

Appendix

A1. Examples of division in sub-recommendations for the coding of CSRs

To provide an example of division of recommendations in sub-recommendations we use the first recommendation given to Belgium in 2019. The entire recommendation, which constitutes a single paragraph of text in the document, reads as follows:

“Ensure that the nominal growth rate of net primary government expenditure does not exceed 1,6 % in 2020, corresponding to an annual structural adjustment of 0,6 % of GDP. Use windfall gains to accelerate the reduction of the general government debt ratio. Continue reforms to ensure the fiscal sustainability of the long-term care and pension systems, including by limiting early exit possibilities from the labour market. Improve the composition and efficiency of public spending, in particular through spending reviews, and the coordination of fiscal policies by all levels of government to create room for public investment.”

It is evident that this is not *one* recommendation strictly speaking, as there are multiple policy prescriptions contained in the paragraph. The Commission itself, in the database of all CSRs that it maintains, splits recommendations and even assigns a specific “policy area” to each sub-unit (which we call sub-recommendation). The recommendation above, in particular, is divided into six sub-recommendations as follows:

Table A1.1: Example of division of recommendation in sub-recommendations (Belgium CSRs, 2019)

<i>Sub-recommendation</i>	<i>Policy area</i>
“Ensure that the nominal growth rate of net primary government expenditure does not exceed 1,6 % in 2020, corresponding to an annual structural adjustment of 0,6 % of GDP.”	Fiscal policy & fiscal governance
“Use windfall gains to accelerate the reduction of the general government debt ratio.”	Fiscal policy & fiscal governance
“Continue reforms to ensure the fiscal sustainability of the long-term care”	Long-term sustainability of public finances, inc. pensions
“and pension systems, including by limiting early exit possibilities from the labour market.”	Long-term sustainability of public finances, inc. pensions
“Improve the composition and efficiency of public spending, in particular through spending reviews,”	Fiscal policy & fiscal governance

“and the coordination of fiscal policies by all levels of government to create room for public investment.”	Fiscal policy & fiscal governance
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A2. Examples of coding

The six pillars, as indicated by the European Commission in Regulation 2021/241, were defined as follows:

1. green transition;
2. digital transformation;
3. smart, sustainable and inclusive growth, including economic cohesion, jobs, productivity, competitiveness, research, development and innovation, and a well-functioning internal market with strong small and medium enterprises (SMEs);
4. social and territorial cohesion;
5. health, and economic, social and institutional resilience with the aim of, inter alia, increasing crisis preparedness and crisis response capacity;
6. policies for the next generation, children and the youth, such as education and skills.

Our coding strategy involved the systematic categorization of sub-recommendations, reforms, and expenditure components into distinct policy areas, each aligned with the most pertinent pillar. We took as a reference the official scoreboard of the European Commission, which contains indications on the policy areas covered by each pillar. The categorization of policy areas across the six pillars can be found in the “Thematic Analyses” section.¹ Another source that was used was the Annex of the Commission Delegated Regulation (EU) 2021/2106 of 28 September 2021.² Adopting this coding system streamlined alignment with the Commission's logic.

When documents refer to the green transition, whether they pertain to improving mobility infrastructure, rationalizing resource utilization (e.g., water management, biodiversity preservation, soil conservation), mitigating emissions, or the implementation of eco-friendly taxation schemes, they squarely fall within the purview of the **first pillar**.

¹ https://ec.europa.eu/economy_finance/recovery-and-resilience-scoreboard/thematic_analysis.html?lang=en

² https://eur-lex.europa.eu/legal-content/EN/TXT/?toc=OJ%3AL%3A2021%3A429%3ATOC&uri=uriserv%3AOJ.L_2021.429_01.0083.01.ENG

On the other hand, interventions aimed at establishing digital infrastructures, fostering institutional and industrial digitalization, or advancing digital technology development have been systematically grouped within the **second pillar**.

Reforms and investments addressing economic issues and growth, including efforts to strengthen competition, improve the business environment, help small and medium enterprises, stimulate private investments, as well as initiatives related to Research and Innovation and interventions concerning Culture and Creative Industries, were consistently categorized under the **third pillar**.

In the **fourth pillar** we included a broad spectrum of interventions in social protection policy. This includes measures to promote equality, initiatives for improved regional governance, interventions to strengthen local communities, support for employment and job creation, and enhancement of adult learning and skills. We categorized (also) under the fourth pillar all measures that referred to ‘taking into account regional disparities.’”

Under the **fifth pillar** we coded measures pertaining to healthcare and long-term care. Following the logic of the Commission, we have included in this pillar actions aimed at strengthening anti-corruption and anti-fraud laws, interventions focused on improving the rule of law, and the modernization of public administration, with particular attention to the delivery of public services.

Finally, initiatives oriented toward nurturing the prospects of future generations, including the development of educational infrastructure and the streamlining of educational pathways, find their place within the **sixth pillar**.

As is obvious, some texts are difficult to categorize within a single pillar. Consider, for instance, the 2019 sub-recommendation directed at Croatia, which urged the country to “Reduce the duration of court proceedings and improve electronic communication in courts”. Such a recommendation does not clearly pertain to one pillar only. In this case, we coded the sub-recommendation under both pillar two and pillar five (Judicial system digitalization = 2; Judicial system improvement = 5).

A2.1. Sub-recommendations

The first items to be coded were the country-specific recommendations produced between 2019 and 2020. Once downloaded from the website, no further data management efforts were required since the recommendations were already divided into sub-recommendations. To code these documents, we naturally

relied on the text of the sub-recommendation and the policy area identified by the Commission. Below are some examples.

Table A2.1: Examples of coding recommendations into pillars

Country	Sub-recommendation	Policy area	Pillar
Czechia	“Support small and medium-sized enterprises by making greater use of financial instruments to ensure liquidity support”	Access to finance; Financial services	3
Latvia	“Provide adequate income support to the groups most affected by the crisis”	Unemployment benefits	4
Sweden	“and support education and skills development.”	Skills & life-long learning; Education	4; 6
Croatia	“Energy efficiency, renewables and environmental infrastructure, taking into account regional disparities.”	Energy, resources & climate change	1; 4
Finland	“Strengthen the resilience of the health system”	Long-term sustainability of public finances, inc. pensions	5
Portugal	“Improve the skills level of the population, in particular their digital literacy, including by making adult learning more relevant to the needs of the labour market.”	Skills & life-long learning	2; 4
Ireland	“Use windfall gains to accelerate the reduction of the general government debt ratio.”	Fiscal policy & fiscal governance	5
Spain	“Reduce early school leaving”	Education	6
Spain	“Enhance the effectiveness of policies supporting research and innovation.”	Research & innovation	3

A2.2. RRP’s expenditure components

The expenditure components (that we also call “investments” in the paper) constitute the primary expenditure categories within the RRP. In certain documents, these components are further divided into sub-components. Regrettably, not all member states have classified these expenditure components using headings that clearly refer to the six pillars outlined in the EU regulation. In order to categorize expenditures in the pillars, we used the component’s title, the descriptions provided in the briefings, and, when available, the textual content and descriptions of the sub-components. Whenever sub-components are present, they are treated as single units; when they are absent, only the components are coded. We present some coding examples below:

Table A2.2: Examples of codification of components into the six pillars.

Country	Component	Sub-component	Pillar
Austria	M3 Knowledge based recovery	M3C4 Strategic innovation	3
Germany	M6 Modern public administration and reduction of barriers to investment	M6C2 Reduction of barriers to investment	3
Poland	M5 Green, smart mobility	M5C2 Enhancing transport accessibility and digitalisation as well as its safety and security	1; 2
Greece	M3 Employment, skills and social cohesion	M3C2 Education, vocational education, training and skill	4; 6
Romania	M5 Health and economic and social resilience	M5C1 Healthcare	5
Austria	M1: Sustainable recovery	M1C2 Eco-friendly mobility	1
Czechia	M3 Education and labour market	M3C1 Innovation in education in the context of digitalisation	2; 6
Latvia	M3 Reducing disparities		4
Slovenia	M3 Smart, sustainable and inclusive growth	M3C6 Efficient public institutions	5
Sweden	M4 Broadband expansion and digitalisation of public administration		2

A2.3. RRP's reforms

By “reforms”, we mean all the reforms delineated in the countries’ plans. After extracting these reforms from the annexes, we organized them based on their respective components and sub-components, where applicable. Following this categorization process, which took into account the reform titles and concise descriptions provided in the annexes, we systematically allocated the reforms to the most appropriate pillar(s). A few illustrative examples are presented below.

Table A2.3: Examples of codification of reforms into the six pillars.

Country	Component	Text	Pillar
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Austria	M4 – Just recovery	Liberalisation of business regulations	3
Bulgaria	M1 – Innovative Bulgaria	Reform in preschool and school education and lifelong learning	4; 6
Croatia	M5 – Health	eHealth	2; 5
Czechia	M2 – Physical infrastructure and green transition	Amendment to the Water Management Act	1
Denmark	M6 – Digitalisation	Digital strategy	2
Latvia	M3 – Reducing disparities	Access to social and employment services in support of the minimum income reform	4
Poland	M6 – Improving the quality of institutions and the conditions for the implementation of the RRP	Improving the conditions for the implementation of the RRP	5
Slovakia	M5 – Efficient public administration and digitalisation	Harmonising and digitalising insolvency procedures	2; 5
Spain	M5 – Modernisation and digitalisation of the industrial and SME fabric, restoring tourism and boosting Spain's entrepreneurial nation	Improving business regulation and climate	3

A3. Figures

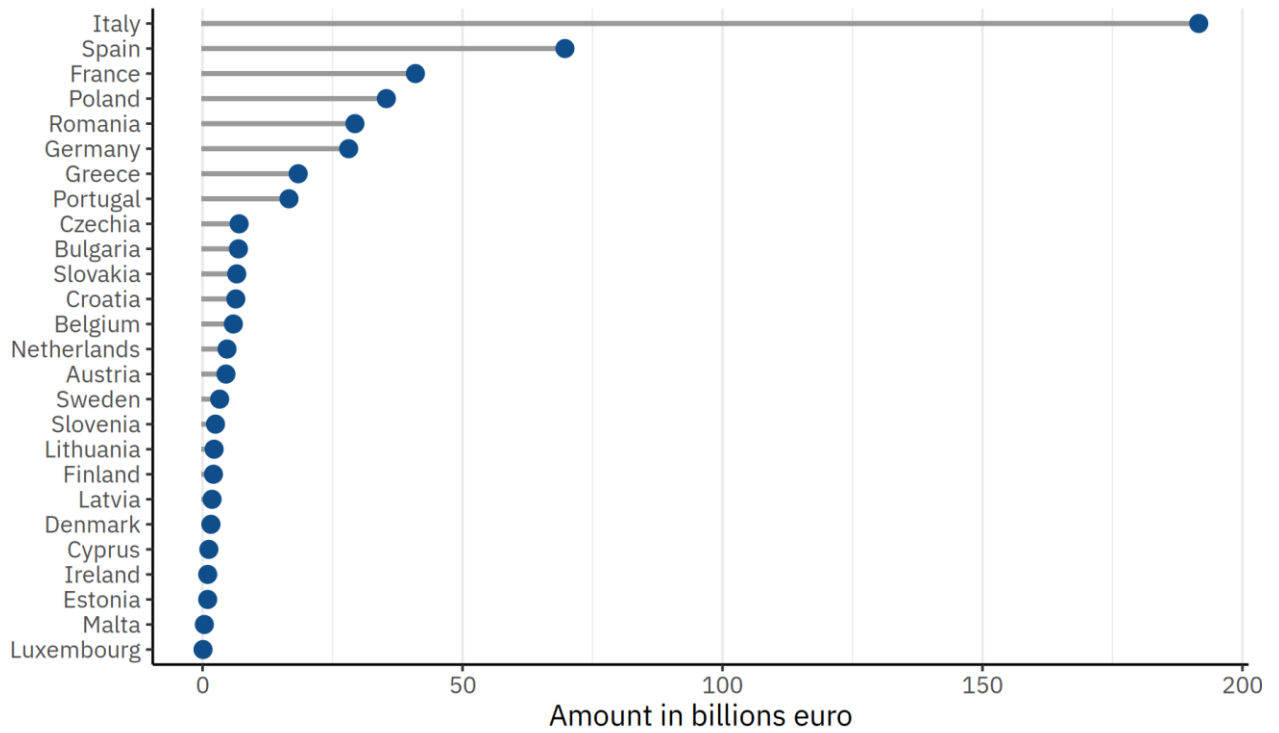


Figure A3.1: Total amount of expenditures in each RRP

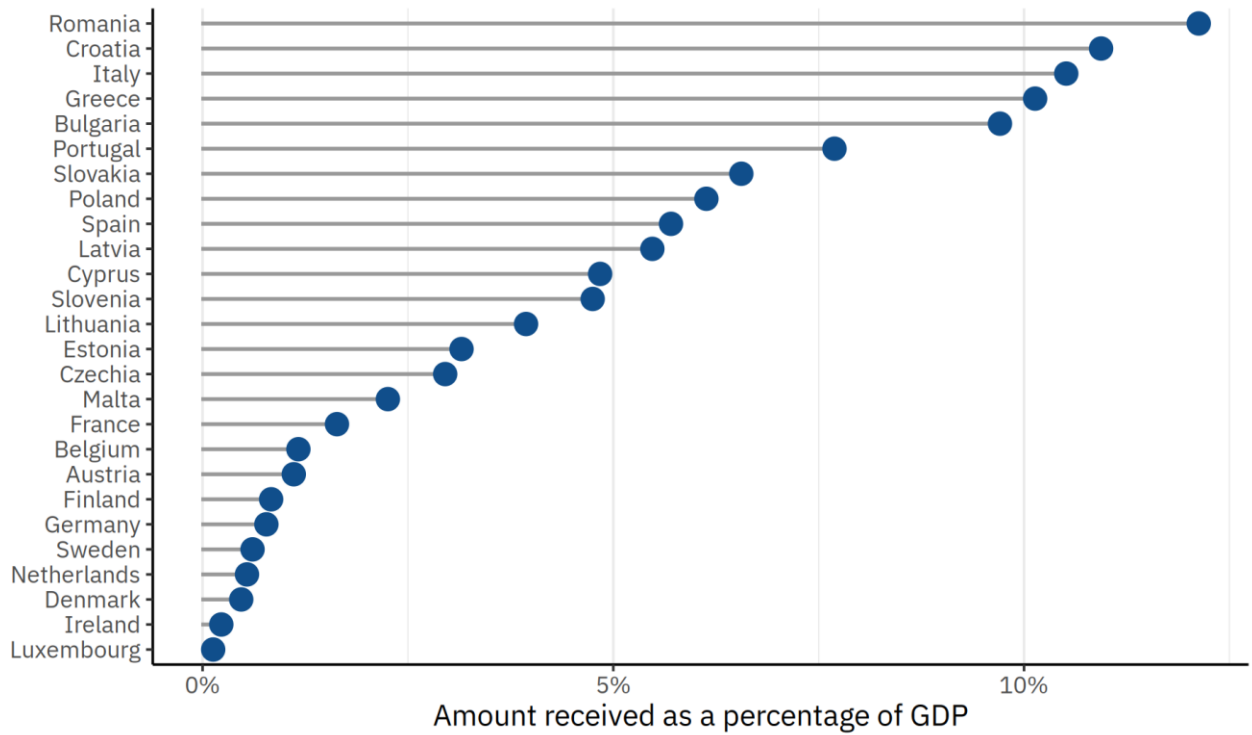


Figure A3.2: Total amount of expenditures in each RRP as a percentage of national GDP

A4. Values of congruence between the distributions of CSRs and (respectively) reforms and expenditures

Table A4.1: Sum of absolute differences in the percentages allocated to each pillar between CSRs and reforms (see Figure 5)

Country	Sum of absolute differences
Croatia	24.8
Cyprus	29.1
Malta	31.7
Greece	36.1
Netherlands	42.9
Spain	42.9
Latvia	47.4
Slovakia	49.4
Belgium	49.6
Portugal	53.3
Ireland	55.2
Italy	56.2
Poland	58.5
Slovenia	62.3
Bulgaria	64.6
Luxembourg	64.7
Romania	65.4
Germany	68.1
Austria	73.9
France	80.6
Lithuania	87.7
Sweden	91.1
Czechia	91.9
Estonia	95.5
Finland	112
Denmark	202

Table A4.2: Sum of differences in the percentages allocated to each pillar between CSRs and investments
(see Figure 6)

Country	Sum of absolute differences
Cyprus	52.3
Portugal	58.8
Slovenia	60.6
Greece	63.2
Slovakia	63.8
Latvia	64.1
Spain	72.3
Finland	79.2
Czechia	85.9
France	88.5
Luxembourg	91.4
Belgium	94.9
Malta	95
Germany	95.8
Croatia	98.2
Austria	104
Italy	105
Bulgaria	107
Ireland	107
Romania	112
Estonia	135
Poland	135
Lithuania	152
Denmark	169
Netherlands	178
Sweden	200

A.5 Percentages of sub-recommendations, reforms and investments for each pillar

Table A5.1 Percentages of sub-recommendations, reforms and investments for each pillar

Country	Pillar	CSRs	Reforms	Investments
<i>Austria</i>	1	12	35	34
	2	10	17	41
	3	40	15	10
	4	18	7	8
	5	16	15	5
	6	4	11	3
<i>Belgium</i>	1	20	33	59
	2	7	7	13
	3	36	11	7
	4	14	17	11
	5	18	26	2
	6	5	6	7
<i>Bulgaria</i>	1	10	28	52
	2	8	9	6
	3	37	19	17
	4	21	14	15
	5	21	28	5
	6	4	3	5
<i>Croatia</i>	1	13	12	56
	2	10	12	10
	3	33	29	11
	4	23	17	4
	5	17	28	8
	6	5	3	11
<i>Cyprus</i>	1	14	17	37
	2	10	17	7
	3	36	24	23
	4	16	14	7
	5	19	22	18

Country	Pillar	CSRs	Reforms	Investments
	6	5	5	8
<i>Czechia</i>	1	18	19	47
	2	14	23	17
	3	34	8	5
	4	16	8	13
	5	16	32	10
	6	2	9	9
<i>Denmark</i>	1	19	80	92
	2	4	20	6
	3	46	0	0
	4	4	0	0
	5	23	0	2
	6	4	0	0
<i>Estonia</i>	1	20	20	42
	2	3	28	24
	3	33	10	0
	4	20	15	17
	5	21	28	17
	6	3	0	0
<i>Finland</i>	1	11	47	32
	2	2	14	19
	3	25	0	17
	4	30	22	33
	5	32	8	0
	6	0	8	0
<i>France</i>	1	16	30	49
	2	9	0	3
	3	32	9	15
	4	21	25	25
	5	21	33	9
	6	0	2	0
<i>Germany</i>	1	13	7	40

Country	Pillar	CSRs	Reforms	Investments
	2	14	43	23
	3	30	10	0
	4	16	20	5
	5	18	10	29
	6	9	10	2
<i>Greece</i>	1	15	15	34
	2	15	16	12
	3	25	23	23
	4	29	16	14
	5	12	28	12
	6	4	1	6
<i>Ireland</i>	1	19	22	52
	2	10	11	29
	3	24	0	0
	4	17	33	18
	5	26	33	0
	6	3	0	0
<i>Italy</i>	1	8	24	44
	2	9	7	17
	3	27	15	11
	4	25	15	7
	5	30	26	11
	6	2	13	10
<i>Latvia</i>	1	17	8	37
	2	8	27	20
	3	19	15	11
	4	29	19	20
	5	25	27	12
	6	2	4	0
<i>Lithuania</i>	1	21	18	37
	2	2	14	20
	3	31	13	4

Country	Pillar	CSRs	Reforms	Investments
	4	21	12	9
	5	24	35	15
	6	2	7	14
<i>Luxembourg</i>	1	15	13	39
	2	9	13	11
	3	33	13	3
	4	22	25	33
	5	22	38	15
	6	0	0	0
<i>Malta</i>	1	23	25	55
	2	2	7	16
	3	25	13	0
	4	8	12	6
	5	38	33	17
	6	4	10	6
<i>Netherlands</i>	1	16	24	64
	2	2	2	16
	3	32	38	11
	4	32	24	3
	5	18	12	4
	6	0	0	3
<i>Poland</i>	1	21	33	55
	2	13	16	20
	3	25	10	5
	4	21	16	3
	5	18	23	15
	6	2	2	2
<i>Portugal</i>	1	11	23	24
	2	5	6	3
	3	39	19	27
	4	18	25	31
	5	21	25	13

Country	Pillar	CSRs	Reforms	Investments
	6	5	2	2
<i>Romania</i>	1	6	30	52
	2	7	8	6
	3	20	12	9
	4	37	16	11
	5	27	23	9
	6	3	10	12
<i>Slovakia</i>	1	14	21	35
	2	11	9	9
	3	21	12	11
	4	18	5	0
	5	33	33	31
	6	3	21	14
<i>Slovenia</i>	1	16	34	46
	2	13	16	11
	3	32	13	17
	4	21	9	10
	5	18	22	16
	6	0	6	0
<i>Spain</i>	1	17	29	41
	2	6	7	14
	3	24	15	28
	4	39	27	8
	5	11	18	8
	6	4	4	1
<i>Sweden</i>	1	14	20	55
	2	14	0	7
	3	31	33	4
	4	14	20	4
	5	22	27	21
	6	6	0	8

