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Financing EU Public Goods:  
Vertical Coherence between EU and National Budgets

Pasquale D'Apice and Paolo Pasimeni



European University Institute

**Robert Schuman Centre for Advanced Studies**

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## **Abstract**

The combination of the challenges emerging from the 2020 pandemic outbreak, amid an unprecedented macroeconomic context, and a limited EU budget, inevitably call for reflections about synergies, or ‘vertical coherence’, between EU and national budgets. The proposals for a larger EU budget, the target of carbon neutrality by 2050, the temporary relaxation of rules for fiscal policy and state aid, would all require greater coordination across government layers. Within this context, this paper studies structural co-movements between EU and national spending over the past two decades, trends that deserve a longer-term assessment, beyond the current response to the pandemic. It finds some synergies, often of a positive sign (leverage rather than substitution), but always very small in magnitude. In light of those results, the paper proposes an “EU public goods rule” for the financing of EU policies, within a commonly agreed and policy-consistent framework.

## **Keywords**

European Union, Fiscal Rules, Public Goods, Budget.

**JEL codes:** E61; E62; H41; H5; H61.





## 1. Introduction\*

The identification and financing of EU public goods has customarily been at the core of discussions and negotiations preceding the adoption of each Multiannual Financial Framework (MFF), the regulation defining the size and allocation of EU expenditure for seven years. Nevertheless, the intersection of major challenges emerging from the 2020 pandemic outbreak, amid an unprecedented macroeconomic context and a limited common budget at the European Union's (EU) level, inevitably call for deeper reflections on the coordination between EU and national policies.

The magnitude of the recent economic and political challenges has led to a renewed interest in the assessment of the potential of EU finances to effectively address them (European Commission, 2017, Heineman *et al.*, 2017; European Political Strategy Centre, 2019; Fuest and Pisani-Ferri, 2019). More recently, the suspension of the EU fiscal rules due to exceptional circumstances, the relaxation of rules on State aids and the proposals for a larger EU budget (European Commission, 2020a, 2020b), all highlight the need for greater “vertical coherence” between EU and national budgets.

Heterogeneous post-pandemic developments could also exacerbate previous cleavages, feeding into deep-rooted structural trends that deserve a longer-term assessment, beyond the current response to the pandemic. The scars left by the Great Recession, the past decade of low-growth and the new unprecedented shock caused by the Great Lockdown have a considerable negative impact on investment, both in the private and public sectors. The role of monetary and fiscal policies when interest rates reach the effective-lower bound (Blanchard, 2019) and their coordination is therefore subject to an important debate (Baldwin and Weder di Mauro, 2020, and Blanchard and Pisani-Ferry, 2020).

This paper assesses the capacity of current EU finances to mobilise investment in EU public goods and proposes ways to enhance it. Compared to other reflections, it does not focus on priorities for EU spending, but rather on the link between EU and national budgets and on their policy-consistency. It is organised as follows: the next section sketches out a simple theoretical framework for the notion of ‘vertical coherence’ between EU and national budgets, largely based on the literature on multilevel governance. Section 3 takes stock of the current situation with regard to public investment. Section 4 assesses empirically the synergies between EU and national spending. Section 5 puts forward policy proposals to enhance investment in EU public goods. Section 6 explains the case for a “EU Public Goods rule”, and section 7 finally concludes.

## 2. Vertical Coherence between EU and National Expenditure: A Conceptual Framework

A vast economic literature is devoted to the issue of the optimal assignment of fiscal responsibilities across government layers<sup>1</sup>. Since the pioneering work of Musgrave (1959), the assessment of costs and benefits of decentralisation vs. centralisation –the so-called ‘vertical coherence’ of public spending, as referred to in Monti *et al.* (2016)<sup>2</sup> – has focused on three key functions: macroeconomic stabilisation, redistribution, and resource allocation.

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\* The analysis and views expressed are solely those of the authors and should not be attributed to the European Commission. We would like to thank Andrea Mairate, Andrew Watt and seminar participants at the University of Modena for their useful comments.

<sup>1</sup> A comprehensive review of the literature can be found in Oates W.E., (1999, 2005) and, within an EU context, in Oates (2002) and Begg I. (2009).

<sup>2</sup> In its final report (Monti *et al.* 2016), the High Level Group of Own Resource has recently recommended to “review the vertical coherence of the EU and national budgets (...) in order to create synergies and minimise the fiscal burden where possible” (Monti *et al.*, 2016). More specifically, it recommended to assess vertical coherence on the basis of several principles — ‘the need to have expenditure at the right level (EU or national), the identification of common objectives for both EU and national budgets and the quality of public finances (growth friendly expenditure)’.

The theories of fiscal federalism can inform the analysis of the synergies between EU and national spending. Nevertheless, the peculiar characteristics of the EU, as a Union of countries that is not a federal state, without a complete political union, pose some limitations to the application of this conceptual framework (Wyplosz, 2016).

While it is difficult to draw a clear line between the three traditional functions of public finances, this work focuses on one of them: the 'allocative' function. It does not examine 'vertical coherence' in terms of 'redistribution' and 'stabilisation', which have been already studied in the context of single market and EMU creation, pointing to the need for a larger and more redistributive Community budget (European Commission, 1977).<sup>3</sup>

The EU budget performs mainly an allocative function; the recent literature on the matter recommends a comprehensive reform of the revenue and expenditure side (Tarschys, 2011; Benedetto and Milio, 2012; Monti et al, 2016; Becker et al, 2017) and calls for a larger share of EU expenditure focusing on policies at high EU added value (Heinemann et al, 2010; 2017).

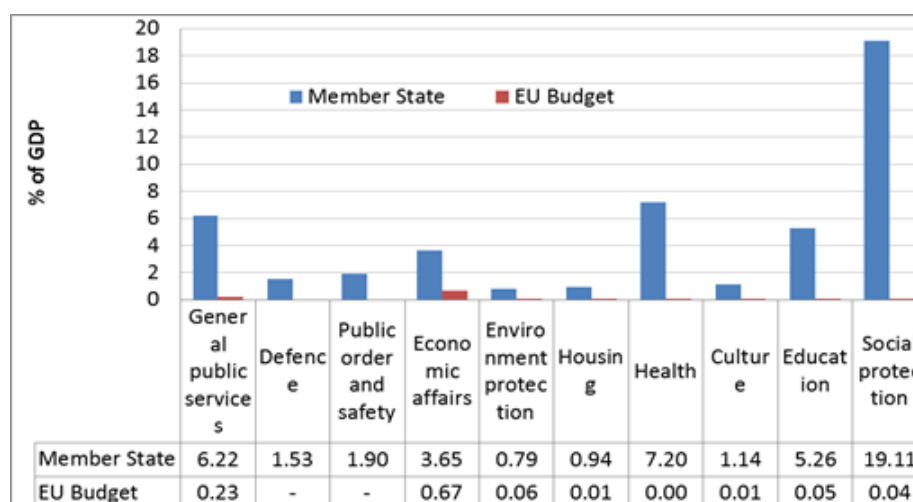
EU added value refers not only to higher net benefits stemming from acting at the EU level, but also to “*achieving the objectives set out in the Treaty (...) a budget that provides for public goods of a European dimension or helps uphold the EU basic freedoms, the Single Market or the Economic and Monetary Union*” (European Commission, 2017). Hence, the EU budget as a tool to achieve broad objectives set out in the Treaties, while respecting the subsidiarity principle.

The 'physical limits' of the EU budget call for synergies with national budgets. With expenditure capped at around 1% of the EU GNI, and Member States spending up to fifty times this amount, there is a limit to the scope of policy objectives that the EU budget can be expected to achieve on its own. Even if entirely re-allocated towards areas currently considered at very high EU added value, the EU budget will only be able to finance a small fraction of overall public expenditure in those areas. Hence, the delivery of EU public goods can only be a shared responsibility with the Member States.

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<sup>3</sup> The extent to which the EU Budget may serve other purposes, such as redistribution and stabilisation, depends on the political preferences and on the set up of the Union, if additional tasks are assigned to the supranational level. This would require, however, major institutional reforms in the EU, reassessing the division of competencies between the member states and the European institutions (Buettner, 2015; Bordinon and Scabrosetti, 2015). For the time being, the redistribution operated by the budget is very limited (D'Apice, 2015; Pasimeni and Riso, 2018), it is mainly due to the structure of the expenditure side, and runs from large countries with relatively higher GDP per capita to small ones with lower GDP per capita. Stabilisation is not an objective of the EU budget and it is not performed by it. However, GNI-based contributions to the EU budget decline slightly when income per capita declines (Pasimeni and Riso, 2018).

**Figure 1 - EU and National Expenditure by COFOG Classification, % of GDP, MFF 2007-13, Average**



Source: authors calculations. Note: EU expenditure is converted in COFOG categories according to a simplified purpose-made methodology.

Even in fully federal systems most government functions, with the possible exception of ‘defence’, are a matter of shared responsibility. This is even more true for the EU. The notion and relevance of “EU public goods”, then, is not fixed; it evolves over time. The “Common Agricultural Policy” and the “Steel and Carbon sectors” were high on the agenda in post-war Europe but are rarely mentioned as areas of high EU added value in the recent literature (Heinemann et al. 2017).<sup>4</sup> Although a few key principles can help identify EU public goods (spill-over, externalities, economies of scale, (some) homogeneity of preferences, link to the Single Market), the relevance and importance of EU public goods may vary over time: the current pandemic just triggered one of those turning points in which new priorities emerge. The literature on EU public goods largely focuses on allocation within the EU budget and takes rarely into account the macroeconomic context. The focus of this paper, instead, is the interaction between EU and national budgets, in particular in the current economic and political context.

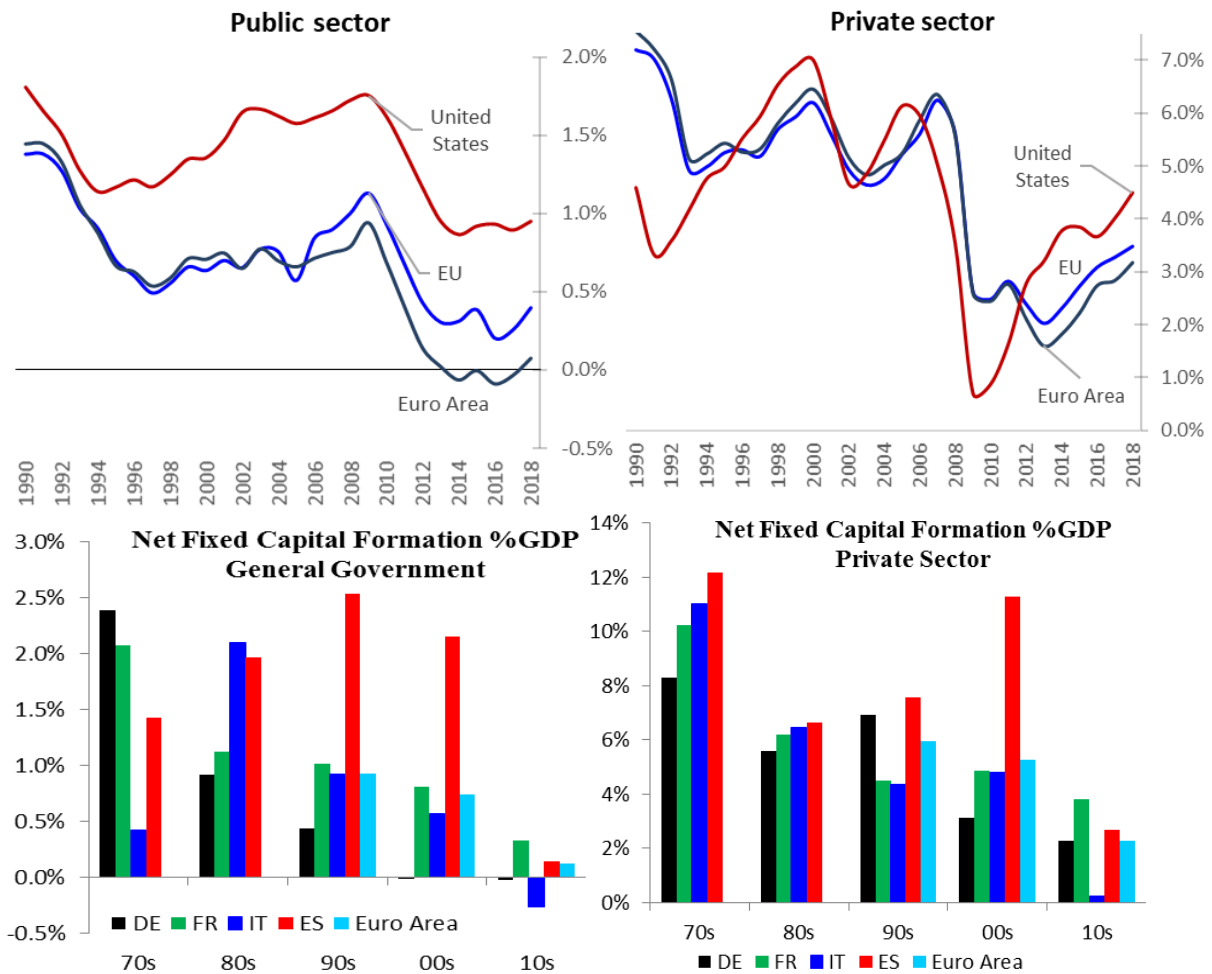
### 3. Putting the EU Budget into Context: Recent Trends in Public and Private Investment

The present context would require important investment, not only to sustain aggregate demand, but also for a structural improvement, for instance to significantly reduce greenhouse gas emissions by 2030 and reach net-zero emissions by 2050 (European Commission, 2020b) however, total investment in the EU, and even more in the euro area, has never been so low. Throughout the post-crisis period, both public and private investment contracted continuously and cumulatively. This is particularly evident when looking at net fixed capital formation.<sup>5</sup> If we take the US as a benchmark, the gap in the EU is quite visible for public investment, significantly lower than the pre-crisis period. Data for the euro area are even lower and actually reached negative values in the past few years. If such investment gap continues, it will lead to a permanent reduction in the capital stock and may have important negative consequences for potential growth.

<sup>4</sup> A similar case could be made for public health, rarely mentioned in the ‘shortlist’ of priority areas at high EU added value in the recent literature on the MFF, and yet coming to the fore strongly in 2020 with the spread of Covid-19 virus across the globe.

<sup>5</sup> This measure of investment takes into account the depreciation of the existing capital stock.

**Figure 2 – Net Fixed Capital Formation: main trends**



Source: authors' elaborations on AMECO data.

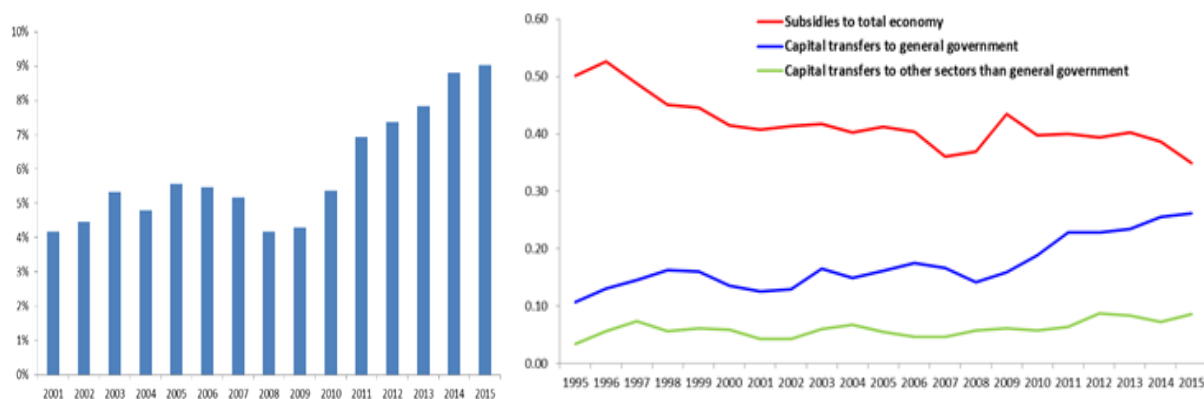
The country-level detail shows that total net investment, and in particular the public one, has been exceptionally low in the past years by historical standards. In Germany it has been slightly negative since the establishment of the monetary union, whereas in Italy it has been significantly negative over the past decade.

Despite a strong decline at national level, EU capital spending actually increased over the past years. As we can see in Figure 3, funds from the EU budget became increasingly relevant after the crisis. Two simultaneous processes contribute to this increase: a reduction of public investment at national level, and an increase of the part of the EU budget dedicated to investment rather than subsidies. While twenty years ago subsidies amounted to more than three times capital transfers to government or to other sectors for investment, today they represent an equal share. This largely reflects the gradual reduction of the share of the Common Agricultural Policy (CAP), which remains nonetheless the largest item of the EU budget.

**Figure 3: EU Investment**

*Share of EU funds (capital transfers only) on public investment (gross fixed capital formation) in the EU28*

*Evolution of type of expenditures operated by Institutions of the European Union (share of GDP)*



Source: Authors' elaboration on ECB and Eurostat data. Note: EU28 fixed composition.

Note: We look at capital transfers operated by the EU institutions to the general government, as the best approximation of investment grants actually paid by the EU Budget. By calculating the share of these capital transfers on total gross fixed capital formation, we can measure how much of total public investment is actually linked to EU funds.

The increase in EU investment financing was clearly not sufficient to prevent the overall fall in public investment mentioned above. Despite a substantial increase, EU investment accounts for 0,4% of the EU GDP, meaning that national budgets – despite the recent drop in investment - are still financing six times this amount. An increase in the share of capital spending at the EU level (at constant overall budget), hence, could hardly counterbalance a severe drop in investment. The next section dwells further into this issue by assessing the interaction between EU and national budgets.

#### 4. Synergies and Vertical Coherence between EU and National Expenditure: An Empirical Examination

This section presents an empirical assessment of vertical coherence between EU and national expenditures; we do so by studying the co-movement of those categories of expenditures over time. To our knowledge, this is the first exercise of this kind. The relationship can be defined as follows:

$$M_{ct} = \alpha + \beta Y_{ct} + \gamma T (+ \mu X_{ct}) + \theta_{ct} + \epsilon_{ct}$$

where:

- $M$  is the dependent variable (national or EU expenditure, depending on the regression);
- $c$  indicates countries,  $t$  indicates years;
- $\alpha$  is the constant;
- $\beta$  is the coefficient we want to measure;
- $Y$  is the main regressor (national or EU expenditure, depending on the regression);
- $\gamma T$  is a factor controlling for time trends;
- $X$  is a vector of control variables;
- $\theta$  represents population weights in order to give to each per capita level the appropriate weight;
- $\epsilon$  is the error term.

The EU budget allocates its expenditures according to five main “headings” or broad policy areas<sup>6</sup>; some expenditures are pre-allocated at the beginning of the programming cycle (for instance cohesion policy) and are managed jointly by the Commission and the Member States through agreed Programmes. Other expenditures, instead (such as the funds for R&D), are not pre-allocated ex-ante, they are directly managed by the Commission or its agencies, and the attribution of specific projects depends on a competitive process, where no prior country allocation is possible. The first kind of expenditure, therefore, is more stable and predictable, while the second is by definition more variable. National funds then, being subject to yearly allocative decisions, are more variable than the pre-allocated part of the EU budget, whose allocative decision is taken every 7 years, and more stable and predictable than the non-pre-allocated part. Therefore, if any significant correlation is found, national allocation may be influenced by pre-allocated EU funds and may in turn influence non-pre-allocated EU funds.

#### ***4.1 Competitiveness for growth and employment (Heading 1a)***

This chapter of the budget includes expenditures in research and innovation, education and training, trans-European networks, social policy, economic integration and accompanying policies. Over the years considered it accounted on average for 6% of the budget, but its share increased constantly, from 4.6% in 2000 to 14% in 2017.

The main bulk of expenditures within this heading is concentrated on the framework programmes for research and development, managed directly by the Commission<sup>7</sup> on a competitive basis. This implies that the amount that each country receives out of this envelop is not fixed ex-ante, depending on a competitive process of selection and allocation. It is therefore less stable than national funds allocated under the same policy areas. For this reason, it makes sense to study the allocation of EU funds as a function of national expenditures in the same area. We regress the expenditure operated by the EU budget under this heading on the same kind of expenditure operated by each member state at national level. All expenditures are always computed in per capita terms, in order to be comparable, they are weighted by population, and controlled for fixed effects.

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<sup>6</sup> The Headings are: 1a: Competitiveness for growth and employment; 1b: Cohesion; 2: Preservation and management of natural resources; 3: Citizenship, freedom, security and justice; 4: EU as global player; 5: Administration.

<sup>7</sup> or by its agencies.

**Table 1: Expenditures per capita under Heading 1a vs national expenditures in related areas**

	(I)	(II)	(III)	(IV)
Levels of income per capita	0.001** (0.000)	-0.000 (0.000)	0.001** (0.000)	-0.000 (0.000)
Total expenditures on R&D per capita	0.007 (0.006)	-0.005 (0.006)	0.002 (0.006)	-0.010 (0.006)
Expenditures on education per capita		0.023*** (0.004)		0.026*** (0.004)
Expenditures on transport per capita			-0.002 (0.003)	-0.009** (0.003)
Constant	-5.7 (3.5)	-8.1* (3.5)	-6.9 (3.7)	-8.6* (3.6)
Observations	482	476	466	466
Country FE	YES	YES	YES	YES
Time FE	YES	YES	YES	YES
Rsq	0.59	0.62	0.60	0.63

*Explanatory note: The panel is composed by annual data per country per year from 2000 to 2017. Robust standard errors are in brackets. Significance levels: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$*

This category of expenditure is not particularly linked to levels of income per capita, in fact its rationale is to promote competitiveness and has no redistributive function. The overall spending under this heading does not seem to be associated with national expenditures on R&D, but we will analyse later this relation more in detail. Expenditure on education at national level seems significantly and positively associated with expenditures under this heading, while, to some extent, national expenditures on transport seems significantly but negatively associated with them. This may suggest that the EU funds under the Connecting Europe Facility are somehow substituting national spending in this area, while expenditures on education are reinforcing national efforts in this area.

We then study more in detail the framework programmes for research and development, by running a panel regression of the expenditures per capita operated each year in each country under several waves of the framework programme on national expenditures in the same field. We distinguish between public expenditures on R&D operated by the government and business expenditures on R&D. We control for levels of income per capita, in all specifications of the model and in some specifications we also introduce the national expenditure on education, in order to assess to what extent it plays a significant role in allowing a country to ripe the benefits of the available competitive EU funds for research. Finally, in some specifications of the model we refine this test, by using national expenditures in tertiary education, rather than overall expenditures on education.

**Table 2: Expenditures under the Framework Programme for RTD and national expenditures on R&D and education**

	(I)	(II)	(III)	(IV)	(V)	(VI)
Public expenditures on R&D per capita	0.025* (0.012)	0.000 (0.015)	0.014 (0.014)	0.036** (0.012)	-0.002 (0.014)	0.019 (0.013)
Business expenditures on R&D per capita	0.020*** (0.006)	0.024*** (0.006)	0.020*** (0.006)	0.006 (0.006)	0.016* (0.005)	0.007 (0.005)
Levels of income per capita	0.000** (0.000)	0.000 (0.000)	0.000** (0.000)	-0.000 (0.000)	-0.001** (0.000)	-0.000 (0.000)
Expenditures on education per capita		0.009** (0.003)			0.014*** (0.003)	
Expenditures on tertiary education per capita			0.010 (0.007)			0.016** (0.006)
Constant	-9.5*** (1.6)	-11.5*** (1.8)	-10.2*** (1.7)	1.6 (2.1)	-0.9 (2.2)	1.1 (2.2)
Observations	490	484	474	490	484	474
Country FE	YES	YES	YES	YES	YES	YES
Time FE	NO	NO	NO	YES	YES	YES
Rsq	0.44	0.45	0.45	0.58	0.61	0.60

*Explanatory note: The panel is composed by annual data per country per year from 2000 to 2017. Robust standard errors are in brackets. Significance levels: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$*

The results show that national expenditures on R&D are actually a significant factor associated with the capacity to attract EU funds directly managed under the Framework Programme for RTD. In particular, it is the expenditures operated by the business sector what determines this association. Government expenditures also have a significant role, but this significance disappears when we factor in the expenditures on education: it is probably the public expenditure on education, in particular on tertiary education, what determines the capacity to attract EU funds for research. Finally, we observe that the strong significance of business expenditures on R&D applies only when we do not use time fixed effects in the regression; this suggest that such expenditure is propaedeutic to a stronger capacity to attract EU funds for R&D, but the effect is not immediate, and takes time to materialise.

The analysis of changes, rather than of levels, of expenditures per capita at EU and national level in these areas, does not produce significant results: the explanation is that, although varying, this kind of expenditures is not meant to be immediately responsive to changes in national expenditures, and investment in these area require some time to deliver their outcome in terms of increased competitiveness and capacity to attract funds.

#### **4.2 Cohesion Policy (Heading 1b)**

Cohesion policy includes a number of funds<sup>8</sup>, with the objective of improving economic, social and territorial convergence of the least developed EU countries and regions, as well as sustainable development in the rest of the EU, and cross-border cooperation. Over the period considered, it accounted on average for 30% of the budget, being the second largest category. The funds allocated

<sup>8</sup> European regional development fund (ERDF), European social fund (ESF), and Cohesion fund (CF).



under cohesion policy are inversely proportional to levels of income per capita, and determine the progressive redistributive effect of the EU budget as a whole (see D'Apice (2015) and Pasimeni and Riso (2018) for a more detailed analysis).

Expenditures under this heading cover a very wide range of policy areas: from transport, energy and environmental infrastructures, to research and development and innovation, to social programmes for active labour market policies and social inclusion. Contrary to the previous heading, this category of expenditure is jointly managed by the Commission and by the Member States (national or regional governments), and the overall allocation for each country is predetermined at the time of the adoption of the MFF for a period of seven years.

This implies that the amount that each country receives out of this budget line is known ex-ante and is not likely to be influenced by the evolution of national expenditure. In this case then it makes sense to study the allocation of national expenditures in these areas as a function of EU funds allocated under cohesion policy.

We first decompose EU expenditures under Heading 1b in five main categories: social, transport, energy, environment, and research, development, and innovation (RDI)<sup>9</sup>. Then we study how national expenditure relates to EU allocation, in these areas.

**Table 3: National expenditures per capita by policy area) and EU per-capita expenditures in the same area under Cohesion policy**

	National public expenditures per capita in:				
	(Social)	(Transport)	(Environment)	(Energy)	(RDI)
Levels of income per capita	0.001*** (0.000)	-0.001 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.001 (0.000)
EU expenditures per capita in the field	-0.005*** (0.001)	0.037** (0.001)	0.039* (0.020)	-0.005 (0.014)	-0.064* (0.029)
Constant	14.9*** (3.2)	23.1* (9.2)	16.4* (7.6)	11.2* (5.4)	8.6 (6.6)
Observations	432	427	432	415	429
Country FE	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES
Rsq	0.18	0.14	0.11	0.10	0.11

*Explanatory note: The panel is composed by annual data per country per year from 2000 to 2017. Robust standard errors are in brackets. Significance levels: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ .*

The results show that EU expenditures under this heading are significantly associated with national ones. In the case of social spending, the order of magnitude is very small, but the relation negative and significant, signalling that there might be a small substitution effect of national funds with EU funds. In the case of transport and environment, instead, the relation is positive and significant, which suggests that the funds mobilised by cohesion policy for transport and environmental infrastructures have a crowding-in effect. Part of this "crowding-in" effect is certainly due to the co-financing rule, requiring national funds to finance jointly with EU funds parts of the investment. In the field of research, development and innovation, instead, the relation is negative and significant, which suggests a kind of substitution effect.

<sup>9</sup> In order to do so, we had to estimate the average relative share of each policy field under cohesion policy for each country. Then, we have applied this share to the overall envelop allocated each year to each country, under this heading.

It is interesting to compare these results with the positive association found in the same field between national and EU spending under the framework programme for research and development. The same results hold when using data in shares of GDP instead than in per capita terms, confirming the robustness of the findings. The mild substitution effect may be linked to the impact of the Great Recession. There is indeed evidence that countries experiencing financial difficulties reduced significantly national co-financing of EU projects, thereby lowering the national co-financing rate and the additional investment mobilised by one euro of spending at the EU level (D'Apice *et al.*, 2019).

#### 4.3 Preservation and management of natural resources (Heading 2)

This heading includes the common agricultural policy, the common fisheries policy, and rural development and environmental measures. Over the years considered it accounted on average for 47% of the budget, making it the largest one, however its share on the total budget decreased constantly.

**Table 4: Heading 2 per capita expenditures and land and production**

	(I)	(II)	(III)	(IV)
Crop production per capita	0.257*** (0.029)	0.266*** (0.030)	0.255*** (0.032)	0.245*** (0.032)
Land use (m2 per inhabitant)	22.910*** (2.822)	22.010*** (2.924)	21.154*** (2.982)	21.826*** (2.971)
Levels of income per capita		-0.001 (0.001)	-0.002** (0.001)	-0.001* (0.001)
National exp. on agriculture, forestry, fishing and hunting per capita			0.314*** (0.068)	0.340*** (0.068)
National exp. on environmental protection per capita				- 0.093** (0.035)
Constant	-203.0*** (23.159)	-183.7*** (28.452)	-173.8*** (28.999)	-173.6*** (28.786)
Observations	491	491	472	472
Country FE	YES	YES	YES	YES
Time FE	YES	YES	YES	YES
Rsq	0.41	0.41	0.41	0.42

*Explanatory note: The panel is composed by annual data per country per year from 2000 to 2017. Robust standard errors are in brackets. Significance levels: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ .*

Agricultural expenditure under Heading 2 has been traditionally linked to production, and in recent years to the land size. It is therefore relevant to add these two criteria as explanatory variables. They are indeed significant; both are positively correlated with per capita expenditures, even after controlling for income per capita. In other words, the larger the land available and the higher the production capacity per capita, the higher the contributions received by Heading 2.

In subsequent specifications of the model, we add expenditures operated at national level (on agriculture, forestry, fishing and hunting and on environmental protection), and find that they are significantly associated with EU expenditures under this heading. In the case of environmental protection, there might be a small substitution effect.

#### **4.4 Other headings**

Expenditures in the remaining headings of the EU budget is much smaller in scope and size and therefore it would not be meaningful to perform the same statistical analysis as for the other headings. However, they cover areas with very high EU added value such as security, migration, international cooperation and external relations.

Heading 3 of the EU budget, finances projects in the field of citizenship, freedom, security and justice. It includes expenditures on justice and home affairs, border protection, immigration and asylum policy, as well as on public health, consumer protection, culture, youth, information and dialogue with citizens. Over the past 16 years it accounted on average for 1.2% of the budget, being the smallest category. The EU budget finances on average 4 euros per capita in these fields, while Member States spend a bit less than 500 euros per capita on public order and safety, and about 350/400 euros per capita on defence. As a share of GDP, national expenditures on defence and on public order and safety have been pretty stable over time, representing around 1.4% and 1.8% of EU GDP respectively.<sup>10</sup>

Heading 4 of the EU budget aims to promote the EU as a global player and is mostly directed towards third countries. In terms of official development assistance (ODA), EU Member States provide total grants to developing countries in the rest of the world for an amount close to 0.4% of GDP. At the same time, grants provided by the EU budget for the same purpose amount to 0.05% of EU GDP. To the extent that national priorities in international cooperation and foreign affairs can be aligned, there might be scope for shifting some of these expenditures from national bilateral assistance to the common budget. Today the rate between expenditures at national level and EU level is 8:1.

Finally, Heading 5 covers the administrative expenditure of all the European institutions, and accounts for about 6% of the budget. Administrative expenditures are pretty stable over time.

#### **4.5 Summary of results**

This analysis shows that synergies between EU and national expenditure exist, but are limited. By analysing co-movements in EU and national spending we find that sectoral correlations are often of a positive sign (leverage rather than substitution), but always very small in magnitude. For each additional euro of EU (per capita) spending only one or two additional cents are mobilised at the national level (and vice versa). If we exclude agriculture spending, where the coefficients are larger, those coefficients are in line with, and largely explained by, the limited size of the EU budget in the categories of expenditure considered.

### **5. Enhancing Synergies and Vertical Coherence through EU Policy Frameworks and Governance: Three Proposals and Case Studies**

In light of the existing limited synergies between EU and national spending, this section investigates how to reinforce them and strengthen vertical coherence in the context of existing policy tools (such as directives, regulations, etc.) and economic governance structures (European Semester, Energy Union, etc.). We use three case studies – climate change, asylum and border management and R&D – to explore and develop the case for synergies in areas with high EU value added.

A first option is to link EU expenditure to binding EU policy frameworks, such as directives or regulations. This already happens in areas where both regulatory and spending prerogatives are clearly

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<sup>10</sup> Military expenditures account for the largest part of defence expenditures by Member States, representing more than 85% of it, or some 1.2% of GDP on average, ranging from 0.2% in Luxembourg, to 2.7% in Greece. Foreign military aid and R&D defence cover the rest of defence expenditures. Police services, instead, are the main item of expenditures by Member States in public order and safety, accounting for more than half of it, or 1% of GDP on average, ranging from 0.5% in Finland and Luxembourg, to 1.4% in Greece and Bulgaria.

defined. However, what has been more difficult to achieve is the mobilisation of national resources. We study the example of asylum policy.

A second option is to strengthen the link between an economic policy coordination platform, such as the current European Semester, and the so-called 'quality of public finance'. This approach would be more appropriate to policy areas managed through coordination and peer-review. We study the example of research and innovation policy in the context of the European Semester.

A third option is a hybrid approach between the first two: the EU can use binding policy frameworks where possible, and coordination platforms for coordinating flanking measures where needed. We study, then, the example of addressing climate change and moving towards a low-carbon economy.

### **5.1 Vertical coherence in the context of EU binding frameworks: the case of asylum-related expenditure**

Asylum policy is regulated at the EU level by a set of three directives and two regulations<sup>11</sup>. They aim to ensure minimum standards and coordination in the areas of asylum procedures, reception conditions, information and database sharing. The responsibility for service provisions in these areas (e.g. processing applications, reception and accommodation of refugees, etc.) remains in the hands of Member States, with the EU only playing a supporting role and mostly involved in the definition of minimum standards, common rules and information sharing.

However, to the extent that the cost of the implementation of those legal frameworks is unevenly distributed, the leverage of EU policy frameworks would address only a part of the problem. For instance, according to the Dublin Regulation the country of first arrival has to process the applications of asylum seekers. In the absence of substantial central financing, this means that the burden falls disproportionately on the Member States bordering the main migratory routes.

The recent experience in the context of the so-called 'refugee-crisis' confirms the limitations of the current arrangement. The wave of asylum seekers and displaced persons reaching the European shores in 2015 prompted the Commission to frontload €3 billion in migration-related expenditure and to adopt an ambitious renewed policy frameworks to substantially upgrade the existing arrangements<sup>12</sup>. Nevertheless, the overall allocation for the seven-year period remained fairly limited and did not evolve in line with the new ambitions. Set at about €9.3 billion, it represents about 1% of the total EU budget for the seven-year period.

As argued by Den Hertog (2016), the large number of funding initiatives related to migration policy adopted by the EU in 2015 and 2016 may have 'compensated' for the fact that EU competences in these areas are limited. In this context, funding can have a steering function, to induce policy change despite limited competences. Yet, if the recent approach may have proved adequate in a context of limited community competences, it is arguably insufficient in a scenario of broader and more ambitious EU involvement in migration and security policy, such as the reform proposals of the 2015 European Agenda on Migration. The reform clearly pointed towards areas where principles of multi-level governance provide arguments in favour of action at federal level (Berger *et al.* 2016).

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<sup>11</sup> These are: "Asylum Procedure Directive" (Harmonisation of asylum procedures with a focus on asylum seekers with special needs); "Qualification Directive" (Clarification of grounds for granting international protection); "Reception Conditions Directive" (Set material standards for reception conditions (housing) and ensure that the fundamental rights of the concerned persons are respected); "Dublin Regulation" (rules for establishing the Member State responsible for examining the application; it creates a system to detect early problems in national asylum or reception systems); "Eurodac Regulation" (Establishes the Eurodac system for the collection and comparison of fingerprints of asylum seekers to prevent, detect or investigate criminal activities).

<sup>12</sup> In line with the EU Treaty framework, the European Agenda on Migration (2015), goes beyond asylum policy and covers areas such as immigration, security, border protection, external cooperation and has been followed by subsequent communications expanding on several of these aspects.

The recent developments shows the importance, but also the practical limits, of 'synergies' in a context of limited resources at EU level. EU-wide policy frameworks and arrangements can help mobilise national spending, but can hardly suffice when the costs of implementing them are unevenly distributed. When the benefits of EU policy frameworks are widely shared within the EU, there is a case for underpinning them by a sufficient amount of centralised resources. This principle has been acknowledged in the Commission proposal for a new multiannual budget, which suggests an increase of fifty per cent of the Asylum, Migration and Integration Fund (from €7.3 bn to €11.3 bn). Such funds remain a small fraction of what Member States spend in this area, therefore require stronger synergies with national budgets in this area.

### ***5.2 Vertical coherence in the context of the European semester: the case of research and innovation***

The achievement of a European Research Area – a unified area in which researchers and innovators, scientific knowledge and technology circulate freely – is already enshrined in the Treaties as part of the EU's objective to strengthen its scientific and technological bases.

With the adoption of the MFF 2014-2020, the EU has committed to increasing by about 30% its expenditure in R&D, reaching some €80 billion over the whole seven-year period. Assuming constant private and public spending in R&D until 2020, EU resources for the current MFF will represent 15% of total public spending in R&D. As showed above, EU spending in R&D seems to have both a leverage effect, for the part allocated under the framework programmes, but also a small substitution effect, for the part allocated through cohesion policy.

Stronger synergies between EU and national spending could define targeted assessment of investment performances and gaps in the context of the European Semester, which offers a platform for Member States to discuss their economic and budgetary plans, as well as the priorities in terms of structural reforms and investment, including the allocation of structural funds.<sup>13</sup> The Semester can be the appropriate context to enhance 'vertical coherence' by providing an in-depth assessment of possible synergies between EU and national investment in key areas identified in the Annual Sustainable Growth Strategy (ASGS)<sup>14</sup>.

### ***5.3 Vertical coherence in the context of binding and non-binding frameworks: achieving a low-carbon economy***

Broad environmental and climate goals are usual examples of cross-border public goods and an important objective of EU policies. Side effects of economic activity may create negative externalities, natural resources may be over-used because of the lack of a proper pricing or of foresight (the “tragedy of the commons”, Ostrom, 1990), finally, since environmental problems transcend national borders, the rationale for a common action at EU level is strong.

The EU budget does not have yet a specific fund for combating climate change, but a target of 20% of the whole budget 2014-20 to be spent in climate policy through all relevant funds. This is the so-called “climate mainstreaming” which allows to mobilise different funds towards reaching common objectives, it is based on an agreed “Climate Tracking Methodology” and is set to increase to 25% of the overall EU budget in the next MFF.

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<sup>13</sup> The Treaty of Maastricht introduced a system for coordinating the economic policies of EU Member States. These provisions are contained in Article 121 of The Treaty on the Functioning of the European Union (TFEU), which stipulates that ‘Member States shall regard their economic policies as a matter of common concern and shall co-ordinate them within the Council’.

<sup>14</sup> The Commission's Annual Sustainable Growth Strategy (ASGS) kicks off the annual cycle of economic governance coordination. It sets out the general economic priorities for the EU and offers policy guidance for the following year

In terms of investment, the Commission has estimated that achieving the 2030 climate and energy targets<sup>15</sup> will require EUR 1.2 trillion, of which EUR 260 billion or about 1.5% of GDP (in 2018) would be additional per year compared to a baseline scenario. This concerns investment in the energy system (incl. infrastructure) and the transport sector (excl. infrastructure).<sup>16</sup> The recent Commission proposal to reduce greenhouse gas emissions by at least 45% compared to 1990 levels, as opposed to 40% expected by the current legislation, would mean that those estimates may have to be revised upwards. For the period 2030-2050, in the context of the long-term strategic vision for a climate neutral economy, the Commission estimated that reaching climate-neutrality will require between EUR 1.35 and 1.5 trillion, of which additional investments would be in the range of EUR 175-290 billion a year, compared to a baseline that meets the 2030 targets.<sup>17</sup>

Such an increase in current and capital expenditure can be financed through a mix of private financing and public funding. Under the governance for the Energy Union and Climate Action, entered into force in 2018, all Member States are required to develop ten-year national energy and climate plans (NECPs), in which they define their national objectives and targets along the five dimensions of the Energy Union Strategy, as well as the measures to reach them. The underlying regulation of this governance also establishes a clear link with the European Semester.

The Energy Union seems a good attempt to increase vertical coherence in a field where the gap between the cost of EU policy ambitions and the limitedness of EU resources is quite substantial. Furthermore, it tries to ensure horizontal coherence across EU governance structures by relying on directives when possible<sup>18</sup>, and on the European Semester when needed. Furthermore, the Commission has proposed a new Sustainable Europe Investment Plan to attract private investors by providing a public guarantee and therefore reducing the risks of “greening finance”.

#### ***5.4 Enhancing vertical coherence within the appropriate policy framework***

This section has presented possible avenues to enhance vertical coherence between EU and national spending in the context of different policy frameworks. They all build on existing tools but can be generalised to develop a taxonomy of methods to enhance such vertical coherence in the case of binding or non-binding frameworks. What they all have in common is the link to a common EU public good, which provides both the economic rationale and the political opportunity to establish synergies between different layers of government. They also highlight a gap between ambitious policy objectives and quite limited resources available at EU level. In the past few years, reallocations, higher use of financial

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<sup>15</sup> The 2030 EU Energy and climate targets are: to reduce greenhouse gas emissions domestically by at least 40 % compared to 1990 levels; to reach a share in terms of renewable energy of at least 32 % of the Union's gross final consumption of energy; to increase energy efficiency by at least 32.5 % (compared to projections) ; to increase electricity interconnections target of 15 % in each Member State by 2030. binding targets for 2030 were also set to reduce carbon emissions from cars by 37.5 % compared to 2021 levels; from vans by 31 % compared to 2021 levels; and from lorries by 30 % compared to 2019 levels.

<sup>16</sup> Investments related to energy supply includes power generation plants, industrial boilers, electricity grid and new energy carriers such as hydrogen. Investments regarding residential, tertiary and industry includes direct energy efficiency investments such as renovation of buildings or processes as well as energy and industrial equipment's etc. Investments in transport includes equipment for mobility purposes (e.g. rolling stock) and energy efficiency. They exclude investments in road infrastructure and recharging infrastructure. Today about 6.3% of GDP (or about 980 billion) is invested in these sectors, of which about 2% in the energy sector.

<sup>17</sup> The United Nation's Intergovernmental Panel on Climate Change (IPCC) confirmed in October 2018 that in order to limit temperature increase to 1.5°C, net-zero CO<sub>2</sub> emissions at global level needs to be achieved around 2050 and neutrality for all other greenhouse gases somewhat later in the century. The Commission proposed in the long-term strategy that the EU achieves greenhouse gas emissions neutrality by 2050 so that the EU show leadership and reap the benefits of first mover advantage. COM(2018) 773.

<sup>18</sup> e.g. Amending Energy efficiency directive (2018/2002); Recast Renewable energy directive (2018/2001); Amending Energy performance of buildings directive (2018/844)

instruments and flexibility have tried to reduce this gap. Despite these positive developments, however, synergies remain quite low, as showed above. The next section, hence, moves beyond sectoral policy frameworks and reflects on synergies with the EU fiscal framework in light of the current macroeconomic context.

## **6. Fostering Investment in EU Public Goods: The Case for a “EU Public Goods Rule”**

There is a vast literature on the link between fiscal rules and public investment (for a review, see for instance Turrini A., 2004). Some have analysed the merits of a “golden rule” for financing public investment through public debt (Balassone and Franco, 2001; Buti, Eijffinger and Franco, 2002; Buitier and Grafe, 2002; Blanchard and Giavazzi, 2004), but such rule has been *de facto* rarely implemented, with capital expenditure financed and accounted for in the same way as current expenditure in all EU countries.<sup>19</sup> The fall in public (and private) investment recorded in the wake of the late 2000s crisis, in combination with persistently low inflation and interest rates, however, have brought again the issue to the attention of academics and policy makers (Truger, 2015; Blanchard 2019b).

The economic rationale for a “golden rule” is that capital expenditure, by increasing the capital stock of the country, is costly in the short-term but beneficial in the long-term.<sup>20</sup> Financing it exclusively through taxation could therefore be unfair from an inter-temporal or inter-generational perspective, as it would burden excessively the present generation, or lead to under-provision of public investment. There is indeed substantial empirical evidence that efforts to consolidate public finances have resulted in a decline in capital expenditure before (Turrini, 2004; Mehrotra and Vålilä, 2006) and after the crisis (Watt, 2019; Truger, 2015; Pasimeni, 2019; EFB, 2019). In this context, the main advantage of a golden rule is that by allowing different ceilings and forms of financing for current and capital spending, it may reduce the tendency to reduce fiscal deficits through cuts in capital spending while limiting the space for discretionary debt-financed increase in current expenditure.

However, a more fundamental reassessment of the ‘golden rule’ has emerged in the wake of the Great Recession as part of a broader reflection on fiscal policy in a low interest rate environment (e.g. Blanchard, 2019a; Blanchard, 2019b). In such a context, there is an additional constraint on monetary policy that was not factored-in in previous research; it may add a new perspective to the debate. At the effective lower bound monetary policy may not be powerful enough to stabilize output. As a result, there is a greater role for fiscal stabilization policy and lower fiscal and welfare costs of public debt (Blanchard, 2019a). On this basis, Blanchard (2019b) put forward a comprehensive review of the EU fiscal framework which goes well beyond past reflections on a golden rule and, *inter alia*, includes a recommendation to introduce capital accounting rather than a proper golden rule. The reason is that, in a context of persistently low demand, it may be more efficient to temporarily finance both capital and current expenditure through debt.

There are, however, also more traditional critical assessments of the ‘golden rule’. From a theoretical perspective, using an *ad hoc* endogenous growth model, for instance, Mehrotra and Valila (2006) show that debt rules such as the golden rule may not necessarily improve intertemporal welfare. This largely depends on the consumption elasticity of substitution. From an empirical perspective, instead, Heinemann (2002) points out that the decline in public investment during the nineties was a result of

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<sup>19</sup> The only exception being the UK between 1997 and 2009.

<sup>20</sup> This academic intuition behind this approach goes back to the pioneering work of Musgrave (1939) – the ‘father’ of modern public economics - who cautiously recognised the merit of separating investment from current expenditure to encourage net public investment while considering capital depreciation as current government expenditure. However, he considered debt-financing warranted only for ‘truly self-liquidating’ projects which had to be defined on a project-by-project basis. Musgrave was also sympathetic to critics of capital accounting, who argued that it tends to favour excessively capital over current spending, and clarified that excepts for self-liquidating projects, the disadvantages of the capital-budget scheme outweigh the advantages Musgrave (1939).

high public debt in the previous decades. When this is the case, a golden rule would not help countries that are unable to borrow at acceptable rates. Finally, from a political economy perspective, a 'golden rule' may create perverse incentives to record 'current' expenditure as 'capital' expenditure. From a "functional finance" perspective, this would be highly inefficient and counterproductive in terms of governance (due to difficulties created by unstable and unclear accounting), though not an insurmountable problem as long as the spending mix and fiscal stance are ultimately appropriate. However, a behaviour of this sort would defy the very purpose of 'capital accounting' from a "pure public finance" perspective. As such, this criticism needs to be taken very seriously and addressed from proponents of any form of a golden rule. Against this background, the recent proposal of the European Fiscal Board (EFB, 2019) appears to strike a good balance between political economy considerations and the various criticism of a golden rule.

The Stability and Growth Pact defines, together with other regulations, the Fiscal Rules of the EU<sup>21</sup>; in March 2020, it has been suspended to allow national budgets to cope with the emergency caused by the pandemic. However such suspension is only temporary and the Pact will be reactivated as the emergency fades away.

In its independent review of the Fiscal Rules, the EFB has proposed to introduce the possibility for Member States to top-up expenditures on EU projects beyond their co-financing commitments. These could then be deducted from the calculation of the net primary expenditures, which according to the EFB reform would become a key variable to assess the fiscal stance (currently it is the structural fiscal balance of the general government, e.g. the cyclically-adjusted balance net of one-offs).<sup>22</sup>

Given the limited size of the EU budget and the magnitude of the challenges requiring a common response, this approach could represent a sensible way to increase synergies between EU and national budgets; it would also ensure that expenditure takes place in areas at high EU added value and is properly coordinated at the EU level. The case studies reviewed in the previous section suggest that a closer link to EU policies rather than EU projects is more effective, since the latter come later and reflect the implementation of the policy and not its design.

Such coordination would not only take into account the overall fiscal stance, but it would also be based on a shared governance and policy strategy, instead than on accounting criteria. As a result, the rule would allow for stronger joint control over expenditure design and execution, while providing incentives for Member States to invest in agreed EU public goods, rather than in national or local ones.

Unlike a rule based on accounting definitions, an EU Public Goods rule would be suitable for adaptation over time, in line with evolving policy challenges and changes in the macroeconomic context; a perfect case in point is the current pandemic emergency. Finally, for the most important and strategic long-term objectives, where common rather than joint financing is justified, such a rule could be seen as a preliminary step towards a more sizeable common budget with own resources, including the capacity to borrow, along the lines, for instance, suggested by Andor et al. (2019) and the recent proposal for a Recovery and Resilience Fund (European Commission, 2020).

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<sup>21</sup> The legal basis of the stability and growth pact (SGP) are Articles 121 and 126 of the Treaty on the Functioning of the European Union (TFEU). Protocol 12 of the Treaty gives further details on the excessive deficit procedure, including the reference values on deficit and debt. Article 136 of the TFEU provides for specific provisions to be adopted for the euro area.

<sup>22</sup> The report does not dwell into the details of such rule, which may well be refined, but the direction of the reform – e.g. linking a golden rule approach to EU public goods – is promising.



## **7. Conclusions and Policy Implications**

The identification of EU public goods has customarily been at the core of the debates about the conception and preparation of each round of EU spending programmes. Yet, the magnitude of challenges emerging from the 2020 pandemic outbreak, amid an unprecedented macroeconomic context and the limited size of the EU budget, call for stronger synergies, or vertical coherence, between EU and national investment.

Over the past decade the EU - and the Euro Area in particular - have been investing much less than in previous decades and much less than the United States. This is particularly striking if we consider data on net fixed capital formation. Here the euro area figures are negative, on average, over the recent years. This means that public investment is not sufficient to maintain the existing stock of public capital, let alone increase it.

When we look at capital expenditure from the EU budget only, we see that the share of EU funds devoted to investment has actually increased over the past two decades from about 0,2% to 0,4% of the EU's GDP. However, due to the limited amounts involved, EU expenditure could not offset the fall in public investment registered at the national level. Estimates of sectoral co-movements in EU and national spending broadly point to synergies of the right sign (leverage effect of the EU budget), but very small in magnitude (one or two cents per euro invested).

In light of these results, we put forward a proposal to enhance investment in EU public goods. It has the advantage of not requiring any increase in the EU budget nor a reshuffling of the proposed allocation. Given the existing constraints on EU finances, it rather allows the EU and the Member States to better target and free resources. First, for EU public goods falling under areas where the Union provides for binding legislative frameworks (directives, regulations, etc.), a closer link between national and EU public spending can be established within the policy framework themselves. Second, for EU public goods falling under areas where the Union provides for non-binding legal acts (recommendations), the country surveillance in the context of the European Semester can be extended to selected key investment with high common interest. Third, if EU resources are not sufficient to comply with the agreed standards, special provisions in the relevant regulatory or policy frameworks could ensure that Member States earmark additional resources. Those could be taken into account in the context of a revised fiscal surveillance, formalised with an "EU public good rule", strictly linked to EU policy frameworks, requirements and policies. Fourth, this framework could be applied to strengthen vertical coherence also in newly proposed categories of expenditures (European Commission, 2020a, 2020b).

Such framework would bring several advantages compared to the *status quo* or to a more traditional rule based on capital accounting. First, an EU public good rule would *de facto* endeavour the EU – through national budgets - with means to address the most pressing future challenges (climate change, security, migration, etc.) regardless of how they are currently classified in accounting terms. Second, it would be a way to coordinate investment on public EU (rather than local) goods. Third, it would be flexible enough to evolve in line with macroeconomic and policy developments, while ensuring scrutiny and democratic accountability. Fourth, it would not require a comprehensive reform of EU finances, and can therefore be implemented in the short term. Finally, if the net benefit of common rather than joint financing emerge over time, it may also represent a first step towards a reformed EU budget.

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