

A Targeted Golden Rule for Public Investments?

Sebastian Blesse, Florian Dorn, Max Lay



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A Targeted Golden Rule for Public Investments?

A Comparative Analysis of Possible Accounting Methods in the Context of the Review of Stability and Growth Pact

*Sebastian Blesse, Florian Dorn, Max Lay**

Abstract

The EU faces the challenge to combine large and sustained investments to promote the transition towards a green, digital, and competitive Europe while maintaining fiscal sustainability. Based on a comprehensive literature review on the effects of fiscal rules and investment clauses on public finances, this in-depth analysis provides some guidance how higher public investments can be achieved by a targeted golden rule without harming fiscal sustainability in the EU fiscal framework. The study also discusses the role of investments in the current proposals of the European Commission on the reform of the EU Economic Governance.

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Executive Summary

Background

The European Commission has launched a debate on the reform of the EU economic governance framework. An important element in the debate is the role of public investments to promote the structural transition towards a competitive, digital, and climate-friendly Europe. A new governance architecture needs to avoid a systematic trade-off between delivering on European investment priorities and the maintenance of healthy fiscal balances. Based on a review of academic literature and trends in public finances in the EU, this in-depth analysis provides guidance for the debate and shows how a targeted golden rule may give incentives for larger public investments without harming the goals of fiscal sustainability.

Trends in Public Finances

- EU member states have decreased their net investments (= gross fixed capital formation minus depreciation) as share of GDP in the decade after the global financial crisis (compared to the decade before). Among member countries with medium or high public debt ratios, net investments decreased to a share close to or even below zero. However, investments as share of GDP are on the rise again since 2016.
- Public finances among EU member states show that the higher the share of primary expenditure (= expenses excl. interest payments on government liabilities), the higher the share of public debt, and the lower the net investments as share of GDP. Several high-indebted countries have the highest share of primary expenditure as share of GDP in the EU, while they have the lowest share of net investments.

Effect of Fiscal and Investment-Friendly Rules on Public Finances

- A comprehensive literature review shows that fiscal rules seem to be effective in limiting public deficits and debt, but they do not have a significant impact on public investments on average.
- Introducing investment clauses or investment-friendly rules (e.g., golden rules) may stimulate public investments over other spending categories. A golden rule that allows net investment to be financed without limit by debt or which allows a broad definition of investment could increase expenditure but comes at the expense of fiscal sustainability. This reflects the potential trade-off between larger investments and healthy fiscal balances.

Policy Implications

- For the implementation of a golden rule, it is important to define the public investment categories clearly and narrowly. This reduces risks for creative accounting by labelling other expenses as investments. It is recommended to follow a narrow definition of investments that produce a new capital stock and may stimulate a sustainable economic growth.
- If EU member states agree on implementing more incentives for higher public investments without harming fiscal sustainability, the integration of a two-pillar-system seems to be a promising endeavour:
 - (1) An investment-friendly golden rule should limit deficit spending to net investments, which mirrors the creation of new productive capital. Current (primary) spending needs to be balanced (excl. net investments in the account), for example by a (structural) balanced budget rule. The rule may consider flexibility by allowing cyclically-adjustments and (limited) escape clauses during crisis. The idea is that allowing productive investment (as an exception) by debt will lead to fiscal balance in current spending, higher incentives for public investments, and potentially self-financing of public debt in the long run.
 - (2) The golden rule must be targeted and accompanied by fiscal rules that limit the amount of debt-financed investment, such as a debt rule and an overall deficit rule that is binding for all expenditure, including investment. Fiscal rules may ensure larger fiscal sustainability without preventing public investments and work as guidance for the maximum size of debt-financed investments, for example limited by the deficit rule. Limiting debt-financed investments to a certain financial threshold or criteria is expected to increase incentives for an efficient use of public capital spending and to avoid excessive deficit spending. However, net investments could even be higher than the targeted threshold for debt-financed investments if politicians finance further investments at the cost of other current expenses or by raising revenues.
- Politicians would likely use the thresholds of fiscal rules as reference points for their leeway to finance targeted public investments by debt, as the described modified rule of the two pillars would not allow to use debt-financed spendings for other (primary) net expenses. A two pillar-system including a targeted golden rule accompanied by a structural balanced budget rule for current spending would incentivise a composition shift from consumptive spending to a higher share of net investments, without increasing overall spending as share of GDP.
- Overall, the adjustment in the fiscal framework would exacerbate rules and austerity measures for current spending but would incentivise governments towards larger public investments in the amount of the targeted golden rule (e.g., fixed by

the threshold of the deficit rule). Many low- and medium-debt countries already had balanced budgets in years before 2020, even when including net investments in the expenditure accounts. The adjusted fiscal framework would rather incentivise more debt-financed net investments in several EU member countries, as the modified balanced budget rule would not bind for net investments. By contrast, a group of high-debt countries in the EU show negative fiscal balances in recent years before the Corona crisis. This group of EU members would need to balance their budgets also in the absence of a modification towards the proposed two-pillar-system. High-debt countries in the EU seem to have leeway to perform towards balanced budgets by a structural spending review, by consequent spending cuts, or by increasing revenues. These countries appear to have larger structural problems which give rise to higher primary expenditure as share of GDP than in low- and medium-debt countries in the EU. The incentive to use the allowance of debt-financed investments of a modified golden rule may foster the high-debt countries to implement structural reforms and to follow balanced budgets (excl. net investments from the account).

Public Investments in the Reform Proposal by the European Commission (2022)

- No investment rule: The reform proposals of the European Commission (2022) have some similarities and some differences to the suggested reform elements of the proposed two-pillar-system above: First, they suggest to keep the numerical deficit and debt rules of the treaty to ensure fiscal sustainability. Fiscal adjustment paths of member states need to be consistent with ensuring that debt is put or kept on a downward path by the end of the adjustment period at the latest or remains at prudent levels with a maintained deficit below 3% of GDP over the medium term. Second, the European Commission's (2022) proposal for a new economic governance also tries to incentivise higher public investments by allowing higher deficits. However, the proposal of the European Commission (2022) does not include a golden rule for public investments but gives larger scope for more budget deficits which exceeds the deficit thresholds of the treaty. In the golden rule of the two-pillar-system as suggested above, the member states would allow limited debt-financed public investments while keeping other spending categories balanced. The proposal of the European Commission (2022), however, provides more scope to exceed the deficit-threshold of 3% of GDP during an extended period of the multiannual fiscal adjustment path if the expenditures are underpinned by reforms and investments aligned with priorities of the EU Commission. While the debt-financed public investments above the 3% deficit threshold are defined in their purpose to address EU priorities without leading to investment cuts elsewhere over the planning period, the modification may also lead to higher deficits in other primary expenditure than investments.

- Softening fiscal rules: The fiscal numerical rules of the treaty are not suggested to be hard thresholds in the reform framework of the European Commission (2022), but rather reference points in the medium term to be targeted by all member states during their fiscal adjustment paths. The proposal suggests country-specific fiscal adjustment paths to consider country-specific differences in debt sustainability. The assessment of the budget plans and consolidation paths is more complex and less transparent. Therefore, the plans likely soften the impact of the fiscal rules on public finances and would give much discretionary power to the Commission and the member states in the assessment of country-specific fiscal adjustment paths. In the end, multilateral adjustment paths may account for country-specific characteristics, but this does not likely make the fiscal framework more transparent and effective. Finally, this softening of fiscal rules would be introduced without adjustment in the legal framework of the treaty.

1 Motivation

situation due to the Corona pandemic and the Russian invasion in Ukraine, notably the challenges to secure energy supply, raised the attention to the debate on the role of public investments to promote higher resilience as well as a sustainable and inclusive growth in Europe. The European recovery plan Next Generation EU (NGEU) with its large investment package is a recent example how the European Union (EU) aims to promote the structural transformation towards green, more digital, and more resilient societies and economies in Europe.¹

However, how can larger and sustained public investments be achieved while many EU member countries already face high expenditure and public debt levels? Moreover, the need for higher public spending will also increase due to other trends and challenges. Among others, demographic change and ageing societies will also lead to a higher demand for (public) expenditure levels and will strain on productivity and economic growth in the EU. The times of a peace dividend in the public budgets within the EU seem also to be history with the watershed moment of the Russian war, which requires higher defence spending (Dorn et al. 2022).

The European Commission has launched a debate on the reform of the EU economic governance framework. The proposed new governance architecture clearly states that it wants to avoid a systematic trade-off between delivering on European investment priorities and the maintenance of healthy fiscal balances (European Commission, 2022). A reform of the fiscal framework has to address both, the challenges of large and strategic investments to finance the transition towards a digital and green, climate friendly society and economy on the one hand, and the need to maintain or to achieve fiscal sustainability on the other. Importantly, only by complying with fiscal sustainability, the overarching societal goals of climate change mitigation, digitalisation and a sustainable and inclusive growth in Europe can be achieved. But how can larger public investments be achieved to boost the twin transition towards a green and digital Europe without further harming fiscal sustainability?

¹ The package includes 750 billion Euros (in 2018 prices) for the multiannual financial framework of 2021-2027. In the Recovery and Resilience Facility (RRF), the centrepiece of NGEU, the programme foresees to support public investments in member states, private investment incentives as well as interventions for higher resilience for future crises and socio-economic transformation.

Motivation

The Stability and Growth Pact (SGP)² aims at ensuring fiscal sustainability among EU member countries. Fiscal rules³ in the SGP, however, were subject to flexibility considerations such as adjustments to the economic cycle and escape clauses (European Commission, 2022). Incremental changes over time made the SGP more comprehensive and complex (Heinemann, 2018), created manoeuvring and cherry-picking among multiple fiscal targets (Beetsma, 2022, p. 11), and resulted, also in combination with insufficient enforcement mechanisms, in low compliance with the fiscal framework (see section 2). An overarching challenge when reforming the EU fiscal framework therefore is to increase compliance with its rules (Reuter, 2020). “A more transparent, more predictable and less complex fiscal framework could make a significant contribution to enhancing compliance and the role of fiscal rules” (Reuter, 2020, S. 8). Compliance is also important for further supporting investments in the adjusted framework as fiscal rules could allow for cyclical adjustment or for new borrowing through capital expenditure while restricting to zero deficits via operating expenditures, the so-called golden rule.

An introduction of a golden rule for public investments may be a promising candidate for incentivising investment spending in the reform plans of the SGP (for a prior analysis on this in the SGP context, see Reuter, 2020). The hope is that allowing productive investment (as exception) will lead to self-financing of public debt with balanced current spending in the long run. Golden rules, however, were criticised for harming the sustainability of public finances if revenue growth is lagging (de Biase and Dougherty, 2022, p. 8) and an overall larger scope for creative accounting if politicians labelled current spending as investment (Mintz and Smart, 2006, p. 12-14). While there is a broad expert consensus that fiscal rules are on average successful for reducing debt levels, experts disagree regarding the investment effects of fiscal rules. A recent survey among economists shows that about 45% vs. 46% expect either deteriorating or improving public investments due to fiscal rules, respectively (Gründler and Potrafke, 2020, p. 28). In this briefing, we want to provide guidance to the debate whether a special treatment for public investment should be made within the reform of the fiscal governance framework of the EU.

This in-depth analysis first provides a descriptive overview of trends in public expenditure, public deficits, public debt, and public investment across member states of the European Union and on the rate of non-compliance to different sets of fiscal rules of the current fiscal governance architecture (section 2). Section 3 shows that fiscal rules on

² A series of reforms has been undertaken since the initial signing of the SGP (please see the Figure A.1 of the Annex for an illustration of the current SGP procedures and related fiscal targets). Fiscal rules can reduce the present bias of politicians, which describes a focus of politicians on spending money in the current legislative term (in order to increase their chances to get re-elected) rather than saving money or investing in future generations.

³ According to Davoodi et al. (2022), fiscal rules can have numerical targets on different fiscal aggregates. Detailed definitions and explanations of balanced budget, expenditure debt, revenue rules, as well as the concept of golden rules are described in the Annex.

average do not harm public investments based on a systematic review of the academic literature. The review also provides some insights from empirical research to what extent public investments may come at the cost of higher public deficits. Section 4 discusses alternatives in the design of a golden rule. Section 5 concludes and provides some recommendations on how a special treatment for public investment can be the European response to the need for strategic investments to promote sustainable and inclusive growth while improving and ensuring fiscal sustainability in the coming decades. In this light the final section also discusses the main elements of the current reform plans and the treatment of public investments in the EU economic governance review.

2 Trends in Public Finances and Compliance with Fiscal Rules in the EU

2.1 Public Finances and Investment in the EU

This section describes trends in public finances among EU member states. Some trends are described by the debt levels of the countries. The countries are grouped by their average public debt-level as share of GDP in high-debt (>90% of GDP), medium-debt (between 60% and 90% of GDP), and low-debt (<60% of GDP) countries for the periods 2000-2009 and 2010-2021. Countries within the groups are weighted by their population. Table 3⁴ in the Annex shows the sorting of countries and their average public debt levels in both periods. The definition of public (net) investment in the described trends follows the definition in the European System of Accounts (ESA 2010). For a discussion on the definition of public investment in the described trends, see Box 1.

Public Investment

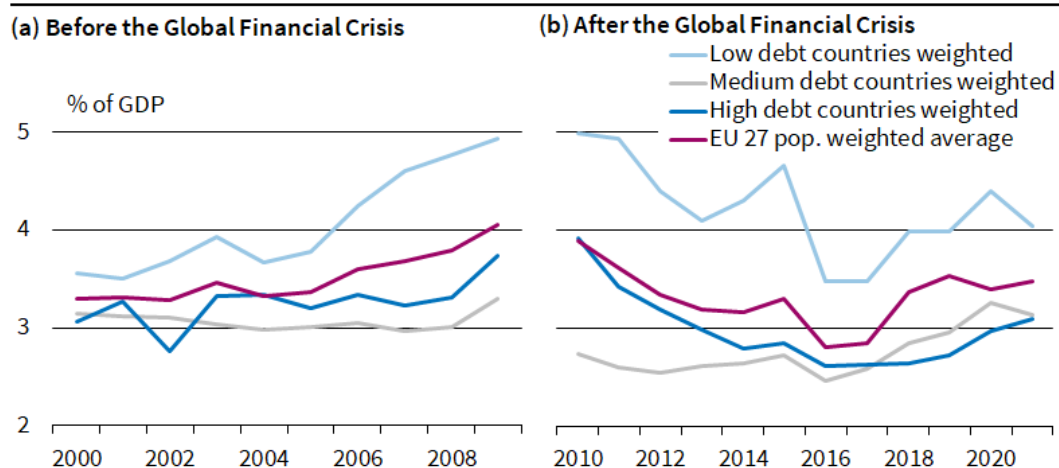
After the global economic crisis in 2009 the share of public investment in relation to GDP declined for many years in the EU on average (see Figure 1b), which broke a trend of increasing and stable public investment ratios in the years before (Figure 1a). The drop in public investment has been especially predominant in countries which have been experiencing high average levels of public debt during the last decades, e.g., in Greece or Italy. However, also medium-debt countries had on average lower public investments

⁴ Several countries are in the same group in both periods. However, some countries had higher debt levels in the period after the global financial crisis and were grouped in higher debt levels in the second period: Spain and Portugal moved from a low- to a high-debt country; Finland, Croatia and Ireland from a low- to a medium-debt country; and France moved from a medium- to a high-debt country based on the defined thresholds in this study.

ratios in the 2010s compared to the 2000s. However, after several years of stable economic growth, public investment has begun to increase on average since 2016/2017, with the exception of high debt countries which increased their investment ratio only during the recent pandemic crisis.

Figure 1

Public Investment in the EU



Notes: The country groups are categorised by their average public debt in the respective time period. Low debt = under 60 % of GDP, medium debt = between 60 % and 90 % of GDP, high debt = over 90 % of GDP.

Source: Eurostat.

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Box 1: Definition of Public Investment

For the introduction of a fiscal or golden rule targeting public investment, it is important to clearly and narrowly define all spending categories and public goods which are accounted for within the rule for public (net) investment. Otherwise, this could create room for creative accounting, which would counteract the objectives of the golden rule.

The descriptive and graphical evidence in section 2 of this in-depth analysis is based on the definition of public (net) investment as gross fixed capital formation as defined in the European System of Accounts (ESA 2010). This includes, amongst others, public expenditures for buildings, machinery including military weapons, as well as for intellectual property like software or databases. By contrast, this definition of net investment excludes consumption (depreciation) of fixed capital, changes in inventories and acquisitions less disposals of valuables, which together with gross fixed capital formation sum up under the gross capital formation indicator. In the interpretation of the ESA, investment grants and other capital transfers to households and firms could be also seen as public investment expenditures.

The definition of public investments could also be interpreted more broadly. In neoclassical theory, investment expenditures go at the expense of consumption today when governments face budget constraints but might be beneficial for future consumption due to positive investment returns, e.g., higher economic growth. In this broader context, also education expenditures could be interpreted as investments due to their positive effect on long-term growth (Hanushek and Woessmann, 2020). Similarly, some categories within health care expenditure might also be seen as (future-oriented) investment as typically higher physical health is associated with increased productivity. Accordingly, we apply a broader definition to public investment in the literature review of sections 4 and 5 and include studies that analyse the effect of fiscal rules on e.g., education expenditure. However, including this broader definition in the literature review does not imply a recommendation for a definition of public investment within a reform of the EU fiscal framework.

Even more relevant to the discussion on the trends and size of public investment, however, are public investments that exceed the depreciation of fixed capital, i.e., net investments that generate new capital assets (= gross fixed capital formation [GFCF] minus depreciation); see Box 1 for the definition of public (net) investment. Figure 2 shows the trend in net investment as share of GDP for the population weighted group of low-, medium-, and high-debt countries in the EU.

The pattern follows the trend in gross public investments. Net investments as share of GDP were on average higher before than after the financial crisis in the EU:

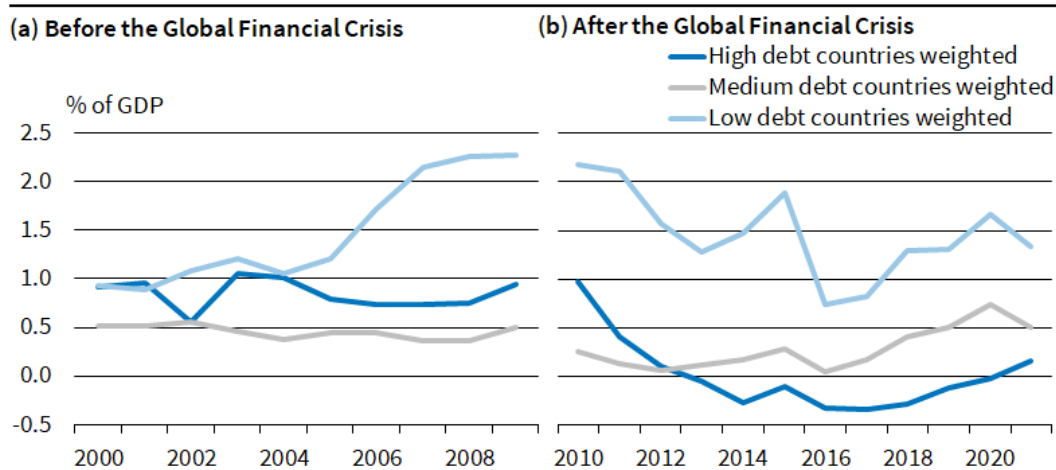
- **Low-debt countries**, including e.g., Netherlands, Sweden, Denmark, Luxembourg, and several younger EU member countries from Eastern Europe, have the highest

net investment ratios in the years before (Figure 2a) and after the global financial crisis (Figure 2b). On average these countries increase their net fixed capital formation by about 1.5% of GDP each year (in both periods).

- **Medium-debt countries**, including e.g., Germany, Austria and Hungary in both periods, have positive but very low net investment ratios. These countries invested close to 0.5% of GDP in new fixed capital formation in the 2000s, and even decreased this share close to zero (but still positive) in the years after the financial crisis. In other words, public investments were just enough to compensate on average for the consumption of capital through depreciation.
- However, the development for the **highly indebted countries** is even more critical. While they were still investing between 0.5 and 1% on average before the financial crisis, net investment on average even moved into negative figures in the 2010s. In these high-debt countries of the last decade, public investments were on average not even sufficient to compensate for the annual consumption of capital. In this group of countries with a debt level beyond 90% of GDP on average are e.g., France, Italy, Spain, Portugal, Greece, Belgium, and Cyprus in the last decade (see Table 3 in Annex). However, unlike the other countries in the high-debt group, Belgium and France had positive (but small) net investments in each year of this second period.

Figure 2

Net Investment in the EU



Notes: The country groups are categorised by their average public debt in the respective time period. Low debt = under 60 % of GDP, medium debt = between 60 % and 90 % of GDP, high debt = over 90 % of GDP.

Source: Eurostat.

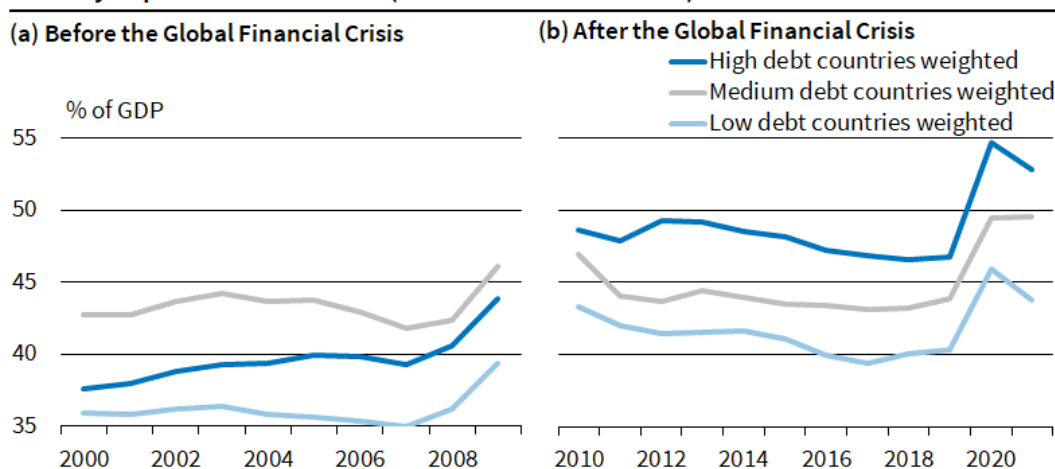
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Primary Expenditure

Figure 3 shows a relatively stable trend in primary expenditure⁵ excluding public investment before and after the financial crisis. Primary expenditure in other categories of the public budgets thus seem to be less sensitive to the economic cycle than public investment. Before the crisis, low-debt countries decreased their ratio of primary expenditure (without public investment), while high-debt countries already increased their primary expenditure excluding investments before the crisis (Figure 3a). After the crisis, the group of high-debt countries first increased and later decreased their primary expenditure ratio until 2019.⁶ However, the group of high-debt countries have a much higher share of primary expenditure than the groups of medium-debt and low-debt countries once public investments are excluded (Figure 3b). There is a critical correlation of primary expenditure and net investments. The higher the debt-level, the higher are on average primary expenditure for non-investment spending, and the lower are on average public net investments in the years 2010-2019 between the financial crisis and the recent Corona crisis. That is, high debt countries decrease net investments while they stick to the highest share of spending in other categories.

Figure 3

Primary Expenditure in the EU (excl. Public Investment)



Notes: The country groups are categorised by their average public debt in the respective time period. Low debt = under 60 % of GDP, medium debt = between 60 % and 90 % of GDP, high debt = over 90 % of GDP.

Source: Eurostat.

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⁵ According to ESA (2010), total public expenditure consists of intermediate consumption, compensation of employees, interest payments, social benefits, social transfers, subsidies, other current expenditure, as well as capital expenditure. We define primary expenditures as total public expenditures minus interest payments on government liabilities.

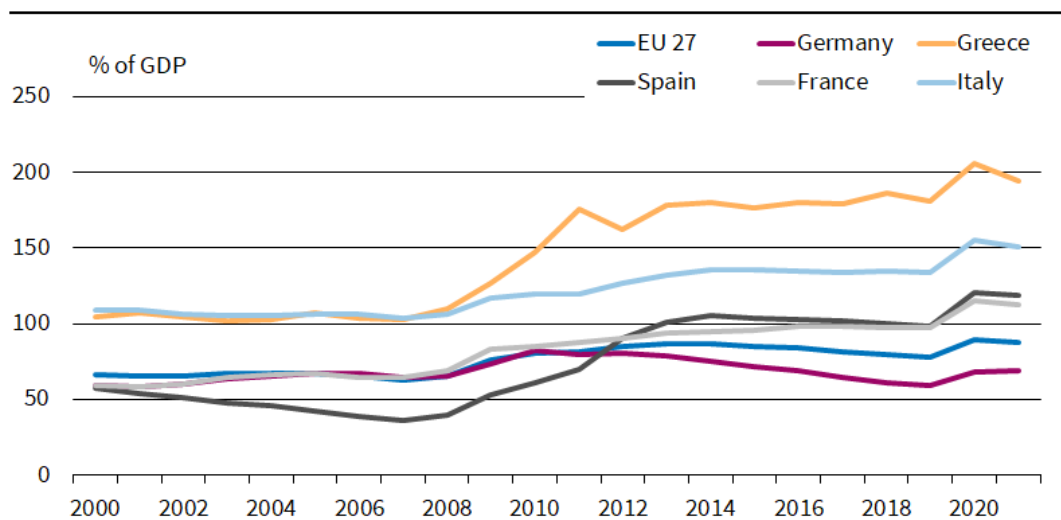
⁶ Except for Italy, which did not decrease their primary expenditure share of GDP between 2010 and 2019. The average share was 39% on average in the years between 2000 and 2008, while it remained almost stable around 43% in the years between 2010 and 2019 (and 44% if 2020 and 2021 are included).

Despite public investments recovering in recent years, securing European energy supply, tackling climate change and digital transformation will require both large-scale public and private investments. As an example, to meet the EU’s aim of reducing greenhouse gas emissions by over 55% compared to 1990, public and private investments need to increase by 57% in the period between 2021 to 2030 in comparison to the period 2011 to 2020 (Benassy-Quéré, 2022; European Commission, 2021). For public investment alone, this would translate to an additional increase of about 0.6% of GDP per year in the EU (Darvas & Wolff, 2022).

Public Debt and Financial Balance

Given the political commitment to these goals, these and further expenditures need to be financed either from new government revenues, by current spending reductions, more efficiency in public goods provision and/or restraints in future consumption spending, or via issuing new debt, in general. However, not only the Great Recession and the following European debt crisis but also the recent Covid-19 pandemic as well as subsequent energy and inflation crisis have put pressure on the public households among EU member states in recent years, leading to surging public budget deficits and an overall increase in public debt in the EU on average as well as among several member states (see Figures 4 and 5).

Figure 4
Public Debt in the EU and Selected Member States



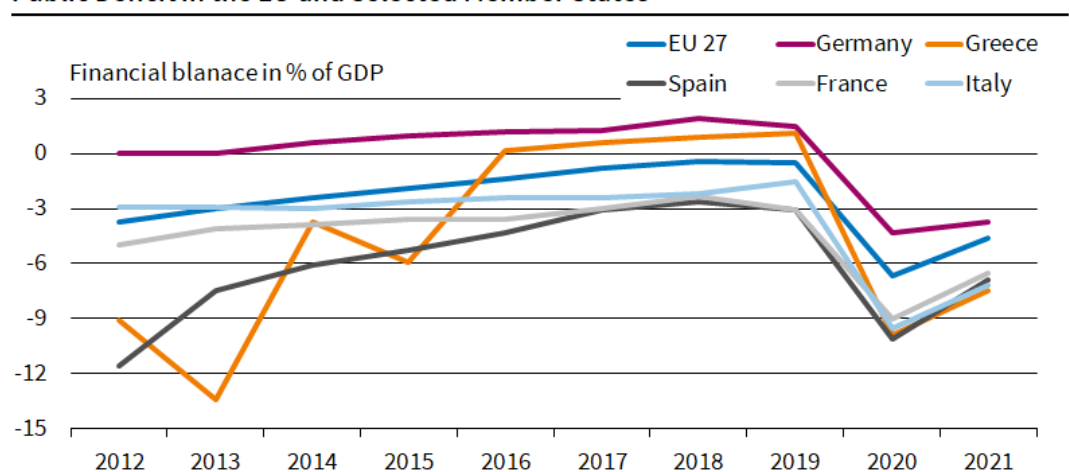
Source: Eurostat.

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Increasing public levels of debt and deficit rates can be particularly harmful to the required public investments of the EU. First, persistent debt accumulation and the violation of existing deficit rules of the SGP are typically associated with higher government refinancing costs when borrowing money from capital markets (Davoodi et al., 2022; Diaz Kalan et al., 2018). Second, non-compliance with fiscal rules and higher public debt

could limit fiscal space during economic shocks to react with stabilising counter-cyclical fiscal policy (Larch et al., 2021; Kriwoluzky et al., 2020). Third, in the EU, high-debt countries tend to have lower public investment shares (see Figures 1 and 2, and Figure 7-A1 in the Annex). Holding public debt on low or “sustainable” levels thus seems desirable in the light of the challenges arising from global security issues, climate change and digital transformation.

Figure 5
Public Deficit in the EU and Selected Member States



Notes: Financial balance describes the difference between total government revenue and total government expenditure.

Source: Eurostat.

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2.2 Compliance with Fiscal Rules in the EU

The European Commission has announced that the general escape clause of SGP will be deactivated at the end of 2023⁷, such that member states must again comply with the fiscal rules of the SGP. Compliance with fiscal rules and their contribution to long-term fiscal sustainability and growth-oriented economic policy, however, had been an issue of the debate since the SGP has been established (e.g., Wyplosz, 2012).

Regarding the deficit rule only a few countries were able to comply every year with the 3% threshold, while eight countries failed to comply in more than half of the years since 1998 (see Table 1).⁸

⁷ For further details, please see the Communication from the European Commission on fiscal policy guidance for 2024 at https://economy-finance.ec.europa.eu/system/files/2023-03/COM_2023_141_1_EN_ACT_part1_v4.pdf

⁸ Deficits often exceed the threshold in years when the escape clause is activated. Deficits and public debt extensively increase during years when fiscal rules do not bind, and deficits are allowed to be unlimited (see Figures 4 and 5).

Trends in Public Finances and Compliance with Fiscal Rules in the EU

Table 1: Compliance with Fiscal Rules in the EU between 1998 and 2021

Countries	Debt Rule	Deficit Rule	Expenditure Rule	Structural Balance Rule
BE	46%	67%	21%	21%
BG	100%	79%	42%	71%
CZ	100%	54%	50%	54%
DK	100%	100%	67%	67%
DE	50%	63%	42%	58%
EE	100%	96%	50%	58%
IE	79%	67%	71%	63%
EL	0%	17%	46%	54%
ES	50%	46%	21%	38%
FR	21%	33%	17%	17%
HR	71%	46%	40%	40%
IT	4%	63%	17%	21%
CY	46%	46%	33%	58%
LV	100%	71%	29%	29%
LT	100%	63%	50%	46%
LU	100%	100%	83%	88%
HU	54%	33%	29%	33%
MT	54%	46%	29%	42%
NL	83%	79%	42%	46%
AT	29%	79%	21%	25%
PL	100%	33%	33%	38%
PT	25%	25%	33%	38%
RO	100%	50%	25%	42%
SI	75%	58%	17%	21%
SK	96%	46%	38%	29%
FI	83%	96%	58%	54%
SE	100%	100%	83%	83%
EU average	69%	61%	40%	46%

Source: European Commission Compliance Tracker / Larch & Santacroce (2020).

Note: The table shows the share of the years in which each EU member state has complied with the fiscal rule during the time period 1998 to 2021. A share of 50% notes that in half of the years, a member state has complied with the respective fiscal rule. The share does not consider whether an escape clause is activated or whether the fiscal rule has been established in the years.

A similar pattern can be identified when analysing the compliance with the SGP debt rule, where, however, compliance was on average higher in the last 25 years. However, the compliance with the debt rule dropped after the global financial crisis (see Annex for detailed tables of compliance to fiscal rules before and after the crisis). Compliance with the expenditure rule and the structural balance rule was even lower, but increased above 50%, on EU average, in the second period 2010-2021 (see Annex).⁹ The relatively low compliance throughout the years might be a hint that enforceability of EU's fiscal rules is weak and existing enforcement mechanisms lack to achieve the aims of the SGP.

While aiming for stronger enforcement and increasing rule compliance could help the SGP and the EU to gain credibility, the need for higher and sustained public investments to tackle global challenges ahead call for more flexibility in the fiscal rule framework, to prevent hampering public investment. In order to investigate whether there is indeed evidence that (different) fiscal rules reduce public investment we review recent empirical economic literature in the following section.

3 Effects of Fiscal Rules on Public Investments

Following the increased use of budgetary limits across the globe and the relevance of surging public debt in the recent decades, a vast literature has developed on the effectiveness of fiscal rules to contain the present bias of incumbent governments and to reduce deficit-taking and public debt (for some literature reviews, see Wyplosz, 2012; Asatryan et al., 2015; Feld and Reuter, 2017; Turley et al., 2021). The empirical literature that explicitly deals with the effects of various types of fiscal rules on public investment, however, is scarce. Based on a comprehensive review by Blesse et al. (2023) this section shows the main findings on the general effectiveness of numerical fiscal constraints on fiscal sustainability and the effect of fiscal rules on public investments.

3.1 Can Fiscal Rules Improve Public Budgets?

A recent meta-study of Heinemann et al. (2018) provides a systematic account of 30 existing evaluations of numerical fiscal rules published in the years 2004-2014 and finds that fiscal rules are indeed effective in their goal to make public finances more sustainable. Among others, they find that fiscal rules have on average significant and negative effects on national fiscal outcomes. This is especially the case for primary

⁹ The EU agreed on several reforms in the EU framework for fiscal policies after the global financial crisis. Among others, this also included the intergovernmental Treaty on Stability, Coordination and Governance in the Economic and Monetary Union (TSCG), including the Fiscal Compact. The Fiscal Compact entered into force in 2013 and provides a balanced budget golden rule, with a lower limit of structural deficit of 0.5% of GDP (if public debt is lower than 60% of GDP, this lower limit is set at 1% of GDP). This rule was intended to be included in national law (as a so-called debt break).

deficits, but less so for debt, revenues or expenditures. Unlike the heterogeneity regarding different budgetary outcomes, the fiscal rule types (debt, deficit, revenue or expenditure) do not seem to matter for the statistical significance of the fiscal rule effects.¹⁰

Despite improving fiscal balances on average, numerical fiscal rules may, however, set also important reference points which also affect governments that are not constrained by them. Caselli and Wingender (2021) show that EU fiscal rules may indeed serve as "magnets" which decrease large public deficits but also surpluses towards the 3% public deficit reference point of the SGP.¹¹ According to the authors, the average effect of fiscal rules on deficits, however, remains. That is, fiscal rules decrease deficits despite this heterogeneous effect of deficits and surpluses, both tend to be reduced by fiscal rules. Reuter (2015) similarly finds that fiscal rules represent a form of benchmark for fiscal policy which constrained variables converge towards to even in case of non-compliance.

3.2 Do Fiscal Rules Influence Public Investments?

Starting from the somewhat optimistic take-away that numerical fiscal rules are indeed effective in containing deficit-taking (section 3.1), it is yet unclear how public investments are affected by fiscal rules on average across studies. Theoretically, investments are more discretionary than current spending and should therefore be more affected by fiscal constraints (see section 2).

This section summarises the main findings of the effect of fiscal rules on public investments based on an extensive literature review (Blesse et al. 2023).¹² The review is based on 20 empirical studies that evaluate numerical fiscal rules regarding their effects on public investments or related sub-components (Table 2). Importantly, the review considers the effects of fiscal rule presence (i.e., the introduction or the abolishment of fiscal rules or the respective changes in fiscal rule components), but explicitly does not cover the empirical estimates of compliance with fiscal rules. While most studies (12

¹⁰ Moreover, rules at the subnational level seem to be more effective than at the national level.

¹¹ Caselli et al. (2020) similarly find that countries across the globe run lower deficits (surpluses) in response to adopting a balanced budget rule if they ran deficits (surpluses) otherwise.

¹² The analysis focuses on empirical ex-post evaluations of numerical fiscal constraints and do not refer to individual accounts on whether different fiscal rules (their rigidity, their escape clauses or their cyclical adjustment and so forth) actually provide enough room for investment (for the case of the German debt brake, see Feld et al., 2019). The analysis also does not reflect on the welfare effects of different types of rules in terms of simulation models, as studied in, among others, Azzimonti et al. (2016), Bom and Ligthart (2014) or Bom (2016). Moreover, the analysis does not review the literature on austerity measures (for instance, bailouts or horizontal transfers that come with consolidation conditions, e.g. Fremery et al., 2022; Baskaran, 2017; Christofzik and Schneider, 2019) or the fiscal constraints that come with the adoption of alternative accounting methods in the public sector (for the effects of accrual accounting on public finances, e.g. see Christofzik, 2019, Raffer, 2020 as well as Dorn et al., 2021).

studies) do not report significant effects of fiscal rules on overall public investments, a few studies also report positive (2 studies) or negative (4 studies) effects (Table 2):

- *No effects:* Numerical fiscal rules have no significant effect on overall public investment in most studies. This is remarkable given that descriptive statistics suggest a lower ratio of public investment to GDP in fiscally-constrained countries (i.e., those with higher debt to GDP ratios, Figures 1 and 2) in section 2. The intuition would suggest that public investments should be more prone to fiscal consolidations due to their large degrees of freedom in budgetary decision making when compared to operating or consumptive expenses. The null findings are not limited to specific types of rules and can be found for expenditure rules (Carreri and Martínez, 2021; Gregori, 2014; Dahan and Strawczynski, 2013; Vinturis, 2023), balanced budget rule (Grembi et al., 2016; Alpino et al., 2022; Salvi et al., 2020; Venturini, 2020; Dahan and Strawczynski, 2013; Vinturis, 2023), debt rules (de Biase and Dougherty, 2022; Vinturis, 2023) or a specific investment cap which is newly added to an expenditure target and zero deficits (Mancini and Tommasino, 2022).¹³
- *Positive effects:* Two studies report an increase in overall public investment in their evaluations of fiscal rules, which are influenced by the specific design of the fiscal constraints (Burret and Feld 2018; Gregori 2014). Burret and Feld (2018) show for Swiss cantons that balanced budget rules (BBRs) lower deficits. Politicians moreover move funds towards public investments if investments (unlike the current accounts) are not included by the balanced budget requirements (Burret and Feld 2018). While this may be indicative for a form of creative accounting, the investment increases do not come at the cost of consumptive spending. Gregori (2014) shows for Italian municipalities that separate expenditure caps affect budgets while a joint expenditure cap for both consumptive and investment spending does not shift budgetary decisions and has therefore weaker economic incentives. However, the study shows that allowing a certain growth rate in public investments increases investments, but at the costs of higher deficits.
- *Negative effects:* Fiscal rules can also deteriorate public investment, especially if the adopted rules are relatively rigid, or if co-financing is not well available (e.g., European cohesion funds in the context of subnational units).¹⁴ Evidence from the Domestic Stability Pact (a BBR with an expenditure target in their period of study) in Italian municipalities show decreasing overall spending and public investments

¹³ Null effects also extend from national level rules to subnational fiscal frameworks (frequently studied in case of the Domestic Stability Pact for Italian municipalities, e.g., Alpino et al., 2022; Grembi et al., 2016; Daniele et al., 2019). To the best of our knowledge, the (admittedly rare) revenue rules are not studied with regards to public investment outcomes.

¹⁴ However, one should note that some studies include a very broad definition of public investment. Some categories, like social protection, are defined as public investment in some studies, but have rather a consumptive than investive character. By including such categories, the impact of fiscal rules on public investment could be different between a broad and a narrow definition of public investment.

in regions that are more constrained by the fiscal rules (Daniele et al. 2019; Venturini 2020). Studies using cross-country settings rather show a negative effect of fiscal rules for overall public investments and spending ratios, i.e., the composition of budget towards investments (Jürgens 2022; de Biase and Dougherty 2022). Related evidence exists for rigid fiscal rules and in studies examining expenditure rules and balanced budget rules. However, flexible rules (i.e., rules with escape clauses, cyclical adjustments of target variables and/or the exclusion of public investment spending from the fiscal constraints) do not have overall negative investment effects.

The literature review gives an overall impression that fiscal rules may, on average, not harm investment spending. Table 2 shows that the findings for specific investment categories of the public sector are less conclusive and may depend on the investment category and context:

- Fiscal rules tend to decrease health care expenditures (Bordignon et al. 2020; Schakel et al. 2018; Jürgens 2022). The relationship can be found for all debt, deficit, expenditure, and balanced budget rules alike. Jürgens (2022) shows that rigid and less flexible fiscal rules result in lower health care expenditures. Alpino et al. (2022), however, do not find health care expenditures to be responsive to the introduction of a new balanced budget rule. The literature review by Blesse et al. (2023) depicted in Table 2 does not show conclusive results for other sub-components of investments in a narrower (infrastructure, housing) or in a broader sense (education or defence).

The literature review in Table 2 does not show systematic evidence that fiscal-rule-driven changes in public investment come at the cost of increased public deficits:

- In the review, 2 out of 8 studies depict a rise in public deficits (Gregori, 2014; Grosse-Steffen et al. 2021), confirming the findings of the meta-study by Heinemann et al. (2018). However, the majority of studies (5 out of 8 studies where both overall investment and deficit estimates are available) show that fiscal rules reduce public deficits, but do not change overall investment (Carreri & Martínez, 2021; Alpino et al., 2022; Salvi et al., 2020; Grembi et al., 2016; Dahan & Strawczynski, 2013). Burret & Feld (2018) rather show that BBRs which are limited to current accounts decrease public deficits, but may even increase public investment.

Public investment behaviour can be affected by fiscal rules, their design, as well as their enforcement. For instance, Coviello et al. (2022) find that Italian municipalities that were exposed to stricter enforcement of the subnational fiscal rule significantly dropped their investment spending. Christofzik and Kessing (2018) find that less

oversight of a golden rule for municipalities in the German state of North-Rhine Westphalia led to significant and sizeable increases in public debt. The authors, however, do not explicitly refer to changes in municipal investment behaviour (that is why Table 2 does not list this paper). A lack of oversight and enforcement may thus deter public investment and may have negative effects for fiscal sustainability.

Effects of Fiscal Rules on Public Investments

Table 2: Evidence Review

Study	Method	Country	Fiscal rule	Public investment						Total expenditures	Current/Operating expenditure	Public deficit
				Total	Health care	Housing	Education	Defence	Infrastructure			
Carreri & Martínez (2021)	DiD	CO (subnational)	Golden rule (ER targeting current spending)	●	●		●				▼	▼
Burret & Feld (2018)	DiD	CH (subnational)	Various BBRs	▲					●			▼
Coviello et al. (2022)	DiD	IT (subnational)	BBR+ER enforcement							▼	●	
Daniele et al. (2019)	DiD	IT (subnational)	BBR	▼ ^a						▼	●	
Vinturis (2023)	Entropy Balancing	185 countries	BBR/DR/ER	●						▼		
Schakel et al. (2018)	OLS	32 OECD	ER/BBR		▼							
Alpino et al. (2022)	Diff in Disc	IT (subnational)	BBR	●			●		●		●	▼
Grembi et al. (2016)	Diff in disc	IT (subnational)	BBR	●							●	▼ ^b
Ardanaz et al. (2021)	Panel FE regression	75 countries	BBR/ER/DR/IR/CAR/CR	●								
Bordignon et al. (2020)	DiD	IT (subnational)	BBR		▼							
Salvi et al. (2020)	Synthetic control	35 OECD countries, focus: CH	Structural BBR with escape clause	●								▼ ^c
Jürgens (2022)	Panel FE regression	23 EU Countries	Rigid versus flexible rules (IR, CAR, CR)	▼	▼ ^d	▼ ^d	● ^d	● ^d				
Pavese & Rubolino (2021)	RDD	IT (subnational)	Different variations of BBRs (+ ER) in sample period				▼		●			

Effects of Fiscal Rules on Public Investments

Gregori (2014)	Diff in Disc	IT	ERs (effect of overall/separate caps on expenditure growth for consumption and public investment)	●/ ▲							-/▲				-/▲
Grosse-Steffen et al. (2021)	Panel FE regression	68 countries	BBR/ER/DR/RR	●							▲				▲
Venturini (2020)	Diff in Disc	IT (subnational)	ER changes to BBR	▼			▼		▼		▼				
Dahan & Strawczynski (2013)	DiD	22 OECD countries	BBR/ER	●									▼ ^e		▼ ^f
Mancini and Tommasino (2022)	Diff in Disc	IT (subnational)	BBR+ER	●									▲		
de Biase and Dougherty (2022)	OLS	Cross-country, EU countries	BBR, DR, ER	▼/ ● ^g											
Delgado-Téllez et al. (2022)	Panel FE regressions and Local Projections	22 OECD countries	Fiscal rule dummy and rigid versus flexible rules	●											
# ▲					2	0	0	0	0	1		1		1	2
# ●					12	1	0	3	1	2		2		4	0
# ▼					4	3	1	2	2	1		3		2	6
Take-away (=> 2 studies and a gap of more than one study needed)				●	▼	-	●/ ▼	-	-		-		●		▼

Source: Blesse et al. (2023). Notes: ▲ (▼) Statistically significant positive (negative) effect. ● Statistically insignificant effect. Please note that the definition of outcome variables may differ across studies. Methods: DID = Difference in Difference, OLS = Ordinary Least Squares, Diff in Disc = Difference in Discontinuities, RDD = Regression Discontinuity Design, FE = Fixed Effects. Types of Fiscal Rules: BBR = Balanced Budget Rule, ER = Expenditure Rule, DR = Debt rule, IR = Investment friendly rule, CAR = Cyclically adjusted rule, RR = Revenue rule, CR = rules with escape clauses. Additional information: (a) only in regions which receive relatively little European cohesion funds and have therefore relatively little support for public investment, no effect on other regions. (b) effect of relaxation of fiscal rule which increased deficits. Therefore, we invert the sign of direction for the sake of comparability across studies such that deficits decrease in the presence of a fiscal rule. (c) Cyclically-adjusted primary balance. (d) Interaction effect on recessions, no respective effect in other years. (e) Effect on expenditures for expenditure rule, balanced budget rule has no effect. (f) Effect on deficit for balanced budget rule, expenditure rule has no effect. (g) Significant negative effects for BBR and expenditure rules but no effect for debt rules.

4 Effectiveness of a Golden Rule for Public Investment

While the evidence review in section 3 indicates that fiscal rules per se seem to improve fiscal sustainability and do not systematically undermine public investments, it also shows that fiscal rules did not contribute to larger public investments in the past. In order to prioritise public investments in the future European fiscal governance architecture, a reform option might be the introduction of a golden rule, i.e., a balanced rule that explicitly allows borrowing for (at least some) clearly defined public investments and principal repayments but that prevents borrowing for current (primary) expenditures (as suggested by Blanchard and Giavazzi, 2004, and discussed in detail, among others, by Mintz and Smart, 2006). Essentially, this type of fiscal constraint requires balanced operational budgets or even a current budget surplus where revenues surpass operational expenditures, and which favours investment spending over current expenditures by design. Such a design fits the current political consensus for the future EU fiscal architecture as described by the European Commission (2022). However, there might be a trade-off between the ability to deliver public investments and the concerns about fiscal sustainability through the golden rule, especially if public investments and related principal repayments are higher than revenue growth. This chapter discusses this trade-off and potential design features of a golden rule that could yield more public investments while preserving healthy budgets.

4.1 Trade-off between Public Investment and Deficit-Taking?

In principle, golden rules give politicians the opportunity to take public investments off the books and to finance them by debt. This may be abused especially since some public investments are hard to distinguish from recurring operation expenses (and may be only labelled as such) and are not easily valued at market values. However, the golden rule may potentially give incentives to shift current spending towards a surplus, i.e., current revenues minus operational expenses (including depreciation and interest expenses), to finance public investment by debt. Policy makers in a golden rule regime have a larger interest to shift their attention towards investment than to current spending. This, however, may also come along with some distortions including “too much” public investments and, therefore, a non-sustainable rise in public debt.

There are only a few evaluations of investment-clauses in fiscal balance targets which can be used to review the trade-off between more public investments and higher public debt incidence. Even fewer studies provide a full pass-through of the effects of investment clauses or golden rules on public budgets, which allows to examine whether golden rules influence public investment and whether a rise of capital spending comes at the cost of lower operational spending or instead results in higher levels of public debt. Blesse et al. (2023) describe the insights of the few ex-post evaluations of fiscal rules with explicit investment exemptions and their fiscal outcomes with a focus on public investment (see Table 2):

- Cross-country evidence shows mixed results: Some studies suggest some heterogeneity across countries with larger positive effects of investment-friendly clauses (including golden rules) on public investments as well as fiscal rules on fiscal sustainability in emerging and developing economies (Ardanaz et al. 2011, Vinturis 2023), and mixed results in advanced economies (Delgado-Téllez et al. 2022; Dahan and Strawczynski 2013).¹⁵ Evidence suggests that the effect may depend on the design of fiscal and investment rules (Ardanaz et al. 2021, Jürgens 2022). In regimes with no or rigid numerical rules, evidence shows how fiscal consolidation led to negative contractions of public investments, emphasised during economic downturns (and lower investment during economic upswings). By contrast, flexible rules (e.g., cyclically-adjusted fiscal targets, well-defined escape clauses, and differential treatment of investment expenditures), rather have positive effects on public investment. Flexible investment-friendly rules (with investment provisions or a golden rule), escape clauses and cyclically-adjusted balance rules increase public investments (Ardanaz et al. 2011, Dahan and Strawczynski 2013, Vinturis 2023).¹⁶ Moreover, the European Commission (2017, p. 153-154) argues that public debt levels are less constraining for public investments in countries where fiscal rules are weaker, especially in the long run. Overall public investments and the share of investment over consumptive expenditures increase if public investments are excluded from relevant threshold values from supranational fiscal frameworks (Vinturis 2023).

A few studies examine the effect of the introduction or the presence of investment-clauses at the subnational level. Related results at the local level can also inform the debate on the design of golden rules at the national level, notwithstanding obvious concerns about the generalisability of the effects of fiscal institutions at the local level

¹⁵ The fiscal rule data set of the IMF suggest that supranational investment clauses for emerging countries may be represented by the fiscal convergence criteria from the Economic and Monetary Community of Central Africa and West African Economic and Monetary Union.

¹⁶ However, investment expenditures may only increase as a share of consumption expenditures since the latter significantly falls due to the investment-clauses (Vinturis 2023).

to the national one.¹⁷ Overall, the evidence from the subnational level suggests that investment-friendly clauses help to increase public investments, while this depends again on whether the implemented design comes at the cost of public deficits.

- Some evidence from the subnational level suggests that investment-friendly clauses within a cap on overall spending may increase public investment at the cost of consumption spending, but also alongside with higher public deficits in response to the special investment permit (Gregori 2014). That is, investment-friendly rules may go hand in hand with new overall deficits. Moreover, the availability of alternative opportunities for public investment, e.g., transfers from the European Cohesion Fund, may prevent a reduction in public investments as it makes a newly introduced balanced budget rule less binding (Daniele et al 2019).¹⁸ Another study shows that the introduction of a golden rule for public investment in combination with a cap on current expenditures is effective in decreasing the likelihood of running overall and operational deficits, without affecting local public goods provision (Carreri and Martínez 2021). However, Burret and Feld (2018) find that deficits can be reduced by the installation of balanced budget rules, while golden rules which leave capital accounts untouched by the budget rule help to raise public investments. The authors interpret this as an effect of creative accounting and argue in favour of more comprehensive rules which cover current accounts and capital budgets.

4.2 Take-Aways and Design Alternatives

While studies on subnational investment rules partially highlight the caveats of creative accounting, i.e., re-labelling of current spending as investment spending to signal competence or for mere budgetary tricks, they can be effective in terms of reducing overall fiscal imbalances or increasing investments. But increased investments and lower or at least unaffected deficits may not coincide (Gregori, 2014; Daniele et al., 2019). The review discussed in 4.1 highlights the potential trade-off between more flexibility through investment-friendly clauses and the commitment towards fiscal sustainability. Several studies suggest a stimulating effect of more flexible (and, thus, investment-friendly) rules on public investments (e.g., Ardanaz et al. 2021, Jürgens 2022). However, if investment provisions in fiscal frameworks cannot ensure fiscal

¹⁷ However, studies at the local level are typically better in identifying the causal effects of fiscal rules on fiscal outcomes than studies which are based on comparisons of fiscal aggregates at the national level, that is, the causal impact given all other observable and unobservable factors that otherwise might influence the relationship between fiscal rules and public investments.

¹⁸ Daniele et al. (2019) find that the Domestic Stability Pact for Italian municipalities decreases overall spending and public investments only in regions that receive relatively few transfers from the European Cohesion Fund. The authors argue that regions with higher availability of cohesion funds can afford to maintain their previous levels of public investment. This finding may have some implications on the impact of the RRF (and the lifting of the general escape clause) on public investments.

sustainability while also stimulating public investments as politically intended, one may look for alternative designs for more flexibility such as escape clauses or cyclically-adjusted balanced budget rules.¹⁹

Altogether, it seems that neither flexibility measures to adjust fiscal rules by escape clauses, a cyclical adjustment of the target value or an investment provision in the fiscal framework can escape the trade-off between incentivising (and, if at all, achieving) public investments while preserving fiscal sustainability. For instance, golden rules can be installed in this regard and seem effective in order to attain more public investments but this seldomly coincides with similar trajectories of fiscal sustainability if additional fiscal rules are not implemented. More studies are needed to gather more evidence on how this trade-off between the effectiveness of rules in taming unsustainable fiscal behaviours and more flexibility can be shaped by appropriate designs of the fiscal governance architecture in Europe.

5 Policy Implications

Europe faces the challenge to combine the need for large und sustained (public) investments to promote the twin transition towards a green and digital Europe while maintaining fiscal sustainability. EU member states, however, only show relatively low public net investments as share of GDP in the last decade (leading up to the Corona Pandemic). Among countries with medium or high public debt ratios, net investments were rather close to or even below zero (section 2). This is why Europe has a debate on whether fiscal rules prevent public investments and how more capital expenditures can be stimulated. This in-depth analysis provides some guidance whether higher public investments can be achieved by introducing a targeted golden rule, without further harming fiscal sustainability in the EU fiscal framework.

The following sub-sections first summarise the effect of fiscal and investment rules on public investments and provide some guidance how a golden rule can be implemented to increase public investments while maintaining fiscal sustainability. Then a discussion shows to what extend these suggestions are reflected in the recent

¹⁹ Jürgens (2022), Ardanaz et al. (2021) as well as Delgado-Téllez et al. (2022) turned not only to investment-friendly rules in order to categorise flexible fiscal rules but also to escape clauses and cyclical adjustments of target values of fiscal rules. Therefore, it is worth looking at how well these two other measures fare in terms of fiscal sustainability. Cyclically-adjusted balance budget rules indeed increase public investment in emerging economies but might be harmful in advanced economies (Vinturis 2023). In either sample, they discipline overall and current spending (Vinturis, 2023). The same holds for escape clauses (for contrary evidence, see Caselli et al., 2020), but again, public investment does not seem to be stimulated by escape clauses (at least not beyond fiscal consolidation periods as studied in Ardanaz et al., 2021).

communication of the European Commission (2022) on the review of the EU governance framework.

5.1 Fiscal Rules and Public Investment

The public finance statistics show very low or negative net investments among high-debt EU member states (section 2). But this does not seem to be a consequence of fiscal rules, but rather a consequence of discretionary political decisions to decrease investments instead of reducing other current primary spending programs (excluding public investments). High-debt countries have instead the highest overall primary expenses as share of GDP, at the cost of net investments, and higher public deficits compared to other EU members. These countries may have leeway to increase net investments by a structural spending review, with cuts of current expenses to shift the composition of spending towards investments, or by increasing revenues. Moreover, the relative low compliance rate in section 2 shows that it is important to accompany the fiscal rules with an effective governance ensuring compliance by oversight, transparency, incentives, and enforcement.

Following a comprehensive literature review in sections 3 and 4, this report shows that fiscal rules (which are implemented to maintain fiscal sustainability) seem to be effective in limiting public deficits and public debt, and do not seem to systematically come at the cost of public investments. The evaluation of the impact of fiscal rules on public investment shows (on average) mixed results among the reviewed studies, with a majority reporting no significant effects of fiscal rules on public investments at all.

5.2 Design of Investment-Friendly Golden Rules

But how should the rules within the EU fiscal framework be designed to increase incentives for higher public investments over other (consumption-related) public expenses, while continuing with the goal of healthy fiscal balances and limiting public debt as share of GDP?

As shown in the literature review, some studies indeed find that investment clauses or investment-friendly rules (e.g., golden rules) may stimulate public investments over other spending categories. Some studies discuss the design of a golden rule or clauses for public investments and suggest, among others, excluding public investments from the deficit rule subject to the limit of the SGP. That is, public investments can be financed by public debt without limit and thus give rise to higher incentives to increase public investments. For example, Blanchard & Giavazzi (2004) and Bassetto & Lepetyuk (2007) both propose to exclude net investments rather than gross investments from the

deficit rule. Net investments change the stock of public debt which is mirrored by changes in the stock of public capital.

Moreover, excluding gross investment instead could be counterproductive, as it more likely promotes overspending in government capital and may hamper fiscal sustainability. This is in line with experts arguing that comprehensive golden rules for public investments may harm fiscal sustainability, for example if debt-financed public investments are not limited and revenue growth is lagging (e.g., de Biase and Dougherty, 2022, p. 8; Bassetto 2006). Evidence in the literature review (section 4) also shows that a rise of investment-friendly rules, like golden rules, may lead to larger public investments at the cost of public debt and fiscal sustainability.

Other scholars therefore suggest modified golden rules with clauses limiting investment up to a maximum of public investments as share of GDP, which are allowed to be financed by debt (e.g., Mintz & Smart, 2006). Public investments would then only be partly debt-financed to a certain financial threshold or criteria. This is thus expected to increase incentives for an efficient use of public capital spending and to avoid excessive deficit spending.

Moreover, Mintz & Smart (2006) suggest limiting overall debt-to-GDP within this modified investment rule to increase incentives for fiscal sustainability. Above this debt-to-GDP threshold, additional public investments would need to be financed by taxes (or other revenues). This rule, however, may especially prevent high-debt countries in the EU to finance large and sustained investments since their debt ratios are well above this threshold.

5.3 Implementing a Targeted Golden Rule

If EU member states agree on higher public investments to promote the structural transition towards a competitive, green, and digital Europe, the EU fiscal framework can integrate a modified targeted golden rule without harming fiscal sustainability. Based on the findings of the reviewed literature, the integration of a two-pillar-system seems to be a promising endeavour.

In a first pillar, a targeted golden rule for public net investments could give incentives for higher public and sustained investments. The rule should limit budget deficit spending to net investments, that is, new debt finances investments that mirror the creation of new productive capital. Other expenditure (except net investments) needs to be balanced and financed by current revenues. The (primary) fiscal balance while excluding net investments from the account is not allowed to be negative (or only to a minor threshold), which can be implemented by a structural and cyclically-adjusted

Policy Implications

balanced budget rule. In addition, an escape clause may allow flexibility during crisis.²⁰ To consider different fiscal space because of interest burden and spreads of member states, a balanced budget rule could be limited to primary balances (excluding interest burden from current accounts) without net investments.

In a second pillar, the maintaining of the deficit rule (for all expenses including investments) as well as the debt rule is recommended. Both types of numerical rules do not per se prevent or promote public investments (according to our literature review) but would ensure higher fiscal sustainability. Sticking to these classical and transparent fiscal rules in the EU would limit deficit-financed net investments to the deficit threshold of the rule and avoid excessive deficit spending. However, politicians would likely use this numerical threshold as reference point for their leeway to finance public investments by debt, as these debt-financed spending cannot be used for other expenses. Moreover, public investments could even be higher than this threshold if politicians use further revenues for financing public investments at the cost of other expenses or by raising revenues.

How could the implementation of this two-pillar-system with a targeted golden rule in the new EU fiscal framework work and what would be the effect on public finances of EU member states? An example: Assuming the two pillars of rules (1.) of an overall and cyclically-adjusted budget deficit rule of 3% of GDP (which can be interpreted as the targeted value)²¹ and (2.) of a second structural balanced budget rule (excluding net investments) without allowing any deficit spending, or alternatively at a max. of 0.5% (in years without escape clause). If politicians would like to exploit their permitted debt-financed spending, this rule would produce public net investments between 2.5-3.0% of GDP (if not further increased by revenues or at the cost of other expenditure). This system could raise investments in low-debt countries by about 1.5-2.0 % of GDP, and in high-debt countries by up to 3.0% of GDP compared to the average share of net investments of the period 2010-2021 (see Figure 2b). However, the groups of low- and medium-debt EU countries already complied, on average, with the proposed balanced budget condition (after excluding net investments) in the years before the Corona crisis (Figure 6). High-debt countries in the EU, by contrast, would need to balance their budgets by more than 2 % of GDP²² (Figure 6), by either reducing their high levels of primary expenditure (see Figure 3b), or by increasing their revenues. In other words, countries would have an incentive to change their composition of spending, by shifting a share of spending towards sustained public investments at the cost of other primary

²⁰ An escape clause could be maintained but should also be limited to prevent to excessive spending during crisis.

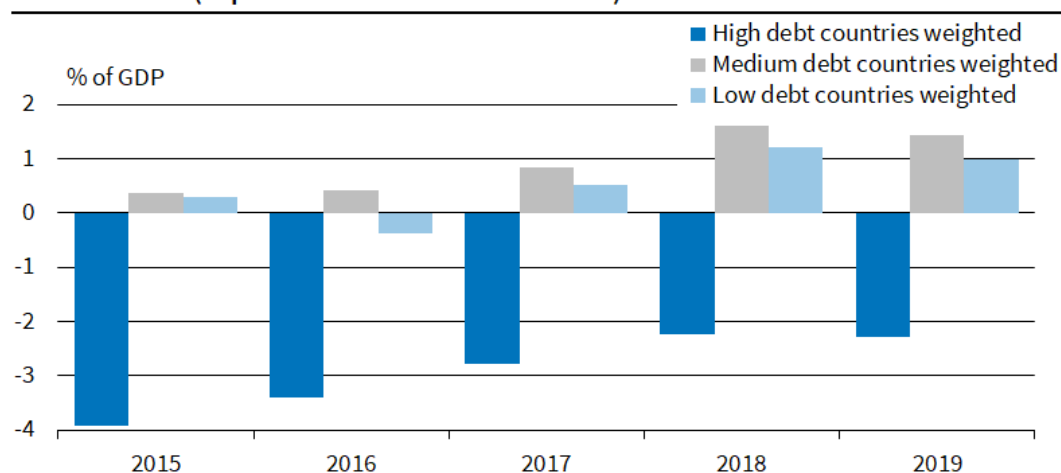
²¹ The threshold for the deficit rule should be implemented at the preferred maximum value of debt-financed public investments. There is no clear evidence on what the actual preferred threshold be precisely.

²² This figure would be lower if primary balance is required which excludes interest burden of government liabilities from the balanced budget rule.

expenditure categories, while overall spending would not increase. Adjusting the EU fiscal framework by including such a type of golden rule for public investments altogether increases incentives for larger public investments towards the green and digital transition in Europe, while ensuring fiscal sustainability by sticking to deficit and debt rules.

The golden rule in the described example was based and targeted on a 3% deficit rule. The optimal numerical target for the limit for deficit spending (deficit rule) and debt-financed investment, however, depends on the determination of the need for additional investment for the structural transformation on an annual basis. Moreover, the targeted threshold should also depend on the definition of net investments, which clearly defines the expenditures that can be included as public investment and thus financed by debt. It is important to define the spending categories clearly and narrowly within the set of public investments. This reduces risks for creative accounting by labelling other (e.g., social) expenses as investments. It is recommended to follow a narrow definition of investments that produce a new capital stock and may stimulate a sustainable economic growth (see Box 1).²³

Figure 6
Fiscal Balance (Expenditure excl. Net Investment)



Notes: Financial balance describes the difference between total government revenue and total government expenditure without net investments.

Source: Eurostat; Authors' calculations.

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The design of a simple golden rule for public investments in the EU fiscal framework should guarantee at best high transparency, high predictability, and low complexity, which are important factors to increase compliance among member states (Reuter,

²³ A narrow definition, for example, include public investment which aims to renew or increase public productive capital and capital for public goods (e.g., research and development expenditure, arms purchases, construction of buildings and infrastructure, etc.).

2020).²⁴ However, implementing a golden rule for net investments can be complex, e.g. net investment ratios could be either accounted on an annual basis or over an average of several years.²⁵

5.4 Public Investment and Fiscal Rules in the Reform Proposal by the EU Commission

In November 2022, the Commission published a Communication with some orientations for a proposed reform of the framework for EU economic governance (European Commission 2022). Taking some key concerns on the complex current framework into account, the orientations argue to ensure that the reformed framework is simpler with greater national leeway and better enforcement to strengthen debt sustainability and to enhance sustainable and inclusive growth through investments and structural reforms. Box 2 shows some key elements of the simplified framework.

Softening Fiscal Rules

The suggested fiscal framework of the European Commission (2022) seems less complex than the current version, which includes the preventive and corrective arms of the SGP as well as flexibility and cyclical adjustments to account for the economic situation of member states. The Communication suggests to keep the fiscal numerical thresholds 3% of GDP for budget deficit, and 60% of GDP for public debt of the treaty as references points in the medium term to target fiscal sustainability among all member states. However, the fiscal numerical rules are not suggested to be hard thresholds in the reform framework. The orientations rather suggest country-specific fiscal adjustment paths to account for country-specific differences in debt sustainability. The assessment of the budget plans and consolidation paths is therefore more complex and based on a longer period and various criteria. This, however, would likely soften the impact of the fiscal rules and give much (political) leeway in assessing and negotiating the national budgets and consolidation paths for national governments and the Commission (see Box 2). That is, all member states have still the same numerical thresholds of the fiscal rules in the treaty, but the proposal includes discretionary power

²⁴ Implementing an independent monitoring and surveillance system could also increase the likelihood of compliance among EU member states.

²⁵ A golden rule for net investments in the EU requires a standardised statistical system for the valuation of the capital stock and their depreciations. This is already done for the compilation of financial statistics among EU member states. These methods can be continued for reporting net investments across member states. However, some may favour a regular valuation of the individual capital stocks and depreciations across assets and countries to report the real economic value and costs. For ensuring transparency and comparability across countries, all countries would then need to implement an accrual-based public sector financial accounting system based on harmonised European accounting standards (as pursued by the European Public Sector Accounting Standards, EPSAS). However, implementing an accrual-based accounting system in the public sector and a harmonised system like EPSAS may come at high additional costs for implementation and administration as well as lower public investments (Christofzik, 2019; Christofzik et al., 2020; Dorn et al., 2021).

to the Commission to decide on the country-specific margins when the thresholds should be complied with. In the end, multilateral adjustment paths may account for country-specific characteristics, but this is unlikely to make the fiscal framework more transparent and effective. To be more effective, the assessment and surveillance of the adjustment plans should be made by an independent fiscal board (i.e., by giving the European Fiscal Board more power and independence). Finally, this softening of fiscal rules would be introduced without adjustment in the legal framework of the treaty.

No Rule for Public Investment

The reform proposal does not include a golden rule for public investments in the framework as suggested in the above policy implications of the briefing paper (section 5.3). Within the 3%-deficit budget rule, there is no investment-friendly clause included. The member states would have more time and leeway in their fiscal adjustment trajectory to better integrate their (investment) priorities. However, the general concept has less incentives for national governments to change their behaviour and to shift expenditures to structural reforms and long-term public investments in their national budgets during their legislative period.

However, member states would have an incentive for higher public investments at the expense of higher deficits above the 3%-threshold. As member states could extend the four-year fiscal adjustment period by up to three more years when the path is underpinned by a set of reform and investment commitments, such commitments will likely come at the cost of larger deficits. In this aspect, the reform plan is similar to the policy implications and suggestions of the golden rule in a two-pillar-system which allows net investments at the cost of budget deficits (section 5.3). But the difference is that the described proposal of the suggested golden rule in section 5.3 only allows deficits by net investments while current spending must be (structurally) balanced in parallel. The suggested golden rule in the two-pillar-system in section 5.3 therefore gives incentives for higher public investments without expanding (but rather incentivising to reduce) other expenditures. The proposed two-pillar system in the present report therefore explicitly seeks for a compositional shift in public expenditures away from current and towards investment spending in order to maintain sustainable public finances. By contrast, in the Communication of the European Commission, national governments could still use the margins for more deficits in other spending than investments (up to a 3% deficit threshold). Moreover, using the new element of an investment-friendly clause to exceed the 3% deficit threshold for a longer period in the European Commission's orientations would give the Commission the power to set EU investment priorities and to influence public investments in national budget plans towards EU priorities. While the Commission argues that these deficit-financed investments should not lead to investment cuts in the national budgets elsewhere over

Policy Implications

the planning period, the assessment of national Recovery and Resilience Plans (RRPs) has shown that it is not easy to detect budgetary shifts and additional investments beyond priorities of national plans (see Corti et al. 2022).

Summary

The reform proposals from the Communication of the European Commission (2022) have some similarities to the suggested reform elements of the two-pillar-system above: First, the deficit and debt rules should be kept for ensuring fiscal sustainability; second, the proposal sets incentives for public investments by allowing higher deficits. However, the orientations of the European Commission (2022) give larger scope for more budget deficits that are not directly related to efficiency-oriented spending reforms and investments than the golden rule in the two-pillar-system as suggested in 5.3. In the latter, the member states would keep the incentives for higher and sustainable investments, while the incentives for investments in the orientations of the EU Commission (2022) would only last for the extended period of the fiscal adjustment path (see Box 2). Instead, the Commission's suggestions would give much discretionary power to political negotiations between the Commission and member states in the assessment of country-specific fiscal adjustment paths, which would rather soften the power of the fiscal rules which ensure fiscal sustainability.

Box 2: Key Reform Elements of the Communication by the European Commission (2022)

What are the key elements in the Communication on the reform of EU economic governance as published by the European Commission (2022):

- (1) The European Commission plans to present fiscal adjustment paths in terms of net primary expenditure as single indicator for each member state. The fiscal adjustment plans cover a period of at least four years to achieve consistency with the reference values of the SGP treaty (thresholds of 3% of GDP for budget deficit, and 60% of GDP for public debt). The fiscal adjustment paths differentiate between countries by considering their public debt challenges. The new framework keeps the legislative text unchanged, the Commission aims to set clearer objectives, with the intensity of the framework linked to these objectives.
- (2) Member States set out their own national plans to achieve the single medium-term targets of the fiscal path towards fiscal sustainability set by the EU Commission. Member states have more leeway to set their fiscal adjustment trajectories to better integrate their (investment) priorities. However, the individual adjustment paths should ensure that debt would remain on a plausibly downward path after the fiscal adjustment period and that deficit would be maintained below the 3% of GDP threshold and the corresponding level of the structural primary balance to be achieved at the end of the four-year period.
- (3) Member states could propose a longer adjustment period and extending the fiscal adjustment path of the four-year period by up to three more years when the path is underpinned by a set of reform and investment commitments that support debt sustainability and respond to common EU priorities and objectives. Relevant reforms and investment in the RRFs would be taken into account during the lifetime of the RRF.
- (4) The Commission assesses the plans, providing a positive assessment if debt is placed on a downward path or stays at prudent levels, and the budget deficit remains credibly below the 3% of GDP reference value over the medium term. The assessment of whether imbalances exist would be made more forward-looking with a view to detecting, preventing, and addressing emerging harmful imbalances more effectively and early on. This is intended to lead to a commitment from the member states to include the reforms and investments needed to prevent or correct imbalances in their national medium-term plans. After the Commission has assessed the medium-term plan, based on a common assessment framework, the Council of the EU would either adopt the plan or recommend that the member state resubmit a modified plan.
- (5) Member states implement the plans. In case there would be no agreement between the member state and the Commission, the reference multiannual net expenditure path would be used by the European Commission and the Council for the purpose of fiscal surveillance and enforcement.

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Annex

Box 3: Fiscal Rules as Defined in the IMF Fiscal Rule Dataset

Balanced budget rule (BBR): defines a numerical limit of the difference between gross public revenues and gross public expenditures (budget balance). Multiple modifications of balanced budget rules are common. Firstly, the type of budget balance can differ between the aforementioned total balance, primary balance (without interest payments) and structural balance (primary balance minus one-off effects). Secondly, budget balance can be adjusted depending on the current state in the economic cycle, usually measured by the output gap (De Biase and Dougherty 2022). This typically allows to run greater deficits in recessions, where potential and current output diverge. In addition, the presence of escape clauses allows deviations from rules in certain situations, especially during recessions.

Expenditure rule (ER): defines a numerical limit for total, primary or current (operating) expenditure. The rule can target either the level of total expenditures, the growth rate or be measured as a share of nominal GDP. Moreover, different expenditure limits can be defined on different expenditure categories, e.g. different caps on investment and consumption expenditure. As some expenditure categories may be sensitive to the economic cycle, e.g. unemployment-related expenditures, cyclical adjustment can be applied (Reuter, 2020).

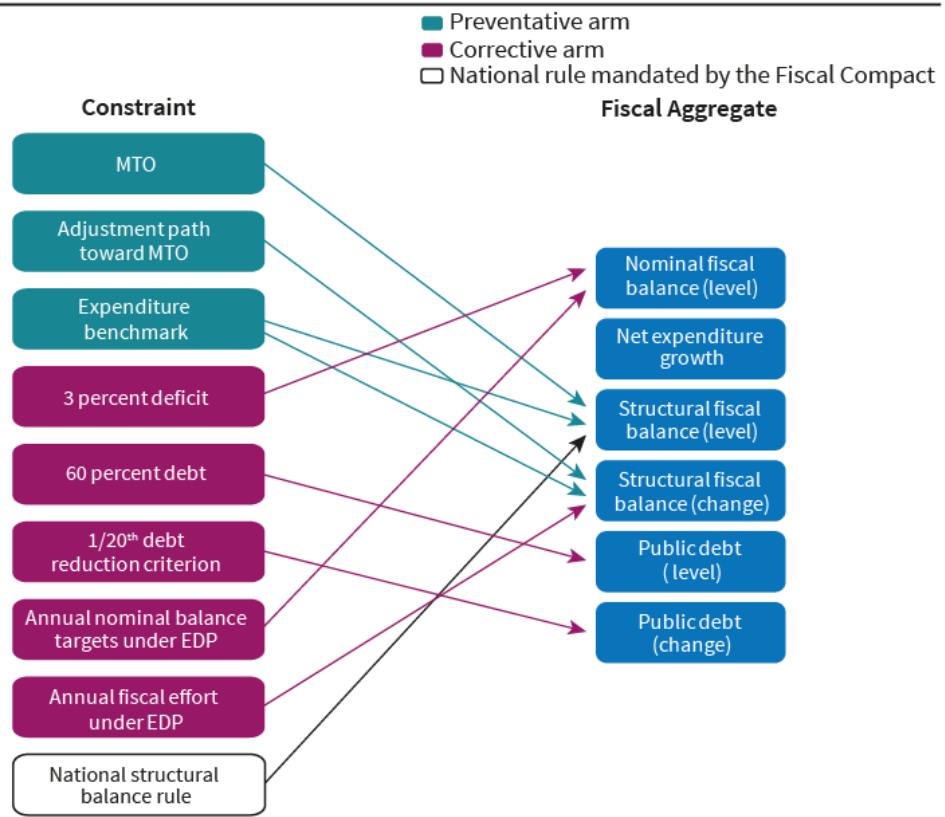
Debt rule (DR): defines a numerical limit for public debt. The numerical limit usually applies to the level of public debt as share of the nominal GDP, but also a limit to debt service can be applied.

Revenue rule (RR): defines a numerical ceiling or floor for total public revenues or specific components. As some revenue categories may be sensitive of the economic cycle, e.g., income tax revenues, cyclical adjustment can be applied (Reuter, 2020).

Golden rule: The golden rule is a modification of a balanced budget rule. It excludes capital/investment expenditure from the numerical limit, such that borrowing for this expenditure category is allowed in general. Different regulation regarding the exact extent to which new debt can be issued to finance (different types of) investment expenditure can be applied.

(Definitions based on Davoodi et al. 2022)

Figure 7: A1
SGP Procedures and Fiscal Targets



Source: Eyraud and Wu (2015, Figure 5, p. 15).

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Table 3: A1 – Debt Groups in the EU, 2000-2009 and 2010-2021

2000-2009	2010-2021
High Debt (public debt > 90% of GDP)	
Italy (107.5%)	Greece (179 %)
Greece (107.2 %)	Italy (134.3 %)
Belgium (98.9 %)	Portugal (124.6 %)
	Belgium (104.3 %)
	Spain (97.6 %)
	France (97.2 %)
	Cyprus (93.3 %)
Medium Debt (public debt > 60% and < 90% of GDP)	
Portugal (68.5%)	Ireland (82.7 %)
Austria (68 %)	Austria (80.7 %)
France (65.6 %)	Hungary (75.5 %)
Malta (65.3 %)	Croatia (75.2 %)
Germany (64.4 %)	Germany (71.5 %)
Hungary (62.1 %)	Slovenia (67.8 %)
	Finland (63.7 %)
Low Debt (public debt < 60% of GDP)	
Netherlands (50 %)	Netherlands (59.5 %)
Spain (46.6 %)	Poland (52.9 %)
Sweden (45.9 %)	Slovakia (51.5 %)
Poland (44.2 %)	Latvia (41 %)
Finland (41.8 %)	Denmark (40.1 %)
Denmark (41 %)	Sweden (39.6 %)
Slovakia (39.3 %)	Lithuania (39.4 %)
Croatia (39 %)	Czechia (38.3 %)
Bulgaria (35.6 %)	Romania (37.5 %)
Ireland (33.7 %)	Bulgaria (21.8 %)
Czechia (26.6 %)	Luxembourg (21.5 %)
Slovenia (26.5 %)	Estonia (10.5 %)
Lithuania (20.1 %)	
Romania (18.9 %)	
Latvia (15.3%)	
Luxembourg (9.2 %)	
Estonia (5.1 %)	

Note: Countries are grouped according to their average public debt in the respective period.

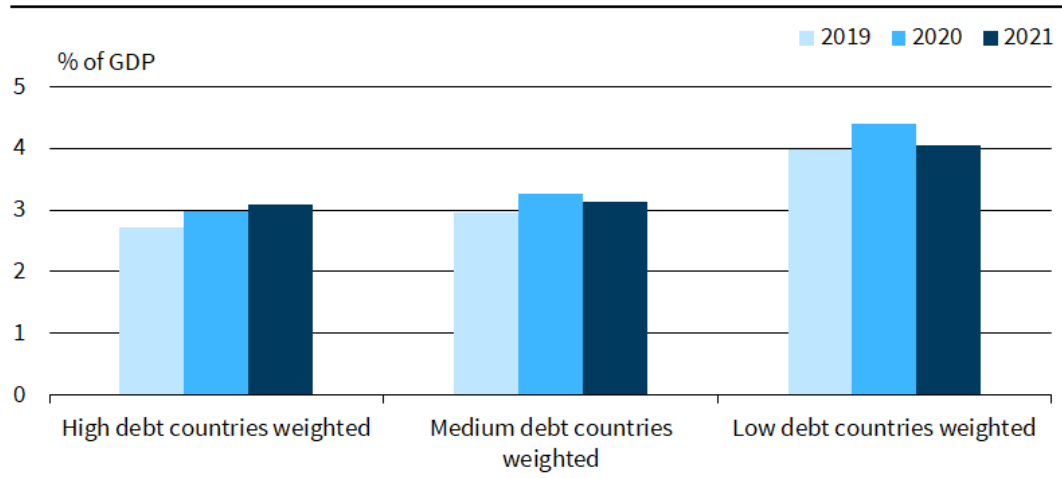
Table 4: A2 – Compliance with Fiscal Rules between 1998 and 2009

Countries	Debt Rule	Deficit Rule	Expenditure Rule	Structural Balance Rule
BE	83%	92%	0%	25%
BG	100%	92%	25%	75%
CZ	100%	42%	17%	25%
DK	100%	100%	50%	58%
DE	42%	50%	25%	42%
EE	100%	100%	42%	58%
IE	92%	83%	58%	58%
EL	0%	0%	8%	25%
ES	100%	83%	0%	33%
FR	42%	50%	8%	8%
HR	100%	50%	25%	13%
IT	8%	58%	8%	25%
CY	67%	50%	8%	42%
LV	100%	75%	33%	17%
LT	100%	58%	42%	25%
LU	100%	100%	83%	92%
HU	58%	0%	25%	50%
MT	33%	25%	25%	50%
NL	100%	92%	25%	33%
AT	33%	83%	17%	8%
PL	100%	17%	17%	42%
PT	33%	8%	8%	33%
RO	100%	50%	8%	33%
SI	100%	75%	8%	17%
SK	100%	33%	33%	25%
FI	100%	100%	92%	100%
SE	100%	100%	75%	75%
EU average	77%	62%	28%	40%

Table 5: A3 - Compliance with Fiscal Rules between 2010 and 2021

Countries	Debt Rule	Deficit Rule	Expenditure Rule	Structural Balance Rule
BE	8%	42%	42%	17%
BG	100%	67%	58%	67%
CZ	100%	67%	83%	83%
DK	100%	100%	83%	75%
DE	58%	75%	58%	75%
EE	100%	92%	58%	58%
IE	67%	50%	83%	67%
EL	0%	33%	83%	83%
ES	0%	8%	42%	42%
FR	0%	17%	25%	25%
HR	42%	42%	50%	58%
IT	0%	67%	25%	17%
CY	25%	42%	58%	75%
LV	100%	67%	25%	42%
LT	100%	67%	58%	67%
LU	100%	100%	83%	83%
HU	50%	67%	33%	17%
MT	75%	67%	33%	33%
NL	67%	67%	58%	58%
AT	25%	75%	25%	42%
PL	100%	50%	50%	33%
PT	17%	42%	58%	42%
RO	100%	50%	42%	50%
SI	50%	42%	25%	25%
SK	92%	58%	42%	33%
FI	67%	92%	25%	8%
SE	100%	100%	92%	92%
EU average	61%	61%	52%	51%

Figure 8: A2
Public Investment in Recent Years



Notes: Population weighted average based on 2022 population weights, grouped by average public debt as % of nominal GDP between 2010 and 2021.
Source: Eurostat.

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