

### 3. LONG-TERM FISCAL SUSTAINABILITY ANALYSIS

**The long-term risk classification is based on the S2 fiscal gap indicator and the debt sustainability analysis.** The S2 indicator measures the upfront fiscal effort needed to stabilise public debt over the long term. It includes the projections of the 2021 Ageing Report for pension, healthcare, long-term care and education expenditure. The results of the DSA discussed in Chapter 2 provide a complementary signal to S2, together determining the overall long-term fiscal risk classification.

**Due to a fast demographic ageing over the next decades, ageing costs are projected to rise in most Member States at unchanged policies.** Due to a sharp expected decrease in the working-age population and growing shares of older people, pension expenditure would rise considerably in many Member States, especially in the next decades. Public spending on healthcare and long-term care is expected to increase in all countries, while education expenditure would fall for most. For a majority of countries, total age-related spending is projected to increase by 2070. Long-term ageing cost projections are surrounded by considerable uncertainty and risks, including policy risks such as possible reform reversals or the need for measures to counteract a projected decline in pension adequacy.

**The S2 indicator identifies seven Member States as having high fiscal risk in the long term, with medium risks for ten other Member States** (see Table I.3.1). The initial budgetary position as projected for 2023 is the main driver of S2, with ageing costs contributing less on average. However, for high-risk countries, ageing costs are the main determinant of the S2. Moreover, the S2 indicator implies particularly demanding fiscal performance in many Member States compared with historical evidence. Compared to the 2020 Debt Sustainability Monitor, the S2 shows a general increase, thus pointing to higher long-term fiscal sustainability risks. This increase in the S2 is mainly due to a worse initial budgetary position compared to the pre-crisis forecast level.

**The DSA results point to high risks for ten Member States and medium risks in six cases** (see Table I.3.1). As discussed in Chapter 2, high-risk classifications are the result of high and/or increasing debt ratios, considerable uncertainty and rather limited room for corrective fiscal measures in some cases.

**Combining the S2 and DSA results, nine Member States have high fiscal sustainability risks in the long term: Belgium, Czechia, Spain, Italy, Luxembourg, Hungary, Malta, Slovenia and Slovakia** (see Table I.3.1). Thirteen additional Member States are considered at medium risk, namely Bulgaria, Germany, Ireland, Greece, France, Croatia, Cyprus, the Netherlands, Austria, Poland, Portugal, Romania and Finland. While only in 12 instances the S2 risk category is identical to the DSA risk classification, the S2 signal determines the overall long-term risk classification for 20 out of 27 Member States. For Greece, Spain, France, Croatia, Italy, Cyprus and Portugal, the DSA risk category leads to a worse overall risk classification than the S2 results.

**Compared to the 2020 Debt Sustainability Monitor, six countries face higher long-term risks, while for two countries risks are lower.** For Czechia, Spain, Italy, Hungary and Malta, the risk category moves from medium to high, while for Poland it goes from low to medium risk. The risk deterioration is due to the S2 indicator, with a worse initial budgetary position compared to the pre-crisis forecast level, and, in the case of Poland, higher ageing costs pushing up the required fiscal effort. Overall long-term risks fall from medium to low for Sweden and from high to medium for Romania. Again, S2 is driving the revisions, namely a better initial budgetary position for Sweden and lower ageing costs for Romania.

Table I.3.1: Overview of S2, DSA and overall long-term risk classifications

	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	
S2	High	Med	High	Med	Med	Med	Med	Med	Med	High	High	High	Med	Med	Med	High	High	High	Med	Med	Med	Med	High	High	High	High	Med	Med
DSA	High	Med	High	Med	Med	Med	Med	High	High	High	High	High	Med	Med	Med	High	High	High	Med	Med	Med	High	High	High	High	High	Med	Med
long-term risk	High	Med	High	Med	Med	Med	Med	High	High	High	High	High	Med	Med	Med	High	High	High	Med	Med	Med	High	High	High	High	High	Med	Med
	high risk			medium risk			low risk																					

Source: European Commission.

### 3.1. AGEING COST PROJECTIONS

#### Population projections show a fast demographic ageing in the next decades, with the working-age population expected to decrease sharply.

According to Eurostat's latest demographic projections, the median age in the EU would rise by around 5 years for both men and women between 2019 and 2070 (Eurostat, 2020; European Commission, 2020b). Demographic ageing is expected to take place in all EU Member States, though to varying degrees and speed. This reflects the general assumptions of a further rise in life expectancy, below-replacement fertility rates and net migration in line with recent trends. As a result, the population composition would change radically, due to more older people and fewer people at working-age. This demographic shift has important budgetary consequences. More people will receive pension, health and long-term care benefits, while at the same time the number of contributors to Member States' social security systems will fall, even when assuming a higher employment rate.

**According to the 2021 Ageing Report, total ageing-related expenditure would rise in most Member States by 2070.** The *Ageing Report* provides long-term projections for pension, healthcare, long-term care and education expenditure (European Commission, 2021b). Table I.3.2 shows the change under the baseline projections for these four items in 2019-2070. Over this period, age-related expenditure is expected to rise by 1.9 pps of GDP on average in the EU. Spending would go up in 19 Member States and by at least 5 pps of GDP in Slovakia, Luxembourg, Slovenia, Malta, Ireland, Czechia, Hungary, Belgium, the Netherlands and Romania. In 8 Member States, the projections show an overall downward impact, due to a projected decline in pension expenditure by 2070 and, to a lesser extent, lower spending on education. However, even for these countries ageing costs are expected to increase in the next decades.

**Pension expenditure would rise considerably in many Member States, especially in the next decades.** In 2070, public pension spending would be very similar to the current average level in the EU as a whole. However, expenditure is projected to increase in 16 Member States. The largest increases would be in Luxembourg, Slovenia,

Slovakia, Hungary, Malta, Romania, Ireland and Belgium, with an increase of at least 3 pps in the pension expenditure-to-GDP ratio (see Table I.3.2). Conversely, 11 Member States would see public pension expenditure decline by 2070, notwithstanding an initial increase in pension spending for several of them. The pension projections are based on current legislation: they already account for planned increases in legal retirement ages and apply the legal indexation rules. There are significant policy risks surrounding the baseline projections. If already legislated but not yet enacted increases in the legal retirement age are revoked, pension expenditure would rise more, as estimations included in the *2021 Ageing Report* show. The same holds for possible measures to counteract the general decline in pension adequacy in the baseline projections.

Table I.3.2: Ageing costs – baseline, pps of GDP change 2019-2070

	pensions	healthcare	long-term care	education	total
SK	5.9	2.5	2.1	0.4	10.8
LU	8.7	1.1	1.4	-0.8	10.4
SI	6.0	1.5	1.3	0.1	8.9
MT	3.8	2.6	1.9	-0.3	8.0
IE	3.0	1.4	1.9	-0.1	6.2
CZ	2.9	0.9	1.7	0.6	6.1
HU	4.1	0.9	0.7	-0.1	5.5
BE	3.0	0.6	2.1	-0.4	5.4
NL	2.3	0.8	2.7	-0.5	5.4
RO	3.8	0.9	0.4	-0.1	5.1
PL	-0.2	2.6	1.6	-0.1	4.0
AT	1.0	1.2	1.8	-0.1	3.8
FI	1.3	0.8	2.1	-0.9	3.4
DE	2.1	0.4	0.2	0.5	3.3
SE	-0.1	0.8	2.2	-0.5	2.3
BG	1.4	0.2	0.1	0.4	2.1
CY	2.1	0.3	0.3	-0.7	2.0
LT	0.4	0.6	0.8	-0.1	1.6
DK	-2.0	0.9	3.4	-0.8	1.5
IT	-1.8	1.2	1.0	-0.4	-0.1
HR	-0.7	0.7	0.2	-0.5	-0.3
ES	-2.1	1.3	0.8	-0.4	-0.4
LV	-1.2	0.4	0.2	0.0	-0.6
FR	-2.2	1.1	0.8	-0.6	-0.8
PT	-3.2	1.6	0.4	-0.1	-1.3
EE	-2.3	0.8	0.3	-0.4	-1.6
EL	-3.8	0.8	0.0	-0.6	-3.7
EU	0.1	0.9	1.1	-0.2	1.9

Source: 2021 Ageing Report.

**Healthcare spending is expected to increase in all countries, though to varying degrees.** The *2021 Ageing Report* baseline projections assume that half of the future gains in life expectancy will be spent in good health and that the income elasticity of healthcare spending exceeds unity

over part of the projection period, though eventually converging linearly to 1 in 2070 (reflecting the observed pattern that, as countries grow richer, they tend to spend relatively more on healthcare). An average increase in healthcare spending of close to 1 pp of GDP is projected by 2070. The largest budgetary impact is found for Malta, Poland, Slovakia, Portugal and Slovenia, with expected increases of at least 1.5 pps of GDP (see Table I.3.2).

**Likewise, a general increase in long-term care spending is projected to contribute to ageing costs.** The *2021 Ageing Report* baseline projections assume that half of the projected gains in life expectancy will be spent without disability and that the income elasticity of long-term care exceeds unity over part of the projection period, though eventually converging to 1 in 2070. An average increase in long-term care expenditure of more than 1 pp of GDP is estimated by 2070, with the biggest growth in Denmark, the Netherlands, Sweden, Belgium, Slovakia and Finland, with projected increases of at least 2 pps of GDP (see Table I.3.2). Non-demographic factors could cause a considerably higher increase than estimated under the baseline healthcare and long-term care projections, as discussed lower (see Table I.3.3).

**Education expenditure is expected to fall in most countries, though to a limited extent.** The *2021 Ageing Report* baseline education scenario focuses on the impact of demographic factors, the key assumption being a constant students-to-staff ratio. At EU aggregate level, public education spending is projected to fall by 0.2 pps of GDP in 2019-2070 (see Table I.3.2). An increase of up to 0.6 pps of GDP is expected in 5 Member States. For a large majority of countries, education spending would thus marginally decline because of demographic ageing, though by 0.6 pps of GDP at the most.

**The *2021 Ageing Report* includes a set of sensitivity tests that illustrate the extent to which the expenditure projections react to changes in key assumptions.** These include demographic, labour force and productivity trends, as well as non-demographic cost drivers of healthcare and long-term care. Table I.3.3 shows the results for some of the scenarios with the highest upward impact on ageing costs.

- ***Non-demographic risk factors scenario:*** this scenario captures how non-demographic factors affect healthcare and long-term care expenditure. It 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. It does not affect the pension and education projections. This scenario shows how non-demographic factors could push up ageing costs considerably. The average additional increase in the EU is estimated at 3 pps of GDP, with an impact of more than 5 pps in the cases of Portugal, Estonia, Poland, Lithuania and Latvia.
- ***Lower fertility scenario:*** relatively small changes in the demographic assumptions can induce large differences in expenditure projections over time. If fertility rates – the number of live births per woman – would be 20% lower throughout the projection period, total ageing costs would be 1.4 pps of GDP higher on average than under the baseline fertility assumption. The estimated impact of lower-than-assumed fertility rates exceeds 2 pps of GDP for Slovakia, Luxembourg, Slovenia, Belgium, France and Romania.
- ***Lower productivity scenario:*** the baseline productivity assumptions include a gradual convergence of total factor productivity growth (TFP) to 1% for all Member States. However, this might be hard to achieve considering the trend in TFP in recent decades. Therefore, the ‘lower productivity’ scenario assumes convergence to a lower TFP growth rate of 0.8% instead of 1%. Under this scenario, total ageing costs would be 0.4 pps of GDP higher on average in the EU. Belgium, Bulgaria, France and Spain would be the most affected, with additional ageing costs of about 1 pp of GDP.
- ***Structural macroeconomic shock scenario:*** to cater for the uncertainty surrounding the macroeconomic outlook due to the COVID-19 pandemic, an alternative scenario was included in the *2021 Ageing Report*. This ‘structural shock’ scenario assumes a stronger cyclical downturn in the wake of the pandemic and a

permanently lower growth potential. If such a scenario were to occur, it would cause ageing costs to rise by an additional 1 pp of GDP on average. The extra cost would exceed 1.5 pps of GDP in the cases of Belgium, Malta, France, Italy and Romania.

Table I.3.3: Ageing costs – baseline and sensitivity scenarios, pps of GDP change 2019-2070

	baseline scenario	difference vs baseline scenario (pps of GDP)			
		non-demographic risk*	lower fertility	lower productivity	structural shock
SK	10.8	4.7	2.6	0.2	1.1
LU	10.4	2.6	2.4	0.7	1.4
SI	8.9	4.6	2.1	0.1	1.1
MT	8	4.0	1.1	0.6	1.6
IE	6.2	2.4	1.3	0.0	0.4
CZ	6.1	1.9	1.7	0.2	0.8
HU	5.5	4.3	1.5	0.5	1.4
BE	5.4	2.0	2.1	1.0	2.1
NL	5.4	2.0	1.7	-0.1	0.2
RO	5.1	4.9	2.0	0.8	1.5
PL	4	5.8	1.3	0.3	0.9
AT	3.8	2.0	0.9	0.4	0.7
FI	3.4	2.9	1.9	0.5	1.0
DE	3.3	2.4	1.0	0.1	0.5
SE	2.3	4.8	1.4	0.0	0.4
BG	2.1	2.0	1.2	1.0	0.5
CY	2	2.9	0.6	0.3	0.3
LT	1.6	5.7	0.0	0.0	0.4
DK	1.5	2.0	1.4	-0.1	0.3
IT	-0.1	1.7	1.1	0.6	1.5
HR	-0.3	3.1	1.2	0.2	0.9
ES	-0.4	2.8	1.1	0.9	1.4
LV	-0.6	5.0	0.2	0.1	0.5
FR	-0.8	3.4	2.1	0.9	1.6
PT	-1.3	8.3	1.4	0.7	1.4
EE	-1.6	6.1	-0.1	0.1	0.5
EL	-3.7	3.3	1.1	0.7	0.8
EU	1.9	3.0	1.4	0.4	1.0

\*referred to as 'AWG risk' scenario in the Ageing Report.  
Source: 2021 Ageing Report.

### 3.2. THE S2 INDICATOR

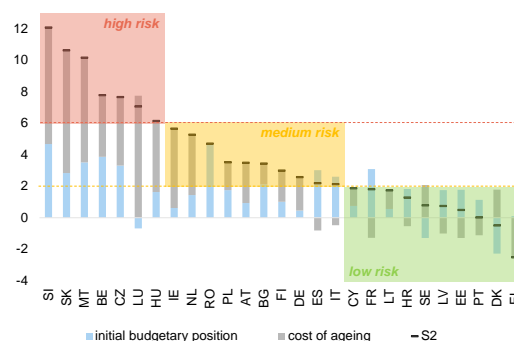
The S2 indicator measures the fiscal adjustment required to stabilise government debt in the long term. Together with the results of the DSA discussed in Chapter 2, this fiscal gap indicator determines the overall long-term risk classification (see section 3.3 and Box I.3.1 at the end of this chapter).

#### S2 – baseline

The S2 indicator identifies seven Member States as having high fiscal risk in the long term. Graph I.3.1 shows the results for S2, expressed as the permanent adjustment in the structural primary balance (SPB) in 2024 that would be required to stabilise public debt over the long term. Seven Member States are at high risk, i.e. an overall adjustment of at least 6 pps of GDP would be needed to prevent debt from entering on an ever-increasing path. For Slovenia, Slovakia and Malta, the fiscal effort is estimated at more than 10 pps. For Belgium, Czechia, Luxembourg and Hungary the S2 implies an adjustment of 6-8 pps.

For another 10 Member States, long-term fiscal risks are considered medium based on S2. With a required fiscal adjustment of 2-6 pps of GDP, the S2 indicator points to medium risks in Ireland, the Netherlands, Romania, Poland, Austria, Bulgaria, Finland, Germany, Spain and Italy. For the remaining 10 countries, long-term fiscal risks are low based on S2.

Graph I.3.1: S2 – baseline, pps of GDP



Source: European Commission.

For a majority of countries, both the initial budgetary position and projected ageing costs are unfavourable. 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.<sup>(58)</sup> The sum of both components determines the overall S2 value. In all Member States at least one component is positive. In Denmark, Luxembourg and Sweden the structural primary balance could deteriorate without leading to a continuous increase in the debt ratio – not accounting for any ageing costs (see Table I.3.4). In Estonia, Greece, Spain, France, Croatia, Italy, Latvia and Portugal projected ageing costs are negative as discussed supra. Falling ageing costs imply that a lower fiscal adjustment is needed to stabilise debt.

**The initial fiscal position is the main determinant of the S2 value, with ageing costs contributing less on average.** In the EU as a whole, S2 indicates that an average fiscal adjustment of 3 pps of GDP would be required to stabilise debt in the long term. The initial budgetary situation necessitates a 1.7 pps of GDP adjustment, while ageing costs add another 1.3 pps to the sustainability gap. The fiscal starting point is the least favourable in Romania, Slovenia, Belgium, Malta, Czechia, France and Spain. Solely based on the SPB forecast in the 2023, a budgetary correction of at least 3 pps of GDP would be needed in these countries to prevent an upward public debt spiral.

**However, high long-term sustainability risks mainly stem from a sharp projected increase in ageing costs.** 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. As discussed in the previous section, healthcare and long-term care costs are expected to increase for all countries but in countries with large total ageing costs, these mainly result from the projected increase in pension expenditure (see Table I.3.4).

<sup>(58)</sup> The ageing cost contribution differs from the overall change in age-related expenditure between 2019 and 2070 as discussed in Section 3.1 because the S2 indicator is based on the discounted annual changes for the different expenditure items. In addition, changes are included as of 2024 onward, with earlier changes captured by the Commission 2021 autumn forecast.

Table I.3.4: S2 – breakdown, pps of GDP

S2	initial budgetary position	cost of ageing					
		total	pensions*	healthcare	long-term care	education	
BE	7.8	3.9	3.9	1.7	0.5	1.9	-0.3
BG	3.4	2.1	1.3	0.7	0.2	0.1	0.3
CZ	7.7	3.3	4.4	1.7	0.8	1.4	0.4
DK	-0.5	-2.3	1.8	-1.5	0.7	3.0	-0.4
DE	2.6	0.5	2.1	1.0	0.4	0.2	0.5
EE	0.5	1.8	-1.3	-2.0	0.7	0.3	-0.3
IE	5.7	0.6	5.0	2.3	1.2	1.6	-0.1
EL	-2.5	0.1	-2.6	-2.7	0.7	0.0	-0.6
ES	2.2	3.0	-0.8	-2.2	1.2	0.7	-0.4
FR	1.8	3.1	-1.3	-2.1	0.6	0.7	-0.5
HR	1.3	1.8	-0.5	-1.1	0.6	0.2	-0.1
IT	2.1	2.6	-0.5	-1.9	0.8	0.9	-0.3
CY	1.9	0.7	1.1	1.0	0.3	0.2	-0.4
LV	0.7	1.7	-1.0	-1.3	0.2	0.1	-0.1
LT	1.7	0.6	1.2	0.0	0.5	0.7	0.0
LU	7.1	-0.7	7.7	6.1	0.9	1.3	-0.5
HU	6.1	1.6	4.5	3.3	0.7	0.6	0.0
MT	10.2	3.5	6.7	3.1	2.3	1.5	-0.1
NL	5.3	1.4	3.8	1.1	0.7	2.3	-0.2
AT	3.5	0.9	2.6	-0.1	1.0	1.6	0.0
PL	3.5	1.7	1.8	-0.9	1.3	1.3	0.0
PT	0.0	1.1	-1.1	-3.0	1.4	0.4	0.1
RO	4.7	4.7	0.0	-1.0	0.8	0.3	-0.1
SI	12.1	4.7	7.4	5.3	1.0	1.0	0.1
SK	10.6	2.8	7.8	4.1	1.6	1.7	0.4
FI	3.0	1.0	2.0	0.4	0.7	1.7	-0.8
SE	0.8	-1.3	2.1	-0.1	0.7	1.9	-0.4
EU	3.0	1.7	1.3	-0.3	0.7	0.9	-0.1
EA	2.9	1.8	1.1	-0.3	0.7	0.8	-0.1

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

Source: European Commission.

### S2 – implied structural primary balance

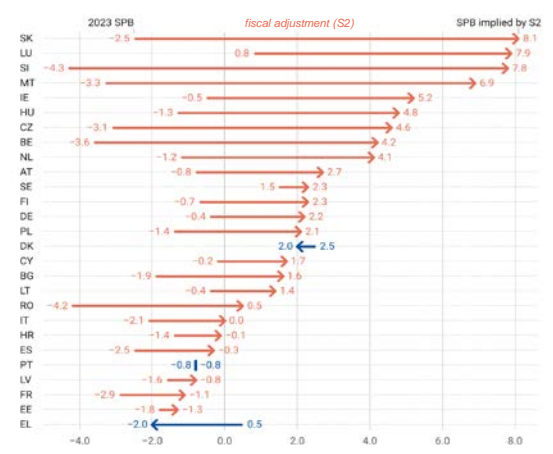
**The SPB level implied by S2 informs about the fiscal policy needed to reach a steady state.** The required SPB is the sum of the structural primary balance in 2023 – the end of the forecast period – and the fiscal adjustment required to stabilise the debt ratio in the long term as measured by S2. As shown in Graph I.3.2, government debt levelling off corresponds to an SPB of around 8% of GDP for Slovakia, Luxembourg and Slovenia, and to an SPB of 7% for Malta. In the cases of Ireland, Hungary, Czechia, Belgium and the Netherlands, a shift to an SPB of about 4-5% of GDP would be required.

**Past fiscal performance gives an idea about the plausibility of effectively achieving the required SPBs.** The required SPB can be benchmarked to the distribution of available SPBs for each country since 1980.<sup>(59)</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

<sup>(59)</sup> For some countries, data are not available for the entire period since 1980.

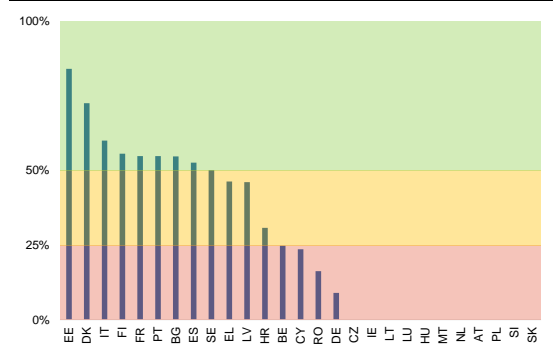
this required SPB can be achieved in the first place. Graph I.3.3 orders the required SPB according to their percentile ranks. It shows how the required SPB has never been achieved in recent decades in Slovakia, Slovenia, Poland, Austria, the Netherlands, Malta, Hungary, Luxembourg, Lithuania, Ireland and Czechia. In Germany and Romania, the SPB implied by S2 was reached a couple of times over the past three decades; in Cyprus and Belgium about a quarter of the time.

Graph I.3.2: S2 – required structural primary balance (SPB), % of GDP



Source: European Commission.

Graph I.3.3: S2 – plausibility of the required SPB (% of cases achieved in the past)



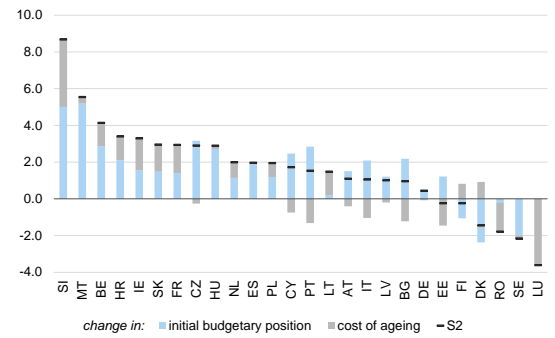
Based on available SPBs since 1980.  
Source: European Commission.

S2 – comparison with previous results

The S2 indicator has increased for most countries, thus pointing to higher long-term fiscal sustainability risks. Graph I.3.5 compares the updated S2 with those in the 2019 and 2020 Debt Sustainability Monitors (DSM). The updated S2 values are generally higher than in the pre-crisis

2019 DSM and the 2020 DSM, by 1.6 pps of GDP on average in both cases. Compared to the 2020 DSM, the largest differences are for Slovenia, Malta, Belgium, Croatia, Ireland, Slovakia, France, Czechia, Hungary, the Netherlands and Spain. The S2 risk classification goes from medium – in the 2020 DSM – to high for Belgium, Czechia, Hungary, Malta and Slovenia, and from low to medium for Spain, Italy and Poland. Only Estonia, Finland, Denmark, Romania, Sweden and Luxembourg now have a lower S2 value than in the 2020 DSM. In terms of risk classification, Romania went from high to medium risk, while Sweden went from medium to low.

Graph I.3.4: S2 – comparison to 2020 DSM, pps of GDP

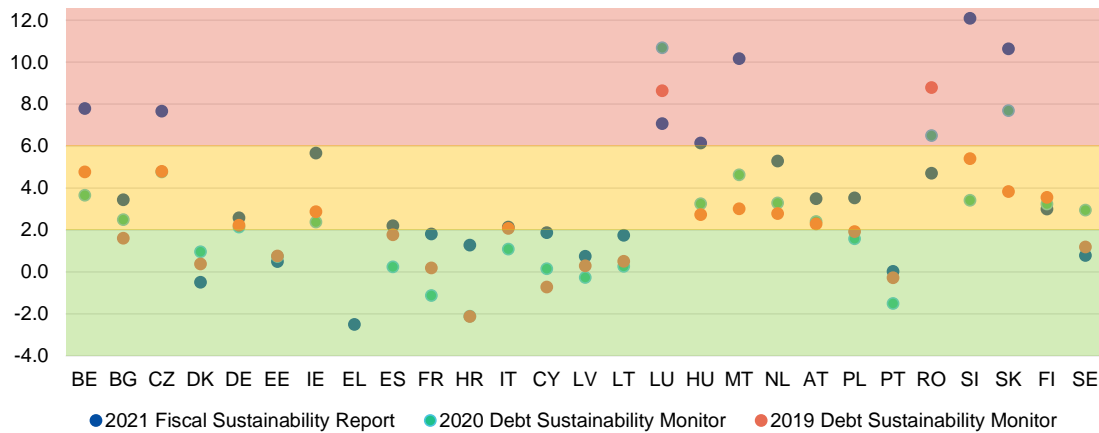


No S2 was calculated for EL in the 2020 DSM

Source: European Commission.

The increase in the S2 is mainly due to a worse initial budgetary position, i.e. a lower structural primary balance in 2023 compared to the pre-crisis forecast level. The 2019 and 2020 DSMs were based on previous Commission forecasts and the 2018 Ageing Report ageing projections. Graph I.3.4 provides a comparison with the S2 calculated in the 2020 DSM, including a breakdown of the difference between the initial budgetary position and ageing costs. It shows how the lower end-of-forecast SPB for 2023 – compared to 2022 in the 2020 DSM – is the chief driver behind the general increase in the S2, causing the S2 to increase in all but five Member States. For Malta and Slovenia, the lower SPB pushes up the S2 by about 5 pps of GDP. The impact is around 3 pps for Belgium, Czechia, Hungary and Portugal. In contrast, for twelve Member States, the 2021 Ageing Report projections have a lower S2 contribution than was the case for the 2018 Ageing Report projections used in the 2020 DSM. The updated cost of ageing increases the sustainability gap by around 4 pps of GDP for Slovenia and reduces it to the same extent

Graph I.3.5: S2 – comparison across recent Commission forecasts



- No S2 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: European Commission.

for Luxembourg. For the other countries revisions are within a  $\pm 2$  pps of GDP bandwidth. <sup>(60)</sup>

### S2 – sensitivity analysis

**The S2 indicator being 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 I.3.2 provides the technical assumptions for each of these scenarios, as well as the detailed results. Graph I.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 I.3.6-A). For Portugal, Estonia, Lithuania, Poland, Sweden and Latvia, the S2 would be at least 4 pps of GDP higher than the baseline result. Compared

to the baseline, seven extra countries are considered at high risk: Estonia, Ireland, Lithuania, the Netherlands, Poland, Portugal and Romania. Moreover, France, Croatia, Cyprus and Latvia are deemed at medium risk, compared to low risk in the baseline.

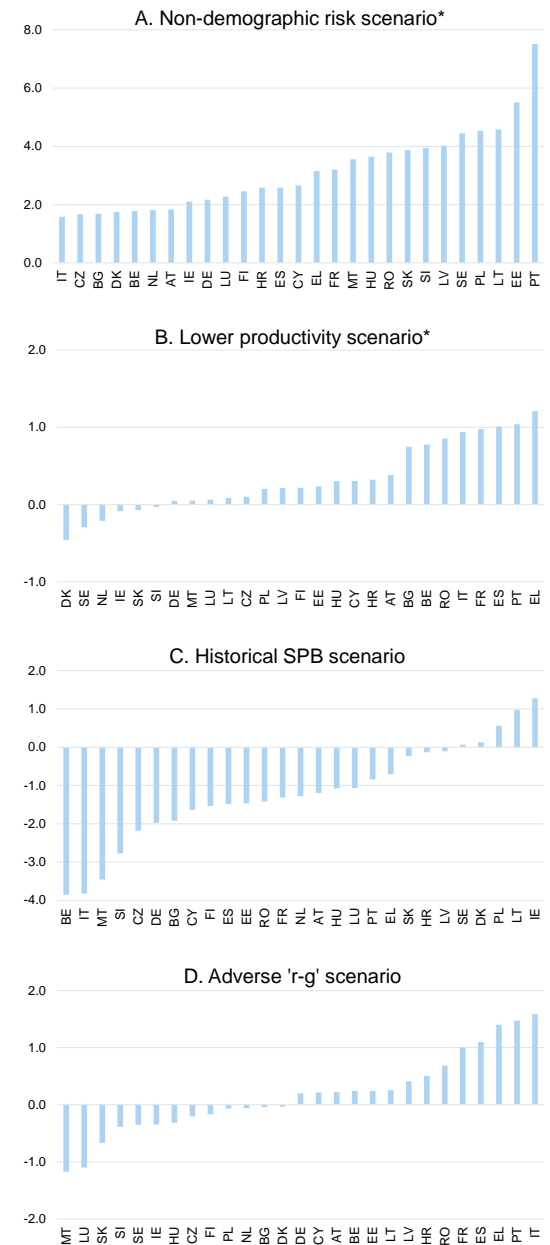
- The **lower productivity scenario** determines the S2 value in case ageing cost projections are based on lower-than-assumed productivity growth. For a majority of countries, the S2 value would be limitedly affected by such scenario (see Graph I.3.6-B), with the impact notably reflecting pension benefit indexation rules. For Bulgaria, Belgium, Romania, Italy, France, Spain, Portugal and Greece, the S2 indicator is between 0.5 pps and 1 pp of GDP higher than in the baseline. In terms of long-term fiscal risk categorisation, Cyprus and France would be at medium risk, compared to low risk 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 2023 is below the historical average, as is the case for most countries. Reconnecting with past fiscal performance significantly reduces the fiscal effort required to stabilise debt over time (see Graph I.3.6-C). For Belgium, Italy, Malta,

<sup>(60)</sup> It should be noted that, to account for the exceptional crisis circumstances and the large temporary emergency measures taken by the Member States, the 2020 DSM included ageing costs only from the moment that SPBs were projected to have returned to their pre-crisis levels.

Slovenia, and Czechia, the S2 is 2 to 4 pps of GDP lower than in the baseline. The risk classification would improve from high to medium for Belgium, Czechia and Hungary, and from medium to low for Bulgaria, Germany, Spain, Italy and Finland. For Ireland, the risk classification goes from medium to high and for Lithuania from low to medium. This reflects how the 2023 SPB is higher than the historical average SPB.

- 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, Spain and France would be the most affected if the interest-growth rate differential were indeed to widen (see Graph I.3.6-D). Their S2 value would go up by 1-1.5 pps 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, Cyprus and France move from low to medium risk, while Luxembourg and Hungary move from high to medium risk, though just narrowly.

Graph I.3.6: S2 – deviation from baseline, pps of GDP



\*2021 Ageing Report scenario  
See also Box I.3.2

Source: European Commission.



### 3.3. OVERALL LONG-TERM RISKS

**Overall long-term fiscal sustainability risks are assessed based on both the S2 and the DSA results.** As discussed in Box I.3.1, the S2 indicator provides the starting point for the overall assessment of long-term fiscal risks. In addition, the DSA results might lead to a one-step deterioration of the risk classification. Table I.3.5 shows the risk classifications based on both indicators separately and provides the overall long-term risk classification.

- Nine Member States have **high fiscal sustainability risks in the long term: Belgium, Czechia, Spain, Italy, Luxembourg, Hungary, Malta, Slovenia and Slovakia.** The overall conclusion is generally based on the S2 indicator. Only for Spain and Italy the DSA signals high risk, compared to medium risk according to S2.
- Thirteen Member States have **medium fiscal sustainability risks in the long term: Bulgaria, Germany, Ireland, Greece, France, Croatia, Cyprus, the Netherlands, Austria, Poland, Portugal, Romania and Finland.** In the cases of Greece, France, Croatia, Cyprus and Portugal, this overall medium risk is driven by the DSA, with the S2 signalling low risks for these countries.
- Five Member States have **low fiscal sustainability risks in the long term: Denmark, Estonia, Latvia, Lithuania and Sweden.** For these countries, the S2 and the DSA both point to low risks.
- **In most cases, the DSA results do not change the conclusion based on the S2 indicator alone.** While only in 12 instances the S2 risk classification is identical to the DSA risk classification, the S2 signal determines the overall long-term risk classification for 20 out of 27 Member States. For Greece, Spain, France, Croatia, Italy, Cyprus and Portugal, it is the higher DSA risk category that determines the overall risk classification.

Table I.3.5: S2, DSA and overall long-term risk classification

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

Source: European Commission.

**Compared to the 2020 Debt Sustainability Monitor, six countries are deemed to face higher long-term risks, with lower risks for two other countries.** Table I.3.6 compares the long-term risk classification with the one from the 2020 DSM.

- For Czechia, Spain, Italy, Hungary and Malta, long-term risks are now high, compared to medium in the 2020 DSM. This deterioration is driven by a worsening in the S2 indicator, due to the initial budgetary position. In the case of Malta, both the S2 and the DSA conclude high risks, compared to medium and low risks in the 2020 DSM. For Poland, the risk is now medium, compared to low in the 2020 DSM, with the difference due to a worse S2 signal because of both a worse initial budgetary position and higher ageing costs.
- Sweden is now at low risk, compared to medium in the 2020 DSM, with the S2 indicator improving because of a better initial budgetary position. For Romania, the risk

classification improved from high to medium since both the S2 – because of lower ageing costs – and the DSA now conclude a medium risk, compared to high risk in the 2020 DSM.

Table I.3.6: Comparison of long-term risk classifications

		2021 FSR long-term risk		
		low	medium	high
2020 DSM long-term risk	low	DK, EE, LV, LT	<b>PL</b>	
	medium	<b>SE</b>	BG, DE, IE, FR, HR, CY, NL, AT, PT, FI	<b>CZ, ES, IT, HU, MT</b>
	high		<b>RO</b>	BE, LU, SI, SK

- EL was not covered in the 2020 DSM risk classification.  
- The risk classification of countries in bold changed compared to the 2020 DSM.

Source: European Commission.

### Box 1.3.1: Methodology behind the 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 (European Commission, 2021b). 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 overall long-term risk classification is assessed on the basis of both the S2 indicator and the results of the debt sustainability analysis.

#### 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 2024, i.e. the first projection year after the Commission 2021 autumn forecast;

<sup>(1)</sup> See Annex 6 for the precise calculation of the S2 indicator.

- the 2023 structural primary balance – the primary balance adjusted for the cycle and one-off fiscal measures – as provided by the Commission 2021 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 2024 onwards, as the change in (net) expenditure affects the structural primary balance.<sup>(2)</sup> This approach implies a return to past practice, from which the *2020 Debt Sustainability Monitor* deviated: because of the temporary situation of an exceptionally negative structural primary balance, a gradual return to the pre-pandemic forecast was assumed, with ageing costs included only from that point onward;
- 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 pps for the EU;
- the following thresholds are used to assess the scale of the sustainability challenge: if the S2 value (in pps 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.

Despite the current low 'r-g' environment, the intertemporal budget constraint remains relevant, considering that (i) 'r-g' is assumed to normalise over the long term; (ii) ageing costs are projected to increase in many countries, putting permanent pressure on the primary balance; and (iii) many authors argue that even in the current environment, debt sustainability challenges linked to high/increasing debt persist, as discussed in Chapter 3 of Part II of this report.

<sup>(2)</sup> The S2 indicator includes pension expenditure net of taxes on pensions and compulsory social security contributions paid by pensioners.

(Continued on the next page)

Box (continued)

Table 1: Determination of overall long-term risk classification

		DSA		
		high risk	medium risk	low risk
S2	high risk	high risk	high risk	high risk
	medium risk	high risk	medium risk	medium risk
	low risk	medium risk	medium risk	low risk
	low risk	low risk	low risk	low risk

Source: European Commission.

#### The overall long-term risk assessment

**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. Based solely on S2, some countries might therefore be deemed on a sustainable path despite the fact that their debt ratios would stabilise at elevated levels in the long term.<sup>(3)</sup>

<sup>(3)</sup> For a detailed discussion of the strengths and shortcomings of the S2 indicator, see *2017 Debt Sustainability Monitor* (Box 3.2).

**For this reason, to determine the overall long-term risk classification, the S2 indicator is complemented by the DSA results.** Since the *2018 Fiscal Sustainability Report*, S2 has been supplemented with the results of the debt sustainability analysis (DSA, see Chapter 2). As a result, the long-term risk assessment is also influenced by vulnerabilities stemming from high debt levels.<sup>(4)</sup> Table 1 displays how both indicators combine into the eventual long-term risk classification. Since the S2 captures the fiscal gap due to projected ageing costs – including the infinite component beyond 2070 – a prudent approach is used. The DSA signal can worsen the outcome based on S2 by one step but can never improve the S2 results.

<sup>(4)</sup> In addition, the *2018 Fiscal Sustainability Report* introduced a more thorough sensitivity analysis around the central S2 scenario.

### Box 1.3.2: S2 – sensitivity scenarios: description and results

#### Non-demographic risk scenario

This scenario is based on a sensitivity scenario from the *2021 Ageing Report*, where it is called ‘AWG risk’ scenario. It captures the impact of non-demographic factors on healthcare and long-term care expenditure – pension and education projections are not affected by it. 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

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 uses the European Commission forecasts until 2023, followed by gradual convergence to the historical SPB average in 2027. The historical average is based on available data for 2006-2020.

#### 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. It is discussed in-depth in Chapter 3 of Part II in this report. The scenario applies the higher ‘r-g’ for all Member States as of 2022.

Table 1: Sensitivity scenarios – results, pps of GDP

		S2			
	baseline	Non-demographic risk scenario*	Lower productivity scenario*	Historical SPB scenario	Adverse ‘r-g’ scenario
BE	7.8	9.6	8.6	3.9	8.0
BG	3.4	5.1	4.2	1.5	3.4
CZ	7.7	9.3	7.8	5.5	7.5
DK	-0.5	1.2	-0.9	-0.4	-0.5
DE	2.6	4.7	2.6	0.6	2.8
EE	0.5	6.0	0.7	-1.0	0.7
IE	5.7	7.8	5.6	6.9	5.3
EL	-2.5	0.7	-1.3	-3.2	-1.1
ES	2.2	4.8	3.2	0.7	3.3
FR	1.8	5.0	2.8	0.5	2.8
HR	1.3	3.9	1.6	1.1	1.8
IT	2.1	3.7	3.1	-1.7	3.7
CY	1.9	4.5	2.2	0.2	2.1
LV	0.7	4.8	1.0	0.6	1.2
LT	1.7	6.3	1.8	2.7	2.0
LU	7.1	9.3	7.1	6.0	6.0
HU	6.1	9.8	6.5	5.1	5.8
MT	10.2	13.7	10.2	6.7	9.0
NL	5.3	7.1	5.1	4.0	5.2
AT	3.5	5.3	3.9	2.3	3.7
PL	3.5	8.1	3.7	4.1	3.5
PT	0.0	7.5	1.1	-0.8	1.5
RO	4.7	8.5	5.6	3.3	5.4
SI	12.1	16.0	12.1	9.3	11.7
SK	10.6	14.5	10.6	10.4	10.0
FI	3.0	5.5	3.2	1.5	2.8
SE	0.8	5.2	0.5	0.8	0.4

red: higher than baseline; green: lower than baseline.

\*Ageing Report scenario

Source: European Commission.

### Box 1.3.3: Possible future methodological revisions

**Further methodological changes may be considered going forward.** This report includes a number of methodological changes to the Commission's fiscal sustainability framework. However, several considerations imply that future updates may involve additional methodologic revisions. First, the framework might need adjustment in the post-COVID context. Second, the way indicators interact could be improved, in particular the role of the S1 signal. This box discusses the rationale behind some potential future revisions to the framework.

**The S2 indicator remains a partial measure of long-term fiscal sustainability challenges, qualified in this report by the DSA results.** As discussed in Box I.3.1, the S2 indicator provides the central 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, thereby accounting for projected ageing costs. However, there is no restriction on the level at which this stabilisation occurs. Therefore, the S2 signal has been complemented by the DSA results in order to account for risks stemming from the starting point, i.e. high debt levels.

**It may be considered to complement the S2 indicator instead by a revised S1 indicator.** The Commission DSA's horizon is limited to 10 year beyond the end of the Commission forecast – 2032 in this report. This medium-term horizon contrasts with S2's long-term (infinite) horizon. For this reason, it could be considered to complement S2 instead by a revised S1 indicator. In its current

design, the S1 indicator measures the fiscal effort needed to converge to a debt target of 60% of GDP in 15 years – 2038 in this report. To shift the focus to long-term sustainability, the target date could be delayed. In this case, other revisions could be considered to bring the revised S1 indicator closer to the way S2 operates: estimating an upfront adjustment instead of a cumulated effort over 5 year and using the same low/medium and medium/high risk thresholds as the S2 indicator: 2 and 6 compared to 0 and 2.5 currently.

**Under this approach, the long-term risk assessment would be based on two complementary fiscal gap indicators that show the upfront fiscal adjustment required to achieve two specific long-term fiscal goals.** Such redesign would mean that, for the purposes of S1, the Treaty reference value is understood as a long-term anchor. In fact, this would imply a return to the approach of the 2006 and 2009 Fiscal Sustainability Reports, when the 60% of GDP target was indeed to be reached in the long term. This shift in time horizon would also acknowledge the post-COVID-19 context of highly indebted countries.

**Finally, the medium-term risk assessment could fully rely on the DSA, considering that it already represents the reference tool to assess medium-term risks.** If a revised S1 indicator were to inform the long-term risk assessment, the DSA would become the sole determinant of the medium-term risk classification. The current update already includes methodological changes to the DSA framework (see Chapter 2, Box I.2.2).