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The past and future of subnational fiscal rules: an analysis of fiscal rules over time

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Abstract

The past and future of subnational fiscal rules: an analysis of fiscal rules over time

Fiscal rules are increasingly used at state and local levels to promote fiscal sustainability in OECD countries. Following the Global Financial Crisis, multiple reforms to fiscal rule frameworks were made so that governments could better tackle crises and build buffers for future downturns. This paper examines recent trends in the adoption of fiscal rules across levels of government and empirically assesses their effects with the purpose of providing lessons for the post-COVID-19 period. Beyond addressing the deterioration in public finances after the pandemic, the challenges include addressing the impact of population ageing, climate change and the energy transition, as well as growing regional inequalities. Evolution of the rules employed at the central level are contrasted to those at the subnational levels, including design features and institutional elements, together with their goals and limitations.

Keywords: fiscal federalism, fiscal frameworks, budgetary management, independent fiscal institutions, stabilisation policy

JEL classification: E63, H61, H72

Résumé

Évolution passée et future des règles budgétaires infranationales : une analyse des règles budgétaires au fil du temps

Les règles budgétaires sont de plus en plus souvent utilisées aux niveaux national et infranational pour favoriser la viabilité budgétaire au sein des pays de l'OCDE. Au lendemain de la crise financière mondiale, les cadres régissant ces règles ont fait l'objet de multiples réformes afin de permettre aux pouvoirs publics de mieux faire face aux crises et de se prémunir contre les futures phases de ralentissement économique. Le présent document passe en revue les tendances récentes qui caractérisent l'adoption des règles budgétaires à tous les niveaux de l'État et évalue leurs effets de façon empirique aux fins d'en tirer les enseignements nécessaires pour la gestion de la période post-COVID-19. L'impact du vieillissement de la population, du changement climatique et de la transition énergétique, ainsi que le creusement des inégalités régionales viennent s'ajouter au défi que représente le redressement des finances publiques mises à mal par la pandémie. L'évolution des règles mises en place au niveau national contraste avec celle des règles adoptées au niveau infranational, tant en ce qui concerne leurs caractéristiques conceptuelles et les aspects institutionnels que leurs objectifs et leurs limites.

Keywords: fédéralisme budgétaire, cadres budgétaires, gestion budgétaire, institutions budgétaires indépendantes, politiques de stabilisation

JEL classification: E63, H61, H72

The past and future of subnational fiscal rules: an analysis of fiscal rules over time

By Pietrangelo de Biase and Sean Dougherty¹

1. Introduction

1. Fiscal rules are numerical limits on fiscal aggregates whose adoption has been growing in recent decades for OECD countries. They aim to enhance the public sector's financial sustainability by reducing macroeconomic risks associated with budgetary imbalances. Although, at their conception, fiscal rules were mostly linked to fiscal sustainability there has been increasing interest in the constraints that fiscal rules may generate on the use of fiscal policy for both output stabilisation and growth – especially following the Global Financial Crisis (GFC). Such concerns have been magnified by the limitations of counter-cyclical fiscal policy when monetary policy has lost much of its potency and with the risk of a reduction in investment in a period of relatively lower growth. In the aftermath of the GFC, subnational governments (SNGs) – regional and local governments – engaged in pro-cyclical policymaking and reduced investment significantly, which may have impacted the pace of the recovery and potential GDP growth, especially considering that they are responsible for the majority of public investments made in OECD countries.

2. To prevent such a recurrence during the COVID-19 crisis, and to better equip SNGs to tackle the pandemic, fiscal rules were temporarily waived in many OECD countries, while spending pressures were acute. These waivers were justified on the basis of the exogeneity of the pandemic shock, which appeared less likely to generate moral hazard problems. However, similar to what happened after the GFC, the COVID-19 crisis may intensify pressure for many countries to reform their fiscal rule frameworks to adapt to the new socioeconomic environment. For instance, rules may become mis-calibrated due to the post-crisis fiscal stance of SNGs as well as addressing future challenges such as the energy transition, which became even more urgent with Russia's war against Ukraine, costs of climate change, increasing regional inequality and the consequences of population ageing on health and social care systems. Now, with the peak of the pandemic likely to have passed, priority is shifting towards recovering from the economic damage and dealing with these future challenges, which might require reforms to the framework for fiscal rules. For that purpose, understanding the evolution of fiscal rules' design and their institutional elements across levels of government can be particularly helpful to inform a forward-looking discussion on subnational fiscal rules and intergovernmental fiscal frameworks.

3. This paper reviews recent trends in the adoption of fiscal rules across levels of government and their effects with the purpose of providing lessons for the post-COVID-19 period. In addition, it analyses how the design of subnational rules affects SNGs' (i) fiscal sustainability, (ii) fiscal policy pro-cyclicality, (iii) expenditure composition, and (iv) the importance of fiscal rules' institutional elements.

4. In order to achieve the aims, annual data for European countries were used for panel analysis. The EU dataset covers fiscal rules in force since 1990 across EU countries and levels of government (for details, see EU, 2019). As this dataset has annual data, it is possible to use panel data models to infer the effects of fiscal rules on fiscal aggregates. Lower-frequency data gathered by the OECD Network on Fiscal Relations across Levels of Government is used to compare the results broadly with non-EU states as well as more fully understand certain features from a qualitative point of view, since the Network data cover three discrete points in time (2006, 2011 and 2019).

¹ This working paper was presented at the 18th Annual Meeting of the OECD Network on Fiscal Relations across Levels of Government (21-22 April 2022). It was prepared by Pietrangelo de Biase, consultant to the Fiscal Network, under the supervision of Sean Dougherty, head of the Network Secretariat, with technical inputs from Julie Corberand and Kass Forman. Helpful feedback was received in discussions with delegates and experts, especially Xavier Debrun (Nat'l Bank of Belgium), Teresa Ter-Minassian (expert) and Cristiana Belu Manescu (DG-ECFIN). Useful comments were also received from Luiz de Mello, Axel Mathot, Scott Cameron, Andoni Montes Nebreda and Lisa von Trapp.

Box 1. Key findings

- It is challenging to design fiscal rules that can achieve all three of their main objectives: (i) promoting fiscal sustainability, (ii) fostering economic stability, and (iii) improving the allocation of resources. There are trade-offs involved in the choice of fiscal rules and, ultimately, the design of fiscal rules is a policy choice that favours one or more objectives.
- The effectiveness of fiscal rules depends not only on their design but also on institutional elements that ensure the benefits of compliance outweigh the costs of non-compliance. Moreover, the enforcement of fiscal rules is as much a technical as a political issue. No matter how good the design of a fiscal rule is, if it is not backed by a solid institutional arrangement of monitoring, enforcement and by political will, it will likely fail to have the desired effect.
- The adoption of fiscal rules tends to decrease in times of crisis and to increase afterwards, reflecting the need for counter-cyclical policy during crisis and fiscal consolidation in its aftermath.
- The most common types of fiscal rules for central governments are expenditure rules (ERs), followed by budget balance rules (BBRs), then debt rules (DRs). At the regional or state level, BBRs are the most common type of fiscal rule, followed in order by expenditure and debt rules. Similarly, at the local level, BBRs are the most common, but expenditure rules much less common.
- The adoption of multiple fiscal rules has become increasing frequent for both local and state governments. Local governments tend to adopt the combination of budget balance rules and debt rules twice as frequently compared with any other combination of fiscal rules. State governments, on the other hand, prefer the combination of budget balance rules and expenditure rules.
- The most common targets of general government's BBRs are structural balances, while SNGs usually target nominal balances. For expenditure rules, all levels of government tend to target nominal expenditure. For debt rules, general governments target debt-to-GDP ratios, while SNGs typically target nominal debt or debt service ratios.
- Fiscal rules' institutional elements have been improving across all levels of government. Nonetheless, prior to the COVID-19 crisis, fiscal rules at the subnational level were still relatively weak in comparison to those enforced at the general government level – SNGs' rules tend to be: (i) less often defined in constitutions, (ii) more often monitored by non-independent institutions, (iii) infrequently have automatic and pre-defined correction mechanisms (at the local level only), and (iv) have fewer mechanisms to cope with shocks.
- Although Independent Fiscal Institutions (IFI) are commonly used at central levels of government and are effective in promoting fiscal sustainability by providing transparency to the effects of budgetary decisions, IFI that operate at the subnational level are very rare.
- Empirical analysis suggests that for SNGs: (i) fiscal balances are positively and negatively correlated to the strength of the institutional elements of BBRs and DRs, respectively, (ii) indebtedness is positively correlated to the strength of the institutional elements of DRs, (iii) investment is negatively correlated with the strength of the institutional elements of BBRs and ERs, and (iv) pro-cyclicality of expenditure is negatively correlated with the strength of the institutional elements of ERs.
- The current economic context poses challenges to fiscal rules' enforcement and design, notably: (i) calibration of fiscal rules to scenarios with historically low but rising interest rates, low output growth and population ageing, (ii) calibration of fiscal rules to deal with increasingly higher regional inequality, and (iii) making fiscal rules compatible with policies aimed at tackling the energy transition, climate change and future crises.

5. This document is organised as follows: Section 2 introduces theoretical concepts related to fiscal rule design and institutional elements, Section 3 explores recent trends in fiscal rules adoption across OECD and EU countries, Section 4 analyses the recent performance of fiscal rules, while Section 5 concludes the study by discussing potential avenues for the future development of subnational fiscal rules, in light of the current and post-crisis socioeconomic context.

2. Fiscal rules and their institutional aspects

2.1. Fiscal rules in the context of other institutional arrangements

6. SNGs have incentives to engage in fiscal profligacy that are absent at the central level (Ter-Minassian, 2007). First, the costs of fiscal profligacy at the subnational level are, in some circumstances, shared with neighbouring jurisdictions (e.g. the common pool problem). Second, when SNGs expect the central government to bail them out in case of distress, the costs of irresponsible fiscal policy are transferred to the central government, creating moral hazard issues. Third, a combination of mandatory expenditures, lack of autonomy to raise revenues and ill-designed intergovernmental frameworks can pressure some jurisdictions to run unsustainable deficits. This pressure varies widely as jurisdictions are heterogeneous in terms of revenue structure, expenditure structure and the dynamism of the local economy. Lastly, market discipline may not be sufficient at the subnational level, as SNGs might face borrowing constraints and as their creditors might anticipate bailouts. Therefore, having an instrument to minimise the risk of fiscal profligacy at the subnational level of government is crucial.

7. Subnational fiscal rules are an institutional arrangement, among others, that are employed with the purpose of promoting fiscal sustainability and fiscal policy. Ter-Minassian & Craig (1997) identified four main instruments with similar purposes, each of which allowing different degrees of subnational autonomy (in descending order): administrative controls by higher levels of government, fiscal rules, co-operative arrangements and market discipline.

8. Papers on fiscal rules often agree that fiscal rules can foster fiscal sustainability, at least under certain conditions (Kotia et al., 2016; Grembi et al., 2016; Schmidt-Hebbel & Soto, 2017; Blanco et al., 2020; Jochimsen & Raffer, 2020; Gootjes et al., 2021). Nevertheless, fiscal rules are neither necessary nor sufficient to achieve such goals. That is because the same objectives may be achieved by using administrative controls, market discipline and co-operative arrangements, and because fiscal rules also require good design, certain institutional features and on-going political support to be effective (Teresa Ter-Minassian, 2007).

9. Despite these challenges, fiscal rules tend to be a popular, if not the most popular, fiscal arrangement within the OECD and partner countries for promoting SNGs' fiscal sustainability for numerous reasons (based on Ter-Minassian, 2007 and Turley et al., 2021). First, fiscal rules tend to be more palatable to SNGs than direct administrative controls from the central government as under fiscal rules, SNGs often can enjoy a significant degree of autonomy. In addition, administrative controls can become a source of soft budget constraint if they are used on a discretionary basis, or for attaining political objectives, reducing the incentives for a sustainable fiscal policy at the subnational level of government. Second, fiscal rules also tend to offer more predictability than negotiable fiscal targets set in co-operative arrangements. Third, market discipline requires a set of preconditions that are absent in some countries: availability of timely and/or reliable SNG fiscal information, rapid responsiveness to market signals, no privileged access to financing, no history or expectation of bailouts by the central government and an adequate level of tax autonomy. Lastly, fiscal rules also tend to be transparent and relatively easy (in broad terms) to understand.

10. Thus, fiscal rules are expected to continue to be one of the main if not the main tool for promoting subnational fiscal sustainability and, for that reason, a better understanding of their design and institutional aspects is crucial for improving subnational fiscal policy.

2.2. Types of fiscal rules and trade-offs

11. Arguably, the main goal of subnational fiscal rules is to promote fiscal sustainability. Nevertheless, when focusing solely on fiscal sustainability, fiscal rules might have adverse effects on other government functions, notably stabilisation and allocative efficiency.² As a result, fiscal rules are often adopted in a manner that can achieve their main goal of promoting fiscal sustainability while, simultaneously, allowing the implementation of counter-cyclical policies and minimising allocative distortions.³ These goals are further described below:

- *Fostering fiscal sustainability.* The primary goal of the adoption of fiscal rules is to foster fiscal sustainability. Especially at the subnational level, SNGs might face borrowing constraints and lack market discipline, which makes fiscal rules particularly relevant to minimise the chances of SNGs sharing the costs of fiscal profligacy with neighbouring jurisdictions (*i.e.* common pool) and with the central government (*i.e.* moral hazard) (Ter-Minassian, 2007).
- *Allowing adoption of counter-cyclical policies.* A possible side-effect of fiscal rules is to induce pro-cyclicality. In downswings, in order to comply with rules, SNGs might resort to pro-cyclical policies. This is particularly relevant as SNGs are responsible for the majority of investments in OECD countries and investments are often easier to cut than other more rigid expenditures, which can affect economic recovery and growth prospects. Therefore, ideally, fiscal rules should be designed in a manner that allows SNGs to engage in counter-cyclical fiscal policy if they desire. This design feature has become increasingly important following the GFC, as fiscal policy's role in stabilising the economy has grown while monetary policy has run out of ammunition and fiscal multipliers may be larger when monetary policy reaches the zero lower bound (Eberly, 2010). Nevertheless, fiscal rules should *allow* the adoption of counter-cyclical fiscal policies by SNGs but not *force* them. The stabilisation function is attributed mainly to countries' central and supra-national authorities, since they generally have more tools to stabilise output, such as monetary policy and fiscal policy funded through better access to financial markets. This aspect is critical to avoid transferring the burden and costs of output stabilisation from central governments to SNGs, who have less autonomy and tools to raise revenues and/or cut expenditures for counter-cyclical policymaking.
- *Maintaining the budget composition.* Another possible side-effect of fiscal rules is to change the budget composition as a result of a reduction in SNGs' fiscal autonomy, which, ultimately, can reduce the benefits of decentralisation of better matching public services to local preferences (Oates, 1972). One particularly common case is the adoption of fiscal rules causing a reduction in SNGs' discretionary expenditure.⁴ As SNGs are key players in politically sensitive government functions such as education, health and social protection, and avoid cuts in expenditures that are financed or co-financed by the central government through earmarked grants, they cannot easily reduce their expenditure levels. They also have limited autonomy to raise revenues (Dougherty et al., 2019). Therefore, in case they need to engage in fiscal consolidation to comply with rules, they might be tempted to reduce discretionary expenditure, which often includes investment, or take undesirable measures to compensate such as asset sales, off-budget vehicles and accounting gimmickry.

12. These objectives are pursued through the use of various types of fiscal rules. Table 1, below, summarises the main types of fiscal rules and their properties (for an exploration of the adoption of these fiscal rules across OECD and partner countries, see Vammalle & Bambalaite, 2021).

² The three government functions are: allocative, redistributive and stabilisation (Musgrave, 1959).

³ Historically, some authors also consider constraining the size of the public sector as one of the goals of policymakers when adopting fiscal rules (see, for instance, OECD, 2013 and Sutherland et al., 2005). We do not disagree with them but opted to focus on these other objectives.

⁴ For instance, Venturini (2020) linked the adoption of subnational fiscal rules with a decrease in investments in local governments in Italy.

Table 1. Fiscal rules' definitions and trade-offs

Rule	Definition	Does compliance promote fiscal sustainability?	Does compliance affect macroeconomic stabilisation?	Does compliance affect the budget composition?
Budget balance rules				
Current and capital (budget⁵ balance)	Allows new borrowing to finance the deficit up to a target and to rollover debt	Yes, if targets are well-designed	Compliance can lead to pro-cyclical fiscal policy	Neutral
Current surplus⁶ (golden)	Allows new borrowing for capital expenditure but prevents new borrowing for current expenditure and debt rollover	Yes, but may still lead to unsustainable debt if investments (plus principal repayment in case of operating budget rule) are higher than revenue growth	Compliance can lead to pro-cyclical fiscal policy but allowing investments minimise this tendency	May favour investment spending
Current balance⁷ (operating)	Allows new borrowing for capital expenditure and principal repayment but prevents borrowing for current expenditure			
Cyclically adjusted balance (CAB)	Fiscal deficit is adjusted to consider the position of the economic cycle (output gap)	Yes, but in cases of long-lasting downswings can allow excessive indebtedness	Allow counter-cyclical fiscal policy	Neutral
Debt rules/Borrowing constraints				
Debt level	Numerical limits for public debt, nominal or as a percentage of the revenues	Yes, but when not binding debt rules often are incapable of controlling the trajectory of fiscal balances	Can lead to pro-cyclicality when 1) rules are binding in downswings, limiting the use of loans to stimulate the economy, 2) rules are binding in upswings, allowing expansionary fiscal policy and 3) linked to income, as decreases in revenues may force decreases in expenditure; Debt service rules can lead to pro-cyclicality when interest rates are inversely correlated with cycle	Neutral
Debt service	Numerical limits for debt service, nominal or as a percentage of the revenues	Can promote fiscal sustainability as debt services are directly linked to debt levels		
Expenditure rules				
Overall	Numerical limits for public expenditure, nominal, tied to real growth rates or as a percentage of the revenues	Not in isolation as it does not control revenues	Allow counter-cyclical fiscal policy in upswings and in downswings through revenues; if linked to income, can lead to pro-cyclical fiscal policy	May affect the composition of expenditure, leading to a reduction in investments
Current	Numerical limits for current expenditure, nominal or as a percentage of the revenues	No as it does not control revenues and capital expenditure (investments and principal repayment)	Allow counter-cyclical fiscal on upswings and on downswings through revenues and investments; if linked to income, can lead to pro-cyclical fiscal policy	May favour investment spending
Individual	Numerical limits for certain expenditure items, nominal or as a percentage of the revenues	Not in isolation as it does not control revenues and other expenditures	Unclear (depends on the expenditure items)	Yes, but this often is the objective of the rule

Note: Borrowing constraints and debt rules were merged into the same group because debt and borrowing are two related variables – debt refers to the accumulation of past borrowing and, thus, constraints on borrowing can also be written as constraints on debt.

Source: Authors based on Eyraud et al. (2020), OECD/KIPF (2016) and Sutherland et al. (2005).

⁵ This type of rule defines the difference between revenues and expenditures (capital and current) should be equal or higher than a target.

⁶ This type of rule defines that revenues should be equal or higher than current expenditure plus principal repayment.

⁷ This type of rule defines that revenues should be equal or higher than current expenditure.

13. It is clear from Table 1 that, in theory, different types of fiscal rules can be employed to achieve different objectives and no single basic rule can achieve all of them (assuming that a basic rule can only constrain one fiscal aggregate at once). Often, when a single rule is appropriate to achieve one or two of these three objectives, it will likely be at the cost of the third objective. Therefore, there is no single rule, at least in principle, that can achieve all three objectives and there are, necessarily, trade-offs involved in the choice of fiscal rules. Exceptions may arise in case a fiscal rule is designed in a manner that it involves multiple fiscal aggregates and/or has complex design features that can offset its flaws, such as with MTEFs (see Box 2).

Box 2. Medium-term Expenditure Frameworks

Medium-term Expenditure Frameworks (MTEFs) are in place in most OECD countries. According to OECD (2019), “a medium-term expenditure framework (MTEF) is a structured approach to integrating fiscal policy and budgeting over a multi-year horizon, and links fiscal forecasting, fiscal objectives or rules and forward planning of multi-year budget estimates”. MTEFs consist of an expenditure rule that is calibrated based on forecasts of resource availability (revenue and economic projections) and baselines of on-going expenditures (an estimate of all government expenditure over the medium-term). This calibration occurs frequently and should be consistent with the budget preparation and revisions. MTEFs require high-quality revenue and expenditure estimates and active coordination with institutions involved with the budget preparation and execution, such as line ministries and subnational governments, both of which account for large levels of government expenditure. If these challenges are overcome, MTEFs can achieve multiple policy objectives simultaneously.

Source: Authors based on OECD (2019).

14. Typically, the selection of the fiscal rules’ arrangement is a policy choice that favours one/some objectives (*i.e.* fiscal sustainability, output stabilisation and affecting the budget composition) at the cost of the other(s). Policymakers can also aim to find a good balance between promoting fiscal sustainability and providing flexibility to SNGs’ fiscal policy, so they do not adopt a suboptimal budget structure and pro-cyclical policies. One way that can be achieved is through rule design (explored in the next section) or through a combination of fiscal rules.

2.3. Institutional elements of fiscal rules

2.3.1. Politics and the importance of institutional elements of fiscal rules

15. Fiscal rules, as they refer to limits on fiscal policy, are inherently a political matter. Fiscal policy refers to the use of government spending and taxation to influence the economy with the three main functions (Musgrave, 1959), all of which are political: allocative (*i.e.* make efficient use of resources, provision of goods and services), redistribution (*i.e.* reduction of inequalities) and stabilisation (*i.e.* obtain full employment and price stability). Since all government programs of elected policymakers that involve government revenues or expenditures are part of fiscal policy and aim at achieving these functions, when fiscal rules are binding, they may force elected policymakers to act differently than they intended, affecting the outcomes of their political mandates.

16. These limits are believed to be worthwhile to counterbalance some biases toward fiscal profligacy that are inherent to the political process in order to promote fiscal sustainability, which is not a political choice but rather a constraint. Gaspar et al. (2017) mentioned different ways in which politics affect fiscal policy, potentially in an undesirable manner. First, proximity to elections might incentivise politicians to launch fiscal expansions to increase their prospects of getting re-elected and to leave a debt burden to the

next elected government to undermine their popularity. Second, political fragmentation tends to lead to an increase in expenditure as different political parties want to push the spending programmes that affect their voters as they only internalise part of the costs (common pool problem). It is worth noting that some of these resources are “pooled” with subsequent generations, an issue that is aggravated since voters do not fully internalise the long-term or inter-generational costs of their preferences (fiscal illusion issue).

17. As voters, at least in some circumstances, understand the necessity of fiscal consolidation and reward politicians when consolidation plans are implemented properly (Alesina et al., 2019), policymakers also have incentives to reform fiscal frameworks so that they promote fiscal sustainability. An example of a popular fiscal rule can be found in Switzerland, where a debt containment rule, which had a negative effect on the debt ratio, was approved by an overwhelming majority of 84.7% of Swiss voters in a referendum (Salvi et al., 2020). Consequently, although fiscal rules affect policymakers’ discretion over fiscal policy, elected politicians opt to introduce them into ordinary law or even constitutions (see Figure 8).

18. Political will and ownership are important not only for creating but also for enforcing fiscal rules. Policymakers are likely to evade fiscal rules, to look for loopholes or to change or to simply ignore them, and as soon as the political costs from the rule outweigh its benefits, policymakers will abandon them (Turley et al., 2021). Therefore, rules are likely to be effective when politicians are penalised at the polls if they opportunistically evade fiscal rules in disregard of fiscal realities. In the same vein, Allers & de Natris (2021) analysed whether rules that forbid bailing-out SNGs are effective and they found that countries with a no-bailout rule do bail out subnational governments frequently, while countries lacking such a rule sometimes do not. In addition, breaches of subnational fiscal rules are rarely backed by sanctions (OECD, 2013). According to Allers & de Natris (2021), fiscally responsible behaviour of subnational governments seems to depend on a balanced mix of policy measures – notably providing sufficient funding – adequate fiscal supervision, early intervention mechanisms and bailout rules that raise the costs of bailouts by reducing SNG autonomy, forcing fiscal consolidation or penalising policymakers on a personal level.

19. It seems clear, therefore, that the effectiveness of fiscal rules depends not only on their design but also on institutional elements that ensure that the benefits of compliance outweigh the costs of non-compliance. Fiscal rules’ enforcement is, hence, not only a technical issue but also a political economy one, with strong administrative elements. Therefore, no matter how good the design of a fiscal rule is, if it is not backed by a proper institutional arrangement of monitoring and enforcement and by political will, it will likely fail to have the desired effect.

2.3.2. *Institutional elements of fiscal rules*

20. Fiscal rules’ institutional arrangements have been studied by multiple authors (Geissler et al., 2021; Kotia et al., 2016; Foremny, 2011; Schick, 2010; Sutherland et al., 2005, 2006). In summary, the following elements are considered to be the most relevant for the rules to achieve their objectives.⁸

- *Imposition of the rule*: fiscal rules can 1) be self-imposed (imposed by the SNGs themselves), 2) be imposed by higher levels, or 3) negotiated between levels of government. In the first case, it is expected that the rule will be heterogeneous across jurisdictions while in the other cases they are likely to be homogenous. Self-imposed rules tend to have stronger ownership.
- *Statutory basis*: The higher the hierarchy of the legislation that defined the fiscal rule, the harder it is to modify the rule and, thus, the more likely it will be enforced when binding. Therefore, rules established in the constitution or primary law of a country are stronger than rules established in legal acts, coalition agreements or political commitments.

⁸ For a detailed and recent exploration on how fiscal rules of OECD and partner countries differ with regard to these elements, see Vammalle & Bambalaite (2021).

- *Monitoring*: In order for fiscal rules to be effective, it is necessary to have timely and accurate fiscal information. Mandatory corrective action in case of significant risk of non-compliance may also improve a rule's effectiveness. Timely information is especially relevant when corrective actions are necessary as a reaction to rapidly deteriorating fiscal positions. As there are information asymmetries between the SNGs and the body in charge of monitoring, information needs to be reported in an accurate and standardised manner and, in some cases, even audited. The presence of independent fiscal institutions/bodies that monitor compliance with the rule also enhance enforcement mechanisms.
- *Report*: The body that officially verifies the compliance with the rules is especially important as sanctions and corrections depend on its decision. The bodies who officially verify compliance with the rules are higher levels of government (i.e. state in case of local rule and the central government in case of state rule), SNGs themselves (e.g. through a body linked to the executive or legislative power) or another external, potentially independent body such as various courts of accounts or fiscal councils.⁹ Independent bodies are usually better protected from political pressures.
- *Sanctions*: Sanctions can be the most important mechanism to enforce the compliance with the fiscal rule. Without sanctions, the compliance might not be credible. In principle, the following sanctions are used across OECD countries: imposing financial sanctions and corrective measures, institutionalised bailout procedures (which may involve a substantial loss of autonomy to higher levels of government) and holding officials personally accountable. Having no sanction is also an option, in this case it is expected that market discipline and/or popular scrutiny will ultimately penalise non-compliance in case the rule captures satisfactorily the fiscal sustainability of SNGs.
- *Oversight*: If the information on compliance is easily available in a standardised manner, politicians and media outlets can discuss the fiscal performance of SNGs with the population, which may raise awareness and public support to the enforcement of the fiscal rule. Public awareness is particularly relevant as sanctioning SNGs is a political choice as, ultimately, policy makers can change the fiscal rule when it becomes binding. In some cases, the sanction itself is discretionary and, thus, it can be ruled out by a decision of the overseer, which makes public pressure increasingly more important.
- *Escape clauses*: As discussed in the previous section, some fiscal rules may have the side-effect of hindering governments from engaging in counter-cyclical fiscal policy in downturns. Well-designed escape clauses define clear and extraordinary conditions (not in any downswing, as this would create moral hazard) in which fiscal rules compliance can be temporarily revoked and, therefore, provides flexibility to rule compliance in case of exogenous shocks. Although escape clauses are useful to allow counter-cyclical fiscal policy in times of distress, they are asymmetric as they do not force counter-cyclical fiscal policy in upswings to compensate for the effects of pro-cyclical fiscal policy in crisis. Hence, despite being a useful tool in times of crisis, it is insufficient to make fiscal policy more counter-cyclical throughout the cycle. Escape clauses are especially important to create a distinction between the tool used for revoking sanctions in times of crisis, when flexibility is necessary, and other tools used for revoking sanctions for political reasons, minimising the risk of trivialising the situation in which sanctions are not enforced.
- *Accounting standard*: Having a common budget classification and common accounting standards might improve transparency and allow for cross-jurisdiction comparisons. Countries can use cash-based (i.e. recognises revenues and expenses when payment is exchanged) and accrual

⁹ Fiscal councils have several functions, from roles related directly to the application of fiscal rules—including oversight of compliance, provision of independent forecasts for applying the rule in annual budget proposals, and assessment of the accuracy of government projections in annual budgets—to broader responsibilities, such as the assessment of fiscal impacts of the policy initiatives, evaluation of medium-term fiscal sustainability, and promotion of public debate on fiscal affairs (OECD/KIPF, 2016).

accounting (i.e. recognises revenues and expenses when economic activity occurs). The former is simpler to execute as it considers only timing of the payments. The latter, though, provides more information that can be used to compute intergenerational impacts of fiscal policy by, for instance, making it explicit that public capital is being consumed due to low levels of investment. Nevertheless, although a relevant definition in the fiscal rules framework, there is evidence that the accounting system does not significantly change the effectiveness of fiscal rules (Dorn et al., 2019).¹⁰

21. As there are numerous aspects to be captured from the institutional elements of fiscal rules, it is common to assess the strength of these aspects through indexes (see Gootjes et al., 2021; Manescu et al., 2021; Jochimsen & Raffer, 2020; Foremny, 2011; and Sutherland et al., 2005). These indexes usually weigh the aforementioned or similar characteristics to gauge the strength of the fiscal rules' enforcement mechanisms and/or design. They may or may not include "pure" design features and/or be specific with regard to the objective to be achieved. They can also be computed for each fiscal rule, as enforcement mechanisms might differ depending on the rule, or be aggregated into an individual index that captures the strength of all fiscal rules' arrangements simultaneously. See Box 3 for details of the index that is explored in this paper.

3. Recent trends in fiscal rules adoption

3.1. Introduction

22. Fiscal rules' design and institutional arrangements have been evolving since when they started to become widely adopted, in the early 1990s. At that time, fiscal rules were mainly focused on central governments and their primary aim was to reduce excessive indebtedness (Jiménez et al., 2021). At present, fiscal rules in most OECD and partner countries cover the central and subnational levels of government with different policy purposes. The interaction between varying objectives and socio-economic contexts has created substantial variations in fiscal rules' design and institutional arrangements across countries, which are explored in this section.

3.2. Trends in the design of fiscal rules across levels of government

3.2.1. Types of fiscal rules adopted across levels of government

23. Figure 1 shows the adoption of three types of fiscal rules: borrowing constraints (BCs), budget balance objectives/rules (BBRs) and expenditure rules (ERs) in the three years in which the OECD Network of Fiscal Relations across Levels of Government (NFR) surveyed OECD and partner countries. It is clear that the adoption of fiscal rules decreased just after the Global Financial Crisis and increased afterwards. This is not surprising given the need to engage SNGs in counter-cyclical fiscal policy in the aftermath of the crisis and to build buffers when the effects of the crisis faded.

¹⁰ Despite this conclusion by Dorn et al. (2019), OECD (2021a) concluded, through an analysis of case studies in OECD and partner countries, that the use of accruals accounts prepared according to harmonised help in the early detection of fiscal problems.

Box 3. Building an index using the fiscal rule dataset

A subnational fiscal rules dataset that can be used to design a set of indicators is the European Union's fiscal rules database (see EU, 2019). The EU has collected annual data on fiscal rules enforcement across levels of government from 1990 through 2019, which allows for the construction of an annualised time series for SNG fiscal rules strength, significantly improving the capability of using this index for making causal inference.

Based on this data, this paper constructs a rule-specific index aimed at covering institutional elements of fiscal rules.¹¹ This index consists of five institutional features that vary across years and levels of government. The final index is computed by summing the values of each criterion and by adjusting the value so that the maximum score is 10 (instead of 13). The criteria used to construct this index are:

Criterion 1: Statutory/legal base of the rule

- 3 – Constitutional (including higher than ordinary law)
- 2 – Legal Act of ordinary nature
- 1 – Coalition agreement
- 0 – Political commitment by a given authority or an annual budget law

Criterion 2: Nature of the body in charge of rule monitoring and the correction mechanism

- 3 – Monitoring by an independent authority (*i.e.* fiscal council or similar)
- 2 – Monitoring by the court of auditors (if not hosting an independent fiscal council) and/or parliament
- 1 – Monitoring only by the ministry/secretary of finance or other government body
- 0 – No regular public monitoring of the rule (no report systematically assessing compliance)

Criterion 3: Nature of the body in charge of monitoring correction of deviations from the rule

- 2 – An independent authority (*e.g.* fiscal council or court of auditors endowed with appropriate mandate)
- 1 – The court of auditors and/or parliament
- 0 – The ministry/secretary of finance or other government body
- 0 – No specific body in charge of monitoring the correction mechanism
- 0 – No correction mechanism in place

Criterion 4: Correction mechanisms in case of deviation from the rule

- 4 – The correction mechanism is triggered automatically with requirements of pre-determined corrections
- 2 – The correction mechanism is triggered automatically or there are pre-determined corrections
- 1 – The correction is mandatory but there are no predefined requirements (*e.g.* timeline, correction size)
- 0 – No mandatory corrective measures

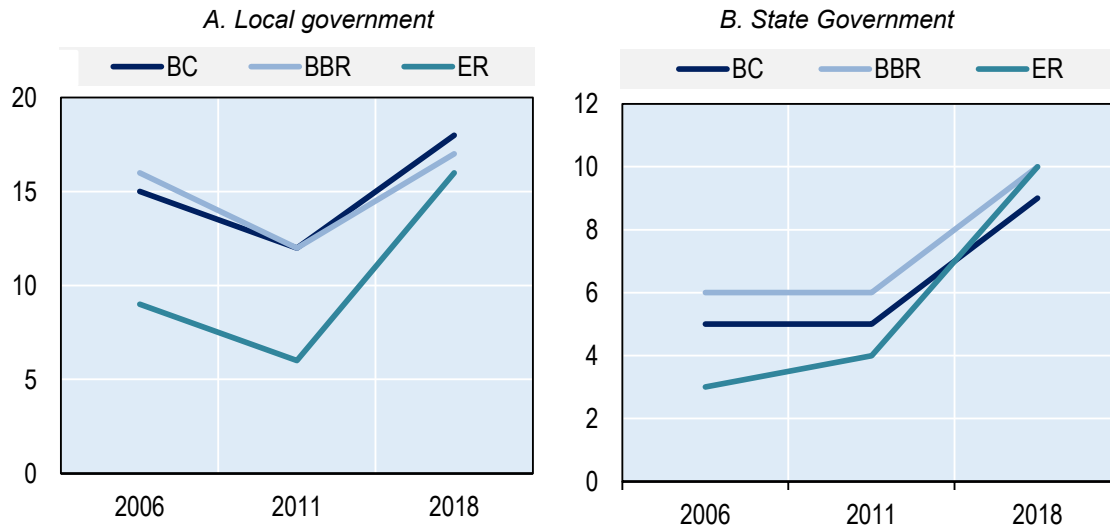
Criterion 5: Resilience to shocks or events outside the control of the government

- 1 – Targets defined in cyclically adjusted terms, or they account for the cycle
- 0 – Otherwise

Source: Authors based on EU (2019).

¹¹ It is worth noting that the EU also constructs an index using the data they gathered. Nevertheless, due to the fact that the EU index was not available for numerous fiscal rules for many years in their dataset, we decided to build a new one whose coverage could be enlarged. More specifically, we designed the index here for the purpose to covers a subset of the questions the EU index uses, but whose answers have been provided since the early 2000s or earlier.

Figure 1. Number of fiscal rules in place across OECD countries



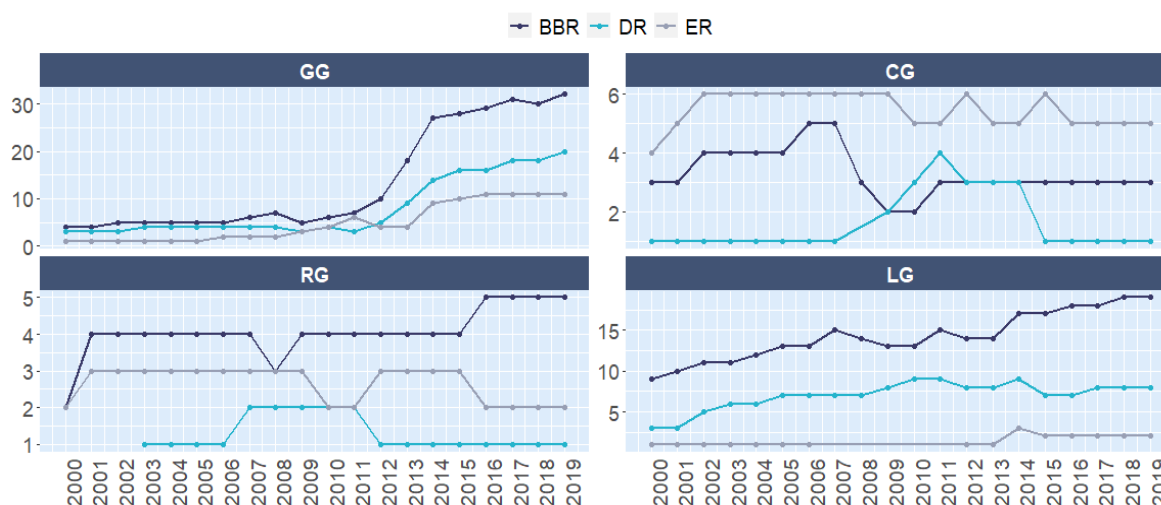
Note: BC, BBR and ER refer to borrowing constraints or debt rules, budget balance objectives and expenditure rules, respectively.

Source: OECD Network on Fiscal Relations across Levels of Government surveys on subnational fiscal rules (see Annex 2 with full data).

24. As analysed by Blöchliger et al. (2010), most central governments stepped in to help SNGs to engage in counter-cyclical fiscal policy after the GFC, mainly by increasing intergovernmental transfers, supporting investment programmes and easing fiscal rules and lifting borrowing constraints. As the economy recovered and the effects of the crisis faded, expansionary fiscal policy was no longer needed, and governments engaged in fiscal consolidation to enhance the sustainability of their finances. In order to promote fiscal consolidation at the subnational level, central governments strengthened subnational fiscal rule frameworks and reduced intergovernmental grants (OECD, 2012). These two movements of weakening and strengthening of fiscal rules are clear in Figure 1, Panel A.

25. When looking at the data from EU (2019), illustrated in Figure 2, a similar pattern can be observed. Although not as strong as the pattern shown in Figure 1, there is a slight reduction in the number of rules enforced for some combinations of fiscal rule's type and level of government during and right after the GFC and an increase afterwards.

Figure 2. Number of fiscal rules in place across levels of government



Notes: 1. DR, BBR and ER refer to debt rules/borrowing constraints, budget balance objectives and expenditure rules, respectively. GG, CG, RG and LG refer to the general, central, regional and local level of government, respectively.

2. The EU (2019) database covers a total of 35 European countries, more than the 27 members of the EU.

3. Figure 1 and 2 cover different countries and, therefore, are not necessarily consistent with one another. Figure 1 covers OECD and partner countries that answered the OECD NFR survey on fiscal rules. Thus, in addition to a sample of European countries, Figure 1 covers countries such as Australia, Brazil, Canada, Korea, Mexico, South Africa, Turkey, and United States. In addition, Figure 1 covers a wider range of European countries, including those that are not members of the OECD.

Source: Authors based on EU (2019).

26. The EU data also allow for comparisons of fiscal rules' adoption across levels of government. Not surprisingly, as the EU enforces supranational fiscal rules on the general government level (see Box 4 on the EU fiscal rules), the number of rules enforced at the general government level is higher than at any specific level of government. In addition, the next level of government with the highest number of fiscal rules is the local level, likely because 1) both federal and unitary countries always have local governments, in contrast to state/regional governments; and 2) local governments have an incentive to engage in fiscal profligacy that central governments usually lack.

27. SNGs and the central government also differ with regard to the fiscal rules employed. According to Figure 2, the most common type of fiscal rule for central governments is the expenditure rule, followed by budget balance rules and debt rules. At the regional/state level, BBR are the most common type of fiscal rules, followed in order by expenditure rules and debt rules. Similarly, at the local level budget balance rules are the most common but at that level expenditure rules are the least common ones.

28. This preference given to expenditure rules at higher levels of government is likely related to numerous reasons (Schick, 2010). Government expenditures are more controllable than government revenues (and, thus, any other variable that depends on government revenues such as fiscal balance or debt), which facilitates compliance. In addition, expenditure rules are very transparent and easy to understand, which is particularly relevant for having stronger political support.

Box 4. The EU fiscal rules' framework

The European Union is an economic and monetary union and, therefore, its monetary policy is centralised while fiscal policy is conducted at the national level. As a result, coordination of fiscal policy is crucial for preserving the fiscal sustainability of its members and trust in the EU institution and the euro. In that respect, the EU works like a federation, in which the supranational institution of the EU works similarly to a central government while countries can be compared, with limitations, to SNGs.

The EU fiscal rules' framework still preserves, until this day, the two target values defined at the Maastricht Treaty, from 1992: a deficit and a public debt objective of 3% and 60% of GDP, respectively, with an escape clause for exceptional circumstances. The Stability and Growth Pact (SGP), from 1997, operationalised these fiscal rules since 1999, when the euro was introduced.

This simple set of fiscal rules has changed over the last fifteen years. In 2005 the concept of structural balances was introduced, so the rule could cope with shocks. In 2011, fiscal monitoring was strengthened with the inclusion of new indicators such as macroeconomic imbalances and requirements for compliance with fiscal rules to be assessed by independent bodies.¹² In addition, this reform also introduced an expenditure target benchmark and defined a pace at which the debt ratio should converge to the 60% debt-to-GDP target. In 2015, fiscal adjustment requirements became more flexible, which also raised the complexity of the rules substantially and, thus, reduced their transparency.

At present, in addition to the debt rule, the EU sets structural balance and expenditure rules. The structural balance rule has a medium-term target, which is the maximum of the structural balance needed for ensuring that: 1) the fiscal deficit will not exceed 3% of GDP even for large negative output gaps; 2) countries whose debt-to-GDP exceeds the target of 60% reduce this ratio over time, by at least 1/20th of the excess; and 3) deviations of the structural balance from the relevant medium-term objective (MTO) will not exceed 0.5% of GDP.

In addition, there also is an expenditure rule, which requires that the expenditure growth – net of cyclical unemployment benefits, interest payments, new taxation and with smoothing of investment expenditures – will be equivalent to the potential GDP growth rate. If the structural balance is below the medium-term objective, though, then the growth of expenditure must be reduced, according to a formula. The expenditure rule was introduced to reduce worries about the output gap estimation and the computation of the structural balance, which requires the estimation of revenue elasticities.¹³

If a country fails to satisfy one of these two targets, the EU Council may require the country to correct the excessive deficit or debt in a timely manner. A breach of the deficit target requires a correction within one to two years while a breach of the debt rule depends on circumstances and no country has been subject to it. If a country fails to satisfy the structural balance and expenditure rule or to correct the aforementioned deviations, the Council may sanction the country through the charge of an interest-bearing deposit of 0.2% of GDP.

Source: Blanchard et al. (2021b) and Regling (2022).

¹² It is worth noting that the EU's macroeconomic surveillance is distinct from its fiscal surveillance.

¹³ To better understand this calculation, see Price et al. (2015).

29. Therefore, at first glance, the simplicity of expenditure rules makes them appropriate for SNGs, which usually have weaker technical and institutional capacities. Nevertheless, expenditure rules are clearly less likely to be enforced at the subnational level. This is for multiple reasons:

- The lower the level of government, the lower its expenditure autonomy tends to be (Dougherty & Phillips, 2019). In addition, the higher the level of government, the higher the proportion of the expenditure that is spent on basic services, which are harder to cut, such as health, education and public order and safety tend to be.¹⁴ Therefore, as local governments face limitations to control their expenditures, they also face challenges to comply with expenditure rules.
- A substantial portion of SNGs revenues come from intergovernmental transfers (roughly 46% in 2019, before the COVID-19 crisis).¹⁵ Some of the revenues of these intergovernmental transfers are earmarked and, in certain circumstances, they *must* be spent (Bergvall et al., 2006). As a result, if expenditure rules disregard this fact, SNGs may fail to comply with expenditure rules due to an increase of earmarked intergovernmental transfers, an exogenous event for them.
- Due to the strong deficit bias at the subnational level, having only expenditure rules may fail to accomplish the goal of improving SNGs' fiscal sustainability. That is because expenditure rules, alone, do not control either the fiscal balance or the indebtedness, both of which are more directly related to fiscal sustainability.

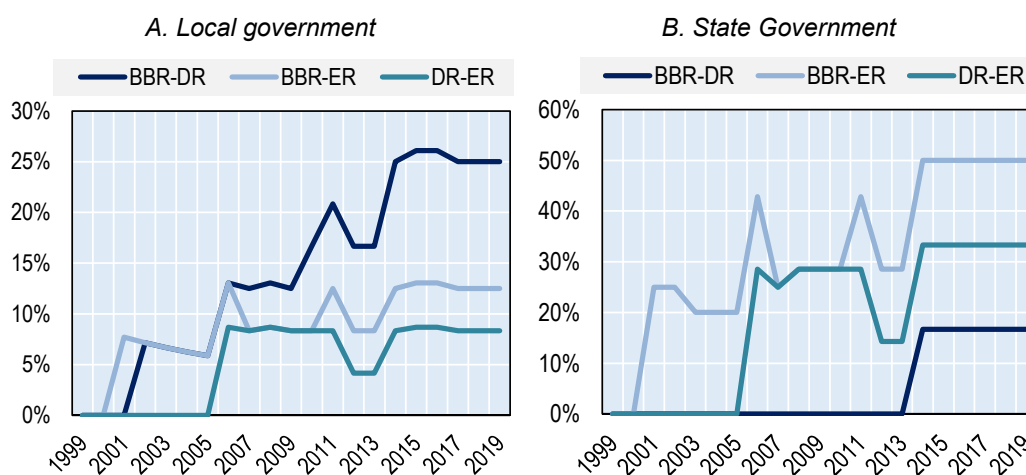
30. As a result, in case expenditures rules are enforced on subnational governments, then the rule should ideally have tools to deal with these issues. For instance, it might be often necessary to combine expenditure rules with another fiscal anchor (or calibrate the expenditure rule based on a broader fiscal aggregate such as projected fiscal balance or debt levels) to reduce the likelihood that SNGs' finances will deteriorate due to reductions in revenues. In addition, it might also be necessary to deduct from the expenditures used to assess the compliance with the rule those expenditures that were funded by earmarked intergovernmental grants. In that manner, exogenous events would not force SNGs to not comply with the expenditure rule due to the lack of their fiscal autonomy.

31. Figure 3 explores which combination of fiscal rules are more commonly employed across local and state governments over the last two decades. A first conclusion which can be drawn from this Figure is that the adoption of multiple fiscal rules has been increasing in both local and state governments. A second conclusion is that local governments tend to adopt at least twice as frequently budget balance rules in combination with debt rules than the combination of other types of rules. Regarding state governments, the most common combination is budget balance rules and expenditure rules.

¹⁴ Central governments, on the other hand, tend to spend more on subsidies and economic affairs.

¹⁵ Based on the OECD Fiscal Decentralisation Database, <http://oe.cd/FDdb>.

Figure 3. Number of countries that adopt multiple fiscal rules as a share of the number of countries with at least one fiscal rule in place



Note 1: DR, BBR and ER refer to debt rules/borrowing constraints, budget balance objectives and expenditure rules, respectively. GG, CG, RG and LG refer to the general, central, regional and local level of government, respectively.

Note 2: The EU (2019) database covers a total of 35 European countries, more than the 27 members of the EU.

Source: Authors based on EU (2019).

32. One potential explanation for this preference to combine budget balance rules with debt rules at the local level is that these two rules complement each other in terms of short and long-term goals. Budget balance is a “flow” variable that can be changed in the short to medium-term through policies that increase revenues and/or decrease expenditures. The accumulation of deficits in the budget balance leads to an accumulation of debt (stock), which rarely can be significantly reduced in the short-term. Therefore, the budget balance rule can serve as a short-term target for achieving the desired level set by the debt rule – when debt levels are well above the target, the budget balance rule can define the trajectory for reducing it and when debt levels are well below the target, the debt rule is not binding and the budget balance rule can be the tool that minimises the risks of debt levels to rise unsustainably. This combination of rules has similar characteristics to a MTEF but without having to deal with the lack of spending autonomy at the subnational level.

33. At the state level, the most common combination of fiscal rules is a budget balance rule combined with an expenditure rule. As mentioned above, state governments tend to enjoy higher levels of autonomy than local governments do and, thus, expenditure rules can be more easily employed at this tier of government. It is worth noting that a combination of budget balance rules and expenditure rules can be particularly useful for promoting counter-cyclical fiscal policy in case escape clauses are in place. In upturns, governments revenues, which are linked to economic output, tend to increase more than expenditures and, thus, fiscal balances’ goals are easily achieved. Without an expenditure rule, governments could simply engage in pro-cyclical fiscal policy by raising expenditures in an economic boom. Nevertheless, if there is an expenditure rule in place,¹⁶ the government will be forced to constrain its expenditure, generating surpluses that can be used in future downturns, if permitted by escape clauses.

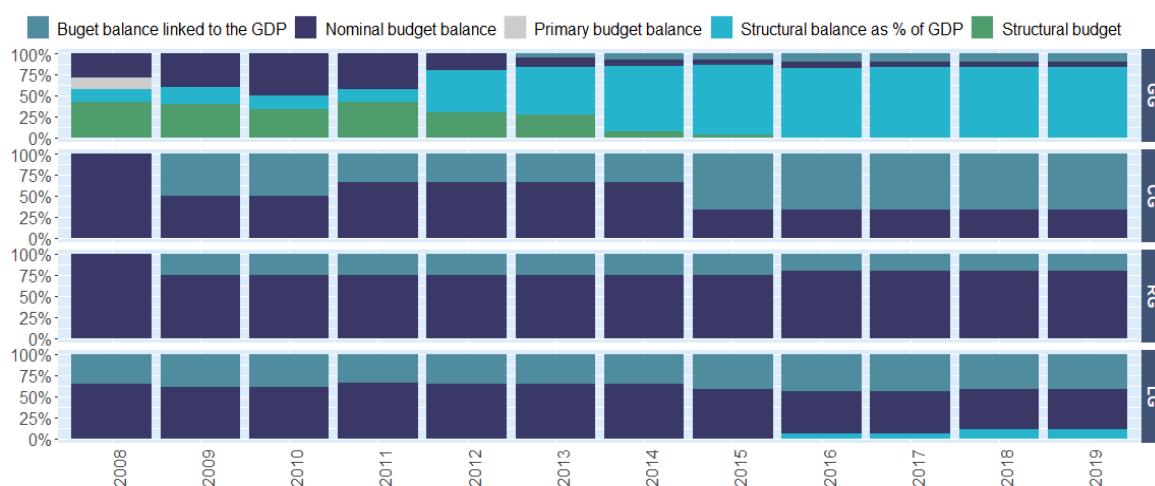
¹⁶ This is only true when the target of the expenditure rule is not expressed in a ratio to revenues. It is worth noting that a rule limiting expenditures to a percentage of revenues works similar to a rule constraining the budget balance as percentage of revenues when tax autonomy is small.

3.2.2. Design of fiscal rules adopted across levels of government

34. As explored in Table 1, fiscal rules can have different targets (e.g. a budget balance rule can target the current and capital budgets, the current surplus, the current balance or the cyclically adjusted balance, among others). This subsection explores the targets most commonly employed by each type of fiscal rules and across levels of government.

35. Figure 4 shows the proportion of targets selected by countries for their budget balance objectives. A first clear trend has been, at the general level of government, to target the structural balance as a percentage of GDP instead of the structural budget balance (in nominal terms), which is consistent with the fiscal rules imposed by the EU for this level of government. At lower levels of government, no clear trend is discernible: the preference for a nominal budget balance or a budget balance linked to GDP is clear and relatively stable since 2008.

Figure 4. Targets of budget balance rules across levels of government



Notes: 1. GG, CG, RG and LG refer to the general, central, regional and local level of government, respectively. 2. Authors classified each rule into these categories based on the description given to the rule in the EU database, except when it was not possible to classify.

Source: Authors based on EU (2019).

36. What is evident, though, is the difference between SNGs and the general government with regard to structural budget balances. Structural budget balances (i.e. the fiscal balance cyclically adjusted to purge the impact of the business cycle and one-off operations) are widely used at the general level of government for promoting fiscal sustainability while allowing counter-cyclical fiscal policies. Nevertheless, this target is rarely used at the subnational level. Although this higher adoption rate at the general level of government might be linked to the EU fiscal rules' framework, it is worth noting that there are multiple challenges in the adoption of structural budget balances at the subnational level:

- Structural budget balances are notoriously challenging to compute in a non-controversial manner. That is because in order to cyclically adjust the budget balance, an estimation of the output gap and, thus, an estimation of the potential GDP is required. The estimation of potential GDP is sensitive to the assumptions used and, thus, has a degree of subjectivity. Estimating structural budget balances is even challenging for general governments, which have timelier and more reliable fiscal and output data than SNGs (Baarsma & Beetsma, 2022; Blanchard et al., 2021b; Giavazzi et al., 2021, among others).

- Structural balance rules are even more challenging to implement at the subnational level of government due to variations in the output gap and the elasticities of revenues and expenditures to the output gap across jurisdictions. As SNGs have a different revenue mix, which depends on both the tax policy selected by the jurisdiction and the regional/local economic activity profile, the computation becomes even more complex.
- SNGs cannot borrow as freely as higher levels of government, and, thus, in times of fiscal distress, when structural balance rules allow deficits in the budget balance, they may not be able to raise the necessary funds through borrowing to fund their expenditure.
- Due to this “permission” to incur deficits in downturns, when the economy is continuously performing below the potential GDP (or when local/regional potential GDP is overestimated), structural balance rules may lead to unsustainable debt trajectories (Blanco et al., 2020). At the subnational level this problem is aggravated by the fact that SNGs are prone to moral hazard and common pool problems.

37. This difficulty in targeting structural fiscal balances at the subnational level is not an unsolvable problem. As the main goals of structural fiscal balances are to promote fiscal sustainability while allowing for counter-cyclical fiscal policy, a similar objective can be, in theory, achieved by a combination of expenditure rules and budget balance rules with escape clauses, as explored in the previous subsection.

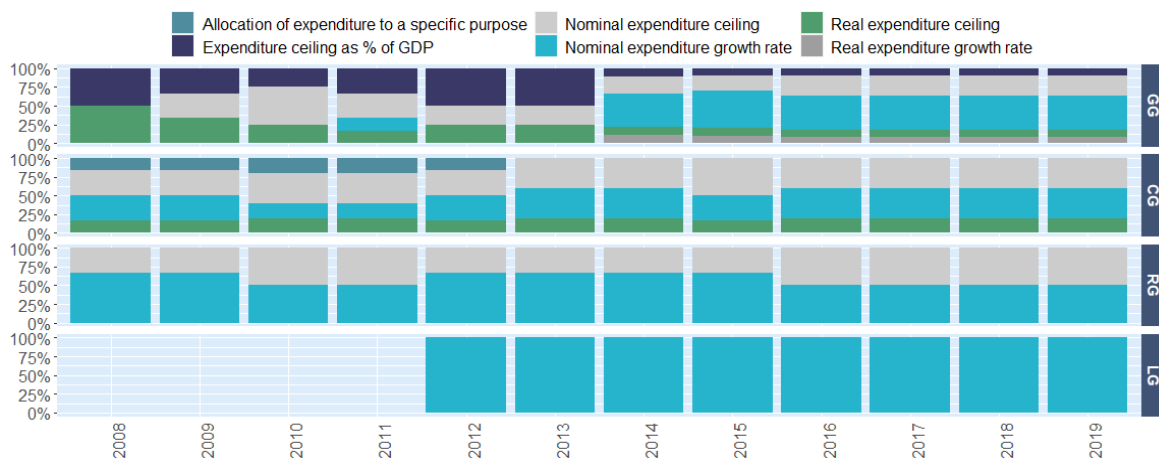
38. Figure 5 shows the targets of expenditure rules.¹⁷ As expenditure rules are the least-enforced type of fiscal rule by/for local governments, their targets are also less varied. Most expenditure rules across all levels of government target a nominal expenditure growth rate. At the state/regional level, nominal expenditure ceilings are also enforced. At the central/general level of government, expenditure rules target these two options in addition to ceilings as a percentage of GDP, real expenditure ceilings and real growth rates.

39. It is worth noting that the number of expenditure ceilings as a percentage of GDP at the general level of government have decreased since 2013. Expenditure ceilings expressed as a percentage of a variable that is correlated with the economic cycle (e.g. GDP, government revenues) allow for increases in expenditures in upturns and force decreases in expenditures in downturns and, thus, contribute to pro-cyclical fiscal policy. In addition, having a ratio of expenditure to a cyclically correlated variable removes one of the main advantages of this type of fiscal rules: the control that policymakers exert over the target.¹⁸ Although policymakers may control the expenditure, they cannot control the cycle, and, thus, even if they try to comply with a fiscal rule with such a target, they may fail as a result of exogenous events.

¹⁷ Refer to Figure 2 for the quantity of rules enforced and, thus, the sample size.

¹⁸ If the expenditure rule is expressed as a ratio to a proxy for the medium-term potential growth, then the target tends to be more stable and, thus, such a rule may not have the consequences described in this paragraph.

Figure 5. Targets of expenditure rules across the levels of government

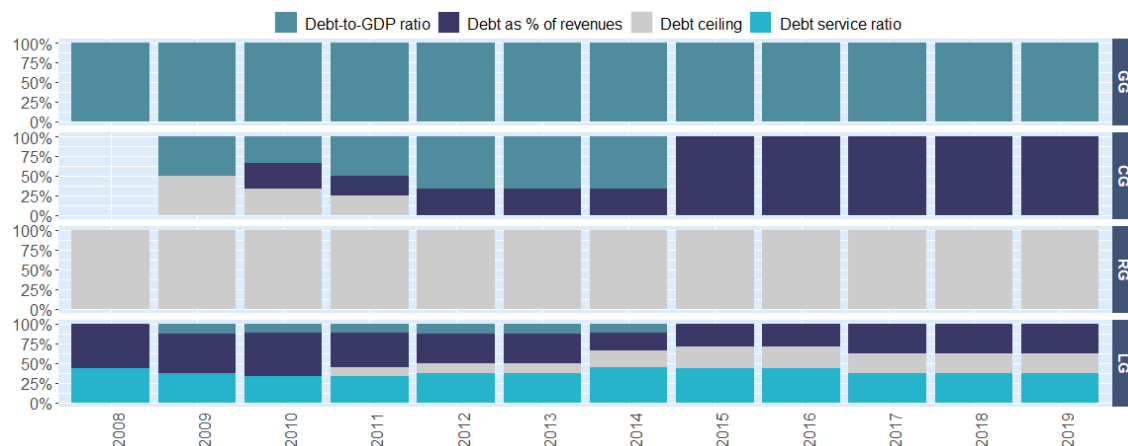


Notes: 1. GG, CG, RG and LG refer to the general, central, regional and local level of government, respectively. 2. Authors classified each rule into these categories based on the description given to the rule in the EU database, except when it was not possible to classify.

Source: Authors based on EU (2019).

40. Finally, Figure 6 shows the targets of debt rules. Debt rules at the general level of government have always targeted debt-to-GDP ratios, in accordance with the SGP. Debt rules at the central level of government used to target debt-to-GDP ratios and nominal debt values but since 2015 they target debt as a percentage of revenues. As demonstrated by the experience with the debt ceiling in the US, a nominal debt target sets up the risk of legislative battles when, inevitably, the ceiling has to be lifted. At the local level they can target debt as a percentage of revenues, debt in nominal terms or debt service ratios.

Figure 6. Targets of debt rules across levels of government



Notes: 1. GG, CG, RG and LG refer to the general, central, regional and local level of government, respectively. 2. Authors classified each rule into these categories based on the description given to the rule in the EU database, except when it was not possible to classify.

Source: Authors based on EU (2019).

41. There are theoretical arguments in favour of using debt service ratios at the local level that explore differences in subnational and sovereign debt dynamics (Eyraud et al., 2020). Sustainability of central government debt is often assessed through the budget constraint framework that aims to calculate a ratio of the primary fiscal balance to GDP that stabilises the debt to GDP ratio given the outstanding public debt level and the domestic interest rate. As a result, this methodology allows a government to tune its primary fiscal balance to the desired debt level given an interest rate curve and *vice versa*.

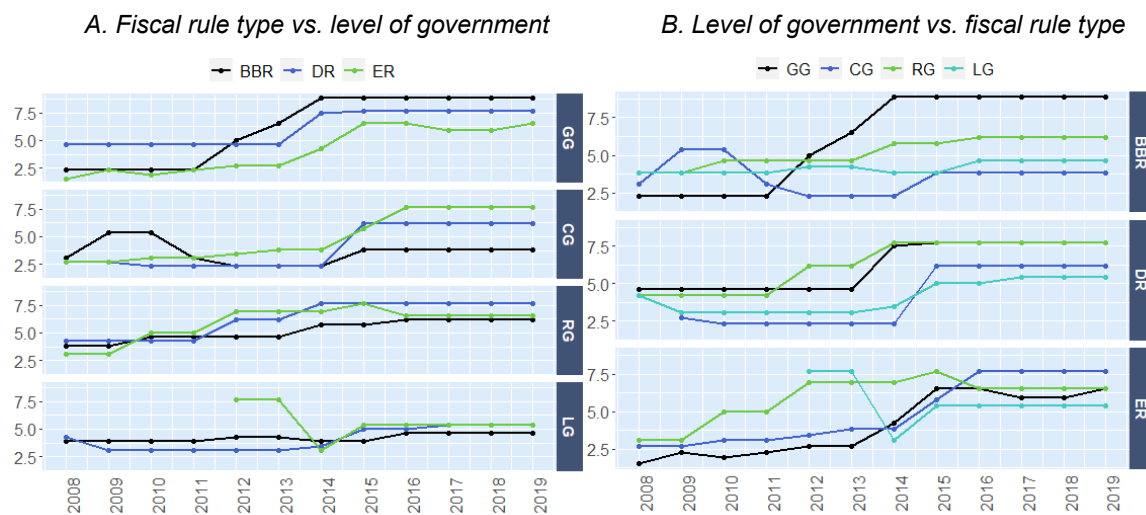
42. At the local level, this link between primary fiscal balance and debt levels given the interest rate is not as relevant as it is for central governments for multiple reasons. First, local governments may receive support from the central government that “exogenously” reduce debt levels, which is one of the reasons why SNGs are said to have a “soft budget constraint”. Second, local governments only partially control their primary balance due to rigidity in their main fiscal aggregates – they have restricted power to change tax policy, are dependent on intergovernmental transfers, have little discretion over spending, and are in charge of key public services that cannot be adjusted abruptly (e.g. education, health, public safety). Third, they face borrowing limitations and are interest rate takers since they often have no influence over the monetary authority, who is overseeing the national economy.¹⁹

43. As a result, local governments cannot easily roll-up debt nor adjust their budgets to deal with acute shocks, which makes them more vulnerable to liquidity crises than to solvency crisis, in comparison to higher levels of governments. Therefore, one useful complementary framework to assess debt sustainability at the subnational level is to look at liquidity constraints, which, in case of debt, is the debt service. In other words, in case debt services are high, regardless of the debt stock, they may not be able to raise revenues or roll-over debt to repay them, leading to a debt default or to a failure to fund their expenditure mandates. On the other hand, in case indebtedness gets too high, they may be bailed-out by central authorities and, thus, become solvent again.

3.3. Trends in the institutional framework for fiscal rules

44. Elements of the institutional framework for fiscal rules are evolving over time as policymakers fine-tune them through trial-and-error to improve their effectiveness. Figure 7, below, depicts how the fiscal rules strength index (FRI) explained in Box 3 has evolved over time across fiscal rule types and levels of government, leading to a number of conclusions.

Figure 7. Evolution of the median of the Fiscal Rules Strength Index (FRI)



Notes: 1. DR, BBR and ER refer to debt rules/borrowing constraints, budget balance objectives and expenditure rules, respectively. GG, CG, RG and LG refer to the general, central, regional and local level of government, respectively. 2. Based on the Fiscal Rule Strength Index explained in Box 3.

Source: Authors based on EU (2019).

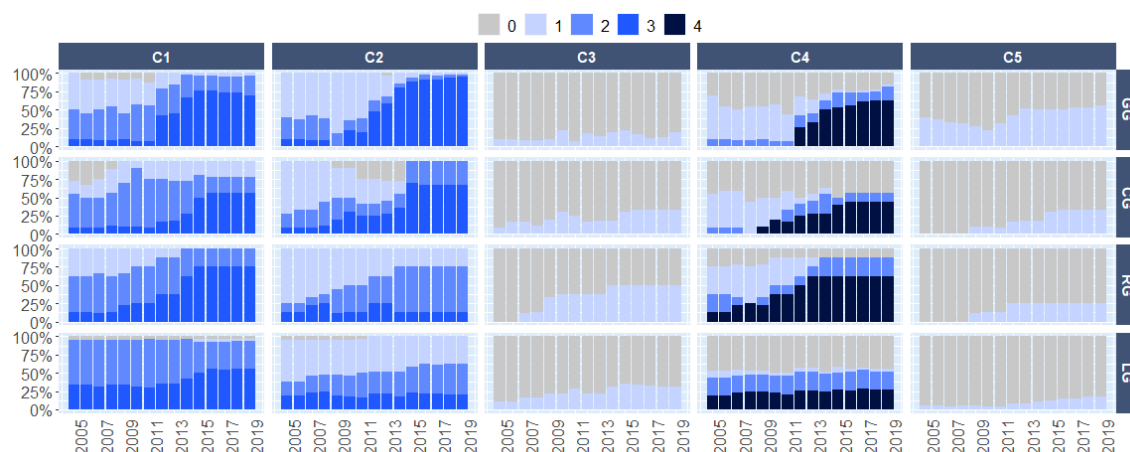
¹⁹ This also is the case in EU countries, where the monetary authority is a supranational body.

45. First, the average FRI increased significantly after 2012, when the recovery from the GFC started to kick in more strongly (it increased by 70% between 2012 and 2019). The higher the level of government, the higher the increase as the FRI for GG, CG, RG and LG experienced average increases of 163% (2.5 points), 54% (1.8 points), 32% (0.86 points) and 14% (0.28 points), respectively. It is worth noting, though, that the pre-crisis FRI (in 2008) was, on average, highest for lower levels of government as LG, RG, CG and GG had an FRI of 4.3, 3.8, 2.8 and 2.8, respectively. Thus, the crisis prompted an asymmetric increase in the FRI index across all levels of government, with the highest increases occurring at the highest levels of government, which also happened to be the levels of government with the lowest FRI index prior to the GFC. The GG and CG ended up with fiscal rules stronger than SNGs, reverting the situation prior to the GFC.

46. Second and similarly, the types of fiscal rules in which enforcement was the lowest also experienced the highest increases in FRI after the GFC and, thus, there was a clear catch up in terms of fiscal rules' institutional setups, with the rules with the weakest enforcement being improved by mimicking good institutional aspects of other rules. On average, the FRI for ER, BBR and DR in 2008 were 2.9, 3.5 and 4.2 and until 2019 they increased by 108% (3.2 points), 83% (2.9 points) and 57% (2.4 points), respectively. These movements levelled substantially the FRI across rule types in a way that they became, in 2019, very close to one another.

47. Thirdly and lastly, the trends in FRI varied depending on the combination between the rule type and the level of government. All three rule types analysed in this piece (BBR, DR and ER) increased significantly (more than 1.5 points) at the GG level. At the CG level, only the FRI for the DR and ER increased significantly. At the RG level, the FRI for DR increased significantly while the FRI for BBR and ER increased moderately (between 1 and 1.5). Lastly, at the LG, the FRI increased slightly for BBR and significantly for DR. In light of these overall trends, Figure 8 depicts fiscal rules' institutional elements that were *improved* across levels of government.

Figure 8. Trends in the subindex of the FRI across levels of government (relative frequency)



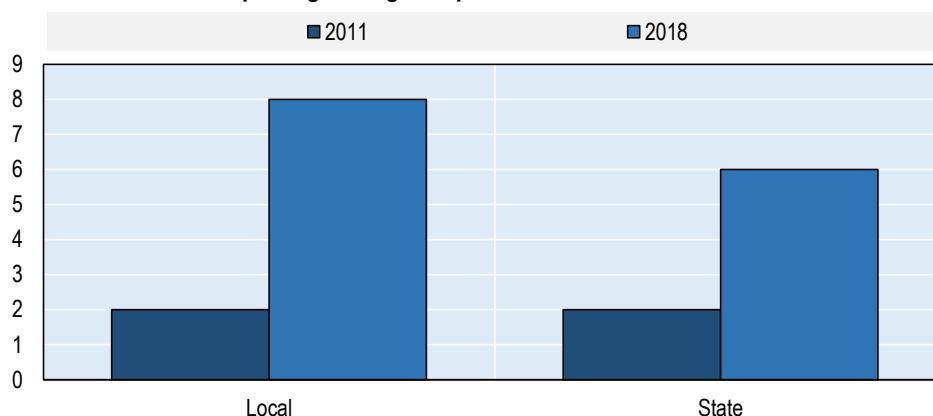
Notes: 1. GG, CG, RG and LG refer to the general, central, regional and local level of government, respectively. 2. Based on the index explained in Box 3. C1 refers to the statutory/legal base of the rule. C2 refers to the nature of the body in charge of monitoring the rule and the correction mechanism. C3 refers to the nature of the body in charge of monitoring the correction of deviations from the rule. C4 refers to the mechanisms in case of deviation from the rule. C5 refers to the resilience to shocks or events outside the control of the government.

Source: Authors based on EU (2019).

48. The following conclusions can be drawn:

- *C1 (statutory/legal base of the rule)*: The average value for the C1 subindex increased for all levels of government. This means that it has become more common to include fiscal rules in the constitution or in ordinary laws. Fiscal rules defined by coalition agreements, by political commitment or by an annual budget law became less common.
- *C2 (nature of the body in charge of rule monitoring and the correction mechanism)*: The higher the level of government, the higher this sub-index rose after the GFC. At the GG and CG level, most fiscal rules are now monitored by an independent authority. At the subnational level, fiscal rules are more commonly monitored by a court of auditors or the parliament. Especially at the local level, it is not uncommon for fiscal rules to be monitored by the ministry of finance or a government body.
- *C3 (nature of the body in charge of monitoring the correction of deviations from the rule)*: Contrasting the trends in C1 and C2, C3 increased the most for regional/state governments and increased only mildly for other levels. At the RG level, a court of auditors or the parliament is in charge of monitoring the correction of deviations from the rule. At other levels, however, there is either: 1) no correction mechanism in place, 2) no monitoring or 3) this body is a government body.
- *C4 (correction mechanisms in case of deviation from the rule)*: Prior to the GFC, FRI from higher levels of government often had no mandatory corrective measures or these measures had no predefined requirements. After the GFC, at the GG and RG level now most FRI have a correction mechanism that is triggered automatically. These mechanisms are now found in roughly half of CG's fiscal rules and are even less common at the LG. It is worth noting, though, that, prior to the GFC, these mechanisms were virtually only found at the LG and RG level and, thus, it seems that policymakers decided to "import" these mechanisms to higher levels of government to such an extent that since 2015 they are more frequently found at higher levels of government.
- *C5 (resilience to shocks or events outside the control of the government)*: Finally, all levels of government saw at least some growth in the relative frequency of fiscal rules with tools aimed at improving the resilience to shocks/exogenous events. These are more commonly found at higher levels of government, as they typically (in this database) refer to structurally adjusted indicators (see Section 3.2.2). SNGs often resort for that purpose to escape clauses, the popularity of which has increased remarkably (see Figure 9).

Figure 9. Number of countries reporting having escape clauses in their subnational fiscal rule frameworks



Source: OECD Network on Fiscal Relations across Levels of Government surveys on subnational fiscal rules.

49. Overall, this analysis revealed that fiscal rules' institutional elements have been improving across levels of government. Nonetheless, as of 2019 (prior to the COVID-19 crisis), fiscal rules at the subnational level were still relatively weak in comparison to those enforced at the general government level – SNGs'

rules tend to be: 1) more rarely defined in constitutions, 2) more often monitored by non-independent institutions, 3) more rarely have automatic and pre-defined correction mechanisms (at the local level only) and 4) have fewer mechanisms to cope with shocks.

50. Curiously, though, SNGs' fiscal rules tended to perform better than higher levels of government in most of these aspects prior to the GFC. According to Wortmann & Geissler (2021), recent improvements in the fiscal rules' institutional framework were a direct result of related changes in the EU legislation. Thus, this asymmetry in the improvement of fiscal rules' institutional elements across levels of government might be caused by the fact that EU fiscal rule reforms focused on the general level of government.

Box 5. Creative accounting and fiscal rules

“Garbage in, garbage out” is a concept coined by George Fuechsel, a computer scientist, that refers to the relation between the output of a model/process and its input – when the input is of poor quality, so it will be the outcome, regardless of the model/process. This concept can be easily applied to fiscal rules.

We defined fiscal rules as fixed numerical limits on fiscal aggregates. Therefore, the entirety of the fiscal rules' framework, including design, institutional and political aspects, in the end rests on a comparison between a number that represents a fiscal concept and the numerical target of the rule. In case this number does not align well with the underlying concept, the fiscal rule framework will be flawed, regardless of the political will and their strength of design and institutional elements.

Alt et al. (2013) analysed whether countries resorted to fiscal gimmicks and creative accounting in order to comply with EU rules. A myriad of fiscal gimmicks/creative practices exists. For instance, a reclassification of a subsidy or payments to cover recurring losses by a state-owned company as an equity purchase to manipulate the primary deficit; or others accounts payable can be inflated to improve the fiscal balance (although this leads to a deterioration in liquidity indicators, if such indicators are not monitored, the gimmick might be successful).

These authors measured the extent of fiscal gimmickry by using stock and flow fiscal identities (e.g. accumulation of fiscal balances should be equal to debt stock) and they found that despite the strong institutional elements of the EU fiscal rules' framework, political incentives have led authorities to resort to creative account and fiscal gimmick. The use of these subterfuges depends on the degree of transparency in the domestic budget process as the latter facilitates the detection and appeal of these practices.

Dorn et al. (2019), on the other hand, analysed whether the choice for an accrual or cash basis accounting changes fiscal aggregates. The choice did affect the structure of government revenues – for instance, the classification between revenues sale of financial and non-financial assets tended to change depending on the choice of the accounting basis. Nevertheless, contrary to the general recommendation of adoption of accrual basis accounting, using a quasi-experimental setting in the German Federal State of Bavaria, these authors found that a change to accrual basis did not change spending composition, public debt, voter turnout, government efficiency or fiscal rules' efficacy.

As highlighted by Alt et al. (2013), creative account can be employed regardless of the accounting basis. For instance, in accrual accounting, an inflation of other accounts payable can be achieved through under-recording at the time of delivery while while in cash accounting the payment itself can be postponed.

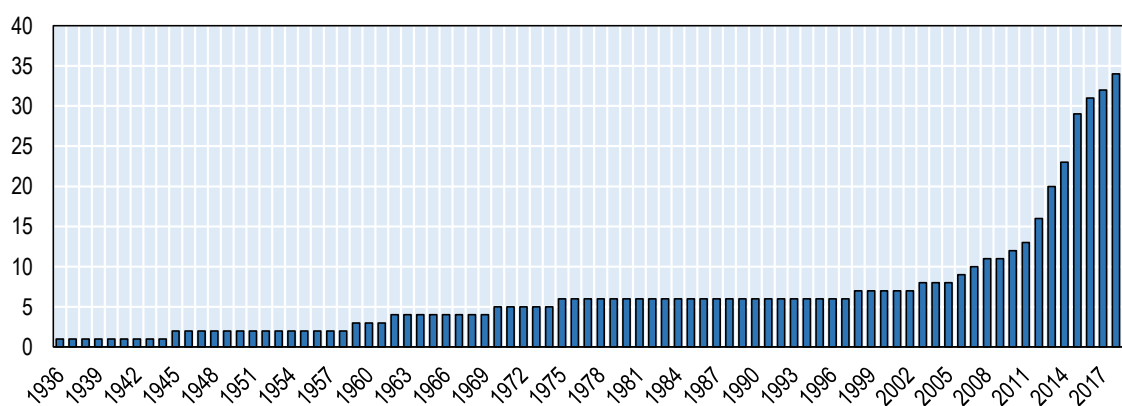
Source: Dorn et al. (2019), Alt et al. (2013), Koen and van den Noord (2005).

51. Another potential explanation for these differences is the administrative capacity of regulators, which, at the subnational level of government, can be the SNGs themselves (see Box 6 for two examples). A more complex fiscal rule framework, such as with independent institutions and well-defined correction monitoring and correction mechanisms, requires higher administrative capacity (Geissler & Wegrich, 2021). Furthermore, in contrast to the central levels of government, there are hundreds or even thousands local governments in a country. Thus, adequately monitoring such an immense number of jurisdictions can be rather costly. Not to mention the challenge of obtaining timely and high-quality data from all these governments (Irwin and Moretti, 2020).²⁰ Box 5 (above) explains how a weak monitoring procedure can jeopardise fiscal rules' enforcement.

3.4. Independent fiscal institutions and fiscal rules

52. One of the trends behind the tendency of delegating the monitoring and enforcement of fiscal rules to independent bodies is the creation of Independent Fiscal Institutions (IFI). According to Dougherty et al. (2021), *“these independent public bodies are mandated to provide non-partisan analysis of fiscal policy and performance through various functions, including monitoring compliance with fiscal rules, production or endorsement of macroeconomic and fiscal forecasts, and analysis of fiscal policy matters”*. The OECD Independent Fiscal Institution database shows that the number of IFIs in OECD and partner countries have increased substantially after the GFC (Figure 10), likely as a result of the formal requirement of the EU surveillance framework to have independent bodies assessing compliance with rules and produce or endorse independent macroeconomic projections.

Figure 10. Number of IFI in place across OECD and partner countries



Note: Only central government IFIs were considered in the making of this plot.

Source: Authors based on the OECD Independent Fiscal Institution database.

53. Frequently, the institution in charge of monitoring and enforcing fiscal rules is closely linked to the enforcement model (Schick, 2010). When parliament or the government is in charge of the monitoring of fiscal rules, an enforcement model that integrates fiscal rules to their roles in making budget and expenditure plans is commonly used. In such models, fiscal rules' targets can be set when defining the government budget and, thus, both are based on the same macroeconomic forecasts and are part of the same medium-term expenditure framework (e.g. from three to five years), being consistent with one another. On the one hand, this process embeds political preferences and, therefore, may generate a

²⁰ It should be noted, however, that weaknesses in the fiscal data for SNGs also affects the quality of the statistics for the general government.

stronger commitment to compliance. It can, thus, be viewed as more linked to the democratic process as elected politicians retain their discretion over fiscal policy. On the other hand, policymakers, who suffer from incentives to engage in fiscal profligacy due to common pool, fiscal illusion, and election cycle related biases may conveniently set targets that are non-binding or at least that do not affect their political goals.

54. Another common framework for fiscal rules enforcement refers to the monitoring and enforcement made by a supranational authority (in case of rules applied to higher levels of government) or higher levels of government (in case of rules applied to SNGs). Especially in the latter case, the body in charge of rule monitoring and enforcement may suffer from information asymmetries, as this body will likely enforce and monitor multiple jurisdictions having as a basis their fiscal data, which could be of low quality and not timely enough (refers to Box 5). In addition, the upper level of government may also suffer from political biases when the elected authorities in charge of the body are of the same or a different political party than the monitored authority (this issue is explored in Box 6). Overseers, in this case, may act in favour of their political parties to the detriment of the fiscal rules' primary objectives.

55. A last model calls for empowering independent bodies to scrutinise or participate in fiscal frameworks and at least some activities related to fiscal rule management. These can be, for instance, producing or endorsing macroeconomic and fiscal forecasts, monitoring governments' fiscal stance, suggesting and monitoring corrective action and/or even giving publicity to compliance with fiscal rules. On the one hand, an independent institution, in theory, can enforce fiscal rules without (or with minimised) political biases, and, thus, is better equipped to promote fiscal sustainability. This can be particularly valuable as the likelihood to comply with any regulatory regime is proportional to perception of subjects regarding regulators' fairness (Roesel, 2021). On the other hand, if independent bodies were given considerable powers over setting fiscal policy themselves, rather than mandates to merely inform the public debate, they could potentially reduce the power of democratically elected authorities and, thus, can be viewed as an encroachment on a core responsibility of government (Schick, 2010).

Box 6. Independent or elected overseer? Impact of political affiliation on fiscal rules' compliance

Austria and Germany are two interesting cases for understanding the impact of party politics on the fiscal rules' framework. Austria imposes a BBR and ER that can sanction SNGs on a discretionary basis in case of non-compliance by forcing them to take measures or even by removing and punishing officials. Germany also imposes a BBR that can penalise local governments through financial sanctions, adoption of fiscal measures or punishing/removing officials. These are, overall, strong fiscal rules but what is special about the fiscal rules' frameworks of these countries is how the supervision role is attributed to elected politicians in a rather unique manner.

Austria

In Austria, local governments have to submit their budgets to authorities so as to receive certain types of grants. In some states the state government monitors the local governments while in other states the secretary for local government of the state is responsible for this activity. Nevertheless, in a specific group of three states until 2009, there was in place a set of rules that defined that all governments should have at least one secretary from the leading left and right-wing party and that these members should oversee the fiscal situation of local governments ruled by the same party. This has led to scandals related to excessive local budgets and, thus, this setup was reversed in the state of Styria, where left-wing mayors were assigned to a right-wing supervisor and vice versa.

This unusual choice for a supervisor has made it possible to study the effects of having, as a fiscal rule enforcer, a member of the political party of the supervisee and of a rival party. Roesel (2021) found that the trajectory of the local public debt in that state has diverged from the other two states in which the overseer had the same party as the mayor – in the state in which the opposition was in charge of fiscal supervision, the debt has decreased. This timing of the effect was the same as the institutional change. This outcome suggests that partisan favouritism may hinder the achievement of fiscal goals.

Germany

In Germany, states have the obligation to bail out municipalities under some circumstances and, thus, a tight supervision by the state is necessary in order for municipalities to be fiscally responsible and sustainable. Similar to Austria's framework, the local budgets are approved by these supervision bodies. In most states, the fiscal supervision is delegated to elected officials at the upper level of government so that mayors of different parties are monitored by officials of the same or other parties, depending on the election results.

Roesel (2021) examined whether, in the state of North Rhine-Westphalia, party affiliation of the mayor and the fiscal supervisor affect fiscal outcomes. He found that left-wing party supervisors were associated with higher increases in debt levels than their right-wing peers. This effect was greater when the mayor also was from a left-wing party but when both the supervisor and the mayor were from a right-wing party, the debt tended to decrease even further than when the mayor were from a left-wing party as a result of their political views.

Source: Roesel (2021).

56. All the above-mentioned considerations are theoretical. In practice, empirical studies have shown that IFIs have been particularly efficient in boosting the transparency budgetary decisions (Debrun et al., 2017). The achievement of these objectives, though, depend on their institutional elements, which vary significantly across countries – particularly their real and perceived independence, their resources, ability to collect high-quality information (Dougherty et al., 2021).²¹

²¹ According to Trapp et al. (2018), OECD IFI are highly independent but often lack the necessary information and resources to perform their function with great success.

57. By making voters more informed about the decision and their impact, they increase policy accountability. Therefore, the channel through which IFIs have been most successful is through transparency – that is, by raising reputational costs of non-compliance. Through that channel they can have a significant effect on the effectiveness of fiscal rules even if they are not in charge of their enforcement – it is only necessary that they make the compliance of fiscal rules (and of its importance) transparent. Under this role, IFIs are undoubtedly fully consistent with democratic frameworks as they do not restrain the power of democratically elected authorities, but rather better inform voters to enforce the role of democratic accountability.

58. Despite these benefits, subnational IFIs are unfortunately rare. The OECD Independent Fiscal Institution database reports that only in the Anglo-Saxon countries of Australia, Canada and the United Kingdom are there subnational IFIs, while in Spain the IFI has responsibility across levels of government. In contrast, 35 OECD and partner countries have IFIs that operate at the central level (refer to Figure 10). It seems, therefore, that SNGs have lagged substantially behind the central government on this institutional improvement.

4. Analysing the performance of subnational fiscal rules

59. Fiscal rules are more widely adopted and have stronger institutional elements than ever before, but it is not clear whether they are able to achieve their goals: to promote fiscal sustainability while allowing for counter-cyclical policymaking and not distorting the allocation of resources. This section focuses on the results of the empirical analysis. The model specification can be found in Annex C.

60. The table below summarises the main results (all results and coefficients can be found in Annex D). The empirical analysis suggests that SNGs' 1) fiscal balances are positively and negatively correlated to the strength of the institutional elements of BBR and DR, respectively, 2) indebtedness is positively correlated to the strength of the institutional elements of DR, 3) investments are negatively correlated to the strength of the institutional elements of BBR and ER, and 4) pro-cyclicality of expenditure is negatively correlated with the strength of the institutional elements of ER.

Table 2. Impact of fiscal rules' FRI on their goals

Signs of coefficients from the empirical analysis

Goal	Indicator	BBR	DR	ER
Fiscal sustainability	Fiscal balance to revenue ratio	+*	-*	+
	Debt to revenue ratio	-	+	+
Budget composition	Investment to total expenditure ratio	-	+	-
Pro-cyclicality of fiscal policy	Elasticity of FB to output gap	-	+	-
	Elasticity of FB to GDP	-	-	+
	Elasticity of expenditure to GDP	-*	+	-

Note: 1. Table shows the signs of the coefficients of the empirical analysis. Blue (+) or red (-) coloured background indicates that the coefficient was statistically significant at the 0.10 level, while light (+/-) signs means that results were not significant at that level. 2. Full results in Annex D. 3. As a robustness check, the lagged dependent variable was also added (or removed for the case of debt to revenue ratio and investment to total expenditure ratio) as controls for controlling for path dependency of the objective being assessed. The signs of all statistically relevant variables did not change, but the variables with * became either statistically relevant or not relevant at the same 0.10 level.

Source: Authors analysis.

61. Contrasting the theoretical expectations (found in Table 1) with the empirical results (Table 2), yields interesting insights. First, the empirical analysis suggests that BBRs are useful for improving fiscal balances, which is the theoretical expectation when targets are well-designed, but not to reduce indebtedness. As elaborated in Table 1, in order for indebtedness to be affected, BBRs need to have a broad coverage and set targets that are high enough for reducing indebtedness. In case the BBR allows new borrowing to finance capital expenditure or investments, indebtedness can still grow in the presence of such a rule. Empirical results suggest that BBRs were neutral with regard to the cyclical policy, which is the theoretical expectation when BBRs target current surplus, current balance, or cyclically-adjusted balances. In these cases, there is room for governments to adopt counter-cyclical policy (e.g. by increasing investment) if they desire to do so.

62. Second, debt rules were surprisingly found to be negatively correlated with fiscal balances and positively correlated with indebtedness. One likely explanation for that is that most debt rules target debt stock, rather than debt service, even at the subnational level (refer to Figure 6). As indebtedness is a stock variable, it varies significantly less than flow variables, such as fiscal balances. Therefore, in case a government's debt level is far away from the level targeted by the rule (which seems to be precisely the case in most jurisdictions in the OECD as their interest expenditures are rather low²²) the rule is not binding. In other words, the government may incur deficits without worrying in the short, or even medium term, about not complying with the rule. As SNGs have more incentives to engage in fiscal profligacy than higher levels of government and might expect to be bailed-out in case the debt becomes unsustainable, the rule seems not to work as expected. These results, therefore, might suggest a reverse causality issue: debt rules are strengthened in anticipation of a debt crisis so, when the rule becomes binding, SNGs may engage in fiscal consolidation to comply with it.

63. Third and lastly, in line with theoretical expectations, the empirical analysis suggests that expenditure rules have no significant relation to fiscal sustainability, but affect the budget composition by reducing the ratio of investments to total expenditure and reducing the pro-cyclical policy of the expenditures. Indeed, expenditure rules alone are insufficient to control the fiscal balance, as the latter refers to the difference between revenues and expenditures.²³ Regarding pro-cyclical policy, expenditure rules are, in theory, a useful tool for promoting counter-cyclical fiscal policies in upswings as they limit the extent to which cyclical increases in government revenues are channelled to new expenditures. In downswings, expenditure rules may promote pro-cyclical policy when linked to revenues, if there are no escape clauses and the rule has a broad coverage.

64. Results found in this piece are overall similar to those published by other authors that also focused on SNGs. Jochimsen & Raffer (2020) analysed the impact of fiscal rules on EU countries and found that only BBR have a positive effect on primary balances, in line with our empirical results. This author also found that this positive and significant effect is conditional on having rules with strong institutional elements.

65. Kotia et al. (2016) estimated the impact of the institutional aspects of fiscal rules on the primary balance to GDP ratio of SNGs in Europe. They found that fiscal rules with strong institutional elements do affect primary balances but that this effect is inversely proportional to vertical fiscal imbalances, suggesting that when VFIs are large, fiscal rules cannot provide the correct incentives to promote fiscal sustainability at the subnational level.

²² In 16 out of 31 countries SNGs' interest payments as a share of their revenues are lower than 2%; only in six countries (the United States, Canada, New Zealand, the United Kingdom, Iceland and Spain) do SNGs have interest payment to revenue ratios above 4%, with the highest being the United States, where interest payments represent about 10% of SNGs' revenues (Dougherty et al., 2020).

²³ In theory the effect of expenditure rules on fiscal balances depends on their targets, as some targets may be based on revenues or revenue estimates. Nevertheless, most targets are not expressed in these terms (refer to Figure 5).

66. Likewise, Foremny (2011) found that fiscal rules with strong institutional elements affect positively fiscal balances, but only when the country is unitary. The author argued that when SNGs enjoy higher levels of autonomy, rule-based frameworks do not work.

67. Blanco et al. (2020) analysed the impact of fiscal rules in Caribbean countries, which often are small countries with limited economic diversification and, thus, similar in some respects to SNGs. In line with our results, they found that the effect of expenditure rules on the pro-cyclicality of expenditure was negative and statistically significant but their effect on fiscal balance was not statistically significant. In addition, no rule was found to significantly affect indebtedness; the impact of debt rules on indebtedness was found to be positive, but not statistically significant. In contrast to our empirical results, they found that BBRs and ERs affect negatively and positively, respectively, the pro-cyclicality of the fiscal balances.²⁴

Box 7. Italy's local government fiscal rules

Italy offers a good case study for researchers aimed at analysing the impact of fiscal rules as the “Domestic Stability Pact” (DSP) that was in force between 1999 and 2015 generated an ideal setting for quasi-experimental design, which allows for rigorous causal inference. More precisely, this stability pact defined a threshold of 5 000 inhabitants for the application of the fiscal rules. As Italy has almost 8 000 municipalities and as these rules vary with regard to their targets, there are enough observations on municipalities close to the threshold.

According to the answers provided by Italy on the OECD NFR subnational fiscal rules survey, in the period in which the DSP was in place, local governments in Italy were subjected to BBR with escape clauses, monitored by higher levels of government, which could impose corrective measures and sanctions onto local governments. The FRI computed from this rule was 6.92 until 2015 when it changed to 7.69. This is among the highest FRI scores for any fiscal rule for local governments.

Venturini (2020) analysed whether Italy's subnational fiscal rules affected municipal expenditure composition. They found that per capita investment spending declined about by one-third when the enforcement of the fiscal rules strengthened, when the account basis was accrual/cash. The sharpest reduction occurred in the investments in human capital, infrastructure and pure public goods.

Gootjes et al. (2021) instead analysed whether these BBRs were able to dampen the political budget cycle (tendency to engage in expansionary fiscal policy in proximity to elections). They concluded that Italy's BBR did reduce the effect of elections on the budget, and that this effect tends to be higher with stronger rules (with higher fiscal rule index, based on rules' coverage, legal basis, support procedures, enforcement and flexibility), making the effects of elections on the primary balance insignificant.

In a similar vein to Gootjes et al. (2021), Grembi et al. (2016) found that relaxing fiscal rules can increase the local government's deficit, and this increase is higher when mayors can run for re-election and there is more fragmentation in the political scenario. In contrast to Venturini (2020), Grembi et al. (2016) found that changes in fiscal rules' enforcement tend to affect government revenues rather than expenditures.

In summary, Italy's stringent BBRs seem to have the desired effect on fiscal sustainability and on curbing the political budget cycle. Nevertheless, even in a quasi-experimental design, different studies had varying conclusions with regard to the impact of the rule on local governments' expenditure composition. This highlights how challenging it is to make robust causal inference in the effect of fiscal rules, likely due to the complexity embedded in the process and its political nature.

Source: Gootjes et al. (2021), Venturini (2020) and Grembi et al. (2016).

²⁴ Disparities in the results between our piece and Blanco et al. (2020) can arise from many sources, such as differences between central and subnational governments, peculiarities of the regions being analysed (Caribbean countries differ from European ones in many respects) and the varying strength of fiscal rules across samples.

68. This paper and most of those mentioned above analysed the impact of SNG fiscal rules using aggregated subnational data. As fiscal rules are enforced at the individual jurisdiction level and not at the aggregate level (every SNG needs to comply with the rule), use of aggregate data may fail to capture some specific dynamics. For instance, in a country in which the majority of the jurisdictions are fiscally healthy but some SNGs are unhealthy, if the latter SNGs improve their finances, becoming healthy, while the former SNGs worsen their fiscal positions, but remains healthy, the aggregate SNG fiscal performance will decline, even if the overall finances of the SNGs improve (i.e. no jurisdiction is at risk of a fiscal crisis).

69. Another caveat is that subnational governments differ a lot even within countries. Some local governments provide services to millions of people (e.g. Paris, London, New York, Rome, among many others) while in others only to a few thousand people. Their dependency on intergovernmental grants might vary greatly as well their tax mixes, given that different activities can be performed at a different scale in each municipality (e.g. industrial, services, rural). This cross-sectional heterogeneity makes it particularly difficult to make robust empirical analyses and to draw general guidance on SNGs fiscal rules. Box 7 (above), for instance, explores multiple empirical studies applied to Italy's SNGs using jurisdiction-specific data, and some of the results shown are conflicting, which reveals how difficult it can be to draw general conclusions even using data from a single country.

70. Lastly, the causal inference used above to estimate the effect of fiscal rules on fiscal aggregates suffers from limitations (as any setup aiming at analysing the causal effects in such a complex topic). Notably, this setup cannot completely rule out the hypothesis of reverse causality (that is, that the adoption and reforms of fiscal rules were a consequence of the government efforts to improve public finances and not the other way around) and cannot handle time-variant unobserved heterogeneity (that is, characteristics of the government units that have gone unmeasured and are subject to change over time, such as political will to adopt fiscal reforms). The results here, although similar to other research, should be considered with these caveats. For a more detailed discussion on the methodology's limitations, refer to Annex C.

5. The future of fiscal rules

5.1. Fiscal rules after crises

71. The GFC, which caused a long-lasting economic crisis across the world, motivated improvements in the existing framework for fiscal rules. The COVID-19 crisis may have a similar effect, but as these two crises are of a different nature (i.e. the first is a financial crisis while the second a pandemic), their socio-economic impacts are different, as well as the lessons learnt. The objective of this last section is to discuss the future of fiscal rules, or fiscal rules in the post-COVID-19 period. As with the aftermath of the GFC, fiscal rules will have to adapt again to a new and changing reality.

5.2. The effects of the COVID-19 crisis and future trends

72. The implications of the COVID-19 crisis for fiscal policy are substantial. First, the COVID-19 economic shock led countries to increase debt-financed spending substantially, without a proportional negative reaction from the markets, which would have been expected prior to the crisis (Francová et al., 2021). Second, countries may need to reform their health systems so as to make them more resilient to future epidemics or pandemics (Lorenzoni et al., 2022). Third, the COVID-19 crisis caused an acceleration of the digitalisation of the economy and had asymmetric impacts across sectors, which might: 1) change the distribution of income across and within levels of government as economic sectors are unevenly distributed across regions; 2) lead to income concentration as the drop in employment has been sharper for low-skilled jobs and lower paid workers are less likely to be able to work from home; and 3) aggravate structural inequalities regarding access to education (OECD, 2020c), healthcare and social protection (OECD, 2020a), potentially increasing spending needs – all of these tend to aggravate regional inequalities that have been on the rise in the past decades (Allain-Dupré et al., 2021; OECD, 2021a; OECD, 2020b).

73. In addition to these, even before the crisis there were persistent trends in policymaking that were already exerting pressures on fiscal policy in various ways. The first trend is the relatively accommodative monetary policy in place since the GFC – low interest rates seem to be a long-term trend that will remain as they are, to some extent, caused by population ageing,²⁵ and are expected to remain in the long-term even if contractionary monetary policy might be necessary in the short and medium-term to tame the inflation from the supply shocks of the COVID-19 crisis and Russo-Ukrainian War. The second trend is the reduction in long-run GDP and productivity growth in OECD countries, which became evident after the GFC. The third trend is climate change, which has been increasingly being targeted by policymakers as one of the largest challenges of our generation and since the start of Russia's war against Ukraine, energy security has become an additional target, which makes the attainment of clean energy even harder and, thus, potentially more costly to society and governments. The fourth and last trend is population ageing, which is expected to lead to an increase in health, pension and long-term care expenditure greater than that of government revenues across all OECD countries and levels of government (De Biase et al., 2022).

74. Therefore, in summary, countries will have to deal in the future with pressures to 1) reduce income and regional equality through reviews of public spending to ensure priorities match citizens' ambitions and needs, and through reassessments of taxation to ensure a fair, efficient and progressive tax system (OECD, 2021^[1]), 2) increase health care expenditure to make health systems more resilient and address population ageing (de Biase et al., 2022), 3) make policies greener under the constraint of improving energy security, and 4) strengthen the role of fiscal policy on the stabilisation function of government (Akerlof et al., 2014), all of that in an environment in which interest rates are lower than the historical average but growing in the short and medium-term, while economic growth is weaker.

75. Clearly, achieving these objectives are far beyond the scope of fiscal rules, but it might be necessary to tweak fiscal rules, so they do not constrain the room for policymakers to achieve these goals. More specifically, fiscal rules are only enforceable when there is political will for doing so. As stressed in this paper, fiscal rules are only effective when the costs of compliance are lower than the costs of non-compliance. If the costs of compliance are ignoring the most pressing needs of the current generation, elected authorities will be tempted to lift or to ignore them. For these reasons, scholars and policymakers have been increasingly discussing how to make fiscal rules compatible with this new reality, but, at least for now, most of this debate is targeted at the EU fiscal rules. It is worth reviewing this discussion so some lessons can be learnt for subnational fiscal rules as well.

5.3. Future reforms of EU fiscal rules

76. The EU fiscal rules' framework has most of the institutional elements regarded as effective in enforcing fiscal rules. The EU framework combines different types of fiscal rules in order to achieve multiple objectives (budget balance, expenditure and debt rule), it has a fiscal anchor (debt) and operational rules (budget balance rule and expenditure rule) to guide the non-compliant towards the debt level target. Compliance is monitored and in case of non-compliance, there are corrective measures to be taken before the imposition of sanctions. The EU defines budget balance in structural terms, so it is compatible with counter-cyclical policies, and it also lifts fiscal rules in case of crisis. The EU fiscal rules are not easily altered and, thus, they do not bend to the interest of countries when they are binding.²⁶

77. Despite all these theoretical advantages, EU fiscal rules' framework failed to sanction countries despite multiple violations and, thus, have been under strong criticism. These criticisms often focus on the following points (Blanchard et al., 2021b; Francová et al., 2021; Garicano, 2022):

²⁵ This is because population ageing negatively affects investment and positively savings – both movements, everything else held constant, tend to decrease interest rates (Francová et al., 2021).

²⁶ To recap in detail how the EU fiscal rules' framework works, see Box 4.

- The EU fiscal rules' legislation is rather complex as it involves two treaties, ten regulations, one directive, and one communication and has been subject to at least six reforms (Garicano, 2022). The rule incorporates multiple indicators, including unobservable ones such as cyclically-adjusted balances and output gap, which are difficult to compute and communicate, damaging transparency and, therefore, reducing the reputational costs of non-compliance.
- EU fiscal rules' targets are uniform across member states. As member states vary substantially with regard to their fiscal situation and future challenges, these targets appear unrealistic for many countries and, therefore, the credibility of the framework is undermined (Francová et al., 2021).²⁷ Generic targets also affect ownership, which is important for compliance as fiscal policy is intrinsically linked to the decisions of elected officials, while country-specific targets can take into countries' preferences and context.
- The main targets of the framework did not change since its initial conception back in 1992 and, thus, they did not evolve with the economic context. Nowadays, fiscal policy has a stronger role in the stabilisation function of the government and interest rates are significantly lower. Thus, there is more room and need for expansionary fiscal policy in downturns and for investments, which can be particularly relevant to increase the diminishing prospects for output growth.
- The current set of rules do not consider intergenerational issues and might not be compatible with the green transition. Policies that have a cost today but bring benefits in the future are penalised by the current framework. For instance, policies that reduce greenhouse emissions or even investments, may increase government expenditures in the present but they bring benefits in the future by boosting GDP growth or by reducing the risks of catastrophic events in the future.
- There is no way to define a target for debt levels that is uncontroversial. As of today, GDP growth is higher than interest rates, which means that the debt-to-GDP ratio can decrease even when governments incur persistent fiscal deficits. In the debt sustainability model, small shifts in the interest rate scenarios might completely change the debt target. In that scenario, calibration of the target would require conservative assumptions, which likely means excessively restrictive targets.

78. Given the diagnosis, most of the proposed solutions are obvious – they go in the direction of having a simpler set of rules, with only observable variables, that take into account future challenges and asymmetries in the fiscal situation across countries, increasing ownership. The direction seems to have consensus, with proposals only varying in the extent of their proposed modifications. Most proposals suggest having country-specific debt-to-GDP targets as a fiscal anchor, with easier operational rules (e.g. expenditure rules) that have medium-term targets instead of a fixed number and a tool for adjusting the objectives in case counter-cyclical policies are needed, with the evaluation performed by an independent body²⁸ (Giavazzi et al., 2021; Leiner-Killinger & Nerlich, 2019; Martin, P. et al., 2021).²⁹ These new debt-to-GDP targets could be based on debt sustainability models, with country-specific inputs.

²⁷ For illustrative purposes, the current set of rules targets a debt-to-GDP level of 60%. After the COVID-19 crisis, many EU countries have reached debt levels that are in excess of 100% of GDP. It is not credible that they will converge to the target of 60% even in the medium-term.

²⁸ It is worth noting that the supervisors of the EU fiscal rules' framework are both EU commissioners and governments, which are affiliated with political parties. They are, therefore, not fully independent. A study concluded that supervisors have a tendency to vote in favour of the members of the same party in councils (Killermann, 2016).

²⁹ For instance, Giavazzi et al. (2021) suggests that rules should target a medium-term target for the debt-to-GDP ratio operationalised through a single instrument: a multi-year ceiling on the primary spending net of interest payments, automatic stabilisers, and spending-for-the future items. The debt target could be reviewed depending on cyclical indicators and the monetary policy from the European Central Bank while the expenditure ceiling can be reviewed every periodically or when tax revenues reform is made so that expenditures can grow without damaging the prospects for the primary balance.

79. Blanchard et al. (2021) proposes a more disruptive approach – replacing the rule-based system with a standard-based one. In their proposal, excessive deficits should be interpreted as a legally binding obligation to maintain the risk of an unsustainable public finance path at a very low level. Compliance with this commitment would be subject to stochastic sustainability analyses conducted by European Institutions, done case-by-case. Five-year debt targets would be set by the member-state themselves as well as the level of expenditure to meet this target, but the target would be subjected to the analysis of an independent institution. Therefore, the rule-based framework would be replaced by fiscal standards accompanied by criteria, procedures and methods (e.g. a stochastic debt sustainability analysis conditional on projected policies and macroeconomic scenarios) that describe how to apply them (so they can be isonomic). Box 8 explores how a principle-based framework could be applied at the subnational level of government.

Box 8. Principle-based fiscal framework for promoting fiscal sustainability at the subnational level

Principle-based frameworks have significant similarities with another instrument used to promote fiscal sustainability across levels of government: cooperative arrangements.

As defined by Ter-Minassian & Craig (1997), cooperative arrangements refer to an approach in which *“subnational governments are actively involved in formulating macroeconomic objectives and the key fiscal parameters underpinning these objectives. Through this process, agreement is reached on the overall deficit targets for the general government, as well as on the guidelines for growth of main items of revenue and expenditure. Specific limits are then agreed upon for the financing requirements of individual subnational jurisdictions”*.

Ter-Minassian (2020) mentions as examples of cooperative arrangements: those made in EU countries between the central governments and SNGs with the purpose of promoting compliance with EU’s fiscal rules and the Australian Loan Council, which refers to a forum for dialogue and peer pressure among the federal and the state governments.

“Pure” based principle-based approaches are also applied to SNGs in at least two countries: England/United Kingdom and Sweden (Geissler & Wegrich, 2021). The English framework is based on principles set by the Chartered Institute of Public Finance and Accountancy (CIPFA) based on which local government sets its own debt limits. In Sweden, local governments can set their own fiscal targets in compliance with assessments and transparency principles.

Despite the existence of some cases, principle-based frameworks and cooperative arrangements are challenging to pull off in an effective manner, though. As they are more subjective than fiscal rules, a set of conditions should be met for them to be effective. In theory, effective such frameworks require that: 1) supervisors have sufficient technical expertise to understand why non-compliance occurs, how to set targets and how to adjust enforcement measures accordingly, 2) there are flexible instruments at the supervisors’ disposal so they can reward cooperative behaviour and escalate sanctions in a stepwise manner, and 3) supervisors and the regulated interact frequently and with an adequate level of trust (Geissler & Wegrich, 2021).

Due to the challenges of meeting these conditions, cooperative arrangements are not performing as expected and countries are opting increasingly more for subnational fiscal rules. They are, however, an interesting option when the conditions are met and can serve as an insightful case study for the EU in case they opt to implement a principle-based framework.

Source: Geissler & Wegrich (2021), Teresa Ter-Minassian (2020) and Ter-Minassian & Craig (1997).

80. To a substantial degree, most of the problems found at the EU level can also be found at the subnational level. Although solutions proposed for the EU framework cannot be widely mimicked for SNGs – as there are substantial differences across levels of government, most notably in 1) tax mixes, 2) expenditure mandates, 3) autonomy, 4) administrative capacity, and 5) huge heterogeneity across jurisdictions – reforms to higher levels of government’s fiscal rules can provide valuable lessons for SNGs. In addition, some countries might translate some variations of EU rules even to SNGs as the EU targets the general level of government, which covers not only the central governments but also SNGs. Therefore, monitoring the discussions at the EU can be valuable for understanding the future of SNGs fiscal rules.

5.4. The future of subnational fiscal rules

81. In light of these post-COVID-19 future challenges and empirical results, how should subnational fiscal rules be reformed? Prior to delving into this question, it is worth acknowledging fiscal rules’ limitations. Fiscal rules are only one of the many tools used to promote fiscal sustainability. Looking at the bigger picture, the real challenge is not how to reform fiscal rules in order to deal with these issues, but rather how to reform fiscal frameworks, which includes a reform of fiscal rules. It is very likely that reforming only subnational fiscal rules would be insufficient to solve these challenges. Therefore, perhaps even more important than reforming fiscal rules accordingly is to know what fiscal rules (can and) cannot solve and so that the correct tool can be employed.

82. Multiple empirical studies, including this study, suggest that fiscal rules do have an effect on the promotion of fiscal sustainability and, therefore, are an important tool to help governments to take into account the fiscal constraint in policymaking. Nevertheless, fiscal rules might have the side effect of reducing investment, which can be crucial for the energy transition, reforming health systems, boosting economic growth and even reducing regional inequality. In addition, some types of fiscal rules can also lead to pro-cyclical fiscal policy in a context in which fiscal policies are more relevant for stabilising output, while interest rates are historically low, which makes counter-cyclical policymaking less costly.

83. Regarding the calibration required to make fiscal rules compatible with a low interest rate, low output growth and population ageing, it is worth mentioning that debt sustainability models, which were discussed as potential solutions for re-calibrating EU fiscal rules’ framework, cannot be used directly to calibrate subnational rules. SNGs suffer from a soft budget constraint and higher vulnerability to liquidity crises and, for this same reason, some debt rules applied to SNGs target debt services instead of indebtedness. Targeting debt services is not without risks, as they are more volatile than indebtedness and, especially when debt maturities are short, interest rate hikes might lead to non-compliance – a proper calibration should take into account some cushion for shocks on debt affordability. The current scenario of rising interest rates is a reminder that exogenous events³⁰ can lead to an increase in inflation, prompting interest rate hikes, despite the structural context of relatively low interest rates.

84. As debt services have decreased while the debt-to-GDP ratio has increased over the last years, in case this trend continues in the long-run, a fiscal rule that is related to debt services might free up fiscal space (noting that this is only possible if other rules that are applied simultaneously to the debt rule also free up fiscal space). This space can be compatible with increases in investment, energy transition and population ageing related spending, and even programmes aimed at reducing income equality. This is especially relevant at the subnational level as SNGs tend to have a significant role in the provision of public health and education, and in-kind spending on these government functions are associated with lower levels of income inequality (Lustig, 2015). Crucially, the role of fiscal rules here is only to allow SNGs to have a higher indebtedness/debt service in line with a lower interest rate scenario. These policy objectives can only be solved if this space is properly used, which is a policy decision outside the scope of fiscal rules.

³⁰ Referring to Russia’s war against Ukraine, which has affected the supply of goods (especially energy and food) and the COVID-19 crisis, which has prompted central banks to increase the supply of money to tackle the COVID-19 crisis, in turn affecting demand.

85. With rising regional inequalities, although keeping the same fiscal target for all jurisdictions seems not credible, varying targets might incentivise SNGs to conduct unhealthy fiscal policy as they might get easier targets in case their fiscal position deteriorates. Even worse, as fiscal targets are constraints on fiscal policies, they are politically sensitive and, thus, it might be challenging to justify why some jurisdictions have easier targets than others (for instance, despite the huge asymmetries in fiscal policies and stances across the EU, the main fiscal targets are the same for all EU members). In addition to this issue, it is very unlikely that varying fiscal targets could reduce regional inequalities. A fiscal rule that, for instance, allows a jurisdiction to invest more than others (e.g. through a higher budget balance deficit target) to “catch up” in terms of capital and, therefore, income, might 1) not lead to an increase in investment in case the jurisdiction cannot access borrowing freely and 2) increase indebtedness and, therefore, if investments were not well executed, it would aggravate regional inequalities. It is, therefore, unlikely that fiscal rule reforms alone are sufficient to improve regional inequalities.

86. McGowan & Millan (2019) explored policies that could reduce regional inequality and concluded that they are normally aimed at reducing distortions so that markets can operate more freely, maximising the allocation of workers and capital across regions. In addition, central governments’ fiscal support to lagging regions, boosting intergovernmental coordination, while well-designed equalisation systems³¹ can be especially useful for the implementation of growth-oriented policies in lagging regions. These policies can effectively level fiscal capacity across regions and thus minimise the need for differentiated fiscal targets.

87. Regarding counter-cyclical fiscal policies, SNGs clearly engaged in pro-cyclical policies after the GFC (OECD, 2021b) and, in the COVID-19 crisis they have been supported by central authorities so they could take the necessary measures to tackle the pandemic. Although this support was crucial to tackle the pandemic, it might signal to SNGs that they don’t need to build resilient fiscal systems and the central government will support them when needed. Although fiscal rules alone cannot make SNGs resilient to shocks,³² they should allow counter-cyclical fiscal policies not only in downswings (through escape clauses) but also in upswings, so SNGs will build a buffer for shocks. The empirical analysis in this piece suggests that expenditure rules are appropriate for achieving this objective as their targets do not increase in upswings with rises in revenues and as they are significantly simpler and easier to implement, especially at the subnational level, than cyclically-adjusted fiscal balances, which aim to achieve this same purpose.

88. Adopting expenditure rules at the subnational level is not an easy task, though. The rule should be compatible with SNGs expenditure mandates and autonomy. Some deductions might be necessary for the rule to be credible, such as the deductions of expenditures funded by earmarked revenues or of expenditure hikes of essential goods over which SNGs exert no control. In addition, as expenditure rules might also cause reduction in investment, deduction of investments³³ under some conditions can be an option. These solutions, nevertheless, are only possible when SNGs have some expenditure autonomy, supervisors have administrative capacity and accounting frameworks work properly so deductions are correctly made, without fiscal gimmicks. In case these conditions are not met, a better option might be to combine rainy-day funds with budget balance rules.

³¹ For recent review of equalisation systems across OECD countries, see Dougherty & Forman (2021).

³² Options include boosting rainy-day funds, assigning taxes whose revenues are less vulnerable to the cycle, designing rule-based intergovernmental grants that have counter-cyclical components (such as moving averages), strengthening equalisation systems for dealing with regional shocks, among others.

³³ Deductions can also be extended to other types of expenditure that might be undesirably affected by the adoption of an expenditure rule.

89. Also, with regard to counter-cyclical policymaking, it is worth reinforcing that although fiscal policy does play a much bigger role since the GFC, this government function is much more a burden for the central government. SNGs' role in macro-stabilisation, therefore, will greatly depend on countries' fiscal decentralisation and on intergovernmental fiscal arrangements. When SNGs are in charge of the majority of public investments, it is difficult to engage in an expansionary fiscal policy without their aid. Even in this case, forcing SNGs to invest can be detrimental to their fiscal situation – SNGs have less autonomy to raise revenues, are more prone to liquidity problems and do not borrow as freely as central governments. Their finances are, therefore, more fragile than those of the central government. As a result, in some circumstances, it might be necessary for central governments to support SNGs if they want lower levels of governments to engage in expansionary fiscal policy (e.g. by boosting intergovernmental grants, supporting subnational borrowing through guarantees, among others – this happened after the GFC, see Blöchliger et al., 2010, for details). Regardless of the central aid, what fiscal rules should do is to *allow* SNGs to engage in counter-cyclical fiscal policy if they want to, but not to force them to do so.

90. Lastly, since the introduction of fiscal rules following the GFC, fiscal rules for subnational governments tended to have stronger institutional elements than those for central and general governments. Nevertheless, after the GFC and with the introduction and reforms of EU rules, higher levels of governments were able to significantly improve the institutional elements of their fiscal rules, while SNGs have lagged behind.

91. The “average” fiscal rule for the general government: 1) is monitored by an independent authority, 2) has a correction mechanism that is triggered automatically with pre-defined corrections, and 3) has mechanisms to cope with shocks. In contrast, an average fiscal rule for a local government: 1) is monitored by a court of audits or the parliament, 2) has no correction mechanism (or nobody other than the own government that monitors it, and 3) does not have mechanisms to cope with shocks. Hence, although, as we stressed throughout this paper, fiscal rules' design should vary across levels of government as a result of SNGs specificities, yet there is margin for improving the *institutional arrangements* of SNGs fiscal rules by partially emulating what is done for at the central and general levels of government.

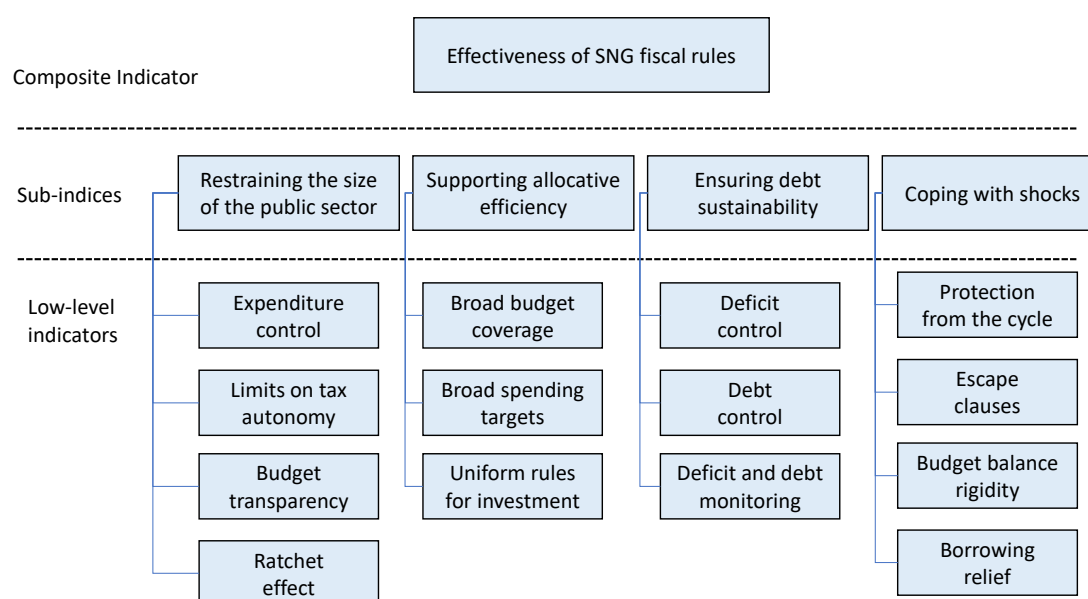
92. To conclude, the debate on the impact of fiscal rules on attainment of fiscal policy goals is complex. Fiscal rules differ substantially across countries in terms of the fiscal aggregate that is being constrained and in terms of numerous design and institutional features. These varying rules also interact with the structural characteristics of the country (e.g. current fiscal situation, fiscal framework in place, volatility of output, among others) and face limitations as to what it can achieve – notably, fiscal rules cannot make up for flawed fiscal federalism arrangements and rarely can they solve social conflicts alone, even those related to subnational fiscal sustainability. The choice of a fiscal rule should, therefore, involve not only technical aspects but also limitations and institutional elements adequate to maximise compliance and effectiveness, in addition to being aligned with policymakers' objectives as, ultimately, fiscal rules are a political choice and require political commitment.

Annex A. OECD SNG fiscal rules indicators

93. The OECD Network on Fiscal Relations Across Levels of Government designed a set of indicators that measure the capacity of a country's fiscal rules to achieve its objectives. These indicators are built from answers to questionnaire's responses on subnational fiscal rules, held in 2006, 2011 and 2018.

94. Responses to the NFR subnational fiscal rules questionnaires are aggregated into "low-level" indicators whose purpose is to capture aspects of fiscal rules design and process. These indicators are scaled from 0 to 10 in ascending order of desirability of outcome. These low-level indicators are aggregated into sub-indices which denote the capacity of fiscal rules to meet four fiscal policy objectives: restraining the size of the public sector, supporting allocative efficiency, ensuring debt sustainability and coping with shocks. These four sub-indices are, then, aggregated into a composite indicator of the effectiveness of the subnational fiscal rules' framework.

Figure A1. Composition of the NFR subnational fiscal rules indicator

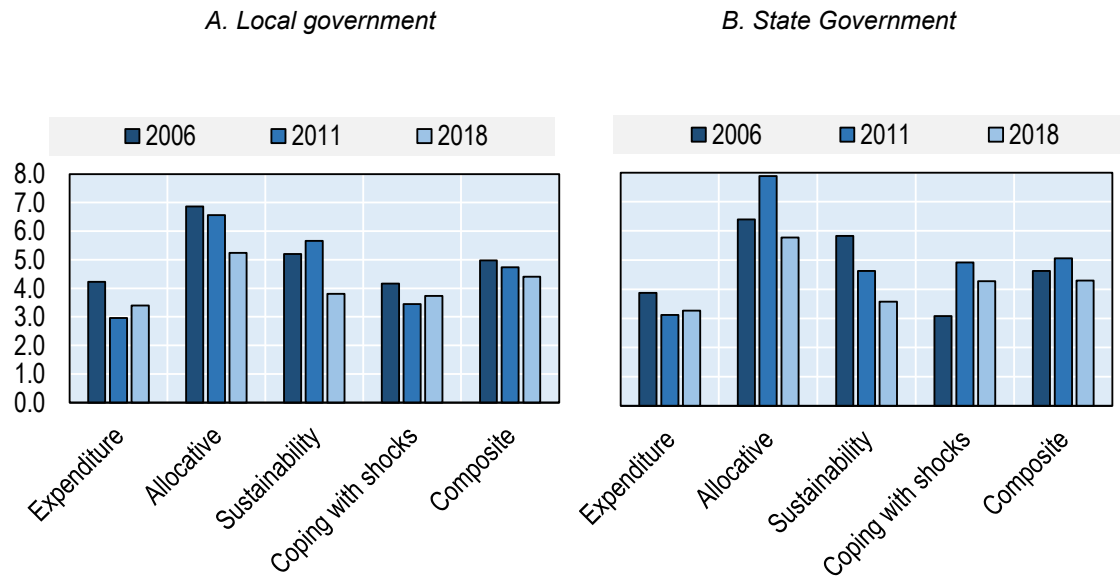


Source: OECD (2013), Fredriksen (2013) and Sutherland et al. (2005).

95. Constructing either a sub-index or the overall composite indicator involves assessing the relative importance of each rule attribute which may vary across countries and time. To overcome the difficulty of assigning relative importance to each aspect of a fiscal rule in very different budgetary and institutional frameworks, the random weights method is used. The random weights are drawn from a uniform distribution between zero and one, then normalised so as to sum to one and multiplied with the low-level indicators. The resulting confidence intervals reflect the extent to which varying weights given to low-level indicators affect the value of intermediate indicators and the composite indicator.

96. The evolution of this index over time is shown by Figure A2, below.

Figure A2. Evolution of OECD NFR subnational fiscal rules indicator



Note: Data coverage may imply that different countries are observed across years.
 Source: Authors.

Annex B. Fiscal rules adoption by type (OECD NFR Fiscal Rules data)

Table B1. Fiscal rules adoption by type (OECD NFR Fiscal Rules data)

Country	Borrowing constraints						Budget Balance Rules						Expenditure Rules					
	Local			State			Local			State			Local			State		
	2006	2011	2018	2006	2011	2018	2006	2011	2018	2006	2011	2018	2006	2011	2018	2006	2011	2018
AUS																		
AUT																		
BEL																		
BRA																		
CAN																		
CHE																		
CZE																		
DEU																		
DNK																		
EST																		
FIN																		
FRA																		
GRC																		
HUN																		
IRE																		
ISL																		
ITA																		
JPN																		
KOR																		
LTU																		
LUX																		
LVA																		
MEX																		
NLD																		
NOR																		
NZL																		
POL																		
PRT																		
SVK																		
SVN																		
SWE																		
TUR																		
USA																		
ZAF																		

Legend

Rule in place

Rule not in place

No response

Note: Countries that explicitly mentioned to not publish their answers are excluded from this annex.

Source: Authors based on the answers from OECD and partner countries to the subnational fiscal rules' questionnaires.

Annex C. Model Specification

97. In order to test whether fiscal rules achieved their outcomes, a panel model is used. Panel models are useful for estimating causal effects by addressing issues with unobserved and observed time-invariant covariates correlated with the treatment variable (here the presence of a certain fiscal rule) by using fixed effects (Cunningham, 2021). Such method can also handle time-variant observed heterogeneity through controls and, therefore, are commonly and recently used to assess the effect of fiscal rules on fiscal outcomes (Gootjes et al., 2021; Jochimsen & Raffer, 2020; Schmidt-Hebbel & Soto, 2017; Foremny, 2011, among others). Panel data models can also handle time-variant effects (*i.e.* time-variant variables that are correlated with both the presence of the fiscal rules and the fiscal outcomes) by adding time-fixed effects.

98. With that said, the following function was employed to assess the impact of fiscal rules on fiscal outcomes:³⁴

$$O_{i,t} = \alpha \cdot BBR_{i,t} + \beta \cdot DR_{i,t} + \gamma \cdot ER_{i,t} + \theta \cdot X + \mu_i + \nu_t + \varepsilon_{i,t}$$
³⁵

99. The subscript *i* refers to the combination of country and level of government (only state or local) while *t* refers to the year. The dependent variable ($O_{i,t,v}$) refers to different variables depending on the objective being assessed:

- *Fiscal sustainability*: two indicators were used:³⁶
 - fiscal balance to revenue ratio; and
 - debt to revenue ratio.
- *Budget composition*: investments to total expenditure ratio;³⁷ and
- Pro-cyclicality of the fiscal policy:³⁸
 - The elasticity of the fiscal balance with respect to output gap;
 - The elasticity of the fiscal balance with respect to GDP; and
 - The elasticity of the expenditure with respect to GDP growth.

100. The independent variables are the fiscal rules' strength index (FRI), as described in Box 3, for each type of fiscal rules explored in this piece: budget balance rules (*BBR*), debt rules (*DR*) and expenditure rules (*ER*). The coefficients of interest of this analysis are, therefore, α , β and γ . *X* refers to the controls (explored in the below paragraph), while μ_i , ν_t and $\varepsilon_{i,t}$ refer to a time fixed effect, specific fixed effect and an error term, respectively. These fixed effects are important as they control for unobserved time invariant and country specific characteristics, which includes the GFC shock.

³⁴ This specification is similar to the specification done by other authors when assessing the impact of fiscal rules (Lledó, et al., 2017; Foremny, 2011; Gootjes et al., 2021; Kotia et al., 2016; Schmidt-Hebbel & Soto, 2017).

³⁵ Equation combines state and local governments to increase the already relatively small sample.

³⁶ Data gathered from the OECD Fiscal Decentralisation database.

³⁷ Data gathered from the OECD System of National Accounts.

³⁸ The data on the output gap, and fiscal balances were gathered from the OECD Statistics and OECD Fiscal Decentralisation database, while data on GDP growth and government expenditures come from the OECD System of National Accounts.

101. Five controls were used:

- *Tax autonomy of the respective level of government:*³⁹ Tax autonomy influences the extent to which subnational governments can adjust their revenues to pursue the desired fiscal policy. As a result, tax autonomy might influence fiscal outcomes in the presence of fiscal rules as SNGs with little to no tax autonomy might have to decrease public expenditure to comply with certain rules as raising revenues is not an option at their disposal.⁴⁰
- *Lagged Vertical Fiscal Imbalance (VFI):* VFI measures the extent to which SNGs' revenues can fund their expenditures. In other words, it measures whether revenue decentralisation followed the pace of expenditure decentralisation. When expenditure decentralisation is higher than revenue decentralisation, this gap is filled in with intergovernmental grants. As showed by a very influential paper by Rodden (2002), and confirmed by other pieces (Foremny, 2011; Kotia et al., 2016), there is a tendency for SNGs that are simultaneously dependent on intergovernmental transfers and free to borrow to have large and persistent subnational deficits. Thus, large VFI covaries with fiscal sustainability. VFI, here, are estimated as the following equation: $1 - \left(\frac{R}{E}\right)$, where R refers to consolidated revenues and E to consolidated expenditures.⁴¹ Values were lagged to avoid spurious correlation between the dependent and independent variables.
- *Lagged ratio of social protection to total expenditure:* Another relevant variable is the role of SNGs in social protection – more specifically, on cyclical expenditures related to social protection. Notably, social protection expenditures are the only expenditure item that is inherently cyclically sensitive (Price et al., 2015). As countries differ with regard to the decentralisation of this type of expenditure, so it will their effects on fiscal balances, pro-cyclicality of fiscal policy and budget composition. Values were lagged to avoid spurious correlation between the dependent and independent variables.⁴²
- *Lagged ratio of investment expenditure to total expenditure:* As investments tend to be the most significant, not rigid type of expenditure at the subnational level, the ratio of investment to total expenditure is a proxy for the leeway that SNGs have to change their fiscal policy. Values were lagged to avoid spurious correlation between the dependent and independent variables.⁴³
- *Lagged debt to revenue ratio:* Finally, the debt-to-revenue ratio were included as a control as government indebtedness affects budget composition and pro-cyclicality of fiscal policy as the higher the indebtedness the higher tends to be the debt service. In addition, as indebtedness refers to the accumulation of negative fiscal balances, the debt stock may also co-vary with fiscal balances.⁴⁴

Limitations

102. It is worth noting that this setup (as any setup aiming at analysing the causal effects), suffers limitations. Three caveats of the method employed are that 1) the two-way linear fixed effects regression (i.e. 2FE – panel data model with both fixed and time-fixed effects) only adjust for these two types of

³⁹ Observations were clustered by cross-section to account for correlation and we used a heteroscedasticity-consistent estimation of the covariance matrix of the coefficient estimates.

⁴⁰ Tax autonomy was proxied by the percentage of tax revenues that comes from taxes whose tax rates and reliefs are controlled with restrictions or full discretion by SNGs. The data used to create this classification come from the OECD Fiscal Decentralisation database.

⁴¹ Gathered from the OECD Fiscal Decentralisation database.

⁴² Data comes from the OECD System of National Accounts.

⁴³ Data comes from the OECD System of National Accounts.

⁴⁴ Data comes from the OECD Fiscal Decentralisation database.

co-founders when they have linear additive effects, which, therefore, is an implicit assumption when using this design (Imai & Kim, 2021); 2) it can be biased in case of simultaneity – that is, when the fiscal outcomes whose effect we are analysing cause the presence of the fiscal rules instead of the opposite (Cunningham, 2021), which is likely in this case as the decision to introduce or strengthen fiscal rules can be made in the context of other changes to the fiscal policy with the purpose of achieving the same goals as fiscal rules, and 3) it is not possible to handle time-variant unobserved heterogeneity (Cunningham, 2021).

103. Although there are methods to overcome such problems, they also face their own issues so that there is no causal inference method that can be freely used without caveats when randomised experiments are impractical (this case). A popular method employed to assess the impact of fiscal rules on fiscal outcomes is the use of instrumental variables (IVs) to address the possible issue of simultaneity as a robustness check (Schmidt-Hebbel & Soto, 2017; Foremny, 2011). Nevertheless, when using IVs, there are five identifying assumptions⁴⁵ that must be true for the causal inference to be unbiased. Most notably, the IVs must only affect the outcomes (fiscal aggregates in our case) through the treatment (presence of fiscal rules), which is often a strong assumption to be made regarding a complex topic with multiple interdependencies.⁴⁶

104. Therefore, the results of the model here employed, as with any analysis of causal inference when randomised experiments are impractical, should be looked at with caution. As there are multiple types of fiscal rules and designs that interact with one another and with the socio-economic and political conditions of a country, assessing the impact of fiscal rules on these objectives is rather complex. Results are valuable for inspiring conceptual discussions, but they always can be tested again with different model setups, and as any model setup suffers limitations, varying results may arise. In addition, the relatively small adoption rate of some rule types at the subnational level should also raise the awareness of any econometrician due to small sample concerns. For these reasons, empirical results are cautiously reported as correlative. In any case, as robustness checks, we compared the results found here to those from other papers.

⁴⁵ First, the potential outcomes for each cross-sectional unit are unrelated to the treatment status of other cross-sectional units (in our case, the adoption of fiscal rules by a country does not affect the fiscal outcome of other countries). Second, instrumental variables must be independent of the potential outcomes and treatment assignments. Third, any effect on the outcomes from the treatment must come through the instrumental variable. Fourth, the instrumental variable must be correlated with the treatment. Fifth and lastly, the instrumental variable operates in the same direction on all cross-sectional units (Cunningham, 2021).

⁴⁶ For instance, when using, for instance, political variables as instruments, it is assumed, among other assumptions, that these political variables are correlated to the adoption of fiscal rules and that they only affect fiscal outcomes through this adoption. This often is a strong assumption as policymakers may pursue an objective putting to use a myriad of tools.

Annex D. Model coefficients

Figure D1. Fiscal balance to revenue ratio

Coefficient	Estimate	Standard Error	t value	Significance
VFI_I	-0.139	0.067	-2.064	0.04*
BBR	1.018	0.529	1.926	0.055.
DR	-1.315	0.686	-1.916	0.056.
ER	0.869	0.597	1.456	0.147
Social protection to expenditure ratio (lag 1)	-0.070	0.363	-0.194	0.847
Debt to revenue ratio (lag 1)	0.031	0.028	1.109	0.268
Tax autonomy	0.055	0.029	1.854	0.065.

Source: Authors.

Figure D2. Debt to revenue ratio

Coefficient	Estimate	Standard Error	t value	Significance
VFI_I	0.706	0.137	5.142	0***
BBR	-2.615	1.113	-2.349	0.02*
DR	2.529	1.449	1.745	0.082.
ER	-1.477	1.263	-1.170	0.243
Social protection to expenditure ratio (lag 1)	0.946	0.760	1.245	0.214
Tax autonomy	-0.049	0.062	-0.793	0.428

Source: Authors.

Figure D3. Investment to total expenditure ratio

Coefficient	Estimate	Std..Error	t.value	Pr...t..
VFI_I	0.047653048	0.020146346	2.3653445	1.868060e-02
BBR	-0.308057282	0.158570427	-1.9427159	5.303178e-02
DR	-0.210466325	0.205883700	-1.0222583	3.075226e-01
ER	-0.719572673	0.179191683	-4.0156589	7.580926e-05
SocialProtection_ratio	-0.142049593	0.108855313	-1.3049395	1.929624e-01
Debt_ratio_I1	0.006190202	0.008325755	0.7435004	4.577891e-01
Autonomy_index	-0.014673044	0.008827223	-1.6622492	9.755839e-02

Source: Authors.

Figure D4. Elasticity of fiscal balance to output gap

Coefficient	Estimate	Standard Error	t value	Significance
VFI_I	-12.517	6.973	-1.795	0.074
BBR	-23.982	53.508	-0.448	0.654
DR	15.503	68.428	0.227	0.821
ER	-13.698	59.255	-0.231	0.817
Social protection to expenditure ratio (lag 1)	13.592	37.572	0.362	0.718
Debt to revenue ratio (lag 1)	-1.964	3.619	-0.543	0.588
Tax autonomy	-3.127	3.166	-0.988	0.324

Source: Authors.

Figure D5. Elasticity of fiscal balance to GDP

Coefficient	Estimate	Standard Error	t value	Significance
VFI_I	0.141	0.060	2.357	0.019*
BBR	-0.048	0.470	-0.103	0.918
DR	-0.186	0.611	-0.304	0.761
ER	0.291	0.532	0.547	0.584
Social protection to expenditure ratio (lag 1)	-0.124	0.323	-0.383	0.702
Debt to revenue ratio (lag 1)	-0.030	0.025	-1.234	0.218
Tax autonomy	0.020	0.026	0.775	0.439

Source: Authors.

Figure D6. Elasticity of expenditure to GDP

Coefficient	Estimate	Standard Error	t value	Significance
VFI_I	0.000	0.000	0.731	0.465
BBR	-0.005	0.004	-1.408	0.16
DR	0.006	0.005	1.239	0.216
ER	-0.008	0.004	-1.888	0.06
Investment to expenditure ratio (lag 1)	-0.004	0.001	-2.934	0.004*
Social protection to expenditure ratio (lag 1)	-0.004	0.003	-1.483	0.139
Debt to revenue ratio (lag 1)	-0.001	0.000	-4.007	0***
Tax autonomy	0.000	0.000	-0.733	0.464

Source: Authors.

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