1. SHORT-TERM FISCAL SUSTAINABILITY ANALYSIS

Still deteriorated public finances in 2021 and an aggravation of macroeconomic imbalances, as a result of the COVID-19 crisis, imply that short-term risks of fiscal stress are identified in some countries*. According to the early-warning indicator used by the European Commission, the S0 indicator, Greece and Cyprus are found to face such short-term vulnerabilities (see section 1.1). Nonetheless, the overall situation appears less critical than during the Global Financial Crisis (GFC), and improved compared with last year. In 2009, S0 flagged short-term risks of fiscal stress in as many as seventeen countries, notably due to severe macroeconomic imbalances. Last year, short-term fiscal risks were identified in eleven countries (see Debt Sustainability Monitor 2020).*

2021-22 government gross financing needs (GFN) are set to fall compared to the outbreak of the pandemic, as the crisis' effects subside, though remaining sizeable in some countries*. In 2021, aggregate GFN for the EU as a whole are estimated to have receded by some 3 pps. of GDP compared to 2020, being now estimated at around 19% of GDP (see section 1.2). According to the latest Commission autumn forecast 2021, liquidity pressures would further moderate in 2022 by some 3 pps. of GDP. Yet, in 2022, GFN would remain sizeable, at levels above the high-risk threshold in seven countries, including Italy, Spain, France, Belgium, Portugal, Hungary and Greece.*

The ECB's Pandemic emergency purchase programme (PEPP) and Asset purchase programmes (APP) have helped preserving favourable financing conditions for the euro area governments*. Looking at highly indebted countries, purchases of euro area government bonds through these programmes represented between some 30% of GFN in Italy, Belgium, France and Spain and around 50% in Greece to over 70% in Portugal and more than 100% in Cyprus in 2021. In 2022, Eurosystem asset purchases will continue, but they are expected to gradually wind down, reflecting the evolving assessment of the outlook, though they will remain significant. Additionally, NextGenerationEU should also contribute to favourable financing conditions for EU sovereigns, going forward.*

An analysis of the ease of (re-)financing government debt, based on different indicators of financial markets' perceptions of sovereign risk confirms the current favourable outlook*. Sovereign yield conditions have overall remained benign in the EU in 2021. The ECB indicator of sovereign bond markets' stress (SovCISS indicator) shows that stress temporarily surged following the onset of the COVID-19 pandemic, but is now subdued in euro area sovereign debt markets, with low divergence in trends. The EU average sovereign ratings are high and have not been adversely affected by the COVID-19 crisis.*

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

Still deteriorated public finances in 2021 and an aggravation of macroeconomic imbalances, as a result of the COVID-19 crisis, imply that short-term risks of fiscal stress are identified in few countries. Based on 2021 values, two countries had values of S0 above its critical threshold, signalling risk of fiscal stress in the upcoming year (see Box I.1.1 for a description of the S0 indicator). This concerns Greece and Cyprus (see Graph I.1.1). These results are driven by both fiscal and macro-financial variables. As a comparison, before the COVID-19 crisis, no EU country was deemed to be at short term risk of fiscal stress (see Debt Sustainability Monitor 2019).

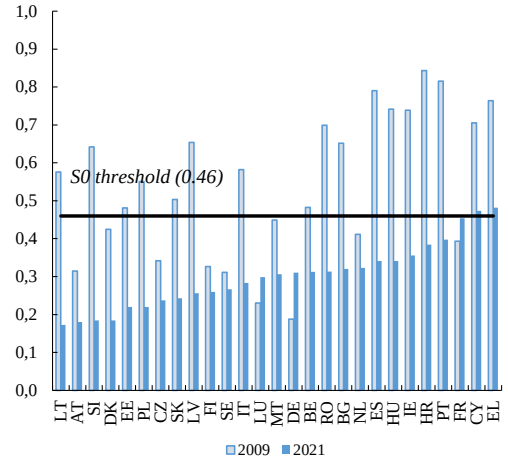
Nonetheless, the overall situation appears less critical than during the Global Financial Crisis, and improved compared with last year. In 2009, S0 flagged short-term risks of fiscal stress in as many as seventeen countries, notably due to severe macroeconomic imbalances. Last year, short-term fiscal risks were identified in eleven countries (see Debt Sustainability Monitor 2020). Moreover, the extraordinary monetary policy interventions put into place since March 2020, together with decisive EU actions, including the adoption of *NextGenerationEU* in 2020, ([40]) contributed to

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

stabilising sovereign financing conditions, lessening risks of short-term fiscal stress.

While there are no signs of a possible risk reassessment by markets, the S0 indicator identifies some vulnerabilities in the short-term, notably in countries with sizeable government gross financing needs and / or with aggravated macroeconomic imbalances (see more details below and in section 1.2.).

Graph I.1.1: **The S0 indicator for EU countries, 2009 and 2021**



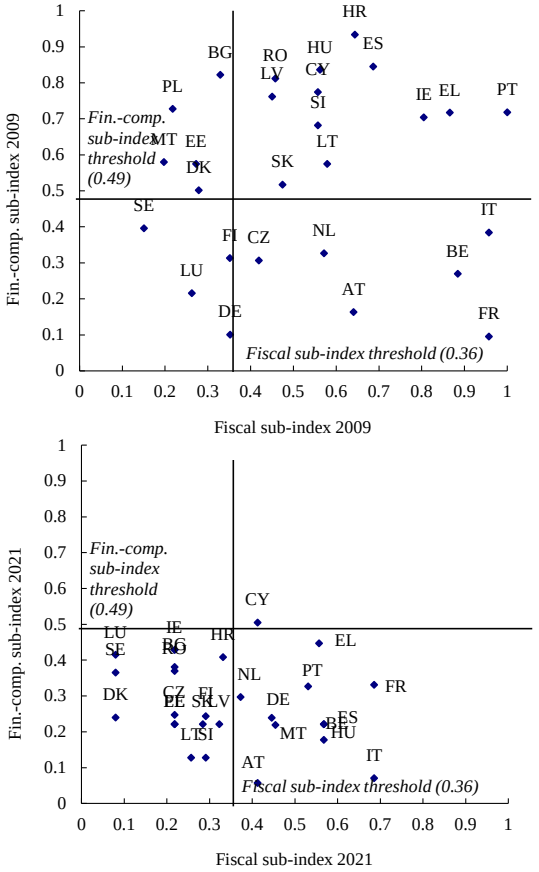
(1) For more methodological explanations, see Box I.1.1 and Berti et al. (2012) and Pamies Sumner and Berti (2017).
Source: Commission services.

The thematic sub-indices allow identifying significant vulnerabilities on the fiscal side in many countries. Based on 2021 data, vulnerabilities are clearly identified on the fiscal side in twelve Member States (see Graph I.1.2). Despite the economic recovery, this is explained by the continued discretionary fiscal measures to shelter households, workers and firms from the impact of the COVID-19 crisis (see Table I.1.1). In some Member States, deteriorated fiscal balances compound existing high levels of government debt (e.g. Greece, Italy, Portugal, Spain, France, Belgium and Cyprus). As a result, government gross financing needs were still large in some countries in 2021, also representing an important driver of identified risks (in particular, in Italy, Spain, France, Greece, Belgium and Hungary). ([41])

([41]) In Hungary, large financing needs also reflect the relative short average maturity of public debt compared to its European peers.

However, the lengthening of average debt maturities over the past years contributes to mitigate risks of fiscal stress, with a ratio of short-term debt (as a share of GDP) above its critical threshold only in few cases (Portugal, Italy and France). Moreover, despite the recent increase due to the Ukraine crisis, the still historically low level of market interest rates helps containing government interest payments and budgetary balances compared with the developments observed during the Global Financial Crisis in several countries.

Graph I.1.2: **Fiscal and financial-competitiveness sub-indices, 2009 and 2021**

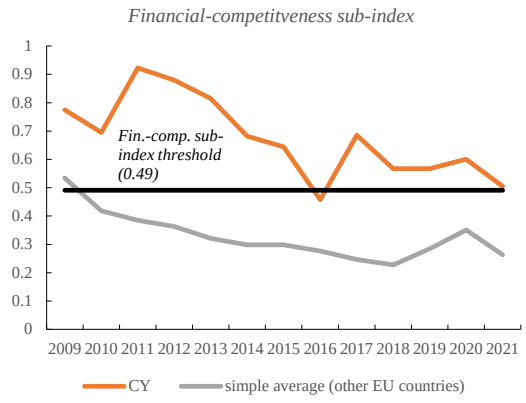


(1) For more methodological explanations, see Box I.1.1 and Berti et al. (2012) and Pamies Sumner and Berti (2017).
Source: Commission services.

The thematic sub-indices highlight limited additional vulnerabilities coming from the financial-competitiveness side, except in the case of Cyprus. This country is identified as facing high short-term risks stemming from the macro-financial side of the economy (a financial-

competitiveness sub-index above its critical threshold, see Graph I.1.2). The current account deficit, the large negative net international investment position, and the low level of households' saving rate contribute to this result, as well as some financial variables (short-term debt of households and , private debt, see Table I.1.2). In all other countries, the financial-competitiveness sub-index is below its critical threshold, suggesting overall sounder private and external positions compared with the situation observed in 2009 (see Graph I.1.2). ([42])

Graph I.1.3: **Financial-competitiveness sub-index since 2009, CY and (other) EU simple average**



Source: Commission services.

([42]) In few countries, the yield curve variable, considered in the S0 indicator (and financial-competitiveness sub-index) signals risks. However, this variable needs to be carefully interpreted at the current juncture, notably given the extraordinary monetary policy interventions that took place since March 2020.

Table I.1.1: **Fiscal variables used in the S0 indicator, 2021**

	Balance (%GDP)	Primary balance (%GDP)	Cycl. adj. balance (%GDP)	Stabil. primary balance (%GDP)	Gross debt (%GDP)	Change gross debt (%GDP)	Short-term debt (%GDP)	Net debt (%GDP)	Gross financing need (%GDP)	Interest growth rate diff.	Change expend. gen. govt (%GDP)	Change consumpt. gen. govt (%GDP)
BE	-7.8	-6.1	-7.0	-6.7	112.7	0.0	9.1	99.6	21.9	-6.5	-2.5	-0.5
BG	-3.6	-3.0	-3.0	-1.2	26.7	2.0	0.0	15.1	4.5	-5.2	0.4	-0.1
CZ	-7.0	-6.2	-5.5	-1.7	42.4	4.7	0.6	31.1	11.2	-4.9	0.1	-0.2
DK	-0.9	-0.2	0.4	-1.4	41.0	-1.1	9.0	15.8	8.6	-3.5	-1.2	0.5
DE	-6.5	-5.9	-4.9	-3.0	71.4	2.7	8.1	54.4	18.3	-4.6	1.4	0.0
EE	-3.1	-3.1	-2.6	-2.0	18.4	-0.6	1.7	5.8	2.5	-11.9	-2.4	-0.5
IE	-3.2	-2.4	-4.9	-6.5	55.6	-2.8	9.0	50.2	6.3	-12.8	-2.4	-0.9
EL	-9.9	-7.3	-7.1	-10.9	202.9	-3.4	12.1	:	22.4	-5.6	-1.9	-0.2
ES	-8.1	-5.9	-4.5	-4.8	120.6	0.6	8.9	104.5	24.7	-4.2	-1.6	-0.2
FR	-8.1	-6.9	-6.6	-6.8	114.6	-0.4	13.9	103.3	23.1	-6.3	-1.6	-0.6
HR	-4.1	-2.4	-3.4	-6.7	82.3	-5.0	5.4	:	13.0	-8.5	-3.3	-0.7
IT	-9.4	-5.9	-7.4	-7.3	154.4	-1.3	22.2	142.2	30.0	-5.0	-0.9	-0.8
CY	-4.9	-3.0	-4.7	-6.5	104.1	-11.3	7.5	63.2	3.8	-6.1	-0.2	0.4
LV	-9.5	-8.9	-8.4	-2.7	48.2	4.9	1.4	39.3	12.8	-6.8	4.5	1.7
LT	-4.1	-3.7	-4.0	-3.6	45.3	-1.3	0.2	42.3	6.3	-8.6	-1.7	0.6
LU	-0.2	0.0	0.6	-1.7	25.9	1.2	0.7	-1.3	3.3	-7.6	-2.6	-0.3
HU	-7.5	-5.1	-6.7	-6.5	79.2	-0.8	6.6	69.6	20.3	-9.2	-3.1	-0.5
MT	-11.1	-10.0	-8.8	-2.3	61.4	8.0	8.4	50.5	18.4	-4.6	1.2	1.1
NL	-5.3	-4.8	-4.4	-2.9	57.5	3.2	8.0	47.1	16.2	-5.6	0.1	0.5
AT	-5.9	-4.7	-4.1	-3.8	82.9	-0.3	7.5	61.9	13.5	-4.9	-2.1	-0.1
PL	-3.3	-2.2	-2.6	-4.0	54.7	-2.8	1.1	43.4	7.3	-7.7	-3.5	-0.3
PT	-4.5	-1.9	-2.6	-4.6	128.1	-7.0	22.5	121.8	15.0	-3.6	-0.3	0.0
RO	-8.0	-6.4	-6.9	-3.1	49.3	1.9	1.7	41.8	10.3	-7.2	-1.0	-0.8
SI	-7.2	-5.8	-7.7	-4.5	77.7	-2.1	2.0	50.2	15.3	-6.2	-0.4	0.1
SK	-7.3	-6.1	-6.3	-1.8	61.8	2.1	2.1	55.5	7.2	-3.1	2.0	0.3
FI	-3.8	-3.3	-2.7	-3.0	71.2	1.7	10.8	36.6	11.6	-4.5	-0.4	0.0
SE	-0.9	-0.8	0.2	-2.2	37.3	-2.3	12.2	9.7	7.0	-5.9	-1.6	-0.3
Threshold	-9.6	0.2	-2.5	2.3	68.4	8.1	13.2	59.5	15.9	4.8	1.9	0.6
Safety	>	>	>	<	<	<	<	<	<	<	<	<

Source: Commission services.

Table I.1.2: **Financial-competitiveness variables used in the S0 indicator, 2021**

	Yield curve (pps.)	Real GDP growth (%)	GDP per capita PPP (% US level)	L.Net Intern. Invest. Position (% GDP)	L.Net savings households (% GDP)	L.Private debt (% GDP)	L.Private credit flow (% GDP)	L.Short debt Non-fin. corp. (% GDP)	L.Short debt households (% GDP)	L.Construction (% value added)	L.Current account (% GDP)	L.Change real eff. exchange rate (pps.)	L.Change nom. Unit Labour Costs (pps.)
BE	0.7	6.0	83.6	44.4	8.0	194.4	1.1	35.2	1.4	5.5	0.1	1.2	7.5
BG	0.2	3.8	38.6	-26.3	:	94.3	4.2	12.7	1.6	4.9	0.8	3.6	20.4
CZ	0.3	3.0	64.9	-12.5	9.3	81.9	2.4	12.7	1.0	5.7	1.5	1.0	19.2
DK	0.4	4.3	94.4	68.8	2.8	220.9	4.8	34.3	2.6	6.1	8.1	5.6	6.2
DE	0.3	2.7	83.7	61.7	9.7	120.1	6.0	15.5	1.6	5.8	7.4	0.7	11.1
EE	0.7	9.0	62.1	-21.5	6.7	104.4	3.6	6.4	1.0	6.7	1.0	1.3	17.1
IE	0.8	14.6	162.5	-174.0	2.4	188.9	-1.8	20.5	0.5	2.2	-5.8	0.3	-6.3
EL	1.5	7.1	45.7	-175.0	-3.2	125.3	5.4	10.7	4.9	1.9	-3.7	-5.3	6.4
ES	1.0	4.6	59.8	-85.5	6.8	146.4	4.4	7.4	2.8	6.2	1.6	0.5	11.0
FR	0.8	6.5	74.0	-30.2	5.5	173.7	13.0	28.2	1.8	5.2	-1.0	0.4	4.6
HR	0.3	8.1	47.5	-47.8	4.8	98.0	1.3	4.8	3.0	6.1	1.6	-0.3	13.7
IT	1.5	6.2	66.9	2.4	6.5	118.9	4.1	12.7	2.5	4.4	3.2	1.6	5.5
CY	0.9	5.4	62.3	-136.7	1.2	260.5	-2.6	14.9	4.9	6.1	-6.6	1.0	5.8
LV	0.7	4.7	50.9	-34.7	5.6	66.5	-1.8	5.7	1.0	7.0	0.7	2.7	18.4
LT	0.7	5.0	61.9	-15.8	5.8	54.7	0.3	3.7	0.6	7.3	3.7	-0.9	18.3
LU	0.4	5.8	184.9	39.9	6.8	316.8	44.1	59.9	2.1	5.9	4.5	4.9	11.1
HU	1.7	7.4	53.7	-48.1	5.9	76.4	7.7	12.2	2.2	5.5	-0.7	-5.2	13.2
MT	1.2	5.0	67.9	60.3	:	139.1	9.0	11.7	2.9	4.6	3.0	4.0	19.7
NL	0.4	4.0	92.2	113.9	9.1	233.7	-1.3	35.7	1.9	5.4	9.1	-0.7	14.0
AT	0.6	4.4	86.8	9.3	8.5	131.2	4.7	9.6	2.1	7.0	1.6	0.0	12.2
PL	2.0	4.9	53.6	-44.5	4.2	75.9	1.5	6.6	1.9	7.2	0.7	2.7	12.3
PT	0.9	4.5	53.5	-106.4	2.3	163.7	4.4	13.5	2.4	4.8	0.0	-0.3	16.2
RO	2.7	7.0	51.7	-48.3	:	48.5	1.3	8.3	0.7	7.3	-4.9	2.2	26.1
SI	0.7	6.4	63.9	-15.2	9.7	69.7	-0.9	7.3	1.8	6.0	6.4	0.1	14.9
SK	0.7	3.8	49.8	-65.7	3.2	95.3	3.7	11.9	1.4	6.5	-1.8	-1.4	16.4
FI	0.6	3.4	78.8	-5.3	2.6	155.2	6.5	13.9	3.8	7.5	-0.4	-0.3	6.1
SE	0.5	3.9	85.4	16.4	9.1	215.7	11.6	37.6	16.0	6.7	4.6	-3.2	9.4
Threshold	0.6	-0.7	72.7	-19.8	2.6	164.7	11.7	15.4	2.9	7.5	-2.5	9.7	7.0
Safety	>	>	>	>	>	<	<	<	<	<	>	<	<

(1) Variable names preceded by L are taken in lagged values.
Source: Commission services.

1.2. SHORT-TERM GROSS FINANCING NEEDS

Among the S0 fiscal variables, government gross financing needs (GFN) are the strongest predictor of fiscal stress events. This property warrants a closer examination of GFN results, including this variable's definition (for the latter, see Box I.1.2).

The COVID-19 crisis put GFN at the core of short-term fiscal analysis. At the start of the pandemic, the large expected increase in governments gross financing needs emphasized the importance of estimating GFN in real time.

In 2020, gross financing needs of all EU governments soared as a result of the COVID-19 crisis. At EU/EA aggregate level, gross financing requirements increased by some 10 pps of GDP in 2020. This upsurge happened on the back of important fiscal stimulus and liquidity support governments provided to different economic agents, paired with the need to roll over large amounts of existing debt and the toll the recession took on growth. Specifically, government deficits and, in some cases, other net debt-creating flows widened as a result of automatic stabilisers and following discretionary measures to support firms and households during the pandemic.

In 2021 and 2022, GFN are set to fall compared to the outbreak of the pandemic, as the crisis' effects subside. In 2021, aggregate gross financing needs for the EU/EA are estimated to have receded by some 3 pps of GDP compared to 2020, being estimated at around 19/20% of GDP, respectively, against around 22 / 23% of GDP in 2020. According to the latest Commission autumn forecast 2021, liquidity pressures would further moderate in 2022 by some 3 pps. of GDP (see Table I.1.3).

A similar pattern is expected in most individual countries. In 2021, GFN are estimated to have visibly fallen compared to 2020 in most countries, in some cases with large drops comprised between 22 and 7 pps of GDP (CY, LT, PL, HR, EE, FI, SK, and HU). Only in a few countries (LV, EL, MT, NL and CZ), would 2021 GFN exceed their 2020 levels, but pressure should start correcting thereafter. Over 2021-22, GFN would (further) decline in most countries, except in PT, EE, CY and RO, where they would rebound by between 3.0 and 0.5 pps of GDP; in all the latter cases, 2022 GFN would remain, however, below their 2020 values (see Table I.1.3).

Table I.1.3: **Gross Financing Needs (% of GDP), (2019-2023), by country**

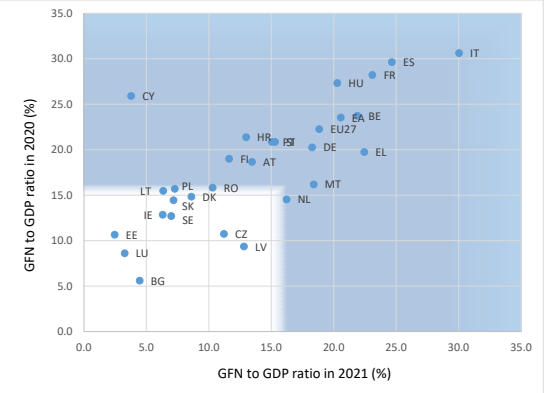
	2019	2020	2021	2022	2023
BE	15.6	23.7	21.9	19.8	19.9
DE	10.9	20.3	18.3	14.9	13.8
EE	1.3	10.6	2.5	4.1	3.3
IE	6.3	12.9	6.3	4.4	5.8
EL	16.3	19.7	22.4	17.8	15.1
ES	15.6	29.6	24.7	22.6	21.6
FR	16.6	28.2	23.1	20.6	19.4
IT	20.3	30.6	30.0	26.2	25.8
CY	5.8	25.9	3.8	5.1	5.8
LV	4.6	9.4	12.8	11.1	7.1
LT	6.1	15.5	6.3	5.2	7.8
LU	3.1	8.6	3.3	3.2	3.0
MT	5.4	16.2	18.4	13.4	13.1
NL	8.1	14.5	16.2	12.1	11.1
AT	8.7	18.7	13.5	10.7	9.9
PT	11.0	20.9	15.0	18.2	17.4
SI	6.9	20.9	15.3	14.3	14.3
SK	3.7	14.4	7.2	6.1	5.0
FI	7.4	19.0	11.6	10.0	9.7
EA	**13.7**	**23.5**	**20.6**	**17.7**	**16.9**
BG	1.0	5.6	4.5	2.9	2.7
CZ	5.3	10.8	11.2	9.4	9.3
DK	6.7	14.8	8.6	5.5	6.2
HR	14.0	21.4	13.0	12.2	12.2
HU	18.1	27.3	20.3	17.6	16.8
PL	4.6	15.7	7.3	6.5	6.6
RO	7.6	15.8	10.3	10.8	10.3
SE	5.5	12.7	7.0	5.3	3.5
EU27	**12.6**	**22.3**	**18.8**	**16.2**	**15.4**

(1) GFN estimates / forecasts are calculated as the sum of the budgetary deficit, redemption of main debt instruments (securities and loan principal repayments), as well as stock-flow adjustments. (2) For post-programme surveillance countries (such as EL, IE, CY and PT), figures take into account official loans' repayment schedule.
Source: Ameco, ECB, Eurostat, ECFIN desks.

Short-term GFN are estimated to have remained significant in 2021, at levels continuing to flash for nine EU countries. Concretely, in IT, ES, FR, EL, BE, HU, MT, DE and NL short-term GFN flag risks, with levels above the associated threshold. The highest estimated levels range between 30% of GDP in Italy and around 20% of GDP in Hungary, while more limited excesses of the threshold would be present in the NL, DE and MT, where GFN would

range between about 16% and 18% of GDP, respectively. In all of these countries with short-term GFN flashing in 2021, this variable was also close to or above the threshold in 2020 (see Graph I.1.4).

Graph I.1.4: **Short-term GFN (% of GDP) vis-a-vis threshold, 2020 and 2021, EU countries**



(1) GFN 2020 and 2021 figures are calculated as per Table 1 in Box I.1.2. The threshold of around 16% of GDP has been derived based on the signalling approach (see section 2.1).
(2) Blue quadrants depict countries where GFN exceeded this threshold in 2020 and /or 2021.
Source: Ameco, ECB, Eurostat, ECFIN desks.

Significant financing needs in 2021 derived in most cases from important debt redemptions and/or budget deficits, while stock-flow adjustments also played a role in some countries. As a result of the Covid-19 crisis, most governments accumulated large amounts of debt. In this context, the need to fund and roll over large(r) amounts of maturing debt (*debt redemptions*) weight on GFN, with debt redemptions representing important shares of GFN in many countries (CY, PT, SE, DK, SI, EL, HR, PL, ES, IT, FR, DE, AT, BE, HU, NL, LT and FI). Additionally, *headline budget deficits* continued in 2021 to contribute to GFN substantially, in nearly all EU countries except LU, SE and DK, where deficits were below 1% of GDP. This GFN component required significant funding especially for governments whose deficits were particularly sizeable in 2021 (MT, LV, IT, FR, ES, RO, BE, HU, SK, SI, and CZ where deficits ranged between around 10% and 7% of GDP). Not least, relatively larger *stock-flow adjustments* (SFA) were still estimated in 2021 for some countries, with either positive (debt-increasing) values exceeding 1 pp of GDP (in LU, IE, FI and NL) or negative (debt-reducing) values, comprised between close to -8 and around -1 pps of GDP (in CY, PT, SI, SK, RO, EE, LT, PL, LV and AT) (see Table I.1.4.). In many countries, SFA became more important in the context of the Covid-19 crisis, when governments granted substantial tax deferrals, increasing the importance of cash-accrual differences or when they have accumulated or drawn cash deposits (financial assets). ([43])

Table I.1.4: **Gross Financing Needs Components (% of GDP), 2021 estimations, by country**

	Budget Deficit	Maturing Debt	SFA	GFN
BE	7.8	13.5	0.6	21.9
DE	6.5	12.0	-0.2	18.3
EE	3.1	0.9	-1.6	2.5
IE	3.2	1.8	1.3	6.3
EL	9.9	12.3	0.2	22.4
ES	8.1	17.0	-0.4	24.7
FR	8.1	15.5	-0.5	23.1
IT	9.4	20.6	0.1	30.0
CY	4.9	6.6	-7.7	3.8
LV	9.5	4.5	-1.2	12.8
LT	4.1	3.6	-1.3	6.3
LU	0.2	0.2	2.9	3.3
MT	11.1	7.0	0.3	18.4
NL	5.3	9.7	1.2	16.2
AT	5.9	8.7	-1.1	13.5
PT	4.5	14.9	-4.3	15.0
SI	7.2	11.4	-3.3	15.3
SK	7.3	2.0	-2.1	7.2
FI	3.8	6.3	1.5	11.6
EA	**7.1**	**13.6**	**-0.2**	**20.6**
BG	3.6	0.6	0.2	4.5
CZ	7.0	3.9	0.3	11.2
DK	0.9	7.5	0.2	8.6
HR	4.1	9.3	-0.4	13.0
HU	7.5	12.2	0.6	20.3
PL	3.3	5.2	-1.2	7.3
RO	8.0	3.9	-1.6	10.3
SE	0.9	6.7	-0.5	7.0
EU-27	**6.6**	**12.4**	**-0.2**	**18.8**

(1) See notes to Table I.1.3 (2).
Source: Ameco, ECB, Eurostat, ECFIN desks.

In 2022, GFN should remain sizeable, at levels above the high-risk threshold in seven countries. GFN should remain above the threshold in 2022 in IT, ES, FR, BE, PT, HU and EL, being forecasted to exceed 20% of GDP in the first 3

([43]) In countries such as LU and FI, SFA have been regularly positive due to surpluses run by public pension funds (net acquisitions of financial assets) that cannot be used for central government financing. See Box I.2.3 for more information on these cases. For more details on SFA components of in a crisis, see Part II: Special issue 3. 'r-g' differentials: latest developments and implications for public debt sustainability.

countries (see Table I.1.3). They should remain sizeable as important deficits should persist in 2022, as well as significant debt amortizations falling due (see GFN breakdown graphs in the statistical country annexes). On the deficit side, budget deficit-to-GDP ratios are expected to remain high given increased permanent current expenditure in many countries, above the temporary emergency support deployed to tackle the COVID-19 crisis.

A close monitoring of financing needs and risks of financing gaps in real time remains key also in 2022. Such monitoring appears particularly warranted in the most vulnerable EU countries (high debt, high deficits), but is also relevant more in general, as long as the response to the pandemic still echoes, high uncertainties remain and given that the crisis' effects on countries' public finances will be long-lived.

GFN monitoring is important especially as the exceptional monetary policy support provided so far is expected to gradually wind down. Since the start of the Covid-19 crisis, the ECB's monetary policy actions and EU initiatives have contributed to stabilising sovereign financing conditions. In 2021, most governments continued to access markets relatively smoothly despite significant financing needs remaining (see Table I.1.5). The ECB's Pandemic emergency purchase programme (PEPP) and Asset purchase programmes (APP) have helped preserve favourable financing conditions for the euro area governments. Looking at highly indebted countries, purchases of euro area government bonds through these programmes ([44]) represented between some 30% of GFN in Italy, Belgium, France and Spain and around 50% in Greece to 74% in Portugal and over 100% in Cyprus in 2021 ([45]) (see Table I.1.5). In 2022, Eurosystem asset purchases should continue, but they are expected to gradually wind down, though they should remain significant (see Table I.1.5). Additionally, recent EU initiatives such as the NGEU/RRF should also contribute to favourable financing conditions for EU sovereigns, going forward (see thematic Chapter 1 for a discussion of the expected impacts of the NGEU/RRF).

([44]) These refer only to net asset purchases and so do not take into account reinvestments of maturing securities held by the Eurosystem.

([45]) While GFN refer to the financing needs in 2021, the eligible bonds that the Eurosystem could purchase under its asset purchase programmes included bonds issued in 2021 and bonds issued in previous years. Hence, a ratio above 100% is possible.

Table I.1.5: **Government GFN and possible total acquisitions of sovereign bonds by the Eurosystem, 2021 and 2022 estimates, by country**

	2021			2022		
	GFNs, EUR bn	Public sector asset purchases under APP and PEPP, EUR bn	Public sector asset purchases under APP and PEPP, % of GFNs 2021	GFNs, EUR bn	Expected public sector asset purchases under APP and PEPP, EUR	Expected Public sector asset purchases under APP and PEPP, % of
BE	108.0	33.1	31%	102.7	11.6	11%
DE	647.9	260.6	40%	566.9	84.0	15%
EE	0.7	0.2	24%	1.3	0.9	67%
IE	26.9	16.7	62%	20.2	5.4	27%
EL	39.7	18.6	47%	33.4	2.7	8%
ES	293.7	105.6	36%	289.1	38.0	13%
FR	571.1	187.1	33%	535.2	65.1	12%
IT	533.1	150.9	28%	491.6	54.2	11%
CY	0.9	1.8	205%	1.2	0.7	55%
LV	4.1	1.3	31%	3.8	1.2	32%
LT	3.4	1.8	51%	3.0	1.8	61%
LU	2.3	1.5	68%	2.4	1.1	44%
MT	2.6	0.4	14%	2.0	0.3	16%
NL	138.2	54.1	39%	108.3	18.7	17%
AT	54.3	27.0	50%	46.3	9.3	20%
PT	31.8	23.4	74%	41.2	7.5	18%
SI	7.8	4.3	55%	7.7	1.5	20%
SK	6.9	5.0	72%	6.5	3.7	56%
FI	28.9	19.6	68%	26.0	5.9	22%

(1) The cut-off date for this table is 16 December 2021. (2) These estimates are based on net asset purchases (excluding reinvestments) conducted under the Asset Purchase Programme (APP) and Pandemic Emergency Purchase Programme (PEPP). (3) GFN estimates are calculated as previously specified in this section. (4) 2021 net asset purchases under the APP are outturn data. 2021 net asset purchases under the PEPP are based on outturn data between December 2020 and November 2021 as the exact composition of PEPP purchases in December 2021 is not available. (5) The estimated asset purchases for 2022 do not include reinvestments. They are estimated based on the following assumptions: (i) net asset purchases under the APP will stand at a monthly pace of EUR 20bn in Q1, EUR 40bn in Q2, EUR 30bn in Q3 and EUR 20bn in Q4 (ii) net asset purchases under the PEPP will end at the end of March 2022 iii) in Q1 2022, net asset purchases under the PEPP are assumed to allow for a linear decrease in the pace of total net asset purchases (i.e. APP+PEPP) between the outturn pace observed in Q4 2021 and the expected pace of purchases in Q2 2022, which, according to the ECB's December monetary policy decisions, should stand at EUR 40bn per month. (6) Computations for possible Eurosystem purchases by country in 2022 also rely on the following additional assumptions: (i) the public sector purchase program (PSPP) would continue to represent 70% of the overall purchases under the APP, in line with the composition of asset purchases in previous years; (ii) public sector securities would account for 100% of purchases under the PEPP; iii) the government bonds and recognized agencies would make up for around 90% of the total pubic sector securities purchases under the APP and the PEPP, while securities issued by international organizations and multilateral development banks would account for the remaining 10%; (iv) the distribution of government bonds purchases is based on the ECB's capital key as of 1 January 2019, including for purchases under the PEPP, but Greek sovereign bonds are not eligible for purchases under the APP (7) In December 2021, the ECB decided that it would possibly use some flexibility in PEPP reinvestments, including for purchasing bonds issued by the Hellenic Republic above rollovers of redemptions in order to avoid an interruption of purchases in that jurisdiction. As the estimated purchases for 2022 do not take into account reinvestments, purchases of Greek sovereign bonds might be underestimated.
Source: Commission services, based on ECB data.

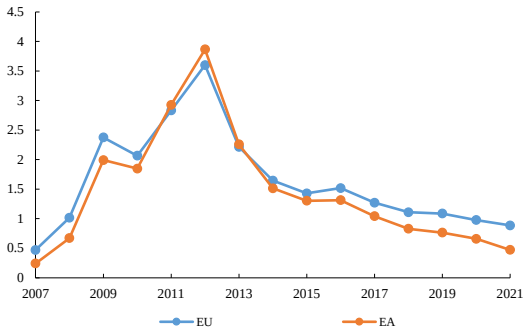
1.3. SOVEREIGN FINANCING CONDITIONS

This section provides an analysis of the ease of (re-)financing government debt, based on different indicators of financial markets' perceptions of sovereign risk. Such information complements debt projection based DSA results, notably to identify, early on, signs of sustainability risks over the short term. In practice, high frequency financial data allows monitoring emergence of potentially self-reinforcing adverse fiscal sustainability developments ([46]). While assessing the nature of such developments in real-time calls for caution, financial data provide an important source of information to monitor market's perception, a driver of short-term debt dynamics and, potentially, of self-reinforcing debt dynamics.

Sovereign yield conditions have remained overall benign in the EU, reflecting perceived creditworthiness, but also the low interest rate environment, notably supported by the accommodative monetary policy stance (see section 1.2). Low financing costs continue to contribute to mitigating rollover risks across the EU, which continues to post low sovereign yield spread development (see Chart I.1.5). However, some countries face higher financing costs (see Chart I.1.6), such as Romania. Other countries, such as Italy, which experienced some financial stress in 2018, have instead benefited from a moderation of spreads.

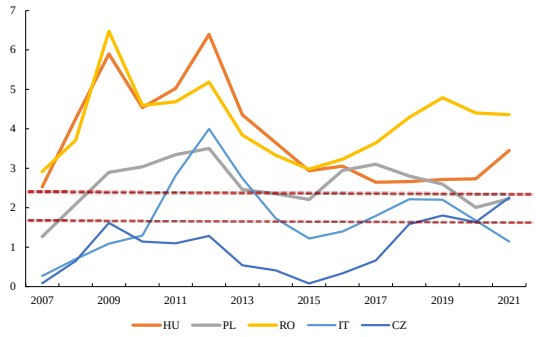
([46]) For discussion of the market expectations on sovereign debt default and risks of self-fulfilling crisis channel, see Calvo (1988). For an application of the EU sovereign crisis event see Miller and Zhang (2014).

Graph I.1.5: **10-year government bond yield spreads to the German bund - EU and EA aggregates**



(1) Yield spreads are as of September 2021.
(2) Aggregates represent unweighted averages.
Source: ECB LTIR database, Commission services.

Graph I.1.6: **10-year government bond yield spreads to the German bund - Selected countries**



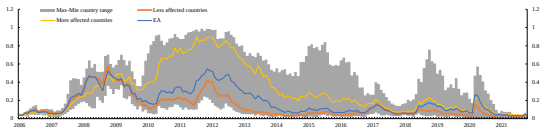
(1) Countries are those whose spreads are (or have recently been) above the lower risk threshold: 184.8 bps. Upper threshold: 231 bps.
Source: ECB LTIR database, Commission services.

The SovCISS indicator ([47]) shows that stress temporarily surged following the onset of the COVID-19 pandemic but is now subdued in euro area sovereign debt markets, while divergence in trends is low according to most recent data. This indicator of systemic stress for euro area sovereign bond markets continues to post a moderate average level and the gap between countries with the lowest and the highest score appears low, notably compared to the degree of

([47]) The SovCISS (Composite Indicator of Systemic Sovereign Stress) measures the level of stress in euro area sovereign bond markets, following the CISS (Composite Indicator of Systemic Stress) methodology developed in Hollo et al. (2012). In the SovCISS, stress symptoms are measured along three dimensions: (i) risk spreads; (ii) yield volatilities; and (iii) bid-ask spreads. For details, see Garcia-de-Andoain and Kremer (2018).

divergence seen by the end of 2017 (see Chart I.1.7). At the country level, notable developments include a decline in the indicator for Italy following a peak in October 2018. The increase in the gap between the minimum and the maximum (i.e. the country range) seen during the COVID outbreak was driven by a temporary surge in the indicator in March 2020, which affected countries to a different extent.

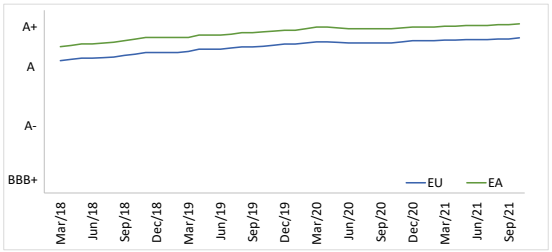
Graph I.1.7: **Composite indicator of Systemic Stress (SovCISS) in euro area sovereign bond markets**



(1) The SovCISS focuses on stress in sovereign bond markets. It is available for the euro area and for 11 euro area countries (AT, BE, FI, FR, DE, EL, IE, IT, NL, PT, ES). Countries more affected by the crisis include EL, IE, IT, PT, ES. Less affected countries include AT, BE, FI, FR, DE, NL.
Source: ECB, Commission services.

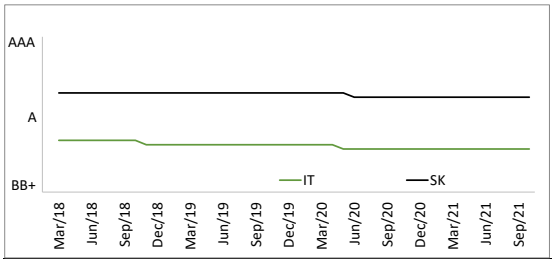
The EU and EA average sovereign ratings are high and have not been adversely affected by the COVID-19 crisis (see Graph I.1.8). This reflects stable or improving ratings in most countries, with some exceptions, with Italy and Slovakia posting relatively recent ratings deterioration (see Graph I.1.9, Graph I.1.10, and Table I.1.6).

Graph I.1.8: **Sovereign debt ratings - EU and EA aggregates**



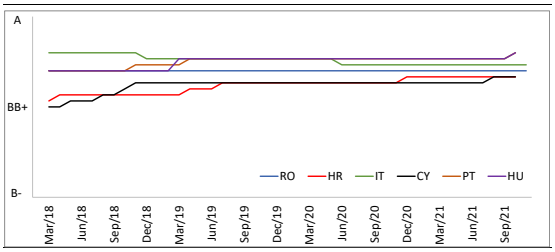
(1) Ratings are computed as simple average (using an alphanumeric conversion table) of long-term foreign currency ratings, assigned by the major rating agencies.
Source: Commission services, based on Bloomberg data.

Graph I.1.9: **Countries posting a recent rating deterioration**



(1) Ratings are computed as simple average (using an alphanumeric conversion table) of long-term foreign currency ratings, assigned by the major rating agencies.
Source: Commission services, based on Bloomberg data.

Graph I.1.10: **Countries with the lowest ratings as of January 2021**



(1) Ratings are computed as simple average (using an alphanumeric conversion table) of long-term foreign currency ratings, assigned by the major rating agencies.
Source: Commission services, based on Bloomberg data.

In sum, markets' perception of EU sovereign risks remains overall benign, contributing to favourable short-term debt dynamics. However, a premature withdrawal of fiscal support, also with respect to other large economies, or a departure from the commitment to preserve fiscal sustainability in the medium term may expose the fiscal sustainability risks identified in the short-term for a number of countries.

Table I.1.6: **Long-term foreign currency sovereign ratings (at November 2, 2021)**

	Moody's			S&P			Fitch		
	Rating	Since	Outlook	Rating	Since	Outlook	Rating	Since	Outlook
Euro area MS									
AT	Aa1	24/06/2016	STABLE	AA+	13/01/2012	STABLE	AA+	13/02/2015	STABLE
BE	Aa3	16/12/2011	STABLE	Aau	13/01/2012	STABLE	AA-	23/12/2016	STABLE
CY	Ba1	23/07/2021	STABLE	BBB-	14/09/2018	POS	BBB-	19/10/2018	STABLE
EE	A1	23/04/2009	STABLE	AA-	13/01/2012	POS	AA-	05/10/2018	STABLE
FI	Aa1	03/06/2016	STABLE	AA+	10/10/2014	STABLE	AA+	11/03/2016	STABLE
FR	Aa2u	18/09/2015	STABLE	AAu	08/11/2013	STABLE	AA	12/12/2014	NEG
DE	Aaau	05/07/2000	STABLE	AAAu	13/01/2012	STABLE	AAA	10/08/1994	STABLE
EL	Ba3	06/11/2020	STABLE	BB	23/04/2021	POS	BB-	24/01/2020	STABLE
IE	A2	15/09/2017	POS	AA-	29/11/2019	STABLE	A+	15/12/2017	STABLE
IT	Baa3u	19/10/2018	STABLE	BBBu	27/10/2017	POS	BBB-	28/04/2020	STABLE
LV	A3	13/02/2015	STABLE	A+	21/02/2020	STABLE	A-	20/06/2014	STABLE
LT	A2	12/02/2021	STABLE	A+	21/02/2020	STABLE	A	31/01/2020	STABLE
LU	Aaa	20/09/1989	STABLE	AAA	13/01/2012	STABLE	AAA	10/08/1994	STABLE
MT	A2	19/07/2019	NEG	A-	14/10/2016	STABLE	A+	11/08/2017	STABLE
NL	Aaau	20/07/1999	STABLE	AAAu	20/11/2015	STABLE	AAA	10/08/1994	STABLE
PT	Baa2	17/09/2021	STABLE	BBBu	15/03/2019	STABLE	BBB	15/12/2017	STABLE
SK	A2	13/02/2012	STABLE	A+	31/07/2015	STABLE	A	08/05/2020	STABLE
SI	A3	02/10/2020	STABLE	AA-	14/06/2019	STABLE	A	19/07/2019	STABLE
ES	Baa1	13/04/2018	STABLE	Au	20/09/2019	NEG	A-	19/01/2018	STABLE
Non-euro area MS									
BG	Baa1	09/10/2020	STABLE	BBB-	29/11/2019	STABLE	BBB	01/12/2017	POS
HR	Ba1	13/11/2020	STABLE	BBB-	22/03/2019	STABLE	BBB-	07/06/2019	STABLE
CZ	Aa3	04/10/2019	STABLE	AA-	24/08/2011	STABLE	AA-	03/08/2018	STABLE
DK	Aaau	23/08/1999	STABLE	AAAu	27/02/2001	STABLE	AAA	10/11/2003	STABLE
HU	Baa2	24/09/2021	STABLE	BBB	15/02/2019	STABLE	BBB	22/02/2019	STABLE
PL	A2	12/11/2002	STABLE	A-	12/10/2018	STABLE	A-	18/01/2007	STABLE
RO	Baa3	06/10/2006	STABLE	BBB-	16/05/2014	STABLE	BBB-	04/07/2011	NEG
SE	Aaa	04/04/2002	STABLE	AAAu	23/01/2014	STABLE	AAA	08/03/2004	STABLE

Source: Commission services, based on Bloomberg data.

Box I.1.1: **S0 indicator: conceptual elements**

The S0 indicator allows an identification of risks of potential fiscal stress in the upcoming year, based on a number of fiscal and structural variables. S0 is more precisely an early - detection indicator of fiscal stress over a one year horizon (Berti et al., 2012). Fiscal stress designates situations ranging from a credit event, a request of large official financing, to an implicit domestic government default (when high inflation) and a loss of market confidence (the latter has been the most common situation of fiscal stress during the global financial crisis in the case of European countries, see Pamies Sumner and Berti, 2017).

The S0 indicator is a composite indicator of fiscal stress stemming from fiscal variables and structural features of the economy. It is based on a wide range of variables that have proven to perform well in the past in detecting situations of upcoming fiscal stress. Thus, unlike the traditional medium- and long-term fiscal sustainability indicators (the S1 and S2 indicators presented in Chapters 2 and 3), the S0 indicator is not a fiscal gap indicator (i.e. it does not quantify the required fiscal adjustment to ensure sustainable public finances over a specific time horizon). The S0 indicator is neither a financial markets' based indicator of sovereign risk (see section 2.3 for an analysis of the latter).

More precisely, the measurement of S0 is based on 25 fiscal and financial-competitiveness variables. Table 1 provides the list of the 12 fiscal and 13 financial-competitiveness variables that are used to construct the S0 indicator. This reflects the existing rich evidence, also from recent experience in the EU, of the role played by developments in the financial sector and the competitiveness of the economy in generating fiscal risks (Cerovic et al., 2018; Pamies Sumner and Berti, 2017; Bruns and Poghosyan, 2016; Berti et al., 2012).

The S0 indicator is computed based on an empirical method, the so-called signalling approach. This method involves setting out endogenously critical risk thresholds, by analysing the behaviour of a large number of variables ahead of past fiscal stress events. More precisely, these critical thresholds are determined for each individual variable entering the S0 indicator, by minimising the proportion of missed crises and false alarms (or by maximising the 'signalling power'). Then, S0 is computed as the weighted proportion of variables that have reached their critical thresholds, with weights given by their 'signalling power', and the critical threshold for S0 itself endogenously derived. The same method applies for the two thematic sub-indices that reflect either the fiscal or the financial-competitiveness sides of the economy. The higher the proportion of individual variables with values at or above their specific threshold, the higher the value of S0 (and the sub-indices). The predictive performance of the S0 indicator fares well compared to other studies (Cerovic et al., 2018).

S0's identification of short-term fiscal risks is threefold. First, S0 is a measure of overall short-term risks to fiscal sustainability. Secondly, the fiscal and financial-competitiveness sub-indices help identifying vulnerabilities coming from one of the two thematic areas, though not necessarily at the aggregate level. Additionally, they also give insights into specific areas for those countries where high values of S0 already flag overall sustainability risks. Finally, individual variables of S0 allow for identifying specific sources of vulnerability. Overall, this detailed identification of sources of short-term fiscal risk enables identifying precise areas calling for policy action at the Member State and/or the Union level.

(Continued on the next page)

Box (continued)

Table 1: **Thresholds and signalling power of S0 indicator, fiscal and financial-competitiveness sub-indices and individual variables**

Variables	safety	threshold	signaling power	type I error	type II error	crisis number	no-crisis number
Balance, % GDP	>	-9.61	0.07	0.04	0.89	44	1080
Primary balance, % GDP	>	0.23	0.13	0.47	0.40	43	1058
Cyclically adjusted balance, % GDP	>	-2.50	0.23	0.52	0.25	40	981
Stabilizing primary balance, % GDP	<	2.34	0.08	0.13	0.79	38	983
Gross debt, % GDP	<	68.44	0.12	0.23	0.65	40	1047
Change in gross debt, % GDP	<	8.06	0.12	0.06	0.82	39	1018
Short-term debt gen. gov., % GDP	<	13.20	0.20	0.14	0.67	21	430
Net debt, % GDP	<	59.51	0.20	0.18	0.62	26	586
Gross financing need, % GDP	<	15.95	0.26	0.24	0.50	26	621
Interest rate-growth rate differential	<	4.80	0.08	0.11	0.82	38	977
Change in expenditure of gen. government, % GDP	<	1.90	0.11	0.13	0.76	41	1051
Change in final consumption expend. of gen. governm	<	0.61	0.07	0.17	0.76	38	972
Fiscal index	<	0.36	0.28	0.30	0.42	45	1083
L1.net international investment position, % GDP	>	-19.80	0.29	0.47	0.24	25	500
L1.net savings of households, % GDP	>	2.61	0.33	0.42	0.25	28	699
L1.private sector debt, % GDP	<	164.70	0.18	0.22	0.60	20	418
L1.private sector credit flow, % GDP	<	11.70	0.37	0.28	0.35	20	409
L1.short-term debt, non-financial corporations, %	<	15.40	0.20	0.54	0.26	19	403
L1.short-term debt, households, % GDP	<	2.90	0.21	0.52	0.26	19	403
L1.construction, % value added	<	7.46	0.22	0.27	0.51	43	1006
L1.current account, 3-year backward MA, % GDP	>	-2.50	0.34	0.35	0.31	42	983
L1.change (3 years) of real eff. exchange rate, based or	<	9.67	0.11	0.18	0.71	24	460
L1.change (3 years) in nominal unit labour costs	<	7.00	0.18	0.64	0.18	38	967
Yield curve	>	0.59	0.37	0.34	0.29	35	813
Real GDP growth	>	-0.67	0.10	0.09	0.81	48	1124
GDP per capita in PPP, % of US level	>	72.70	0.22	0.44	0.33	51	1129
Financial-competitiveness index	<	0.49	0.55	0.32	0.13	52	1158
Overall index	<	0.46	0.55	0.22	0.23	52	1158

(1) Variable names preceded by L1 are taken in lagged value. (2) The signalling power is defined as (1 - type I error - type II error). See Annex A4 for more details.
Source: Commission services.

The interpretation of risk assessment results based on the S0 analysis should be made with some caution:

– First, although the framework described above is rather comprehensive, additional dimensions that are relevant for the analysis of short-term sustainability risks are necessarily left aside. For instance, factors of a more qualitative nature or variables for which data availability is limited are not reflected by S0.

– Then, the S0 indicator is based on yearly outturn values of the different variables. This reflects the fiscal stress identification approach underpinning the S0 indicator (whereby the build-up of fiscal and structural imbalances in the past and current years can lead to fiscal stress in the next year). While it allows complementing the traditional forward-looking perspective of the DSA, it can present some limitations in cases where real-time or foreseen developments change rapidly. ([1])

– Last, a high short-term risk signal, as highlighted by S0, does not mean that fiscal stress is inevitable (it is not a prediction), but rather that there are significant vulnerabilities that need to be addressed by appropriate policy responses.

Hence, a broader analysis of country-specific contexts should supplement the interpretation of S0 results.

([1]) For example, the announcement of the NGEU/RRF is deemed to have contributed to mitigate short-term risks, while not being fully reflected yet in outturn data.

Box I.1.2: Gross financing needs (GFN): Definition and measurement

While debt stock indicators capture *solvency* risks, GFN is primarily a flow concept informing mainly about the liquidity of government finances in the short to medium term ([1]). A given debt stock may be associated to very different schedules of repayment flows and thus financing needs, depending on the specific borrowing terms, such as term-to-maturity structure, amortisation schedules for principal and interest. GFN are usually defined as the flow of payment or financing obligations the government faces to service its debt and cover its budget deficit, if any, over the next period:

$$GFN = Headline\ deficit + Debt\ redemptions + SFA$$

or

$$GFN = Primary\ deficit + Interest\ payments + Debt\ redemptions + SFA$$

To capture additional changes in a government's balance sheet, such as those that affect gross government debt, but do not affect the budget deficit, stock-flow adjustments (SFA) also enter the GFN formula. SFA are net debt-creating flows that comprise three categories: *i) Other debt creating / reducing flows (ODF),* essentially 'below the line' items (not affecting the deficit) constituting a net acquisition of financial assets *([2]), ii) the cash-accrual difference ([3]) to the ESA fiscal deficit, since the latter is* accounted on an accrual basis and *iii) other adjustments and discrepancies ([4]).*

GFN may be measured using different data sources and approaches, in both backward- and forward-looking manner. Contrary to government debt, which is an indicator well defined in the EU and measured by national statisticians using harmonised definitions set by Eurostat, GFN is an indicator built for practical or analytical purposes, which falls outside of the scope of government finance statistics ([5]). For outturn data, such as the GFN used under S0, different sources exist to estimate GFN components, among them national statistical institutes (NSIs), national central banks (NCBs), national authorities (ministries), debt management offices (DMOs) or large data providers such as Bloomberg. For forward-looking data, a few institutions provide GFN projections, among them the European Commission and the IMF ([6]).

Therefore, GFN are versatile metrics, useful for a variety of analytical purposes. GFN estimates are a particularly valuable concept in the case of programme countries or more generally in a crisis context, to define accurately the financing requirements and the necessary sources to cover those needs, including when calibrating the size of

([1]) GFN's mixed nature notably in terms of potential adjustments from contingent liabilities' realizations or variation of assets makes it also informative about solvency-related risks.

([2]) Examples: *i)* cash / deposits (e.g. accumulation/draw-down), *ii)* equity (nationalisation/privatisation, below-the-line financial sector recapitalisations), *iii)* other financial assets (e.g. participation in a common financial instrument at EU level).

([3]) The cash-accrual adjustment (or difference) to the ESA fiscal deficit commonly includes *i)* the difference between interest paid (+) and accrued (-), e.g. deferred interest payments on certain (official) loans, *ii)* changes in accounts payable (e.g. tax refunds not yet settled, trade credits granted by government suppliers, grants received from the EU but not yet paid to the final beneficiary, prepayments for mobile phone licences) or *iii)* accounts receivable (e.g. tax receivable, military receivable, revenue from EU (structural) funds that is not yet received / disbursed, healthcare expenditure claw-back) or changes in arrears or clearance of called guarantees (applicable for instance when called guarantees accrue to year t, but will be paid only in the subsequent year(s)).

([4]) include valuation effects, statistical discrepancies and other changes in volumes due to reclassification of units, all of which affect debt (and gross financing needs) ex-post.

([5]) See for example Eurostat, ESA 2010, "Chapter 20 – The government accounts", where no mention is made of this indicator.

([6]) The ESM (Gabriele et al. 2017) and the ECB (2017) also provided outturn estimations.

(Continued on the next page)

Box (continued)

the programme. They are also useful in regular fiscal surveillance to monitor potential market roll-over risks in the short to medium term.

International institutions and creditors are paying increased attention to GFN in their appraisal of fiscal risks. The same institution may use multiple GFN definitions, depending on the analytical purpose. Different financial instruments may be considered under the universe of GFN. Experts generally agree that a broader definition of GFN flows, mirroring the components of Maastricht debt stocks, seems appropriate. Such a definition would include currency and deposits, debt securities and loans, but the scope may vary depending on the purpose of the analysis.

In the European Commission's Fiscal Sustainability Reports and Debt Sustainability Monitors, GFN are regularly examined in the short- and medium-term fiscal sustainability sections. For the medium-term, chapter 3.3 shows GFN projections up to T+10.

Similarly to the DSM 2020, for the purpose of short-term analysis performed through S0, GFN are gauged like the medium-term measure, to evaluate all liquidity pressures EU countries are currently facing (see Table 1). Specifically, to reflect all needs that require market financing, short-term GFN are computed to include the redemption of all loans (official and commercial) reaching maturity, as well as other net debt-creating flows (stock-flow adjustments).

Table 1: **GFN definition - Components and debt instruments included**

GFN Components	Balance sheet items (liabilities) under government debt	Components and debt instruments included in the GFN definition
Budget (Headline) deficit		x
Maturing Debt	Currency and deposits	
	Debt securities	x
	Commercial loans	x
	Official loans	x
Stock-flow adjustments flows (SFA)		x

(1) Similarly to the DSM 2020, in this report, short and medium-term GFN are calculated in the same way, based on the definition previously used for medium-term GFN (see DSM 2019). (2) Consolidated data. (3) SFA are defined as described in the text.
Source: Commission services.

Looking ahead, a few approaches could help improve GFN estimates. Improved practices such as monitoring fiscal deficits in cash terms, identifying more accurately other debt creating / reducing flows of the stock-flow adjustment (SFA), and cooperating with national DMOs to follow more closely debt redemption and issuance plans could significantly improve GFN estimates, in real time.