term risk classification

		S1			
		high risk	medium risk	low risk	
S2	high risk	high risk	high risk	high risk	overall long-term risk category
	medium risk	high risk	medium risk	medium risk	
	low risk	medium risk	medium risk	low risk	
		high risk: $S1/2 > 6$	medium risk: $6 > S1/2 > 2$	low risk: $S1/2 < 2$	

Reading example: A country with a medium (low) S2 indicator and a high S1 indicator has an overall long-term risk classification of high (medium).

Source: Commission services.

Table 2: Long-term risk classification: 2022 DSM vs. 2021 FSR approach

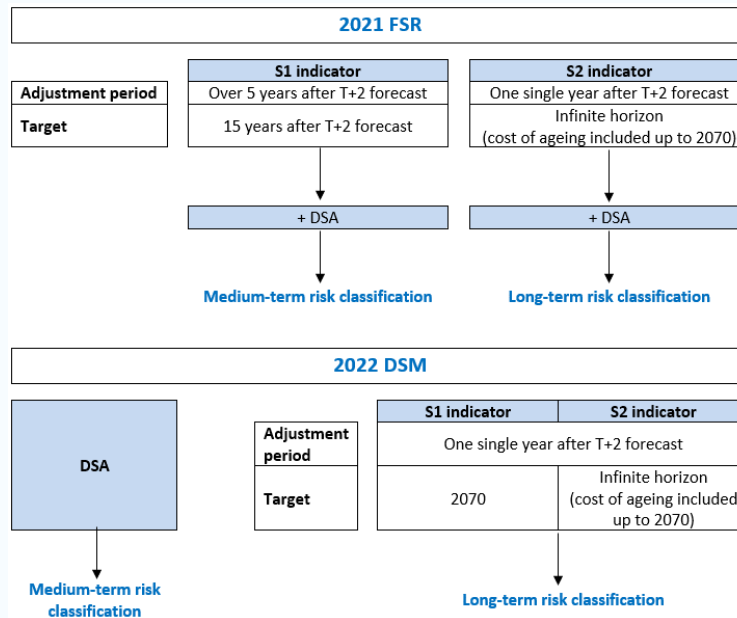
	A. 2022 DSM approach (S2 + revised S1)			B. 2021 FSR approach (S2 + DSA)		
	S2	S1	Overall	S2	DSA	Overall
BE	6.7	5.9	HIGH	6.7	HIGH	HIGH
BG	3.9	2.5	MEDIUM	3.9	LOW	MEDIUM
CZ	5.5	3.9	MEDIUM	5.5	MEDIUM	MEDIUM
DK	-0.1	-1.7	LOW	-0.1	LOW	LOW
DE	3.6	2.7	MEDIUM	3.6	MEDIUM	MEDIUM
EE	0.9	0.4	LOW	0.9	LOW	LOW
IE	4.0	1.6	MEDIUM	4.0	LOW	MEDIUM
EL	-3.6	-1.7	LOW	-3.6	HIGH	MEDIUM
ES	1.0	2.4	MEDIUM	1.0	HIGH	MEDIUM
FR	0.9	2.4	MEDIUM	0.9	HIGH	MEDIUM
HR	2.0	2.1	MEDIUM	2.0	HIGH	HIGH
IT	0.7	3.5	MEDIUM	0.7	HIGH	MEDIUM
CY	-0.8	-1.7	LOW	-0.8	MEDIUM	MEDIUM
LV	-0.4	-0.6	LOW	-0.4	LOW	LOW
LT	1.8	1.3	LOW	1.8	LOW	LOW
LU	7.2	3.0	HIGH	7.2	LOW	HIGH
HU	6.1	4.2	HIGH	6.1	HIGH	HIGH
MT	9.4	4.8	HIGH	9.4	MEDIUM	HIGH
NL	6.5	4.8	HIGH	6.5	MEDIUM	HIGH
AT	3.2	2.4	MEDIUM	3.2	MEDIUM	MEDIUM
PL	3.7	2.8	MEDIUM	3.7	MEDIUM	MEDIUM
PT	-2.1	0.1	LOW	-2.1	HIGH	MEDIUM
RO	3.0	3.6	MEDIUM	3.0	MEDIUM	MEDIUM
SI	10.0	7.7	HIGH	10.0	MEDIUM	HIGH
SK	11.3	8.5	HIGH	11.3	HIGH	HIGH
FI	3.0	1.1	MEDIUM	3.0	MEDIUM	MEDIUM
SE	0.8	-1.8	LOW	0.8	LOW	LOW

Source: Commission services based on the Commission 2022 autumn forecast.

(Continued on the next page)

Box (continued)

Graph 1: Medium- and long-term risk classification in the 2021 FSR and the 2022 DSM



Source: Commission services.

Box 3.2: S1 and S2 – sensitivity scenarios: description and results

**Non-demographic risk scenario**

The non-demographic risk scenario adjusts the healthcare and long-term care expenditure projections for possible developments in non-demographic factors such as technological progress and convergence process. It is based on a sensitivity scenario from the 2021 Ageing Report, where it is called ‘AWG risk’ scenario. The scenario assumes a partial continuation of upward healthcare expenditure trends, notably due to technological progress, and an upward convergence of coverage and costs of long-term care towards the EU average.

**Lower productivity scenario**

The lower productivity scenario determines the S2 value in case ageing cost projections are based on lower-than-assumed productivity growth. This scenario is based on a sensitivity scenario from the 2021 Ageing Report, where it is called ‘TFP risk’ scenario. While the Ageing Report baseline projections assume a gradual convergence of total factor productivity growth (TFP) to 1% for all Member States, this scenario assumes convergence to a lower TFP growth rate of 0.8%.

**Historical SPB scenario**

The historical structural primary balance (SPB) scenario assumes that the SPB converges to its historical average level, thus improving the initial budgetary position when the SPB forecast for 2024 is below the historical average, as is the case for most countries. It uses the European Commission forecasts until 2024, followed by gradual convergence to the historical SPB average in 2028. The historical average is based on available data for 2007-2021.

**Adverse ‘r-g’ scenario**

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

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

	S1 indicator					S2 indicator				
	Baseline	Non-demographic risk*	Lower productivity*	Historical SPB	Adverse ‘r-g’	Baseline	Non-demographic risk*	Lower productivity*	Historical SPB	Adverse ‘r-g’
BE	5.9	6.8	6.3	3.8	6.4	6.0	8.4	7.4	4.3	7.0
BG	2.5	3.5	2.9	0.6	2.8	3.9	5.6	4.7	2.0	3.9
CZ	3.9	4.9	4.1	4.3	4.1	5.5	7.2	5.7	5.6	5.4
DK	-1.7	-0.7	-1.9	-2.5	-1.4	-0.1	1.5	-0.6	-0.8	-0.1
DE	2.7	3.9	2.8	0.0	3.1	3.6	5.7	3.6	0.8	3.8
EE	0.4	2.8	0.6	-1.0	0.8	0.9	6.3	1.1	-0.5	1.2
IE	1.6	2.7	1.6	4.6	1.8	4.0	6.1	3.9	7.0	3.7
EL	-1.7	-0.5	-1.1	-3.2	-0.6	-3.6	-0.8	-2.6	-5.0	-2.1
ES	2.4	3.8	3.0	2.6	3.2	1.0	3.5	2.0	1.0	2.1
FR	2.4	4.0	3.0	2.3	3.2	0.9	4.0	2.0	0.7	2.1
HR	2.1	3.4	2.3	1.0	2.7	2.0	4.5	2.4	0.9	2.7
IT	3.5	4.3	4.0	1.7	4.5	0.7	2.2	1.7	-1.3	2.5
CY	-1.7	-0.7	-1.5	-1.0	-1.2	-0.8	1.8	-0.5	0.0	-0.6
LV	-0.6	1.3	-0.4	0.8	-0.2	-0.4	3.5	-0.2	1.0	0.0
LT	1.3	3.5	1.4	2.4	1.6	1.8	6.3	1.9	2.9	2.1
LU	3.0	4.2	3.3	1.9	3.1	3.1	9.5	7.3	6.1	6.2
HU	4.2	5.9	4.6	3.6	4.6	3.1	9.6	6.4	5.1	5.9
MT	4.8	6.6	5.1	2.6	5.0	3.9	12.9	9.5	7.1	8.2
NL	4.8	5.8	4.7	2.5	5.1	3.0	8.2	6.3	4.0	6.4
AT	2.4	3.5	2.7	1.8	2.9	3.2	5.0	3.6	2.4	3.5
PL	2.8	5.0	3.1	3.8	3.2	3.7	8.0	3.9	4.4	3.8
PT	0.1	3.2	0.6	1.3	1.0	-2.1	5.1	-1.1	-1.0	-0.7
RO	3.6	5.4	4.2	4.7	4.0	3.0	6.6	3.8	3.7	3.7
SI	7.1	9.9	7.8	7.4	7.9	10.0	13.8	10.0	9.3	9.6
SK	8.5	10.4	8.6	7.9	8.6	11.3	15.1	11.2	10.4	10.7
FI	1.1	2.4	1.4	0.0	1.5	3.0	5.4	3.3	1.9	2.9
SE	-1.8	0.6	-1.8	-1.7	-1.5	0.8	5.2	0.5	1.0	0.5

The cells are highlighted in line with the thresholds for the long-term risk classification (see Box 3.1), namely: greater 6 (red), between 2 and 6 (yellow) and below 2 (green). Values in bold: higher than baseline; values in italics: lower than baseline. \*Ageing Report scenario.

Source: Commission services.