

STUDY

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The role of fiscal rules in relation with the green economy



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The role of fiscal rules in relation with the green economy

Abstract

To achieve the necessary green transition in the EU, additional public investments by Member States will need to be mobilised throughout the next decade. In light of the macroeconomic environment of very low interest rates, this calls for a reform of the EU fiscal framework. The paper discusses three approaches for a reform of the fiscal rules to better reflect the need for higher (debt-financed) green public investment: (1) an exemption clause for green public investment; (2) the implementation of a green golden rule; (3) a country-specific benchmark share of government expenditures dedicated to green public investment recommended by the European Commission.

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LIST OF ABBREVIATIONS

COVID-19	Coronavirus Disease 2019
CSRs	Country Specific Recommendations
DBPs	Draft Budgetary Plans
EFSI	European Fund for Strategic Investments
EGD	European Green Deal
EIP	Excessive Imbalance Procedure
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GPI	Green Public Investment
MFF	Multiannual Financial Framework
MIP	Macroeconomic Imbalance Procedure
MTOs	Medium-Term Budgetary Objectives
NRPs	National Reform Programmes
R&D	Research and Development
RRF	European Recovery and Resilience Facility
SCP	Stability and Convergence Programmes

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EXECUTIVE SUMMARY

KEY RECOMMENDATIONS

1. Additional green public investment at the Member State level, at least partially debt-financed, will be needed to address the climate emergency as a central priority for the current EU political cycle. The fiscal framework will need to be reformed to better accommodate green public investment to achieve this goal.
2. Three different approaches to amend the current fiscal framework to better address climate challenges and ensure the necessary green public investment offer themselves:
 - expansion of the investment clause in the Stability and Growth Pact to include green public investment
 - introduction of a “green golden investment rule”
 - a benchmark for green public investment amounting to a pre-determined share of the government expenditures
3. At least one of these approaches should be followed through to enable the flexibility of national budgets to ensure a level of green public investment which – together with private resources – is sufficient to close the existing green investment gaps.
4. Implementation could be top down via the European Semester or bottom up within Member States’ Resilience and Recovery Programs prepared to receive funds from the COVID-19 EU Recovery Instrument. A balanced approach between the two implementation strategies should be pursued.
5. A green taxonomy specifying areas and projects for green public investment should be elaborated as the basis for such a coordinated approach.

BACKGROUND

The new European Commission has set high on its policy agenda the goal of transforming the EU economy in an environmentally sustainable way. In light of the substantial resources required to finance the necessary green transition, private investments need to be re-directed accordingly, and additional public investments by Member States will need to be mobilised throughout the next decade. The current fiscal framework of the European Union, the Stability and Growth Pact (SGP), does not provide enough flexibility for Member States to react adequately to these challenges by increasing debt-financed green public investment (GPI). Public investments are often very pro-cyclical – they are reduced during economic downturns, and are therefore susceptible to short-run fluctuations, making it difficult to bind them to long-term goals such as combating climate change. A changing environment of a prolonged period of very low interest rates has also changed the overall costs of public debt and therefore the costs and benefits of higher debt-financed public investments. Given this, the fiscal rules framework has been subjected to considerable criticism in the aftermath of the Global Financial Crisis – on one hand, for not being able to ensure a reduction of public debt in good times, while on the other hand not being flexible enough in economic downturns. The numerous revisions of the Stability and Growth Pact as well as other further amendments show that the EU fiscal framework is capable of an evolution that reacts to these challenges. In light of the changing economic environment and the prioritisation of measures to achieve environmental sustainability, this leads to the conclusion that the

fiscal framework needs to be amended to better reflect the need for higher public investments with an environmentally sustainable character. These investments will also require additional debt to finance them instead of merely shifting spending priorities – without, however, endangering the fiscal sustainability of the public finances of Member States.

Aim

We discuss three different approaches for such a reform of the fiscal rules.

- The first option is to add an exemption clause for green public investment to the current flexibility clauses of the SGP to help frontload GPI. This would have the advantages of being relatively easy to implement, not requiring Treaty changes and retaining much of the structure of the SGP. It would, however, complicate an already complex set of fiscal rules further and would not ensure that Member States indeed invest the necessary amount towards greening their economies. It would thus sustain the current status quo, while not sufficiently contributing to the stated goal.
- A second approach would be to implement a golden rule for green public investment. This would require the introduction of a specific set of criteria for capital expenditures by governments to be separated from current expenditures and therefore not be taken into account towards the budget requirements and MTOs of Member States. A golden investment rule in that sense would allow green public investment to be undertaken through the issuance of additional debt, and the deficit accrued for this will not be counted towards deficit statistics relevant for EU fiscal rules, while the current account would need to be balanced or fulfil some maximum deficit target. While this would also constitute a further complication of the fiscal framework, a golden rule for green public investment will be efficient in incentivising governments to transform as much as possible from their spending towards GPI. At the same time, this would create administrative burden and a risk of abuse by governments.
- A third approach would be for the European Commission to estimate and the Council to recommend country-specific benchmark shares of government expenditures in each country to be dedicated to green public investment. This would aim to reflect the required level of green public investment also based on a longer-term trajectory. This would have the benefit that it could address the current asymmetry in which the SGP does not address cases in which spending in specific areas, such as fighting climate change, is considered insufficient. Given this target share of GPIs, Member States can qualify expenditures that comply with the criteria determining GPIs for being exempted from the deficit rules. The difference compared to the previous two options is that the Council will pro-actively recommend to Member States that a certain share of their expenditures should be in the form of green public investments. The problem with this approach, however, is that the similar approach regarding debt rules has proven to be complex, while not ensuring that countries comply with the given recommendations.

We also discuss how European institutions can coordinate with the Member States the amount and type of green public investment needed. While one approach can be to streamline the priority projects of green public investment or at least the necessary size through the annual Country Specific Recommendations (CSRs) within the European Semester, this has not proven very efficient in driving countries to actually implement these recommendations in the past. Another way would be to coordinate the implementation through the newly proposed Recovery and Resilience Fund, a part of the “Next Generation EU” initiative that has been developed and presented by the European Commission. The Recovery and Resilience Fund would provide grants and credits to Member States to

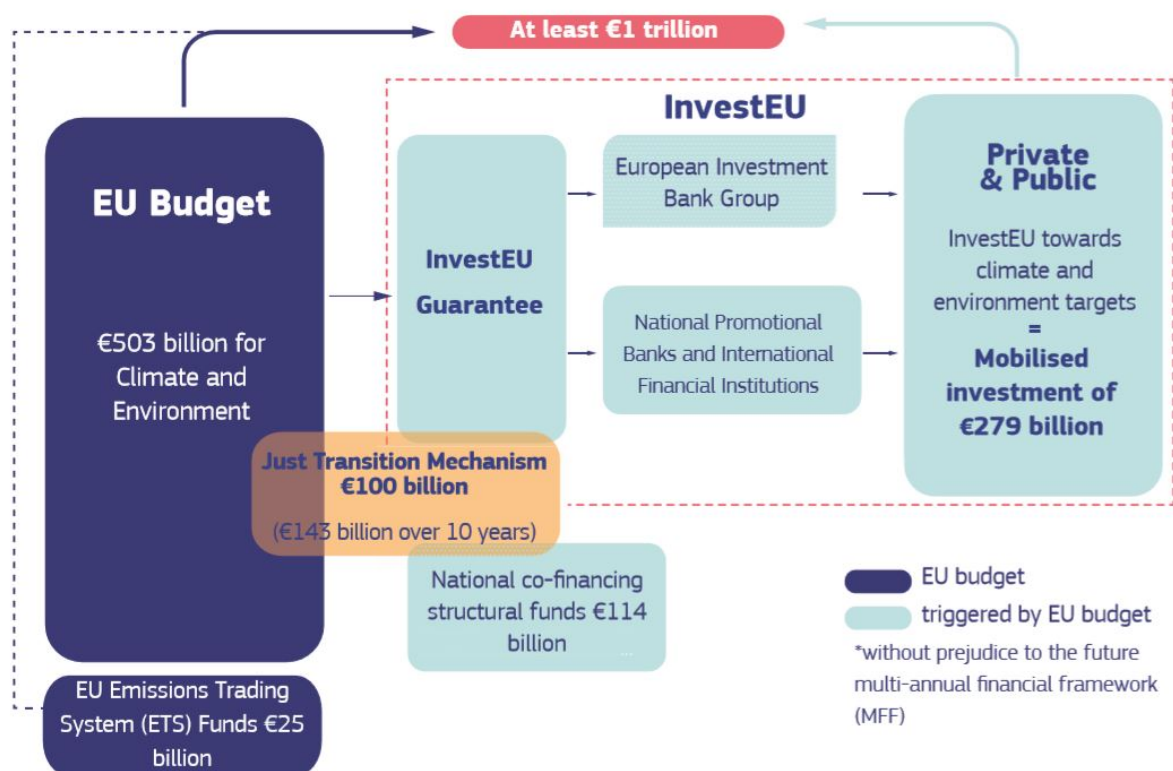
deliver structural reforms and public investment with the main goals of advancing climate sustainability and digitalisation. To obtain approval for these funds, Member States will have to submit Recovery and Resilience Plans which include the proposals for such structural reforms and public investment. This appears to be a well-suited framework with which to specify the size and structure of country-specific green public investment via a coordination between the Member States and at Council level.

1. INTRODUCTION AND BACKGROUND

The new political cycle of the European Union that started after the European Parliament elections of May 2019 and the ensuing instalment of the new European Commission result in new priorities for policymakers and EU institutions for the next decade. Although already embedded in policy goals and numerous strategies and initiatives of the European Union during the last decade, fighting climate change and making considerable efforts towards a greener and more environmentally sustainable economy have moved at the top of the policy goals for EU institutions. The European Union has announced a commitment at the beginning of 2020 to become the first climate-neutral block in the world by 2050. The Annual Sustainable Growth Strategy of the European Commission aims to push for a new paradigm of growth in the European Union which takes into account climate change and the environmental sustainability of investment projects (European Commission, 2019). This goal can only be achieved by an increased commitment by the public and the private sector to ensure the necessary investments, with the active support of national governments and EU institutions in terms of improved EU governance.¹ The European Green Deal Investment Plan will seek to use public resources for investment and to mobilise additional private investment through EU financial instruments notably under the umbrella of the InvestEU programme, with the goal to activate more than €1 trillion in public and private green investment throughout the next decade (Figure 1).

Figure 1: Overview over the European Green Deal Investment Plan

WHERE WILL THE MONEY COME FROM?



*The numbers shown here are net of any overlaps between climate, environmental and Just Transition Mechanism objectives.

Source: European Commission (2020B).

¹ https://ec.europa.eu/commission/presscorner/detail/en/ip_20_17.

At the core of the European Green Deal and the Just Transition Fund lies the achievement of climate neutrality for the European Union by mid-century, making it resource-efficient and fit for the digital age (European Commission, 2020C, 2020D). These ambitious goals would need the mobilisation of a sizeable amount of private and public investment. In the words of Vice President Dombrovskis: “First, we will use the EU budget to leverage private funds for green projects across Europe and support the regions and people most affected by transition. Second, we will create the right regulatory incentives for green investments to thrive. Last but not least, we will help public authorities and market players to identify and develop such projects.”

Thus, the amount of funding that will be needed to close the “green investment gap” (i.e. the annual shortfall of investment required for the transition to a green economy and for the climate goals to be fulfilled) is sizeable. Aside from private investors (Mielke, 2019), national governments will also have to continue to contribute significantly in order for the ambitious goal of a green transition to be achieved.

National government expenditures, spending and budgetary decisions in the European Union Member States are managed under a common fiscal framework, better known as the Stability and Growth Pact, and a coordination mechanism known as the European Semester. The Stability and Growth Pact has been created and designed as part of the European Monetary Union architecture as a regulatory framework to guide the fiscal policy of Member States and to ensure that public finances remain fiscally sustainable. It has been firstly embedded in the Maastricht Criteria. The original Maastricht Criteria revolved mainly around guiding countries to reach an annual government budget deficit below 3% and a debt-to-GDP ratio below 60%. The legal base has been formulated in the Treaty on the Functioning of the European Union. This legal base is better known as the Stability and Growth Pact.

The SGP has been revised multiple times to address some of its previous shortcomings – on the one hand, the rules were criticised for not being binding enough and not working to restrict government debt in good times, and on the other hand for being too rigid in specific situations, e.g. by not allowing sufficient public investments through higher deficits for countries in an economic downturn to counteract it. The SGP was initially criticised for lacking the flexibility to deal adequately with recessionary phases by imposing strict limits on government spending each year, instead of accordingly taking into account business cycle dynamics and medium-term developments in the Member States. This has been seen as restraining national governments too much during economic downturns, as well as limiting growth-enhancing investment. To address these issues, in recent years European institutions have developed and introduced numerous amendments to the SGP. This has made the European fiscal framework better suited to steering macroeconomic policy, but it has also resulted in fiscal rules becoming overly complex and intransparent, which led to a discussion on how to simplify and improve them.

In line with the further prioritisation of the green economy as a way to ensure economic prosperity in an environmentally sustainable manner, the European Commission currently seeks to address the challenges of financing a green transition. The European Commission estimates that the investment needs for achieving a digital transformation and a green transition in light of the current COVID-19 pandemic will be at least €1.2 trillion over the next two years (European Commission, 2020A).

On the 5th of February 2020, the European Commission announced the start of an Economic Governance Review process on the Stability and Growth Pact, which started with a preliminary review published by the Commission itself and a follow-up public debate throughout the year. The goal of the review is to assess the effectiveness of the current fiscal framework in achieving fiscally sustainable government finances and economic growth while avoiding excessive macroeconomic imbalances, as well as enabling closer coordination and promoting convergence in Member States’ economic performance. The public debate also serves to deliver feedback from key stakeholders “on possible

ways to enhance the effectiveness of the framework in delivering on its key objectives". Furthermore, the Economic Governance Review aims to find "the appropriate role of the EU surveillance framework [...] in helping to promote a composition of public finances conducive to sustainable growth and for Member States to sustain adequate levels of investment."² The review explicitly mentions that "the composition of public finances has not become more growth-friendly, with Member States consistently opting to increase current expenditure rather than to protect investment", while "the fiscal framework has become excessively complex as a result of the need to cater for a wide variety of evolving circumstances while pursuing multiple objectives."

This briefing paper seeks to inform and recommend further steps toward making the Stability and Growth Pact fit for the challenges of achieving an environmentally sustainable economy and climate neutrality, while also ensuring fiscally sustainable public finances. We discuss definitions of green public investment and how public investments are embedded in the current fiscal framework, including its evolution in recent years. We also present the changing economic environment of low interest rates and its repercussions for fiscal and welfare costs, as well as the benefits of public investment financed via higher debt. Furthermore, we discuss different options of enabling such higher public investment by reforming the current fiscal rules through different approaches, as well as the challenges involved in the coordination and monitoring by the European Commission, national governments and independent institutions. The recent COVID-19 crisis presents a challenge in that sense, as it has significantly worsened the economic outlook for the coming years, but it also presents an opportunity, as it necessitates and enables higher public investment via the EU Recovery Fund recently proposed by the European Commission (Next Generation EU).

² European Commission (2020D).

2. DEFINITION AND CRITERIA TO IDENTIFY GREEN PUBLIC INVESTMENT (GREEN TAXONOMY)

2.1. Definition of green public investment

In the literature there is no established common definition for green public investment. In its first “Green Investment Report”, the World Economic Forum (2013) argues: “Economic growth cannot be sustained without dramatic increases in natural resource productivity and reductions in carbon emissions. As a result of the clear evidence of negative climate change impacts today, and the potentially devastating impacts in the future, greening investment is a pre-condition for a stable, vibrant and inclusive global economy”. (World Economic Forum, 2013) The European Commission’s Annual Sustainable Growth Strategy mentioned above, the European Green Deal (including the Just Transition Fund) and most recently the European Recovery Fund as well as national COVID-19 recovery plans rely on green investment. These examples, representing various recent strategic papers and declarations by national and international institutions, stress the necessity to strengthen green (public) investment. However, there are no ultimate and uncontroversial definitions, neither of “green” nor of “public investment” or “green investment”. Therefore, the first challenge is to arrive at some operational concept of green public investment. A transparent definition and credible standards with regard to what is “green” is a crucial precondition for any attempt to reform fiscal rules in order to give adequate consideration to green public investment.

Public investment is usually defined as gross fixed capital formation by the state (i.e. by the federal government, the subnational levels of government, and social security institutions). Gross investment corresponds to the balance of fixed assets acquired and sold by the state. The most important public investment items are public buildings, the mobility infrastructure, IT or telecommunication infrastructure, armaments, and Research and Development (R&D) expenditure.

There is no uniform definition of **green investment**. The definitions of green investment provided in the relevant literature often refer to climate change, thereby neglecting other important environmental challenges related to water, soil, circular economy, etc. For example, Eyraud et al. (2011) define green investment as “the investment necessary to reduce greenhouse gas and air pollutant emissions, without significantly reducing the production and consumption of non-energy goods”. This definition includes public as well as private investment. According to the authors, green investment covers three (climate-change related) areas: low-emission energy supply (including renewable energy, biofuels and nuclear energy); energy efficiency (in energy supply and energy-consuming sectors); and carbon capture and sequestration (including deforestation and agriculture).

Green investment as a reaction to climate change can be classified as investment to reduce greenhouse gas emissions (mitigation) and investment to reduce the risks and impacts of climate change (adaptation) (World Economic Forum, 2013). While climate change undoubtedly is one of the most pressing global environmental problems, affecting and threatening countries world-wide, a definition of “greenness” focusing on greenhouse gas emissions and therefore equalling “green” with decarbonization and carbon neutrality, respectively, obviously has its limitations: it neglects other important environmental problems, be they of a more local or a more global nature. Moreover, some low-emission energy sources may be associated with other environmental problems: e.g., the production of biofuels, which is resource intensive with regard to land and water use,³ or nuclear energy, with its potential environmental and health hazards (Ramana, 2009).

³ See, e.g., Munoz Castillo et al. (2019) for the example of Brazil.

The “greenness” of assets can be stated in absolute terms (i.e. an asset is green or not green) or in relative terms (i.e. an asset is more or less green than another one) (Inderst, Kaminker and Stewart, 2012). Green investment is explicitly or implicitly often associated with infrastructure investment, whereby (green) infrastructure can be defined as follows: “Infrastructure can be defined as the basic physical and organizational structures and facilities needed to operate a society or enterprise that enables economic growth and facilitates the everyday life of citizens. Infrastructure can refer to transport (vehicles, roads, rail), water, energy and telecommunications. Green infrastructure can be defined as infrastructure that enables economic growth and at the same time improves the environment (quality of air, health of citizens), helps conserve natural resources, reduces emissions and enables adaptation to climate change. Green infrastructure could include renewable and low-carbon power plants, sustainable and low-carbon vehicles and transport, and energy-efficient, climate-resilient buildings.” (World Economic Forum, 2013). Here, it should be noted that – again – this definition of green infrastructure is based on a climate-related focus.

For the goals of the issue at hand, green public investment can be defined as a public investment with a “greening” character. Generally, infrastructure is the most important element of gross fixed capital formation by the state. Accordingly, the bulk of green public investment will consist of green infrastructure (Mielke, 2019). It will be complemented by green non-infrastructure spending with an investment character, particularly in forestry and green R&D.

A preliminary list of GPI could thus include the following areas:

- green mobility
 - green mobility infrastructure (e.g. urban walking and cycling infrastructure; rail infrastructure; intermodal mobility hubs; charging infrastructure; etc.)
 - green transport vehicles (e.g. low-emission vehicles for micro public transport in rural areas; low-emission vehicles for public transport, e.g.)
- green (i.e. energy-efficient and climate-resilient) public building infrastructure (renovation and construction of new buildings)
 - green public buildings (e.g. school and university buildings; public administration buildings; hospital buildings; etc.)
 - green public housing
- green energy systems
 - renewable energy sources (wind, solar, biomass, hydro, tidal, and geothermal energy)
 - digital technologies for decentralised energy supply
- green public R&D
 - green public R&D expenditures (e.g. public R&D in the areas of renewable energy sources; low-carbon propulsion systems; low-carbon fuels; circular economy technologies; etc.)
 - government support (subsidies or tax breaks) for green (environment- and energy-related) business R&D (e.g. low-carbon product design; circular economy technologies; etc.)
- forestry (e.g. afforestation; reforestation; etc.)

- water (e.g. flood control measures; preservation of ecosystems critical for water supply; efficient water collection, treatment and re-use infrastructure; etc.)

2.2. Classification and criteria to identify green public investment

Amendments to the current EU fiscal framework to enhance the greening of the economy would require a specific classification which public investment qualifies as green public investment.

This could be given by a set of standards that the respective investment fulfils. It is important that these be both precise and easy to examine, in order to ensure that “greenwashing” attempts by governments be limited as much as possible.⁴

At the end of 2019, the political agreement was reached that there is a need for a unified EU system for classifying which economic activities are environmentally sustainable in the context of attempts to mobilise institutional and private capital to finance the green transition. The rule book on green investment provides information on the extent to which different categories of assets and investment products qualify as sustainable investment and can fall under the definition of “green”. A common rule book (“Taxonomy for sustainable activities”) helps all economic actors to follow the same directions on which activities support the goals set under the Paris climate agreement. Hereby, sustainable activities are understood as “economic activities that can make a substantial contribution to climate change mitigation or adaptation, while avoiding significant harm to other European Union environmental objectives, in particular: sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention control, and protection and restoration of biodiversity and ecosystems.” (Technical Expert Group for Sustainable Finance, 2020) The taxonomy splits investments into three categories – “green” (highest grade, includes renewables), “enabling”, and “transition”. The common rules are also important in light of the fact that so far private investors have been making these classifications based on internal considerations that have not been very transparent.

On the 15th of April, 2020, the Council adopted the setting of a unified green taxonomy.⁵ On the 18th of June, 2020, Regulation (EU) 2020/852 of the European Parliament and the Council on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU 2019/2088) was issued. The current agreement is to classify as green investments only activities that contribute to one of six major objectives: climate change mitigation, climate change adaptation, sustainable use of water and marine resources, circular economy, pollution prevention and control and a healthy eco-system. Moreover, for public investments to have a green character, they also have to not significantly harm any of the environmental objectives, they have to be carried out in compliance with minimum social safeguards and they have to comply with technical screening criteria. Although the taxonomy assigns some priority to climate protection, it also considers other environmental goals. This definition, while actually referring to private and not public investment, has the advantage of building on concepts already incorporated or being discussed by the European Commission and therefore could serve as a basis for the elaboration of an operational definition of green public investment, which is to be provided in the context of the European Green Deal and the European Green Deal Investment Plan.

⁴ “Greenwashing” is the practice of presenting financial products as “sustainable” or “green”, even when they do not meet the criteria of environmental sustainability. Greenwashing also refers to marketing and public relations activities by private firms to obtain a “green” image, which are not based, however, on corresponding measures. With regard to green public investment, greenwashing would mean the attempt by governments to declare as green public investment which does not deliver any (substantial) contribution to environmental goals.

⁵ <https://www.consilium.europa.eu/en/press/press-releases/2020/04/15/sustainable-finance-council-adopts-a-unified-eu-classification-system/#:~:text=The%20Council%20today%20adopted%20a,which%20are%20considered%20environmentally%20sustainable>.

This classification can therefore be used as a starting point for defining possible exemptions or other amendments to the EU fiscal framework to make sure that the investments in question indeed constitute a shift to green projects and a low carbon infrastructure.

2.3. Externalities of GPI and long-term positive effects

Public investment encompasses investment in projects that are often associated with long-term positive externalities. Due to the existence of such positive externalities, the long-term social rate of return of such public investment exceeds the private rate of return. Positive externalities are created if the provision of a good or service not only benefits the economic actors directly involved, but also third parties not directly involved in the transaction. In the case of green public investment, these positive externalities inter alia result from the reduction or avoidance of environmental damage and benefit society as a whole. Specifically, with regard to the currently most prominent issue of climate change, these positive externalities consist of reduced or avoided greenhouse gas emissions. As these positive external effects are characterised by non-exclusion, the respective investment will not or only to an insufficient extent be supplied by private investors, as potential users will not be willing to pay an adequate price for the use of these investments.

Furthermore, certain investment projects display specific characteristics which may make it unattractive for private investors to undertake them. Particularly infrastructure networks, which represent the bulk of (public) investment as elaborated in section 2.1 above (among them infrastructure networks supporting the green transition, such as rail infrastructure), have various properties deterring private investors. These range from indivisibilities over long life spans and high fixed and sunk costs to asset specifics, implying high risks and thus impairing the ability and/or willingness of private investors to undertake them. Natural monopoly situations, which are relevant for many infrastructural networks, may also require public involvement. Specifically related to the issue at hand is that the green transition requires the development and implementation of innovative, often risky and untested, green technologies. As private finance is fundamentally risk averse (Mazzucato, 2011), there may be a justification for the state to step in to invest in the development and diffusion of innovative green technologies (Owens et al., 2018). Of course, instead of acting as investor, the state has other instruments at hand with which to make such investment more attractive for private investors and thus stimulate private investment. Such instruments may aim at crowding in private investment via public investment (e.g. interest subsidies, subsidies for R&D spending, public private partnerships, etc.) or at incentivising private investment without involving public investment (e.g. guarantees).

As for public investment in general, an argument can be made for at least partially financing green public investment, which creates long-term benefits, for future generations as well, through public debt, instead of solely relying on tax increases or shifts within the expenditure structure away from other expenditures to green public investment. In the case of green investment, these long-term benefits include the positive environmental externalities mentioned above, but may also consist of long-term productivity-enhancing effects and thus positive effects on long-term growth, which can generally be found for certain public investment (Fournier, 2016; European Fiscal Board, 2019). Based on expert assessments, with regard to stimulus measures to counter the economic recession resulting from the COVID-19 pandemic, Hepburn et al. (2020) find that investment in clean physical infrastructure, building efficiency retrofits, and clean R&D are among the policies combining high climate impact and high multipliers.

According to the “pay as you use” principle (Musgrave, 1939), debt service for debt-financed public investment with long-term benefits accruing to the next generation(s) can be seen as an option to

make them contribute adequately to the provision of such public investment. From this perspective, debt financing of public investment provides for a fair intergenerational distribution (Yakita, 1994; Balassone and Franco, 2000). Moreover, as far as such public investment creates public wealth corresponding to the additional public debt required to finance it, it can be expected to endanger debt sustainability less than debt-financed public consumption. In an empirical analysis for a sample of 17 advanced economies, Abiad et al. (2015) find that debt-financed additional public investment has larger positive short-term and medium-term output effects than budget-neutral additional public investment. The authors also find that debt-financed public investment has not led to a subsequent deterioration of funding costs in terms of sovereign real interest rates in the countries included in their empirical analyses. Finally, green public investment will be self-financing to a certain degree, to the extent that it (as does public investment in general) generates positive growth effects, as the additional growth resulting from public investment will yield additional tax revenues helping to repay the debt incurred to finance it in the first place. Beyond these well-known conventional considerations, the case for debt-financed (green) public investment is further strengthened in the current low interest environment.⁶

2.4. Projections of the “green investment gap”

Earlier estimates by the European Commission (2018) identified a “green investment gap”, i.e. the spending that needs to be undertaken additionally each year to meet the 2030 climate targets compared to a business-as-usual scenario, of at least €180 billion per year. In its communication “United in delivering the Energy Union and Climate Action”, the European Commission (2019) estimates the annual investment gap to reach the EU’s climate and energy targets by 2030 at €260 billion per year. As Claeys and Tagliapietra (2020) point out, this estimate is based on the EU target to reduce greenhouse gas emissions by 40% by 2030 relative to 1990 levels. Accordingly, the new target envisaged by the new European Commission to cut greenhouse gas emissions by 50% to 55% by 2030 implies an even larger green investment gap. It could increase further in light of recent estimations of the EU carbon budget consistent with the Paris Agreement, suggesting that even an updated emissions reduction goal of 50% to 55% may be insufficient (Andersen and Stoddard, 2020).

In its most recent relevant communication in the context of assessing green investment gaps “Identifying Europe’s recovery needs” (European Commission, 2020A), the European Commission estimates the investment needs to deliver the green transition and digital transformation at a minimum of €595 billion per year for the coming decade. This estimate includes additional investment required to achieve the EU’s 2030 climate and wider environmental policy goals of about €470 billion per year.⁷ It can be broken down into investment needed to reach the EU’s 2030 climate and energy targets aimed at reducing greenhouse gas emissions by 40% by 2030 (€220 billion annual investment in the areas of renewable energy, construction, and industrial/other energy efficiency), and another €120 billion annual investment into Europe’s wider transport infrastructure. In addition, €130 billion annually should be invested in wider environmental objectives, which are not directly connected to the emissions targets, i.e. environmental protection, resource management, and the circular economy.⁸ These estimates do not differentiate between private and public investment. Furthermore, they are not broken down to individual Member States, so that country-specific green investment gaps are not available.

⁶ See section 3.3 for a detailed discussion.

⁷ A green investment gap in a similar order of magnitude (€349 billion annually for the period 2021 to 2027) is estimated by Agora Energiewende (2020).

⁸ The latter result from the 8th Environmental Action Plan, the Biodiversity Strategy, the Farm to Fork Strategy, the Circular Economy Action Plan, and the Zero Pollution Action Plan.

The size of this green investment gap and the overall difficulties regarding finding a compromise on the size and the priorities for the next European budget (the Multiannual Financial Framework (MFF) 2021 – 2027) mean that a significant part of the funding for the increased investment will have to come from the national rather than the EU level and from private investors (Claeys and Tagliapietra, 2020). There is a consensus in academia as well as (international) institutions that the green transition needs a fundamental re-orientation and shift of private investment towards green projects, supported by measures to make green investment more attractive to the private sector. A certain part of the green investment, however, will need to come directly out of Member States' budgets to complement private investment. In this context, the European Commission (2020A) points out that, even before the outbreak of the COVID-19 crisis, the level of public investment in the EU27 was too low to keep the public capital constant as a share of GDP; stabilising it would require additional public investment of €100 billion compared to Spring 2020 forecast plans.⁹ From this perspective, the amount of additional public investment necessary throughout the coming decade is also considerable.

It is informative to contrast the budgetary costs incurred by green investment in climate change mitigation and adaption as well as further environmentally relevant areas with the “cost of inaction”, i.e. the damage cost resulting from a business as usual scenario. There are a number of studies estimating the cost of inaction with regard to climate change at the pan-European, national, and regional levels, some of them focusing on one or more specific sectors and/or regions (e.g. coastal areas) (see European Environmental Agency (2017), for an overview). Particularly interesting in the context of this briefing paper is a simulation analysis undertaken by Ciscar et al. (2014)¹⁰ projecting the economic costs resulting from climate change in the EU at about €190 billion, with a net welfare loss corresponding to 1.8% of current GDP, at the end of this century (compared with 2010). This simulation demonstrates that damage costs would be distributed rather unequally across Europe: while they would be rather limited in Northern Europe, they would reach considerable levels in south-central Europe and southern Europe. Limiting global warming to 2°C is expected to reduce damage costs in the EU to €120 billion (equivalent to 1.2% of current GDP). As this assessment includes a limited number of sectors and related climate change impacts only, these estimates for the cost of inaction can be regarded as rather conservative.

⁹ Considering that during the green and digital transition phase part of the existing public capital stock (e.g. publicly-owned “brown” infrastructure) will have to be replaced before reaching the end of its normal economic life, so that a higher depreciation rate applies to the public capital stock, the annual investment gap could be even higher. For example, assuming a depreciation rate of 7% instead of the current 5.5% would raise the annual public investment gap from € 100 billion to € 190 billion per year (European Commission, 2020A).

¹⁰ This is the most recent estimation for the EU; unfortunately, there are no newer estimations available.

3. (GREEN) PUBLIC INVESTMENT IN THE CURRENT EU FISCAL FRAMEWORK (SGP) AND LIMITATIONS

The Maastricht Treaty and the subsequent embedding of its fiscal criteria in the European Union fiscal framework (also known as the Stability and Growth Pact) has been one of the cornerstones of economic policy making in the European Union's history and architecture. The framework of fiscal rules has been considered central in the European Monetary Union to ensure that countries pursue sustainable fiscal policies, to limit redenomination risks, to provide more certainty for medium-term fiscal developments between Member States, guaranteeing fiscal sustainability, and to avoid possible spill-overs from sudden shocks and fear of Member States' government budget imbalances. The fiscal rules in the form of the Stability and Growth Pact have, however, at times been found to be too rigid and to hinder the necessary counter-cyclicality of fiscal policy and public investments during economic downturns. The current EU fiscal framework has been amended and reconstructed in recent years – on the one hand to increase the effectiveness of the fiscal rules and make them more stringent, on the other hand to allow some specific cases of flexibility to the rules (e.g. under specific cyclical conditions).

This has resulted in a number of exemption clauses in the Stability and Growth Pact, as well as numerous discussions that can be used as blueprints for proposals regarding a future reform of the fiscal rules to better reflect the needs of the green transition. This section highlights the history and evolution of the fiscal framework, as well as the recent changes and ongoing discussion on how to improve fiscal rules. It also discusses important changes to the economic environment – in light of the secular decline of interest rates across advanced economies, as well as the challenge of pro-cyclical public investments throughout the business cycle. These factors lead us to conclude that a further amendment to better enable green public investment would be beneficial for the EU fiscal framework.

3.1. The Stability and Growth Pact and its historical evolution

The Stability and Growth Pact was initially devised in 1997 as a monitoring mechanism to evaluate and assess whether the fiscal criteria of the Maastricht Treaty are followed through by the Member States. The Maastricht Treaty, designed in 1992 and enacted in 1993, imposed that countries should maintain an annual government deficit below 3% of GDP and a debt-to-GDP ratio below 60%. The government deficit threshold is however a lower bound and governments should aim at balancing their budgets over the medium term, which requires surplus during good economic times.¹¹ The overall goal is to ensure the fiscal sustainability of public finances, and to achieve this goal the 60% debt-to-GDP limit has gained in importance in recent years, as only accomplishing an annual deficit of below 3% has been deemed insufficient. In 2005, the SGP has been amended to include a Medium-Term Budgetary Objective (MTO) that is being calculated by the European Commission to be followed by Member States as an adjustment path towards reaching a more fiscally sustainable budgetary stance. The MTOs have been a step toward moving from annual to structural budgetary targets that take into account the country's current economic situation and set budgetary targets that Member States have to reach in the next three years.

The main goal of the Stability and Growth Pact is to reduce or hinder the formation of fiscal imbalances in national budgets by limiting excessive budget deficits and the accumulation of excessive public debt. Fiscal rules are used to counteract two shortcomings of fiscal policy: a deficit bias on behalf of governments, which may make excessive use of deficits in bad (and possibly good)

¹¹ As stipulated at the Amsterdam Summit in 1997.

economic times; and a time-inconsistency problem, meaning that the deficits are not overturned and compensated by budget surpluses in good economic times, thereby enhancing pro-cyclicality and eroding the fiscal space of governments (Kopits and Symansky, 1998; Kydland and Prescott, 1977).

In the imminent aftermath of the Global Financial Crisis, there was a widely shared view that the Stability and Growth Pact has been unable to limit pro-cyclical policy and has failed to incentivize governments to build the necessary fiscal buffers to withstand an economic crisis.

According to this view, excessive deficits in good economic times have not been sufficiently controlled and sanctioned, thus failing to ensure that Member States take better care to build up fiscal resilience for economic downturns. Two detailed reforms have therefore been implemented. First, in 2011, the Six-Pack reform enhanced the fiscal surveillance by strengthening the preventive arm of the SGP and introduced the concept of a significant deviation from the MTOs or from the adjustment path towards them. A process for sanctioning Member States if they do not comply with these objectives and allow for significant deviation from the MTOs has also been enacted. Furthermore, the Six-Pack reform introduced a government expenditure benchmark as a more direct way to monitor and control government actions, since deficit and debt criteria in relation to GDP are susceptible to changes outside of government control, as well as the Macroeconomic Imbalance Procedure (MIP) and the Excessive Imbalance Procedure (EIP) which can be enacted against a country if it fails to take action regarding specific recommendations and commitments.

The Six-Pack was an attempt to strengthen the fiscal rules and was followed by the Two-Pack Reform in 2013. It introduced further procedures of surveillance on the budgets of Member States by embedding them in an annual cycle – the European Semester, coordinated between the European Commission and Member States. The European Commission and the Council monitor and comment on Member States' budgetary plans which have to be submitted each year by the 15th of October. Even though the recommendations have a non-binding character, this approach in which Member States, the European Commission and the Council coordinate the budgetary decisions of national governments has set an important precedent of coordination that can be useful, given the currently envisioned needs for higher public investment discussed in this briefing paper, as well as given the intention by the European Commission to bring climate change considerations into the European Semester.

The Six-Pack and Two-Pack Reform have been implemented in an attempt to ensure that Member States would not fail to build fiscal buffers in good economic times and endanger their public finances. The lack of effectiveness at building such fiscal buffers in good economic times has made it difficult ex-post for countries to react in a counter-cyclical manner during downturns. The Stability and Growth Pact has, however, also been criticised for its lack of flexibility to enable higher government expenditure and public investments via higher deficits when they were most needed from a macroeconomic standpoint. Ubide (2019) points out that the "SGP was created for a world that no longer exists". This lack of flexibility in a situation when the economy is perceived to be in a situation known as a "liquidity trap"¹² has been criticised as an important limitation of the SGP in enabling countries to implement proper countercyclical macroeconomic policy during economic downturns.¹³

¹² A liquidity trap is a situation in which it is assumed that the central bank main economic policy tool – a decrease in the interest rate – is no longer efficient at stimulating the economy.

¹³ Pekanov (2019) gives a detailed overview about the recent discussions regarding reforming the European Monetary Union architecture, the importance of a fiscal stabilisation instrument and numerous reform proposals to improve existing imbalances.

In 2015 a Communication by the European Commission on the use of flexibility clauses and their interpretation was published, focusing on a more flexible application of the SGP rules by taking into account the following factors:

- exceptional circumstances,
- structural reforms and other relevant factors, and
- investment.

While the Six-Pack and the Two-Pack reforms have sought to amend the fiscal framework by embedding stricter mechanisms for compliance with the debt and deficit rules, to address some of the earlier criticisms, flexibility clauses¹⁴ seek to provide the necessary leeway for countries to exempt part of their government spending from deficit statistics under specific conditions. The clauses define such conditions and should therefore enhance the necessary flexibility to allow countries not to cut spending sharply during recessions.

Most importantly, for the goals of this briefing paper, the **investment clause** in the Stability and Growth Pact is a way to enable more investment, especially in times of economic downturns. The Communication enabled a reinterpretation of the existing fiscal rules, without the need to explicitly change them or legislative action. After a thorough exchange between Commission and Council, the Communication indeed led to the amendment of the Council's Code of Conduct of the SGP in February 2016 that enabled the flexible application of the SGP.

In the current version, for the investment clause to be invoked, the following conditions are to be met:

- GDP growth in the Member State in question is projected to be below its potential level (with a negative output gap larger than 1.5% of GDP),
- The country is not under the corrective arm and has a certain safety margin in terms of the maximum deficit of 3% of GDP,
- The projects for which the government spending will be used are projects that have already obtained EU funds, e.g. funds from the EFSI (popularly known as the "Juncker Fund"),
- The deviation is capped at 0.5% of GDP for the investment clause deviation of the MTOs; if there is a deviation along the structural reform clause, the combined deviation cannot be more than 0.75% of GDP,
- The exemption clause is activated only once along the adjustment path to achieving the MTOs and the MTOs should be fulfilled in the 4 years of the relevant Stability Programme of the Member State.

Although the investment exemption clause has been assessed as a positive change to the SGP, the strict conditions have made it very difficult to be invoked. So far, only two countries (Italy and Finland) have made use of it, pointing towards the fact that binding it to such strong conditions makes it less effective in providing the flexibility the clause is aiming for. Furthermore, as they are currently envisioned, flexibility exemptions present the possibility of a temporary deviation from the Member States' MTOs, which requires some necessary compensation over the medium term. This might mean

¹⁴ Introduced by a European Commission Communication "Making the best use of the flexibility within the existing rules of the SGP" in January 2015. The Communication clarifies how the Commission would implement the flexibility clauses when assessing the compliance of Member States with the Pact. This reinterpretation did not require legislative change. The European Council endorsed this new approach in February 2016, which led to an update of the Code of Conduct of the SGP ("Specifications for the implementation of the Stability and Growth Pact").

that they are not well suited to address challenges that would require additional investment in the long term for the green transition.

In the aftermath of the European sovereign debt crisis, another focus of economic policy in the European Union has been on structural reforms to enhance economic growth. Structural reforms have therefore also been implemented in the SGP with a specific **structural reform** exemption clause. They can be pursued under the fiscal rules within the structural reforms clause if they are major, have long-term positive budgetary effects and are fully implemented. It is especially important that reforms have a verifiable impact on the long-term fiscal sustainability of public finances. Such a concept could in principle also be extended to the eventual future amendments to the fiscal framework that take into account GPI. Regarding amending the current fiscal rules in relation to the green economy and in terms of environmental sustainability, reforms that have a clear positive environmental impact and contribute to enhancing the long-term sustainability of the economy can be pursued.

Table 1: History of major changes to the EU fiscal framework, 1993 – 2019

Evolution of the SGP	Year	Amendment
Maastricht Criteria	1993	Requirement for Member States to avoid government deficits above 3% of GDP and to keep public debt levels below 60% of GDP
Stability and Growth Pact	1997	Monitoring of national fiscal policy and enforcement of the Maastricht Criteria
2005 Reform	2005	Introduction of structural balances as indicators instead of nominal budgetary targets, thereby correcting for the economic cycle; introduction of Medium-Term Budgetary Objectives (MTOs) and a benchmark of 0.5% annual progress towards it in terms of debt-to-GDP ratio
Six-Pack Reform	2011	Strengthening the preventive arm of the SGP and introduction of the concept of a significant deviation from the Medium-Term Budgetary Objectives or from the adjustment path towards it; introduction of an expenditure benchmark and the Macroeconomic Imbalance Procedure Introduction of the European Semester
The Treaty on Stability, Convergence and Growth (TSCG)/Fiscal Compact	2012	National budgets have to be balanced – the budget deficit should not exceed 3.0% of the gross domestic product (GDP), and the structural deficit should not exceed a country-specific Medium-Term budgetary Objective (MTOs) Introduction of a debt brake rule
Two-pack Reform	2013	Monitoring and assessment of Euro area Member States' budgetary plans and a stricter enforcement for Member States under the corrective arm
Communication on Flexibility (Exemption Clause)	2015	The Communication clarifies how the Commission would implement the flexibility clauses when assessing the compliance of Member States with the Pact

Source: Author's summary.

3.2. Recent discussions regarding the EU fiscal rules framework

Even after the changes described above, there is disagreement on whether the current setup of the Stability and Growth Pact is optimal for the efficient policy making of EU Member States. The discussion on whether fiscal rules should be more stringent or more flexible is broadly shaped by the discussions on whether the EMU needs more risk-sharing or more market-based disciplining mechanisms. Importantly, the Stability and Growth Pact has been built around the predominant viewpoint of the recent decades that mainly monetary policy should be used for macroeconomic stabilisation by targeting a specific inflation target and thereby ensuring price stability, while fiscal

policy retains an explicit focus on fiscal sustainability¹⁵. The aftermath of the Global Financial Crisis has however directed discussions to a more active role of fiscal policy for macroeconomic stabilisation.¹⁶

An influential discussion on some of the shortcomings of the current EMU architecture by 14 German and French economists in January 2018 (Bénassy-Quéré et al., 2018) includes a reference to the shortcomings of the current fiscal rules: “Fiscal rules are non-transparent, procyclical, and divisive, and have not been very effective in reducing public debts”. On the one hand, some authors point out that the fiscal rules in their initial form were too rigid and did not enable national governments to use their budgets for countercyclical fiscal stimulus. On the other hand, however, budgets were procyclical in expansionary times and governments have not taken enough fiscal effort in good times to build fiscal buffers, thereby self-defeating the possibility to be able to run a countercyclical fiscal stance when needed. In the end, in the current form of the fiscal framework, the approach taken by the European Commission seeks a technocratic compromise between reducing debt on the one hand, while enabling fiscal stabilisation and public investments when needed on the other (Deroose et al., 2018). Different recent proposals have discussed ways to address this by setting an upper limit on the annual growth of nominal government expenditures – e.g. Feld et al. (2018) and Darvas, Martin and Ragot (2018) propose different forms of rules for annual government expenditures (Annex II provides a summary).

The European Fiscal Board (2019) published a broader review on the EU fiscal rules in September 2019 assessing whether the current EU fiscal rules are effective at ensuring the long-term fiscal sustainability of public finances, stabilising economic activity in a counter-cyclical fashion and improving the quality of public finances. The report recommended a simplification of the current EU fiscal rules and the improving of its governance. To achieve this, the reformed SGP should have one single target – sustainable public debt; one single instrument (a maximum net expenditure growth); and importantly only one general exemption clause. The report mentions the low-interest rate environment as a specifically beneficiary environment for such a change: “More attention to stimulating growth-enhancing spending is warranted by the likely persistence of a low-interest-rate environment as well as by the increasingly specific nature of EU investment initiatives”. In light of this, amendments to the current fiscal framework can be viewed as necessary.

3.3. Public investments and the cost of debt in a low interest rate environment

While green public investments have not yet been examined separately in terms of their relation to the Stability and Growth Pact, public investments and government expenditures more generally have been the central element of analysis on how to improve the EU fiscal framework. As a first step to assessing whether and how the European fiscal framework should be amended to better enable green public investment, the costs and benefits of public investment in general in the current macroeconomic environment are discussed. This question inevitably depends on the relative fiscal and welfare costs of higher debt. A major criterion for assessing whether investments financed through higher debt are beneficial from a macroeconomic point of view is the current environment of very low interest rates.

Long-term real interest rates across advanced economies have seen a steady decline in recent decades. One way to assess this is by observing long-term government bond yields, which are a

¹⁵ For a discussion on this separation of monetary and fiscal policy see Kirsanova, Leith and Wren-Lewis, 2009

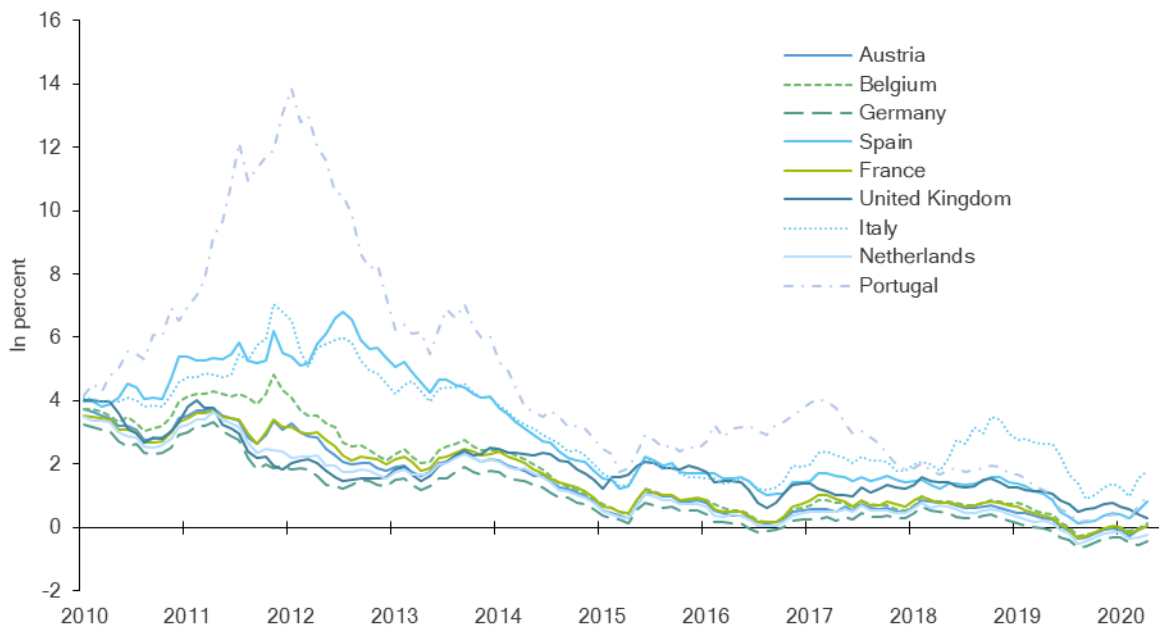
¹⁶ See Furman (2016) and Constâncio (2020); for an overview of the literature regarding the arguments for a shift towards more active fiscal policy see Pekanov (2018).

market-based assessment of long-term interest rates. Figure 2 shows the considerable decrease that 10-year government bond yields of selected Euro area countries have undergone in recent decades. Market expectations also point towards interest rates, as well as inflation, remaining at very low levels for a long time, thus resulting in low real interest rates (Ubide, 2019).

This secular decline over the last three decades has important implications for the fiscal sustainability of public finances. While central bank interest rate policies have played a role in contributing to this after the global financial crisis, policy makers (Constâncio, 2016; Yellen, 2017) have pointed out that the low interest rate environment can also be connected to a decline of the equilibrium interest rate r^* . The equilibrium (or natural) interest rate is one of the fundamental concepts in monetary economics and is based on the idea that there is a unique short-term interest rate that ensures that the potential level of production is reached and inflation remains stable at the chosen target level (Wicksell, 1898). Theoretical estimations by Holston, Laubach and Williams (2017) on the equilibrium interest rates in advanced economies point towards their considerable decline in recent decades (Figure 3). Monetary policy is neutral when the nominal short-term interest rate is equal to the natural real interest rate plus inflation. Because the natural real interest rate has undergone such a historical decline to very low levels in many developed countries, this results in an equilibrium low nominal short-term interest rate.

A growing literature is addressing the question of whether this decline in r^* can be attributed to secular developments in the economy such as demographics and ageing (Gagnong, Johannsen and Lopez-Salido, 2016) or a secular stagnation phenomenon (Summers, 2015; Eggertsson, Mehrotra and Robbins, 2017), or whether it is due solely to cyclical conditions and an incomplete recovery of the global economy (Holston, Laubach and Williams, 2017; Gourinchas and Rey, 2016).

Figure 2: Interest rate – 10 years government bond yields, selected countries



Source: Eurostat.

Figure 3: Estimates of natural equilibrium rates, Euro area, UK and US



Source: Holston, Laubach and Williams (2017).

These low equilibrium interest rates are likely to remain at this level for the foreseeable future (Rachel and Smith, 2017). If nominal interest rates remain low, this makes fiscal policy less constrained in the short and long run, as governments can issue debt at lower costs, with some countries even issuing debt at negative rates. In an influential speech at the American Economic

Association Annual Meeting in 2019, Olivier Blanchard (2019)¹⁷ makes the case for why such a low interest rate environment changes some standard macroeconomic considerations on the costs of debt and discusses the economic policy implications. If long-term interest rates are expected to stay at very low levels for a prolonged period of time, as is currently the case for many advanced economies, and if they will be below the growth rate of GDP for this period, it makes sense for governments to issue new debt without the need to repay all of it by increasing taxes later on, as it will be partly eroded by nominal growth and inflation. Under a very low long-term interest rates environment, arguments often voiced against using debt for financing public investments may be less persuasive. Low interest rates for longer periods and lower fiscal and welfare costs of debt make a larger set of public investments worth pursuing (Blanchard, 2019). Even though the cost of additional debt might be low right now, it is still important to point out that this will only be the case for countries that pursue fiscally sustainable public finance trajectories and do not come under risk of being assessed as insolvent by markets. This is not the case in countries that have already put themselves under the burden of spending large shares of their annual tax revenues just for servicing interest payments on debt that was accumulated before in a unsustainable manner. **All of this implies that due to the lower interest rates, states should pursue higher public investments than in a situation of a higher interest rate, if the risk-adjusted social rate of return on public investment has not changed. In the Euro area, therefore, the combination of the trends towards a low equilibrium interest rate and the expansionary monetary policy of the European Central Bank make it more beneficial for governments to expand public investment, not only due to its own merits, but also because the cost of this additional debt is very low.**

3.4. Cyclicity of investment

Even though interest rates have followed a prolonged downward trend, recent years have not seen an increase in public investments. In many EU countries public investments have suffered in the aftermath of the global financial crisis, as public investment is pro-cyclical (European Commission, 2020A). The period of fiscal consolidation has further contributed to this. Public investments have a cyclical character and often suffer from considerable reductions during economic downturns, as they are easier to reduce without significant political cost in comparison to current expenditures, government transfers or other programs. Since the global financial crisis, public investments have markedly declined as a share of current primary expenditures in EU Member States – especially in more indebted countries (Figure 4 and Figure 5). The European Fiscal Board (2019) argues, based on ample empirical evidence, that productive public expenditures, especially in research and development, education and transport, can have significant long-term positive economic effects. **Nevertheless, productive public investment in 2017 was at the same or a lower level in many advanced European countries, both as a share of GDP and as a share of total government expenditure compared to 2007** (Figure 6 and Figure 7¹⁸). As the European Fiscal Board (2019) points out in relation to how the fiscal framework can be amended during fiscal consolidation periods: “To prevent misallocation of resources, some key expenditure categories, such as productive investment, could be protected.”

At the same time, during an economic downturn, government spending is normally more beneficial for the economy. While in good economic times it is often assumed that government spending might just push away private investment,¹⁹ in times when the economy is producing under

¹⁷ <https://pubs.aeaweb.org/doi/pdfplus/10.1257/aer.109.4.1197>.

¹⁸ Analysed in the European Fiscal Board (2019) review on fiscal rules, Chapter 5.

¹⁹ Known as the phenomenon of public spending crowding out (i.e. substituting) private investment.

its potential output (i.e. when there is a negative output gap), government spending can be a substitute for private spending and induce crowding-in – i.e. stimulating further private spending as a result of the initial government spending. This crowding-in effect is the central argument for higher public investment during recessions in modern macroeconomic theory. A large branch of recent literature deals with fiscal multipliers during recessions and finds that government spending increases have a much higher positive effect on the economy in bad economic times (Farhi and Werning, 2017; Nakamura and Steinsson, 2014; Chodorow and Reich, 2018).

Any future amendments to the fiscal framework to better enable green public investment can also be made conditional on cyclical factors in the economy. If an exemption for green public investments is enacted in the fiscal framework in a counter-cyclical way, the framework should be devised so as not to hinder public investment with positive net present value (NPV) in good times, but rather to further incentivise governments to make additional investments in bad times. Thus, such green public investments can also act as automatic stabilisers. Member States can pre-prepare projects to be used during recessions,²⁰ when the benefits of such public investments are higher because of crowding-in effects. Although this can be beneficial, it is questionable how realistic it can be that projects that are economically rational can be halted until times of recession, when they will be most cost-effective to implement.

Furthermore, while some Member States have not managed to reduce their debt-to-GDP ratios in the recent decade so that they are still well over 100%, it is questionable whether this failure should also result in them being unable to invest in the green economy as necessary. One approach to this problem can be to let “bygones be bygones”²¹: since what matters for the long run is the direction of debt related to GDP, deviations that enable green investment might imply both a more climate-friendly economy and a better, not worse debt-to-GDP ratio, if the public investment in question leads to an over-proportional increase in GDP (e.g. the multiplier is higher than 1 in the long run). As explained by Ubide (2019), fiscal space should be pursued as a flow, rather than a stock concept, and decisions on the suitability of further debt should be made based on that. Changes in the indebtedness of a country are dependent not only on the primary balance of the country (i.e. the current deficit excluding interest payments), but also on the interest cost of debt and GDP growth. Furthermore, at high levels of indebtedness, the debt-to-GDP ratio depends more on economic growth and the interest cost of debt and their difference than on the evolution of deficits. Policies which can affect potential growth in the future, such as green public investment, and in cases where their benefits outweigh the costs, can actually improve the debt path and reduce indebtedness, even when financed via deficits.²² In that sense, especially in phases of cyclically poor economic conditions, green public investments can yield the biggest return and highest multipliers, as argued in the recent literature (e.g., Hepburn et al., 2020; Popp et al., 2020), independently of the debt situation of the country in question.

Aside from the additional costs arising from green public investments in terms of rising debt, green investments can have a significantly positive role in ameliorating climate related and other environmental risks. Climate change is a significant structural factor and risk for many economies in the coming decades, and overcoming the risks of inaction will be linked to significant benefits, even if these are difficult to estimate exactly. Such estimated benefits depend on difficult

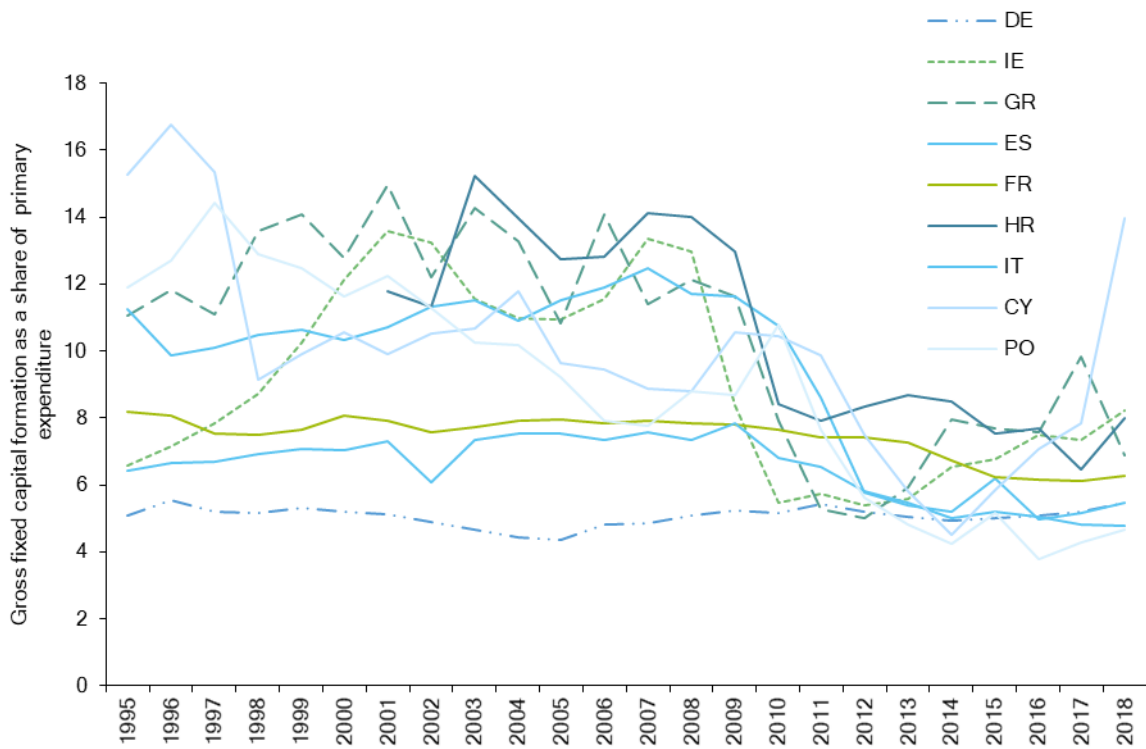
²⁰ Furman (2016) discusses the importance of having a portfolio of “shovel ready” projects for public investments during recessions, see: <https://voxeu.org/article/new-view-fiscal-policy-and-its-application>.

²¹ On the idea that past fiscal policy mistakes should not be used as justification for not enacting the proper fiscal policy stance today, see Ubide (2019): Fiscal Policy at the Zero Lower Bound; <https://www.intereconomics.eu/contents/year/2019/number/5/article/fiscal-policy-at-the-zero-lower-bound.html>.

²² The idea that government expenditures for fiscal stimulus programs during deep recessions can pay for themselves through growth effects is explained well in DeLong and Summers (2012).

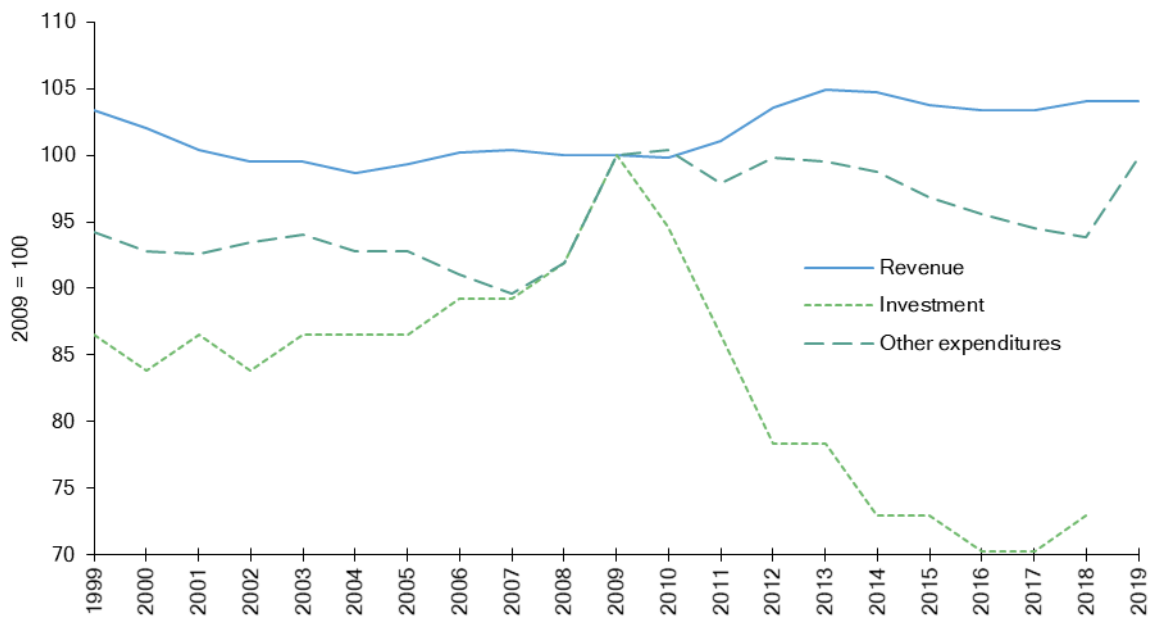
assumptions about the discount rate and imply different net present values (NPV) of the investments in question. As discussed in chapter 2.3, however, the cost of inaction with regard to climate change, despite the uncertainties associated with their estimation, can be assumed to be of considerable size; green (public) investment should be able to make an important contribution to avoid or at least decrease them.

Figure 4: Estimates of natural equilibrium rates, Euro area, UK and US



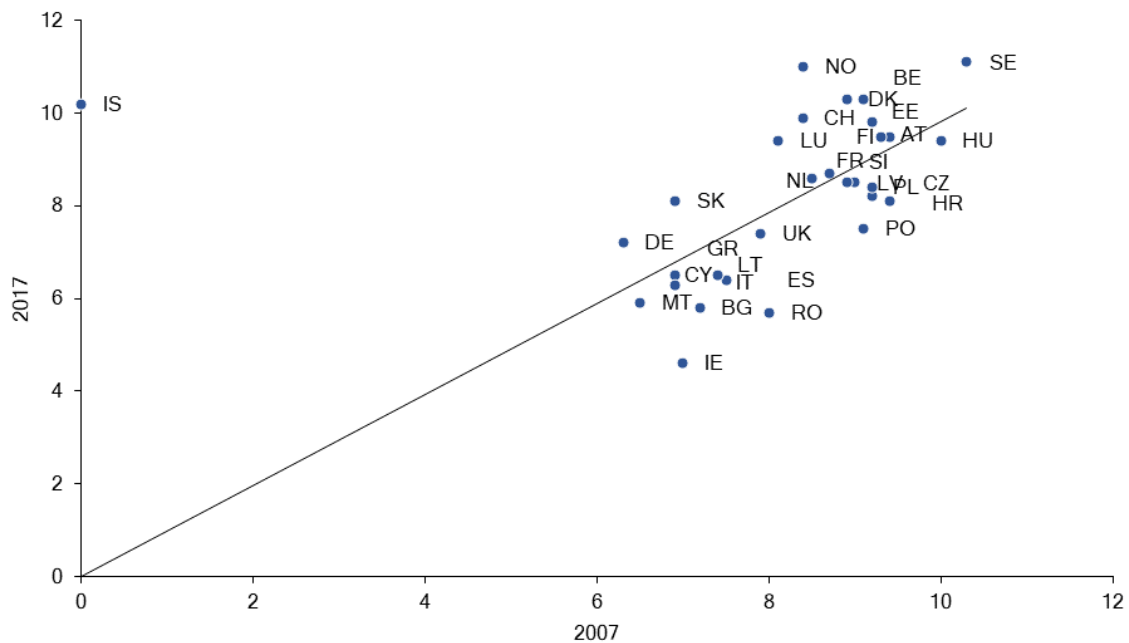
Source: Eurostat. – Primary expenditure = Total general government expenditures minus property income.

Figure 5: Euro area general government revenue, investment and other expenditures as a percent of GDP



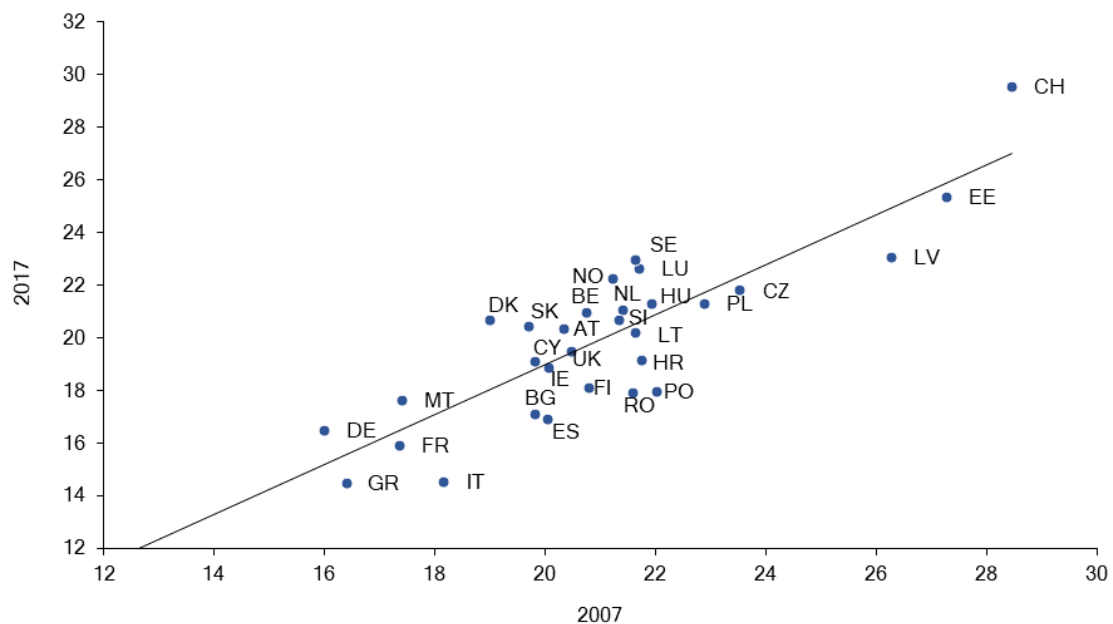
Source: Eurostat.

Figure 6: Share of productive public expenditure in GDP, 2007 and 2017



Source: Eurostat. Productive public expenditures = Basic research + R&D General public services + R&D Defence + R&D Public order and safety + Transport + R&D Economic affairs + R&D Environmental protection + R&D Housing and community amenities + R&D Health + R&D Recreation, culture and religion + Education + R&D Social protection.

Figure 7: Share of productive public expenditure in total primary expenditure, 2007 and 2017



Source: Eurostat. Total primary expenditure = Total general government expenditures minus property income. Productive public expenditures = Basic research + R&D General public services + R&D Defence + R&D Public order and safety + Transport + R&D Economic affairs + R&D Environmental protection + R&D Housing and community amenities + R&D Health + R&D Recreation, culture and religion + Education + R&D Social protection.

4. OPTIONS/RECOMMENDATIONS TO FURTHER GPI

EU Member States and the European Council have set the goal of enhancing green and sustainable investment as a central priority for the current political cycle. The fiscal framework will need to be reformed to better accommodate green public investment to achieve this goal. A successful transition to a green economy would require significant public and private resources that will go beyond the scope of the ambitious European Green Deal. The European Commission has presented the European Green Deal (EGD) as its flagship “new growth strategy” with the promise to mobilize the necessary resources to tackle climate change, ensure a green transition and fulfil the commitment of reducing global warming by 1.5°C by 2050 in accordance with the Paris Climate Agreement. More specific EU goals revolve around the proposed decrease of greenhouse gas emissions by between 50% and 55% by 2030 compared to 1990 levels as well as reaching a share of at least 32% of renewables in energy consumption and at least 32.5% energy saving in comparison to the business-as-usual scenario.

The European Union long-term budget (the Multiannual Financial Framework) will also not be sufficient to help mobilise the resources needed, as it is already overburdened with multiple priorities. Any attempt to shift MFF expenditures towards climate-related spending beyond the 30% climate mainstreaming goal currently envisaged will also encounter considerable political difficulties and would, even if successful, be insufficient. **Instead, new government expenditures at the Member State level, at least partially accompanied by additional debt, would be needed to address the climate emergency.**²³ **To allow for such new debt-financed expenditures, the fiscal framework would need to be revised or reformed. In the following section different options and recommendations on how to improve it to better embed green public investments are discussed.**

4.1. Options/recommendations to further GPI within the fiscal framework/SGP including legalities of changing fiscal rules and exemptions

We discuss three different options to amend the current fiscal framework to better address climate challenges and ensure the necessary green public investment:

- expansion of the investment clause in the Stability and Growth Pact to include green public investment;
- introduction of a “green golden investment rule”, and
- a benchmark for green public investment amounting to a pre-determined share of the government expenditures.

The desirability of each option will depend on its implementation, especially in terms of ex-ante evaluation and ex-post monitoring, as well as its political feasibility and the legal changes necessary to implement it. We discuss criteria that can be used to classify these three proposals along various dimensions, as well as some important trade-offs. **This briefing paper recommends that at least one of these approaches be followed through to enable the flexibility of national budgets to ensure a level of green public investment which – together with private resources – will be sufficient to close the existing green investment gaps.** The choice between one of the approaches or a combination of them should be made by European institutions (both the European Commission and

²³ See section 2.3 for a more detailed presentation and discussion of the rationale to at least partially finance green public investment by additional debt.

the European Parliament should be involved) and the Council through amendments to the relevant legislation.

4.1.1. Green public investment exemption clause in the SGP

The most straightforward approach would be to include a green public investment definition in the existing investment exemption clause of the SGP (discussed in Section 3.1) and thus enable short-run deviations from deficit targets and MTOs similar to the deviation allowed through the investment flexibility clause or the structural reforms clause. It will help frontload GPI, especially if the temporary exemption is extended over a longer time period. The clause can be applied to countries that can present verifiable and detailed plans for green public investment reforms in consideration, with sufficient proof of their long-term benefits in terms of environmental sustainability, as well as their contribution towards economic growth, productivity and potential output. This would need to be accompanied by a set of specific deadlines, short-run and medium-run goals and ways to control their implementation. The plans would require clear evidence that the investment in question will help the economy improve its climate sustainability. This evidence will rest on the green taxonomy for green public investment to be elaborated and agreed on by European institutions and will at least partly need to stem from independent, third-party institutions or experts, similar to independent fiscal institutions (IFIs) that oversee budget proposals for Member States. The exemption can be granted after a thorough process of proving that the investments indeed will contribute to climate neutrality and/or further environmental goals, in a way similar to proving that investments will have a “positive, direct and verifiable long-term effect on growth and on the sustainability of public finance” in the existing investment clause of the SGP. A green public investment exemption can be granted ex-ante, after approval that the criteria and conditions are fulfilled. The legal implementation will involve changing or using a new Communication and then embedding the changes in the Code of Conduct of the SGP. While this is possible, the changes should still not breach the secondary and primary legislation (the Stability and Growth Pact itself) – that is, they should not lead to an increase above the 60% debt-to-GDP ratio and the 3% deficit rule in the medium term. This would make the clarification of specific projects and funds, while providing exemptions only on a case-by-case basis, a more workable solution.

The outcomes would therefore include some major benefits, as well as some downsides:

Pros:

- The green public investment exemption clause would be easy to implement, even in the current EU Fiscal Rules framework, under the condition that there is a clear definition of which public investments are to be counted as green. It will help frontload GPI, especially if the temporary exemption is extended over a longer period of time.
- It would not require a legal change, but only an amendment within the flexibility clause of the SGP to also include green public investment as a separately defined term, along with the conditions for activating and proving it.
- The process, conditions, recommendations and coordination can be easily embedded within the European Semester.

Cons/potential problems:

- If the green public investment is only allowed after a thorough review of the project in question, this might imply that most investment would be realised slowly and projects would be implemented with a significant time lag due to the inevitable evaluation and assessment process for each project or investment amount.

- The green public investment exemption clause will not necessarily incentivise national governments to carry out the investment necessary to close their green investment gaps, but will only make this possible.
- It will result in even further complexity of the fiscal rules, which have already been criticised for lacking transparency. The three existing escape clauses of the SGP have introduced opacity and have led to uncertainty with respect to how binding fiscal rules are in reality.
- It will risk creating opportunities for “greenwashing”.

4.1.2. Introduction of a “green golden investment rule”

A second option would be to embed a golden green investment rule in the current fiscal framework. A golden rule for investment has been discussed and proposed as a way to improve the European fiscal rules framework for a long time²⁴. A classical investment golden rule consists of classifying government spending as one of two types – current expenditure or capital expenditure, using a number of criteria. Capital expenditure is then not taken into account in the calculations regarding deficit criteria. The other account, which would consist of current expenditures and depreciation, may then need to be balanced by current revenues, while the capital expenditure account, used for public investment, can be financed via debt. A golden investment rule in that sense would allow public investment to be undertaken through the issuance of additional debt and the deficit accrued for this will not be counted towards deficit statistics, while the current account needs to be balanced or fulfil some maximum deficit target (e.g. the existing one of 3%).

In a similar sense, green public investment can be a separate classification within capital expenditures or overall government expenditures, based on a green taxonomy defining GPI. In that sense, such a rule, only focused on green public investment, will be even more effective in mobilising resources for the green transition by having a strong incentivising effect for governments to transform as much of their public investment as possible into green public investment. This can however also bring risks of abusing this opportunity by misdefining everything as capital investment. A green or general investment golden rule would also allow Member States to not count their additional co-financing on EU projects (above their national commitment) to their deficit statistics, thus incentivising them to undertake additional investment in such EU projects – in this case, especially in “green projects”.

Again, this proposal would harbour benefits, as well as some downsides:

Pros:

- It will incentivise Member States to transform large parts of their expenditures towards GPI that fulfil the necessary criteria, and it would therefore be efficient in terms of achieving the goal of mobilising significant resources towards a green transition.

Cons/potential problems:

- It may require changes to the Fiscal Compact and the expenditure benchmark, which is part of the Six-Pack Reform.
- It will increase the complexity and administrative burden, both from an evaluation and monitoring standpoint.
- It will risk creating opportunities for “greenwashing”.

²⁴ For suggestions on a general golden rule for investment see Poterba (1995), Blanchard and Giavazzi (2004); for more recent discussions see Ubide (2019)

4.1.3. A benchmark for green public investment as a share of government expenditures

The third approach would be for the European Commission to recommend a benchmark for each Member State as a share of government public expenditures that will be committed to green public investment (e.g. a certain % of all government public investment/expenditure). The European Commission would recommend such a benchmark share for each country, based on an estimated country-specific green investment gap and also considering the country-specific general public investment gap. The share would therefore not have to be uniform across countries – as some countries have already had more success in moving towards environmental sustainability and because the general public investment gap between countries varies, implying country-specific differences in the public-private mix of green investment. By being calculated in relation to government expenditures, and as these vary considerably between Member States in terms of GDP, such an approach would not constitute an excessive breach in fiscal policy sovereignty of the Member States, as it will not prescribe the size of government spending, but rather only direct a part of its composition.²⁵ Given this target share of GPIs, Member States can qualify expenditures that comply with the criteria determining GPIs for being exempted from the deficit rules. The difference between the previous two options is that the Council will pro-actively recommend to Member States that a certain share of their expenditures be in the form of green public investments.

The progress of Member States can then be operationalised similarly to the precedent of the Six-Pack reform by introducing a definition of a necessary speed at which countries should close their investment gap. The Commission would then evaluate whether this happens at a “satisfactory pace”. The problem with this approach, however, is that a similar approach regarding debt rules has proven to be very complex, while not ensuring that countries comply with the rules and recommendations. Furthermore, an overreliance on quantitative numbers in terms of GPI might lead to a neglect of the quality of investments, thereby worsening the overall efficiency in terms of greening the economy. One of the problems with the debt-to-GDP ratio as a criterion of the fiscal rules has, for example, been the fact that many external factors that affect growth influence the compliance with the criteria, with some of them beyond the direct control of the government. For GPI, however, this should be less relevant, as the government will be directly able to control the amount and type of public investments it seeks to undertake.

The efficiency of such pro-active determination by the European Commission of the amount countries should spend on greening their economy will depend on the implementation process. However, the history of fiscal rules and the monitoring of recommended reforms in the European Union brings a mixed picture of how effective the compliance by the Member States can be. Although sanctions can be applied by the Council if there are breaches to the SGP and MIP, they were never applied in practice and the existing enforcement regime has been weak.

Pros:

- Legally, it will be easy to introduce within the European Semester, by appending it with climate goals and indicators that measure these in Member States.²⁶

Cons/potential problems:

- Achieving the goal of mobilising significant GPIs will be very dependent on its implementation. If it is implemented as a soft law with the European Commission only issuing recommendations

²⁵ Member States can then e.g. invest the resources in the amount between a lower and higher threshold around this target share.

²⁶ Similarly, the EU Greening Initiative has made first attempts at reaching such goals without the need to change other EU legislature, including the SGP. See: https://ec.europa.eu/environment/integration/green_semester/about_en.htm.

to Member States about the share of GPI they should invest in, it runs the risk of being ineffective, similarly to the Country Specific Recommendations.

4.2. Challenges and necessary steps for ensuring efficiency

Even though all three proposals for amending the fiscal rules have benefits in terms of enabling more green public investment, they also harbour risks. A basic principle of public finance and economic policy making is that rules should be as simple as possible. Exemptions in any policy-making strategy make it more susceptible to misbehaviour and more complex, thus increasing compliance costs for economic agents. The current version of the Stability and Growth Pact with all its amendments has already been criticised for being too long, too complex and intransparent²⁷ Furthermore, a common problem of introducing exemptions in existing rules is that they create incentives for private actors to falsely try to define or change their plans so that they fall in line with possible advantages of using the said exemptions.

Monitoring and reporting will therefore be a crucial part of an efficient implementation of any of the above described approaches to facilitate GPI. To avoid inefficiencies, there would be a need for working mechanisms to evaluate whether countries are deviating from the pre-committed goals on GPI, both in terms of spending and in terms of the types of projects enacted. Any reform that exempts some type of investment as GPI would require considerable safeguards against its misuse for current expenditures that do not have a sustainable, green character. If the investment projects are not permitted on a case-by-case basis after a careful selection process based on a detailed taxonomy of GPI, this will require considerable ex-post monitoring following clear and transparent criteria. If the investment projects are permitted on a case-by-case basis, this would mean a considerable slowdown in their realisation and might lead to a growing administrative burden to evaluate and decide on them.

As discussed, one quantitative measure of this could be the pace with which the Member State closes an estimated green investment gap. However, an excessive focus on a quantitative, yet unobserved variable may create perverse incentives (discussed further in Section 4.3.1). Therefore, additional qualitative criteria for assessing the ex-ante approval and ex-post assessment of projects will be needed. To ensure successful monitoring, the definition of what falls under green public investment should be made clear. As mentioned, the currently developed taxonomy for GPI as an accompanying rulebook would be crucial for this.

To achieve a working transition towards a green economy, it will also be important to avoid short-sightedness, as green public investment inevitably involves long-term planning and multiannual projects. Therefore, instead of setting up rules, targets or exemptions on an annual basis, these can be guided through multiannual plans – similar to the Medium-Term Budgetary Objectives (MTOs) embedded in the SGP. The MTOs set a guiding post and a goal for countries to be aiming for in the medium run and annually evaluates whether these goals are fulfilled at a sufficient pace. A similar approach could be useful in relation to GPI, which can have an even longer-term character than traditional government investments. Such an approach would have to be amended to the current design of the MTOs.

²⁷ The European Commission issued a Vade Mecum in 2017 to explain all rules in the current version of the SGP, which amounted to 224 pages.

4.3. Options for implementation

4.3.1. Top down implementation: Streamline projects within the European Semester

The European Semester has been one of the major innovations of the last decade in terms of coordinating economic policies and reducing economic imbalances across EU Member States.

Aside from communicating and coordinating the macroeconomic policies and assessing imbalances of Member States, it focuses on preparing and providing Country Specific Recommendations on reforms and priorities to be delivered to improve their macroeconomic policy stance.²⁸ By providing ongoing surveillance of the economic, structural and fiscal performance of the Member States, it serves as a benchmark for the direction in which the Member States are moving in terms of the implementation of important reforms and economic policy priorities. As part of the European Semester, Member States are obliged to submit each year, by the 15th of October, their Draft Budgetary Plans (DBPs), which are then assessed by the Commission. This has been useful in creating an annual cycle and synchronising the evaluation of Stability and Convergence Programmes (SCPs) and National Reform Programmes (NRPs). However, the guidance provided by the European Commission to Member States in the form of Country Specific Recommendations has not been binding and did not lead to strict commitments of Member States to implement them. The Country Specific Recommendations, with the exception of those on fiscal rules, are still in the form of a soft law and, although there can be sanctions for lack of compliance, these are politically infeasible to actually enact. Embedding these recommendations as obligatory with regard to climate change goals will make them more effective at achieving the goals of the green transition, but seems unlikely to be politically feasible, nor legally possible without a Treaty change. A similar approach has also been taken with the introduction of National Energy and Climate Plans²⁹ that request that Member State governments outline their plans for the period 2021-2030, based on which the Commission provides assessments and recommendations.

As a practical recommendation, in the future the Country Specific Recommendations can include a specific section on green public investment – recommending to Member States a specific amount of green public investment in the next year. If this is also included as a required element of the Draft Budgetary Plans submitted by EU governments, Member States can also be required to submit a list of planned projects and a standalone part of the DBP for GPI, which will also be assessed. This reform can be embedded within the European Semester with or without any of the other changes regarding fiscal rules discussed above – so, even if none of the 3 options above can be realised due to lacking agreement between Member States, it would still be an option to include GPI in the European Semester and CSRs.

In light of this, the green investment gap can be added to the list of macroeconomic indicators reported in the European Semester as a potential source of risk. If it becomes a part of the European Semester reports, it will have a central role in the operationalisation of an approach with the necessary incentives for green public investment. This, however, comes with significant risks, due to the uncertainty of estimating unobservable concepts. The output gap, a concept with a long theoretical history, has already proven to be controversial³⁰ in terms of guiding policy making and as a way to assess the proper fiscal policy stance. Extending such an approach to an innovative concept such as a green investment gap would come with significant theoretical and empirical difficulties. It will be

²⁸ It is officially a secondary legislation under Regulation (EU) 1175/2011.

²⁹ Introduced by regulation on the governance of the energy union and climate action (EU)2018/1999.

³⁰ For an intellectual history of the output gap, see Constantini (2018); for a recent discussion on issues in estimating the output gap, see Bruegel (2019): <https://www.bruegel.org/2019/06/the-campaign-against-nonsense-output-gaps/>.

difficult to assess such a gap in a robust way and to allocate it adequately to the public and private sectors. Furthermore, setting a clear quantitative variable as a target makes this quantitative variable less robust itself.³¹ Quantitative targets would therefore need to be accompanied by qualitative targets, embedded into annual reports and evaluated by independent authorities.

4.3.2. Bottom up implementation: Recovery and Resilience Plans and the EU Recovery Instrument

The COVID-19 pandemic has had a deep and sizeable negative impact on the economies of the EU Member States. While this has not changed some of the fundamental tendencies of advanced economies discussed above, such as the low interest rate environment and the accompanying implications for the cost of debt, such a significant economic downturn will result in a prolonged economic downturn with considerably increased indebtedness. This may risk climate change goals being replaced by other priorities. Nonetheless, EU Member States are still facing a situation in which they cannot afford to ignore climate goals set earlier. Fiscal policy responses to the COVID-19 pandemic should therefore include an element of climate-sustainability-enhancing policies.

To limit the economic damage resulting from the COVID-19 pandemic, there has been a widespread consensus that economic policy support from both monetary and fiscal policy is needed (Bénassy-Quéré et al., 2020). According to the European Commission, the shortfall in investment in the EU economy due to investment losses directly resulting from COVID-19 and the existing needs for financing the digital and green transition for 2021 and 2022 alone will be at least €1.5 trillion.³² On May 28th, 2020, the European Commission therefore proposed an EU-wide instrument to counteract the crisis – called “Next Generation EU” – consisting of €750 billion in direct grants and loans to Member States, in addition to the currently discussed MFF 2021 – 2027, as a way to close this investment gap and help the European economy recover faster. The proposal envisions that the EU borrow additional funds from financial markets in the amount of €750 billion, which will later be repaid, either by the Member States directly (via higher contributions to the EU budget or direct repayments of the loans) or through future new own resources, over a longer period between 2028 and 2058. The “Next Generation EU” would be a one-off borrowing on behalf of European institutions to fund spending for exceptional expenditures and for loans to Member States and would therefore be compliant with the Treaties. Because of its good credit rating, the European Commission will be able to borrow this money under very favourable conditions. In the words of the European Commission, “the package is heavily biased towards public investment.” The priorities are also clearly set to help the digital and green transition of the European Union.

The Corona Crisis can therefore become an opportunity to strengthen the resources committed to the green transition. A central part of “Next Generation EU” falls upon a European Recovery and Resilience Facility (RRF) consisting of €560 billion in grants and credits for Member States, out of which a proposed €310 billion would be in the form of grants. To obtain the grants and credits, governments would have to submit annual Recovery and Resilience Plans, which include their proposed structural reforms and public investment as an annex to the traditional National Reform Programmes. If this implementation setup, as proposed by the European Commission, is indeed accepted by the EU Member States, a streamlining of priority projects, as accepted by the Commission, can happen under these Recovery and Resilience Plans. That would enable a pro-active, bottom-up role from Member

³¹ This is a well-known problem in economic policy making called the “Lucas critique”, that the relationship between different variables are not invariant with respect to changes in economic policies. Relating to the green investment gap, making such a green investment gap central to decisions regarding fiscal policy might mean the green investment gap is no longer a valid measurement indicator.

³² European Commission (2020A).

States, developing and proposing projects and the European Commission accepting or declining them through the European Semester. This would be beneficial, as national governments will have better knowledge about the needs and specifics of their national economies and the GPI best suited for them. On the other hand, leaving all the discretion to the Member States might bear the danger that insufficient resources are again invested in greening the economy. Moreover, trans-national investment projects requiring cooperation between Member States would be neglected without some form of central coordination.

A balanced approach between the two implementation strategies should therefore be pursued. The green economy is already at the centre of the communicated priorities to be financed through the Recovery and Resilience Facility, which makes the Recovery and Resilience Plans well suited as a control mechanism for the European Commission to evaluate and monitor green projects for Member States and permit them on a case-by-case basis. The National Energy and Climate Plans can be a useful addition to that, although they have a longer-term perspective. This will leave a pro-active role for national governments to take ownership, design and propose their green public investment proposals, and the European Commission will have to accept or decline them. As the projects accepted through the Recovery and Resilience Plans will be supported through grants, the expenditures to realise them would not count toward the SGP criteria.

Embedding green public investment within the EU Recovery Fund will have significant benefits, in that it will already happen separately if Member States agree to move forward with the European Recovery Fund proposed by the European Commission. It will constitute a significant benefit also by not requiring deep legal changes, nor a further complication of the existing fiscal framework.³³ It will require that Heads of State and the European Parliament find a consensus on the Recovery Fund as proposed by the European Commission, but also that it later be ratified in national parliaments. The downside of this approach is that the Recovery Fund proposed by the European Commission will only be in place between 2021 and 2024. It will therefore create a short-term solution, which can, however, be a useful and practical opportunity to test the approach and adjust it after 2024.

4.4. Summary of recommendations and implementational issues

In summary, this briefing paper discusses three alternative options to amend the fiscal framework to enable green public investment and two suggestions for how this can be implemented operationally. Table 2 summarizes the proposals discussed and evaluates them through several dimensions and criteria. The criterion “Ensures the necessary investment” refers to the fact that traditionally fiscal rules are focused on limiting government expenditures and are therefore asymmetric – in deep downturns they do not necessarily recommend a minimum level of government expenditures and therefore higher budget deficits. To realise the green transition, however, exactly the opposite problem by policymakers needs to be addressed – a lack of public investment. An efficient reform of the fiscal framework will therefore not only enable higher green public investment but will actively incentivise and mobilise them. This is best accomplished via a Golden Rule for GPI, as it will incentivise countries to make as much of their expenditures in the form of GPI. This will be less the case for the introduction of a criterion for countries to have a share of their government expenditures in green public investment with the share dependent on their investment gap, as its efficiency will depend on the exact implementation. The criterion “Complexity and administrative burden” focuses on whether the change in question will further complicate the EU fiscal framework, which was already

³³ The Recovery Instrument would be based on Article 122 TFEU; for more details see: Q&A: Next Generation EU - Legal Construction, https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_1024.

recognised as a problem, and whether it will lead to new further administrative burden in evaluating and monitoring whether GPIs comply with the given conditions and criteria. The criterion regarding “Legal changes needed” points to whether and what type of EU law would require changes for the different reform options, as discussed above.

In terms of the implementation, the two options discussed are:

Top down: Streamline through the European Semester – this implies a pro-active role for the European Commission to recommend to the Council to recommend to the Member States the amount and type of green public investments, but again risks under-accomplishing the mobilisation of the needed investments as Member States may again fail to comply with such recommendations similarly to the deficit criteria. It will increase the complexity and the administrative burden on the part of the European Commission, which will now have to embed environmental sustainability goals as a central indicator in its country specific recommendations and within the European Semester. This will include the European Commission delivering annual calculations on the size of the country-specific (green) investment gap, as well as recommendations on the necessary types of green public investment in each country.

Bottom up: Streamlining within the Recovery and Reform Plans – this will include a pro-active role for Member States to design and create a set of proposed projects involving green public investment, with the Commission only evaluating and sanctioning the best of them. This will increase the administrative burden for Member States, but most of the national institutions, e.g. ministries and government agencies, would be involved and central to the creation of the Recovery and Reform Plans, which are to be part of the National Reform Programmes in any case.

Table 2: Summary evaluation of options for amending the current fiscal framework

Proposal	Ensures the necessary investment	Complexity and administrative burden	Legal changes needed	Further comments
Options for a GPI-friendly fiscal rules framework				
Golden Rule for GPI	Incentivises Member States to make the maximum amount of GPI possible	Significant increase in complexity and administrative burden	Changes to the Fiscal Compact/Six-Pack Reform	
Exemption Clause for GPI	Enables, but does not ensure Member States will make sufficient GPI	Medium increase in complexity and administrative burden	No, a new Communication on the flexibility clause and an amendment to the Code of Conduct of the SGP	
Binding share of investment in the green economy as a percentage of current expenditure	Incentivises GPI, but risks non-compliance (similarly to fiscal deficits)	Medium increase in complexity and administrative burden	Changes to the European Semester	Low political feasibility (if binding) or low compliance (if only with a recommendatory character)
Implementation options				
Top down: Streamline within the European Semester (with projects)	European Commission will recommend to Member States the	Administrative burden for European Commission to recommend, evaluate	Top down: Streamline within the European Semester (with projects)	European Commission will recommend to Member States the

proposed by European Commission)	country-specific level of GPI	the size and choose types of GPI	proposed by European Commission)	country-specific level of GPI
Bottom up: Streamline within Recovery and Resilience Plans (proposed by national governments, accepted by European Commission)	Member States would own the projects and therefore will have a higher incentive to submit winning proposals	Administrative burden for European Commission to evaluate and choose types of GPI	No change needed, the incentive would be the funds from the Recovery Fund	Would expire after the end of the Recovery Instrument; will provide testing period for this approach

Source: Own summary.

5. CONCLUSION

The new European Commission has set the goal of transforming the EU economy in an environmentally sustainable way high on its policy agenda. Private investments would not suffice to achieve this goal, given the considerable size of funding needed. Public investment by Member States will therefore need to be mobilized throughout the next decade. The current fiscal framework of the European Union, the Stability and Growth Pact, does not provide the flexibility for Member States to react adequately to these challenges by increasing debt-financed GPI. Public investments are often very pro-cyclical – they are reduced during economic down-turns, and are therefore susceptible to short-run fluctuations, making it difficult to bind them to long-term goals such as combating climate change. A changing environment of a prolonged period of very low interest rates has also altered the overall costs of public debt and therefore the costs and benefits of higher debt-financed public investments. Given this, the fiscal rules framework has been subjected to many criticisms in the aftermath of the Global Financial Crisis, and is mainly seen as not being flexible enough. The numerous revisions of the Stability and Growth Pact in recent years show that the EU fiscal framework is capable of an evolution that reacts to these challenges. In light of the changing economic environment and the prioritisation of measures to achieve environmental sustainability, this leads to the conclusion that the fiscal framework needs to be amended to better reflect the need for higher public investments with an environmentally sustainable character. These investments will also require additional debt to finance them instead of shifting spending priorities.

We discuss three different approaches for such a reform of the fiscal rules. The first option is to include an exemption clause for green public investment in the current flexibility clauses of the SGP. This would have the advantages of being relatively easy to implement, not requiring Treaty changes and retaining much of the structure of the SGP. It would, however, further complicate an already complex set of fiscal rules and would not ensure that Member States indeed invest the necessary amount towards greening their economies. It would thus sustain the current status quo, while not sufficiently contributing to the stated goal.

A second approach would be to implement a golden rule for green public investment. This would require the introduction of a specific set of criteria for capital expenditures by governments to be separated from current expenditures and therefore not be counted towards the budget requirements and MTOs of Member States. While this would also constitute a further complication of the fiscal framework, a golden rule for green public investment will be efficient in incentivising governments to transform as much as possible of their spending to GPI. This would however lead to administrative burden and a risk of abuse by governments.

A third approach would be for the European Commission to estimate and the Council to recommend country-specific benchmark shares of government expenditures in each country to be dedicated to green public investment. This would aim at reflecting the required level of green public investment also based on a longer-term trajectory and could address the current asymmetry in which the SGP does not address cases in which spending in specific areas, such as fighting climate change, is considered insufficient. Given this target share of GPIs, Member States can qualify expenditures that comply with the criteria determining GPIs for being exempted from the deficit rules. The difference compared to the previous two options is that the Council will pro-actively recommend to Member States that a certain share of their expenditures be in the form of green public investments. A similar approach regarding debt rules has, however, proven to be complex, while not ensuring that countries comply with the given recommendations.

We also discuss how European institutions can coordinate with the Member States the amount and type of green public investment needed. While one approach can be to streamline the priority projects of green public investment or at least the necessary size through the annual Country Specific Recommendations within the European Semester, this has not proven very efficient in driving countries to actually implement these recommendations in the past. One way to overcome this difficulty would be to coordinate the implementation through the newly proposed Recovery and Resilience Fund, a part of the “New Generation EU” initiative that has been developed by the European Commission. The Recovery and Resilience Fund would provide grants and credits to Member States to deliver structural reforms and public investment with the main goal of relaunching the economy and fighting the COVID-19 economic downturn, while advancing climate sustainability and digitalisation. To obtain approval for these funds, Member States will have to submit Recovery and Resilience Plans, which include the proposals for such structural reforms and public investment. This appears to be a well-suited framework with which to specify the size and structure of country-specific green public investment via coordination between Member States and the European Commission.

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ANNEX

Table 3: Major legislature regarding the Stability and Growth Pact

Name	Regulation No
Stability and Growth Pact 1997	Council Regulation (EC) No 1466/97 of 7 July 1997 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies, Council Regulation (EC) No 1467/97 on speeding up and clarifying the implementation of the excessive deficit procedure and the Resolution of 17 June 1997 on the Stability and Growth Pact Resolution of the European Council on the Stability and Growth Pact Amsterdam, 17 June 1997 (97/C, 236/01)
Six Pack Reform 2011	Regulation (EU) No 1173/2011 of the European Parliament and of the Council of 16 November 2011 on the effective enforcement of budgetary surveillance in the euro area, OJL 306, 23.11.2011, p. 1; Regulation (EU) No 1174/2011 of the European Parliament and of the Council of 16 November 2011 on enforcement measures to correct excessive macroeconomic imbalances in the euro area, OJL 306, 23.11.2011, p. 8; Regulation (EU) No 1175/2011 of the European Parliament and of the Council of 16 November 2011 amending Council Regulation (EC) No 1466/97 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies, OJL 306, 23.11.2011, p. 12; Regulation (EU) No 1176/2011 of the European Parliament and of the Council of 16 November 2011 on the prevention and correction of macroeconomic imbalances, OJL 306, 23.11.2011, p. 25; Regulation (EU) No 1177/2011 of 8 November 2011 amending Regulation (EC) No 1467/97 on speeding up and clarifying the implementation of the excessive deficit procedure, OJL 306, 23.11.2011, p. 33; Directive 2011/85/EU of the Council of 8 November 2011 on the requirements for budgetary frameworks of the Member States, OJL 306, 23.11.2011, p. 41
Treaty on Stability, Coordination and Governance in the Economic and Monetary Union 2012	Resolution of AR 84/2012 (Approving the Treaty on Stability Coordination and Governance in Economic and Monetary Union)
Two Pack Reform 2013	Regulation (EU) No 472/2013 of the European Parliament and of the Council of 21 May 2013 on the strengthening of economic and budgetary surveillance of Member States in the euro area experiencing or threatened with serious difficulties with respect to their financial stability, OJL 140, 27.5.2013, p. 1; Regulation (EU) No 473/2013 of the European Parliament and of the Council of 21 May 2013 on common provisions for monitoring and assessing draft budgetary plans and ensuring the correction of excessive deficit of the Member States in the euro area, OJL 140, 27.5.2013, p. 11

Source: Own compilation.

Table 4: Proposed changes to the EU fiscal rules in recent discussions

Paper	Proposal
Feld et al. (2018)	<p>Introduce Nominal Expenditure Growth Rule (growth ceiling for annual adjusted nominal expenditure growth)</p> <p>Structural deficit rule for the medium-term target through a multi-purpose adjustment account ("memory" in the fiscal rule to achieve budget close to balance over the business cycle)</p> <p>Pre-specified debt ratio as its long-term limit achieved with a debt-correction factor ("memory" in the fiscal rule to compensate for previous excessive spending)</p>
Darvas, Martin and Ragot (2018)	<p>Nominal Expenditure Growth Rule for the medium-term, consistent with a given debt-target</p> <p>No compensation for previous excessive spending</p> <p>Discretion on the type of expenditure</p> <p>National Fiscal Councils decide on the annual target for the expenditure ceiling</p> <p>Debt-rule based on a medium-term (e.g. 5 years-ahead) country specific target of reduction on the debt-to-GDP target, proposed by the government</p>
Constâncio (2020)	<p>Revision of the Stability and Growth Pact towards an expenditure growth rule (without annual progression towards the long-term target of 60%), but retaining the 3% limit for nominal deficit and abandoning targets for the structural balance</p>
Ubide (2019)	<p>Revision of the Stability and Growth Pact towards an expenditure growth rule (without annual progression towards the long-term target of 60%), but retaining the 3% limit for nominal deficit and abandoning targets for the structural balance</p> <p>Annual target for expenditure growth should depend on medium-term projection of nominal potential growth and a judgement on the convergence towards long-term debt ratio</p> <p>National Fiscal Councils prepare projections for potential growth over the medium-term</p>
European Fiscal Board (2019)	<p>Simple Long-Term Debt Target</p> <p>Simple Rule for Net Spending Growth</p> <p>Differentiate adjustment rates for public debt reduction between countries</p>

Source: Own compilation.

This study argues that to achieve the necessary green transition in the EU, additional public investment by Member States will need to be mobilised throughout the next decade. In light of the macroeconomic environment of very low interest rates, this calls for a reform of the EU fiscal framework. The paper discusses three approaches for a reform of the fiscal rules to better reflect the need for higher (debt-financed) green public investment: (1) an exemption clause for green public investment; (2) the implementation of a green golden rule; (3) a country-specific benchmark share of government expenditures dedicated to green public investment recommended by the European Commission.

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