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An analysis of the compatibility of the EU fiscal rules with Bulgaria's climate finance gap

Master's Thesis
Double Degree MSc European Governance

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Abstract

In light of the significant requirement to scale up public investment to finance the green transition, the ongoing reform of the EU's Stability and Growth Pact has sparked a debate on the need to establish an EU common fiscal capacity. Since most arguments in favour revolve around debt sustainability, given the constraints facing several Member States in increasing debt-financed public investment because of their explosive debt, this discussion is highly political. To bring an alternative and less political argument to the table, this study conducts a quantitative case study of Bulgaria, the poorest country in the EU, but also its dirtiest economy. Through a numerical illustration of three distinct scenarios, different combinations of fiscal tools are tested to assess whether Bulgaria can raise enough resources to bridge its climate investment gap without requiring additional funds guaranteed by all EU Member States. While this research finds that Bulgaria has enough fiscal space to do so, its troubled political and administrative context is suspected to be a deterrent for the country to unlock it. Thus, the arbitrary nature of the EU's numerical values dictating fiscal discipline is confirmed to be fundamentally inconsistent with the urgency to meet its ambitious climate targets.

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List of Abbreviations

CVM	Cooperation and Verification Mechanism
EDP	Excessive Deficit Procedure
EGD	European Green Deal
EMU	Economic and Monetary Union
EU	European Union
GDIP	Green Deal Industrial Plan
GERB	Citizens for European Development of Bulgaria
GHG	Greenhouse-gas (emissions)
IRA	(United States’) Inflation Reduction Act
NRRP	National Recovery and Resilience Plan
NECP	National Energy and Climate Plan
PEPP	Pandemic Emergency Purchase Programme
PP-DB	We Continue the Change and Democratic Bulgaria
RRF	Recovery and Resilience Facility
SGP	Stability and Growth Pact
SURE	Support to mitigate Unemployment Risks in an Emergency
TFEU	Treaty on the Functioning of the European Union
UNFCCC	United Nations Framework Convention on Climate Change
WEO	World Economic Outlook

1. Introduction

The present research is aimed at contributing to the ongoing discussion over a reform of the European fiscal rules. Stemming from Covid-19, the debate revolves around the issues countries face in maintaining stable debt levels and in restructuring their debt in line with the Maastricht fiscal rules once the general escape clause, allowing for a temporary deviation from the fiscal adjustment path, is lifted at the end of 2023. At the same time, the debate highlights the strict relationship between the fitness of said fiscal rules and the EU climate targets, delineated in the Green Deal and updated by the Fit-for-55 provisions.

While going back to pre-Covid and pre-global financial crisis rules requires strict fiscal tightening, meeting the EU green targets entails a very large expansion in public investment. This is hereby regarded as a hazardous discrepancy between two of the most pressing EU priorities: fiscal soundness and net climate neutrality.

In an attempt to couple pandemic recovery with EU priorities, the NextGenerationEU programme, with its unprecedented Recovery and Resilience Facility (RRF), clearly is a revolutionary experience. By providing Member States with essential fiscal means, the programme serves as a catalyst for the green transition, among other things. However, RRF disbursement will cease in 2027, raising questions among experts regarding whether a similar instrument could be implemented permanently (Cornago & Springford, 2021; Heimberger & Lichtenberger, 2023).

Now, the centre of the discussion is the scepticism towards the Maastricht fiscal rules, as their strict debt and deficit thresholds often require the implementation of procyclical fiscal measures. These would not only further worsen the European economic situation, but they would also deprive countries of additional fiscal space for important climate investment. The European Commission has thus drafted a proposal on a reform of the European fiscal rules, which includes a greater extent of flexibility and country-specific provisions. Despite its potential to free up fiscal room, the proposal is argued to be, once again, not enough. Experts highlight the urgency of having some kind of fiscal capacity at the EU level to help co-fund the green transition without putting further fiscal pressure on countries with already significant debt constraints (Cornago & Springford, 2021; SFL, 2022; Steitz & Baccianti, 2022; Van den Noord, 2023; ECCO, 2023), possibly built along the lines of the RRF. In fact, the main

argument used to push this idea is the heavy debt burden looming over several Member States, which have carried debt-to-GDP ratios sometimes above 100% for the past decade.

However, setting up a common central fiscal capacity is extremely political, given the burden-sharing that comes with it. The sovereign debt crisis left a fundamental lack of trust among Member States, especially towards those with high debts and unsustainable public finances, as they were deemed to be fiscally undisciplined (Schuster, 2023).

Nevertheless, the requirement to bring debt to a sustainable level imposes a strong constraint on much needed green investment spending in the EU, but not all EU Member States present debt sustainability issues. Some of the latest accession countries, in fact, do not exceed the 60% debt threshold established by the Maastricht Treaty, thus they potentially have fiscal room at their disposal to increase public investment and possibly successfully achieve the Commission's green targets.

Among others, Bulgaria displays a debt of 22% (Eurostat, 2022), but it is also one of those countries with a historical carbon-intensive background due to the nature of their energy systems before accession to the EU. This presents a different kind of challenge. In fact, Bulgaria has the highest CO₂ emissions levels in the EU, and thus the highest green public investment needs. On top of it, Bulgaria is also the poorest among Member States, with the bloc's lowest GDP per capita. Therefore, the present research is an attempt to bring a different kind of argument to the debate, as countries with debt sustainability issues might not be the only ones to strictly need co-funding from the centre to achieve the green transition. There are states with more sustainable debts, but experiencing larger climate finance gaps, thus potentially raising their need for additional financial flows from the centre. To validate this alternative argument, the present paper attempts to answer the following question on the specific case of Bulgaria:

How can Bulgaria leverage its fiscal tools to meet its climate finance gap while complying with the EU fiscal rules?

Thereby, this study employs a quantitative case study approach to assess the capacity of Bulgaria to bridge its climate finance gap without additional funds from the centre. A numerical illustration through the development of three distinct scenarios is carried out to evaluate the potential of different national fiscal policy combinations in meeting the EU climate targets. By doing so, the research contributes to the existing body of literature on a reform of the European

fiscal rules and provide a different perspective than that of debt sustainability to the discussion on the need for funding the green transition through an EU common fiscal capacity.

In fact, the debt sustainability argument in favour of such a facility has been highly politicised, especially by the fiscally-strict frugal countries. Given their distinct lack of trust towards Member States with unsustainable debt levels, they have historically vetoed any form of common guarantee of other Members' debt with their own resources. Conversely, although Bulgaria has fairly sustainable public finances, it appears to still face challenges in achieving a complete decarbonisation of its economy by itself. Consequently, there is a less political argument to be made in favour of co-funding from the centre, as the entire bloc would greatly benefit from the achievement of net climate neutrality by its largest polluters.

By providing such an alternative rationale, the present study has potential to mitigate the political weight associated with the topic of an EU common fiscal capacity. In fact, the intended societal added value of this research is to accelerate the political process towards a shared solution for a largely shared problem, to ultimately foster a collective, just and green transition.

Finally, drawing upon the research commissioned by the Economic and Monetary Affairs (ECON) Committee of the European Parliament and carried out by Paul van den Noord (2023), the present study contributes to the extensive academic discourse by examining alternative measures for countries that, despite their significant investment need, have not derived recognisable advantages from the recent reform of the Stability and Growth Pact (SGP). The case study here presented integrates data from prior scholarly work to assemble a comprehensive picture of the challenges encountered by Bulgaria, characterised by substantial climate finance needs.

The paper will thus develop as follows: Section 2 delineates the European policy context in which the debate arises. Section 3 reviews the literature discussing the fitness of the SGP reform for the achievement of climate neutrality, followed by Section 3 discussing the theoretical framework the present paper draws upon. Afterwards, Section 5 provides a detailed description of the methodology employed to answer the research question above, with Section 6 presenting the gathered data and the application of the empirical approach. Consequently, Section 7 draws conclusions from the results obtained in the empirical phase and presents three policy recommendations.

1. EU policy framework

The Covid-19 pandemic was yet another unprecedented crisis striking the European Union in the last decade, after the global financial crisis and the sovereign debt crisis. In an attempt to support the halted economy, the SGP escape clause was activated in March 2020 to provide national governments with enough leeway to issue additional debt and counter the adverse effects of the crisis on society as a whole (European Commission, 2020a). To avoid the repetition of excruciating economic damage from another shock, the ECB, once again, saved the Eurozone economy by launching its Pandemic Emergency Purchase Programme (PEPP), a quantitative easing plan injecting EUR 1,850 billion into the economy. This initiative cushioned the consequences of the crisis, avoiding the dissolution of the Eurozone, and bought the European Commission some time to design an appropriate recovery programme (Armingeon et al., 2022).

The temporary Support to mitigate Unemployment Risks in an Emergency (SURE) was initiated in 2020 to prevent a steep increase in unemployment during the first lockdowns. The programme envisioned the extension of loans up to EUR 100 billion for every Member State in need and ended in December 2020, mitigating the adverse macroeconomic effects of the pandemic as a result.

Nevertheless, the programme NextGenerationEU launched by the Commission in 2021 includes an unprecedented instrument to guarantee a sustainable, digital, and socially just recovery. The RRF, established with the European Parliament and Council Regulation (EU) 2021/241, allows the Commission to temporarily borrow on international capital markets on behalf of all Member States. Due to its highly politicised features, since a common fiscal capacity had for long been debated among EU countries, the RRF was designed to entail only EUR 338 billion worth of grants and EUR 385.8 billion of loans, for a total of EUR 723.8 billion (European Commission, 2021a).

The RRF allocates funds to Member States based on an assessment of the economic damages each nation incurred in during the pandemic, and other indicators, including the country's population size and unemployment rate (European Commission, 2021a). Meanwhile, disbursement is based on national spending plans, i.e., the National Recovery and Resilience Plans (NRRPs), which delineate how the funds will be allocated at the national level, in the

form of investments and reforms. Each plan needs to be approved by the European Council after an assessment of its viability carried out by the Commission according to certain criteria. In fact, this instrument is intended not only to allow for a fully-fledged recovery from the pandemic, but also to put Member States on the right path to accelerate the green and digital transition. Thus, for the funds to be disbursed, every NRRP needs to satisfy two requirements: at least 37% of the funds needs to be channelled towards the green transition and 20% towards the digital transformation. By now, all 27 national plans have passed these thresholds, according to the Commission's assessment (European Commission, 2023a) and approved by the European Council, thus funds are now being disbursed.

Since the SGP escape clause will be lifted at the end of 2023, and RRF funds will dry up by 2027, the European Commission deemed this moment appropriate for a reform of the SGP itself. As a result, in November 2022, the Commission submitted a communication on orientation for a reform of the SGP fiscal rules. The Maastricht deficit and debt thresholds, respectively 3% and 60% of GDP, are maintained, but the 1/20th rule, for which Member States had to reduce their debt over a period of 20 years to 60%, is abolished. It is substituted with the obligation to set their debt on a “credible downward path to 60%” (European Commission, 2022a), after a period of fiscal-structural adjustment. Moreover, to prove the credibility of their fiscal consolidation efforts, every Member State needs to present to the Commission a national Fiscal-Structural Plan coherent with their National Energy and Climate Plans (NECPs) and their NRRPs. This Plan needs to be implemented across a 4-year adjustment period, that can be extended to 7 years if it includes reasonable reforms and investments aimed at triggering sustainable growth and reaching debt sustainability. Lastly, a new enforcement mechanism is introduced, the excessive deficit procedure (EDP), in case a Member State is observed to have breached the 3% of GDP deficit threshold.

In April 2023, the proposal for a reform of the SGP fiscal rules was finally released by the Commission. As expected, stronger national ownership and focus on the medium-term, as well as country-specific escape clauses were included in the proposal. In addition, to simplify monitoring processes of debt sustainability, a net expenditure path is introduced as a single operational indicator (European Commission, 2023b). However, one of the proposed provisions was unexpected: while Member States are still required to set their debt on a “plausibly downward path” or maintain it at a “prudent level” without a time limit, the EDP

was amended to require a minimum annual reduction of the headline deficit by 0.5% of GDP, for the years where it exceeds the 3% benchmark (European Commission, 2023c).

However, a prominent issue is that proposal does not explicitly include provisions to facilitate the achievement of the climate targets revised recently. In fact, within the European Green Deal (EGD) framework, the European Commission released a Communication in 2020 in which it raised its objectives of reducing greenhouse-gas (GHG) emissions further than their original level (European Commission, 2020b). The so-called Fit-for-55 legislative package envisions a 55% reduction of aggregate European GHG emissions by 2030 compared to 1990 levels, and of 100% by 2050, reaching net carbon neutrality. These targets are in line with the objective of the UNFCCC's Paris Agreement, to which the EU is one of the signatories, to keep global temperature from increasing above 1.5°C compared to current levels (Paris Agreement to the United Nations Framework Convention on Climate Change, 2015). The Fit-for-55 package contains a number of regulations, directives and instruments setting targets for emissions reduction in specific sectors and make more efficient use of renewable energy sources (European Commission, 2020b).

Another step recently taken by the Commission is the Green Deal Industrial Plan (GDIP), intended to accelerate the green transition by also possibly providing more fiscal space to countries with unsustainable debt levels. As a response to the United States' Inflation Reduction Act (US's IRA), launched by the Biden Administration in 2022, the GDIP is meant to increase European industries' international competitiveness. In fact, it includes both relaxation of state aid rules and the proposal for the institutionalisation of a European Sovereign Fund, granting finance to firms and corporations proving genuine intentions to green their supply chain.

While recent policy efforts exerted at the EU level appear promising for the achievement of the bloc's climate targets, the largest share of investment needs is to be mobilised at the national level. Yet, the *status quo* of the EU fiscal rules, even with the SGP reform, is still too constricting.

3. Literature review

The European Commission successfully turned a period of uncertainty into a valuable opportunity by applying unprecedented reforms to its restrictive fiscal rules and conciliate them with its ambitious priorities. However, echoing the “failing forward” theory, many argue that not enough has been done.

The 2023 proposal for a fiscal reform represents an enormous step towards better sustainability of public finances as well as avoidance of detrimental and procyclical measures for economic recovery. However, many argue that the proposal lacks important features to finally make the system resilient and fit for the fulfilment of EU priorities. At the event “Investing in decarbonising the EU” organised by Friedrich-Ebert-Stiftung and ECCO in Brussels on March 29th, 2023, Italian Senator Antonio Misiani (2023) identified three of these missing elements. Firstly, a permanent mechanism for stabilisation, on the lines of SURE, is not included in the reform, again leaving the EU unprotected from asymmetric shocks. Secondly, it fails to reflect on the experience of the RRF, therefore not addressing the debate on a common fiscal capacity based on debt mutualisation. And, lastly, it does not delineate an effective system to prioritise much needed EU-wide investment, such as in climate.

Accordingly, specific provisions explicitly related to the green transition are left out of the proposal, despite climate being one of the Commission’s most pressing priorities. In fact, the Commission itself estimates an annual EU aggregate green funding gap of EUR 520 billion in 2021 (European Commission, 2021b), which would be a sufficient reason to expect more focus on green in EU fiscal provisions. Even more so, studies find that the Commission underestimated the amount of private and public investment needed to achieve its own climate targets (Wildauer & Leitch, 2022). In fact, the Commission undershot the green investment needs by no less than EUR 1,125 billion a year (Heimberger & Lichtenberger, 2023), oscillating between 2% and 6% of EU GDP.

Hence, by imposing a green investment threshold of 37%, the RRF is surely important to trigger the green transition, but it does not get close enough to help Member States reduce their GHG emissions by 55% by 2030, let alone net climate neutrality by 2050. In fact, studies estimate that the RRF alone should provide at least EUR 230 billion a year in climate finance, vis-à-vis

the existing gap of EUR 460 billion, but it currently only provides EUR 45 billion annually (Cornago & Springford, 2021).

The inability of the RRF to deliver the needed climate investment, given its non-climate-specific disbursement criteria (Van den Noord, 2023) and its temporary nature, coupled with a revolutionary but still not-specifically-green reform of EU economic governance, is reason of concern for many stakeholders. The fitness of the current legislative and economic framework to achieve the goals of the EGD is largely doubted, given the huge investment needed to reach the Commission's targets (SFL, 2022; Bloomfield, 2021; Van den Noord, 2023; Cornago & Springford, 2021). Therefore, a solution is indispensable as soon as possible, before the physical costs of climate change exceed its current transition costs (ECCO, 2023).

Many studies on the issue propose different mechanisms to alleviate fiscal pressure from governments struggling with debt sustainability and, simultaneously, provide leeway to achieve the Commission's green targets. Many argue for the introduction of an expenditure rule, setting a ceiling on government spending to leave fiscal room for other priorities (Thygesen et al., 2020). Others argue in favour of granting preferential treatment to government investment, particularly on climate, thus excluding it from debt calculations (SFL, 2022; Steitz & Baccianti, 2022; ECCO, 2023; Thygesen et al., 2020; Van den Noord, 2023), in line with the definition of the *golden rule for green public investment*.

As defined by Paul van den Noord (2023), a golden investment rule envisions financing public expenditure via taxation, and public investment via debt. He argues that the current SGP reform proposal by the Commission includes similar features: the fact that Member States are allowed to increase their debt levels, extending their debt adjustment period by 3 years, implies a *sustained*, and not *temporary*, increase in their debt levels, allowing for an enlargement of public investment. This happens because, even though, at the end of their extended adjustment period, government put their debt on a "credible" (European Commission, 2023b) downward path, debt consolidation starts from a higher level, thus resulting in a *de facto* increase in debt level (Van den Noord, 2023).

However, many argue that this rule alone is still not be enough. Given the cross-border nature of climate change, a cross-border solution needs to be found (Cornago & Springford, 2021; Heimberger & Lichtenberger, 2023). In fact, Van den Noord (2023) computed the case of coupling the golden rule implied in the SGP review with co-funding from the centre, as many

countries would not be granted an extension on their adjustment period to increase public investment because their deficit would break the 3% threshold. By including the case of an EU common fiscal capacity, he found that many more countries would be granted the extension and successfully mobilise the green public investment needed to meet their requirements (Van den Noord, 2023). To facilitate access to the extension on the adjustment period, others propose an evaluation based on commitments to climate targets rather than to investment, which would avoid the complicated administrative process of assessing the “greenness” of investment plans (Korinek et al., 2023).

Another fundamental issue with the EU fiscal rules regards the SGP 60% debt and 3% deficit reference values. Since their agreement, many have deemed them of arbitrary nature. While the European Commission openly admits that these rules are not based on specific calculations, but they have proven to guarantee fiscal discipline in the past (Pamies, 2023), others have criticised them for the very fact that they do not have economic basis. It is renowned that the 60% debt reference value was set based solely on the simple average of Member States’ debt at the time of writing of the Maastricht Treaty. Conversely, the 3% deficit ceiling, known as the “Maastricht mythical parameter”, is too rigid and too arbitrary, as it was also decided based on very rough calculations (Pasinetti, 1998). It was later found that, by maintaining a 3% deficit and a 5% GDP growth rate, a 60% debt level could be maintained (Tietmeyer, 2005). However, this would mean that 3% should not establish the deficit ceiling, but rather the deficit average (Priewe, 2020). Setting the deficit ceiling at 3% entails a substantial danger, because it intrinsically constricts public investment, fundamental for the achievement of EU priorities, specifically the climate targets. Thus, these rules do not only carry a contractionary bias, but also an anti-evolutionary bias. In fact, they substantially restrict increases in public investment and their inflexible “one-size-fit-all” nature fails to accommodate unforeseen shocks to the Economic and Monetary Union (EMU) (ibid.). Also, deeming a country’s debt *sustainable* only because it respects the 60% threshold ignores that fiscal solvency depends on macroeconomic variables unrelated to the country’s level of debt (Priewe, 2020). Hence, the duplex fallacy of these numerical values found in the literature delineates the discrepancy between the EU fiscal rules and the pressures exerted by the Commission to achieve its priorities.

For these reasons, many propose making the RRF a permanent feature of EU economic governance, with the same conditionality and disbursement criteria, but tailored to Member

States' green investment needs rather than on their macroeconomic outlook (Armingeon et al., 2022). This, if financed by both own EU taxes and own EU debt, would also allow investment into necessary cross-border projects in the form of EU public goods (Priewe, 2022) at a lower interest rate (Cornago & Springford, 2021). Additionally, it would permit a more efficient absorption of future asymmetric shocks and energy price swings in the EU market (Thygesen et al., 2020; Priewe, 2022; Heimberger & Lichtenberger, 2023). By providing a common fiscal capacity for climate investment granting a mix of EU and domestic spending, this "RRF 2.0" (Heimberger & Lichtenberger, 2023) could effectively increase domestic ownership over economic governance, reducing moral hazard and potentially cooling down the political opposition of frugal Member States (Van den Noord, 2023).

Possibly in line with this proposal, the Green Deal Industrial Plan (GDIP), put on the table by the Commission at the start of 2023, contains the first proposal for a permanent fund that potentially has the structural features to scale up green investment. However, once again, the intentions of the European Sovereignty Fund, whose characteristics are still to be decided, is argued to still be incomplete and possibly even harmful (Vardakoulias & Brachet, 2023). In fact, the fund only subsidises industries, thus the supply side of the economy. This focus fails to address the important investment needed by the demand side, such as in public goods, which have little economic return and are not attractive to private investors (ibid.). Furthermore, the GDIP is only a response to Biden's IRA and is therefore not targeted towards accelerating the green transition *per se*. As a result, the proposal for a European Sovereignty Fund is what the EU needs (as also proposed by ECCO, 2023 and SFL, 2022), but its purpose still misses the point, as investment must be better targeted towards essential green projects (ibid.).

Despite Articles 191 to 193 TFEU allowing for fiscal leeway in the name of protection of the environment (Treaty on the Functioning of the European Union, 2012), this debate has been protracted for a very long time. In fact, it is met with great political opposition (Priewe, 2022), as it would require EU Treaty change, and trust among European countries is fundamentally lacking.

As the current discourse on an EU common fiscal capacity predominantly revolves around the issue of unsustainable debts in Southern economies, the discussion has become highly politicised. This is largely a result of the lack of trust among Member States, spurring from the collective experience of multifaceted crises over the past decade (Schuster, 2023). Interestingly, despite articles 191 to 193 TFEU allowing for fiscal flexibility in the name of

environmental protection (Treaty on the Functioning of the European Union, 2012), guaranteeing other Member States' debt is still too political because of explosive debt levels.

Contrarily, there are countries in the EU who do not carry unsustainable debts, such as, for example, Bulgaria. As a result, the latter experiences different kinds of constraints, unrelated to the sustainability of its debt, but which still position it as a viable candidate requiring funding from the centre to effectively achieve the EU climate targets.

Considering the urgency of the green transition and the diverse set of constraints obstructing countries from accessing supplementary funding for their climate finance gaps, it is crucial for the EU to promptly establish a solution that serves the bloc as a whole. It is essential to avoid repeating past failures to reach a common agreement only because of diverging political interests among Member States. By transposing a common fiscal capacity into European law, the EU can address each country's specific constraints, as one-size-fit-all rules are clearly not fit for this purpose.

4. Theoretical framework

The context of the green transition is not the first instance in which the discussion over a common EU fiscal capacity emerged. Co-funding from the centre has been advocated in the context of recovery from past economic crises. Yet, consensus on this matter was never reached because of some Member States' reluctance to guarantee others' debt in the aftermath of these crises, arguably worsened by the alleged mismanagement of government finances by a few Member States (Skouras, 2013). In the context of the Covid-19 pandemic, consensus on the implementation of a transformative instrument such as the RRF was achieved relatively swiftly. This can be attributed to its temporary nature and the intense pressure a large set of countries was exerting given their rising recovery demands (Krotz & Schramm, 2022).

Hence, the RRF is undoubtedly an unprecedented instrument in the history of European integration. Given its innovative features, many raised the question of whether it can be considered the European "Hamiltonian moment" (Watt, 2022), thus comparable to Alexander Hamilton's decision to transfer the American states' debt to the federal government in 1790. However, since its speed of delivery, its size and its temporary nature do not allow for it to have a substantial long-term macroeconomic impact, it is unlikely that it will structurally change the incomplete setup of the EMU (Howarth & Quaglia, 2021).

Consequently, it is argued by many that, despite representing a departure from previous "bandage" crisis measures, the failure to make such an instrument permanent serves as another indication of the EU integration process "failing forward", as enshrined in the homonym post-functional theory of proposed by Jones et al. (2016). According to their doctrine, after every crisis, the EU recurrently fails to address the underlying structural issues inherent to its imperfect original setup, opting instead for piecemeal policies that only offer temporary solutions. Thus, it seems that the only viable route for implementing the necessary reforms to address the looming loopholes in the political structure of the bloc is through intergovernmental dialogue in the event of another crisis (Howarth & Quaglia, 2021).

Yet, other studies go even further and use the RRF experience as an example of this failure. It is inferred that the very allocation of the RRF was not based on the severity of the impact of Covid-19 on national economies, but rather on the pre-existing political and economic imbalances left by the sovereign debt crisis in the EMU, yet again addressing the symptoms

rather than the cause (Armingeon et al., 2022). This confirms the “failing forward” theory, as, once again, the divergent interests between Member States only lead to a minimum common denominator of policy. Consequently, this perpetrates the existence of structural loopholes within the EU economic governance framework, without addressing them effectively (Howarth & Quaglia, 2021).

Hence, the present research employs the “failing forward” theory within the context of the ongoing debate surrounding an EU common fiscal capacity for climate. By examining alternative arguments transcending political interest, this theory can be leveraged to effectively advocate for an additional level of economic integration within the EU. In turn, this would tie the loose ends left by the previous implementation of piecemeal economic policies and guide the EU towards the achievement of its crucial climate targets, ultimately yielding benefits to the entire bloc.

Looking at countries who face constraints other than unsustainable debt levels when being granted additional fiscal room within the framework of the EU fiscal rules reform seems like a valuable exercise, given its potential to offer a novel perspective. According to Van den Noord's (2023) findings on the SGP reform, the implicit inclusion of a prototypical targeted golden rule on debt-financed public investment allows for a *de facto* sustained increase in a country's debt through an extension of the fiscal-structural adjustment period. Nevertheless, the requirement to sustain a deficit below the 3% threshold throughout the extension may impose limitations on the eligibility of countries, even if their debt levels are sufficiently low to prevent them from exceeding the reference value of 60% in the event of a protracted increase in their deficit.

Now, pressures on Member States to take action towards reaching 55% less CO₂ emissions by 2030 (and net climate neutrality by 2050) seem to clash with the restrictions imposed on their fiscal space by the very EU fiscal rules. It appears that some countries would only see their green investment projects approved in the case of co-funding from the centre (Van den Noord, 2023), which, as previously emphasised, carries substantial political weight. Yet, the fact remains that countries identified by the Commission as having low debt sustainability risk are still unable to derive any advantages from the proposed SGP reform. This circumstance raises concerns about the fitness of the reform itself in effectively supporting Member States' achievement of the climate targets established by the Commission itself.

In fact, there are multiple countries that, by not exceeding the 60% debt threshold, potentially have additional fiscal space available. Nonetheless, their deficits fluctuate around the 3% reference value, thus they would not see their green investment plans approved for an extension on their adjustment period (Van den Noord, 2023). As shown in Figure 1, these are Bulgaria, Poland, Romania, Czech Republic, and Estonia.

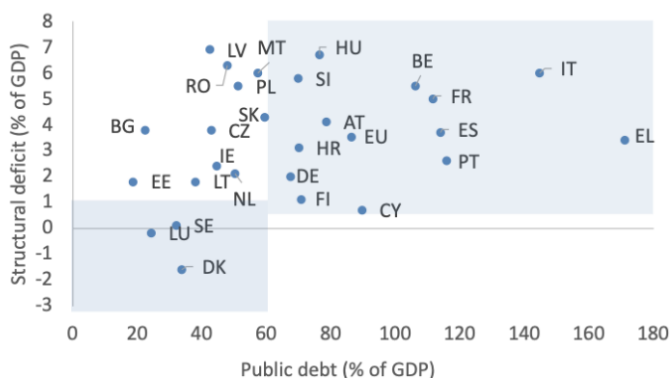


Figure 1: Public debt and structural deficits in 2022. Source: Van den Noord (2023).

Despite all of them having relatively low debt-to-GDP ratios, these Member States display different debt sustainability risks, as assessed by the Commission in their debt sustainability analysis (European Commission, 2023d) depicted in Figure 2.

Commission Debt Sustainability risk classification			
Belgium	High	Lithuania	Low
Bulgaria	Low	Luxembourg	Low
Czech Republic	Medium	Croatia	High
Denmark	Low	Malta	Medium
Germany	Medium	Netherlands	Medium
Estonia	Low	Austria	Medium
Ireland	Low	Poland	Medium
Greece	High	Portugal	High
Spain	High	Romania	Medium
France	High	Slovenia	Medium
Hungary	High	Slovakia	High
Italy	High	Finland	Medium
Cyprus	Medium	Sweden	Low
Latvia	Low		

Note: Commission (2023) analysis

Figure 2: Debt sustainability analysis risk classification over the medium term. Source: Mang & Caddick, 2023, based on European Commission 2023

Out of this set of countries, Bulgaria and Estonia seem to be the only ones with low debt sustainability risk, thus making them fiscally sound in the eyes of the Commission. However, their green public investment potential is still restrained by the 3% deficit requirement. Thus, to circumvent this issue, they might too very well benefit from the option of co-funding from the centre to achieve the common EU climate goals.

Regardless, between the two, Bulgaria seems the most extreme case, as it is the highest polluter on the bloc. With a GDP growth rate of 4.0% as of 2019, compared to the EU average of 1.8% in the same year (OECD, 2022), Bulgaria's

economy, alike to other Eastern European novel Members’, was intensively powered by dirty energy during its communist history, making phasing-out possible, but very complicated (Hatmanu et al., 2022). Figure 3 below, taken from Van den Noord’s study (2023), shows that Bulgaria has the highest green public investment requirements in the EU, due to its unmatched CO₂ emissions levels.

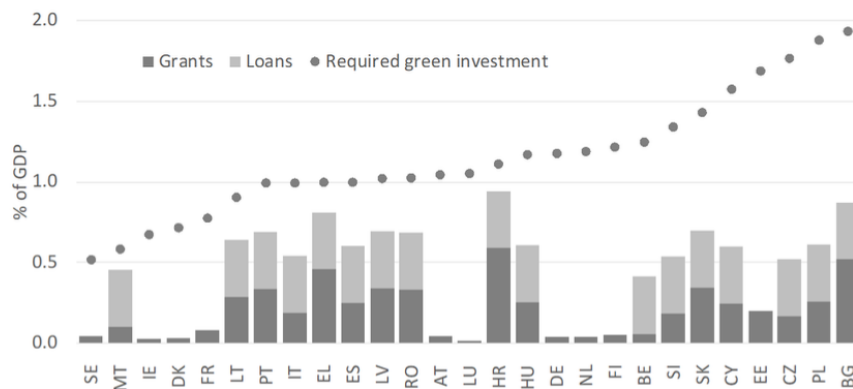


Figure 3: Green public investment requirements per EU country. Source: Van den Noord, 2023. Note: "grants" and "loans" refer to Recovery and Resilience Facility shares assigned to each country. In the present paper, more up-to-date RRF data is employed, thus grey and dark grey bars to be ignored in this representation.

The uniqueness of the Bulgarian case is enhanced by its GDP per capita, the lowest among all EU Member States. With a green finance gap of 1.9% and the lowest GDP per capita, Bulgaria assumes the dual role of being both the highest emitter and the poorest country in the EU, as illustrated in Figure 4. Consequently, it becomes the most likely candidate to, *de facto*, either require additional external funding or be afforded greater leeway in unlocking its unexploited fiscal space as it is the Member State farthest away from reaching the EU climate targets.



Figure 4: Volume of indices of GDP per capita, 2021. Source: Eurostat, 2022.

Given its large green investment need, analysing Bulgaria's capacity to fulfil it by leveraging the fiscal tools at its disposal within the EU budgetary rules seems like an appropriate exercise to test whether it would strictly need an EU common fiscal capacity. This analysis has the potential to determine whether the *emissions levels* argument, as opposed to the more politicised *debt sustainability* argument, can also support the establishment of a central co-funding facility.

Bulgaria's fiscal space is comprised of its fiscal tools, which are examined through the domestic resource mobilisation (DRM) approach, largely employed in the development finance literature. The reliability of this method lies in its ability to evaluate the extent to which developing countries can meet their development goals solely by rearranging their domestic resources. By doing so, it is possible to determine the level of funding that can be secured through domestic resources for a specific development goal, as well as the need for international financing to complement national efforts. While the application of the DRM approach has been limited in the context of international climate finance, a pool of experts has identified DRM as the largest potential source of green investment in the developing world (Bhattacharya et al., 2022; Songwe et al., 2022). Given that Bulgaria is classified as an emerging market (Akitoby et al., 2018) and as a developing country (Compaoré, 2021), it is pertinent to investigate its capacity to mobilise domestic resources towards the achievement of the EU climate goals. For the purposes of this paper, a specific focus on taxation as one of the main components of DRM is employed (Nnadozie et al., 2017).

Therefore, fiscal space is broadly defined as the extent of the budgetary room available to a government which allows it to mobilise domestic resources towards a specific objective (Heller, 2005). Yet, there are varying interpretations of fiscal space, with some adopting a narrower definition based on a country's debt level in relation to the number of fiscal years required to repay that debt (Aizenman & Jinjark, 2010). This measure, known as the *de facto fiscal space*, incorporate tax capacity too, which refers to a country's ability to raise tax revenue (Cheng & Pitterle, 2018). In other words, fiscal capacity is the maximum amount of tax revenue a country can achieve (Fenochietto & Pessino, 2013), making it a suitable measure to operationalize the relationship between Bulgaria's fiscal space and its tax revenue.

Additionally, there are several indicators contributing to variations in tax capacity across countries. Factors such as international trade openness, financial deepening, the share of urban

population, and the level of foreign aid flowing into a country's economy have significant impacts. However, a particularly interesting aspect for the current analysis is the influence of GDP per capita, reflecting a country's level of development, on its capacity to raise revenue (Chigome & Robinson, 2021). This aspect holds relevance considering that Bulgaria exhibits the lowest per capita GDP among EU Member States.

Furthermore, an interesting metric for assessing a country's fiscal space is tax effort, which is the ratio of actual tax revenue relative to tax capacity, thereby quantifying the extent to which a country fulfils its tax capacity (Fenochietto & Pessino, 2013). A similar measure is provided by the tax gap, given by the arithmetic difference between tax capacity and tax revenue. In the present research, this measure is thus preferred as a metric of fiscal space because, instead of indicating the status quo of the tax system, as tax effort does, the tax gap quantifies the exact amount of tax revenue a country needs to raise to meet its tax capacity.

Lastly, the following approach is developed under the assumption of full absorption capacity by Bulgaria of both EU funds and additional tax revenue. Absorption capacity measures the speed at which a country is able to implement the plans agreed upon with the Commission to timely channel the funds received from the EU (Alcidi et al., 2020) and the tax revenue additionally raised. By assuming full absorption capacity, the present study foresees the immediate implementation of the Bulgarian NRRP, through which RRF funds and additional tax revenue are instantly rechannelled into the economy.

The following sections will provide a detailed explanation of how the aforementioned measures and indicators can be practically implemented. This will be demonstrated through the construction of three scenarios, illustrating how Bulgaria can effectively utilize these fiscal tools to align with the climate targets, within the budgetary constraints set by the EU.

5. Methodology

To contribute to the debate on an EU common fiscal capacity apt to the green transition with an argument other than debt sustainability, a quantitative case study is hereby carried out. Selected through the method of most-likely case study to represent a theory (Odell, 2001), Bulgaria is the country of choice, as it is the most likely Member State, among those with low debt sustainability risk, to lack the resources necessary for the achievement of the 55% CO₂ emissions reduction target by 2030. Given its low GDP per capita and elevated emissions levels, Bulgaria seems like the most-likely country to need additional financial help from the centre.

To test this theory, the fiscal space available to Bulgaria is hereby analysed to assess its ability to rearrange its fiscal tools in favour of the green transition. This exercise is carried out in a purely arithmetic fashion, through numerical illustrations of different scenarios in which specific policy tools receive distinct emphasis. This approach is adopted to purely evaluate the fiscal pathways that could be pursued by the Bulgarian government to meet its enormous green investment needs.

To do so, the data employed in this research is taken from the IMF's latest World Economic Outlook, released in April 2023 (IMF, 2023), since it includes projections of useful macroeconomic indicators until 2028. For coherence and homogeneity, the data from Van den Noord (2023), originally retrieved from the European Commission's Directorate General for Economic and Financial Affairs (AMECO), was adapted to the World Economic Outlook data used in this research.

Data on fiscal space is extrapolated from previous literature and adapted as well to the data employed in this research. By bringing together previously unrelated studies, the present research contributes to the literature on the topic with a more comprehensive picture of the fiscal space available to Bulgaria, relatively to the budgetary constraints imposed by the SGP reform.

Accordingly, the latest data available in the literature on Bulgaria's tax capacity and tax effort is found in a study by McNabb et al. (2021), and it is extrapolated for the purposes of this research. The authors calculated tax capacity and tax effort using a production function

approach, instead of the stochastic frontier approach (SFA), used by earlier studies (Fenochietto & Pessino, 2013). McNabb et al. (2021) in fact argue that their results are more conservative than those spurring from the SFA, as they correct for the biases caused by several outliers. These data extrapolated from established literature covers a wide array of countries, thus the test hereby carried out can be largely reproduced. However, the measures for fiscal capacity used hereafter may not be available for all advanced economies, as development finance literature mainly focusses on emerging markets and developing economies.

Moreover, the scenarios carried out to assess the compatibility of Bulgaria's fiscal space with the EU climate targets employ important variables that directly interact with its fiscal room. First of all, the Bulgarian green public investment requirement is a fundamental indicator for the present study. As anticipated in Section 3, collective academic efforts to estimate the EU-wide climate finance gap found that it stands at 2-6% of EU GDP. However, based on its greater predictability and reliability, only the public investment gap is hereby taken into consideration.

Accordingly, the country-specific value for the Bulgarian green public investment requirement is based on Van den Noord's data (2023). In his study, the author uses the EU average value for green public investment requirement of 1.1% of EU GDP per year, which stems from estimations by Steitz & Baccianti (2022). They find a 1.7% EU average green public investment requirement, which Van den Noord (2023) finds to be overshoot by 0.6%, equal to the share of projected carbon tax proceedings. The country-specific green public investment gap is then calculated in a "rather crude way" (Van den Noord, personal communication, 13 March 2023), but still extremely valuable as one of the only existing computational attempts at the time of writing. It is determined as CO₂ emissions per unit of the Member State's GDP relative to the EU average public investment requirement of 1.1%. The relative value for Bulgaria is thus found to be equal to 1.9% of its 2021 GDP.

The only other study available measuring country-specific green public investment gaps is conducted by Claudio Baccianti (2023). As these novel calculations delve deeper into sector-specific green investment needs, the data by Paul van den Noord (2023) are favoured over Baccianti's (2023) dataset. This preference stems from the fact that Van den Noord's computations encapsulate overall green investment requirements across sectors, which enables the present research to avoid controlling for economy-specific factors and maintain its intended simplicity.

A second indicator fundamental for the computation of all the following scenarios is the yearly amount of RRF funds Bulgaria pledged towards the green transition in its NRRP. To correct for the confusion caused by the heterogeneity of the data provided by EU institutions¹, the present research uses the value of EUR 6,267.3 million as the total allocation pledged to Bulgaria (Dobrev & Lilyanova, 2023). In terms of the country's 2021 GDP, as calculated by the European Commission, this amount is equal to 9.23% of GDP. With a minimum requirement of 37% of the funds to be devoted to the green transition, it is reported that Bulgaria pledged 59% of its RRF share towards the achievement of the EU climate targets (European Commission, 2022b), for a total of EUR 3,697.7 million. For the purposes of this research, the amount per year, the so-called Green RRF, is taken into consideration as its average throughout the duration of the RRF (2021-2027), thus equal to EUR 528.24 million per year, amounting to 0.78% of 2021 GDP.

Two additional technicalities are important to point out: firstly, the last RRF disbursement to Bulgaria is set to be distributed at the end of 2026 (Dobrev & Lilyanova, 2023), thus RRF funds received in 2026 is hereby accounted for in 2027 expenditures. Secondly, despite Bulgaria's NRRP needing larger green investment than that provided under the RRF (ibid.), this Member State has not requested any loans yet (European Commission, 2023e). For this reason, it is hereby assumed that, after the Facility dries up in 2027, Bulgaria will not need to pay anything back to the EU.

Lastly, the following scenarios develop across the period of time between 2024 and 2030, assumed to be the fiscal-structural adjustment period as proposed in the SGP reform. The standardly granted adjustment period goes from 2024 to 2027 and an extension is assumed from 2028 to 2030, coinciding with the necessary achievement of the first EU climate target (55% CO₂ emissions reduction).

¹ The reporting on the RRF lacks homogeneity at the EU institutional level. Calculations of the percentages of GDP allocated to countries changes depending on what platform one chooses to consult to find the data. However, the allocated amounts are also differing. For example, the European Parliament states that the amount initially allocated to Bulgaria was EUR 6,267.3 million, but that it was subsequently cut to EUR 5,690 million (Dobrev & Lilyanova, 2023). However, calculations of the share of the allocation devoted by Bulgaria to EU priorities are based on the initial EUR 6,267.3. On top of this, the amount received in terms of GDP varies across sources: the European Parliament states that it is 10.2% of 2019 GDP, while the European Commission says that the RRF allocation is equal to 9.23% of Bulgaria's 2021 GDP (European Commission, 2023a). The heterogeneity of the data chosen by the institutions creates major confusion.

5.1. Empirical approach

The empirical analysis is hereby conducted through the examination of three distinct scenarios incorporating various policy tools. Each scenario is guided by its own underlying rationale and stems from different policy options that Bulgaria could potentially implement. Additionally, all scenarios assume full absorption capacity, meaning that Bulgaria immediately reinvests in the economy the funds received from the EU (Corti et al., 2022), namely the Green RRF, and its additional tax revenue.

The scenarios presented are the following: Scenario 1, the domestic resource mobilisation scenario, compares the tax capacity of Bulgaria to its climate needs, assuming a reform at the national level in case it is found to have enough fiscal space to cover its green gap. In contrast, Scenario 2, the green golden rule for debt-financed green public investment scenario, depicts a reform at the supranational level, with the EU raising the 3% deficit limit, over a limited period of time, for countries meeting certain conditions. Lastly, Scenario 3, the policy mix scenario, explores the possibility of combining the first two policy tools, but without EU intervention.

Scenario 1 employs the notion of domestic resource mobilisation (DRM), the aforementioned concept familiar to the development finance literature. In fact, domestic resources, such as taxes and subsidies, are widely viewed as the first step to ramp up climate finance in emerging and developing countries (Bhattacharya et al., 2022). More specifically, this scenario compares Bulgaria's tax capacity, found in McNabb et al. (2021), to its green investment requirements. This exercise is carried out to evaluate whether the country has unused fiscal space that could, based on purely arithmetic evidence, be unlocked to fully cover its climate costs. Based on the magnitude of Bulgaria's fiscal gap, determined by the difference between its tax capacity and actual tax revenue, the implementation of a national reform is inferred. This reform would involve allocating all the generated resources towards achieving the EU emissions reduction target by 2030.

Moreover, Scenario 2 hypothesises an enlargement of Bulgaria's fiscal space through a supranational reform. Accordingly, an additional clause is assumed to be introduced in the SGP reform in the format of a golden rule for debt-financed green public investment. This entails

the increase of the deficit limit for countries meeting certain requirements from 3% to 5%. The latter value is in line with Priewe (2020), according to whom a 5% deficit would be more compatible with the need for additional public investment and it would still be consistent with a debt level oscillating between 60% and 67%.

Based on the case of Bulgaria, the eligibility conditions would involve displaying low debt levels and high climate investment needs that cannot be met due to their structural primary deficit hovering around the present reference value². This assumption aims to explore Bulgaria's potential to unlock enough debt-financed public investment to bridge its substantial climate finance gap, without relying on co-funding from the centre. Instead, given its peculiar characteristics and unique needs, it assumes an allowance to breach the deficit reference value. If Bulgaria were to achieve this objective, its debt levels would remain below the threshold defined in the debt reference value, even with a temporary increase in the deficit over a specified period. Consequently, after a persistent period of expansion, the deficit would be needed to be realigned to the EU-wide limit, potentially triggering the excessive deficit procedure (EDP), which already envisions a 0.5% annual deficit reduction when a Member State carries a primary deficit above 3% for multiple years (European Commission, 2023c). The inclusion of this clause in the modelling of Scenario 2 is aimed at mitigating the possible opposition of frugal Member States to the insertion of a golden rule for green public investment in the SGP reform.

Finally, Scenario 3 envisions a policy mix of the tools previously explored, as they both carry considerable political weight, which could be mitigated if they were implemented in combination, without EU interference. Thus, Scenario 3 envisions an annual increment in Bulgaria's deficit up to the 3% limit, with the proceedings devolved towards narrowing its green public investment requirements. In the event that a portion of its climate needs remains unfunded, the difference would be covered by a corresponding increase in tax revenue.

² In the proposal for SGP reform, the COM refers to the “headline deficit” as that limited by the 3% threshold, while the “structural primary deficit” is part of the technical information to be provided by the COM compatible with an increase of the headline deficit beyond 3% at the end of the adjustment period. On the other hand, Van den Noord (2023) exclusively looks at structural primary deficit in his calculations. To allow for homogeneity of the results, the data hereby used (including future projections) is defined by the IMF World Economic Outlook as of April 2023 as “primary net lending/borrowing”, which the IMF specifies to be “also referred to as primary balance”.

6. Empirical analysis

The three scenarios this study carries out to assess Bulgaria's capacity to reach a 55% CO₂ emissions reduction by 2030 are hereby presented. As a reminder, a fiscal-structural adjustment period in line with the SGP reform, starting in 2024 and ending in 2030, including an extension, will be assumed in all three representations.

6.1. Scenario 1: domestic resource mobilisation scenario

As previously stated, the notion of DRM spurs from the body of research on development finance. This approach is intended to investigate how developing countries can optimise their fiscal space so that government resources can be redistributed more efficiently and their economies set on the right path towards development. In line with this study's objective, the development goal in question is the achievement of CO₂ emissions reduction targets set in the Commission's Fit-for-55 legislative package. Accordingly, this scenario is an attempt to evaluate whether Bulgaria's unexploited tax capacity has potential to cover its green investment requirements.

The Bulgarian tax capacity is found in McNabb et al. (2021), who report it as a share of 2018 GDP. To adapt their results to the data used in the present research, extrapolated from the IMF World Economic Outlook of April 2023 (IMF, 2023), a manipulation of the data is carried out as follows, using mathematical proportions (see Annex for detailed calculations):

1. McNabb et al. (2021) find two slightly different values for 2019 tax potential (read *capacity*) using two marginally different calculations, thus an average of the two results is computed here, for simplicity, producing a tax capacity equal to 24.43%.
2. The 2019 tax revenue, employed by McNabb et al. (2021) as a percentage of 2018 GDP, is then calculated in EUR³, based on 2018 GDP data reported in the 2019 World Economic Outlook (WEO) (IMF, 2019).

³Converted "GDP, current prices" from USD to EUR using the current exchange rate USD vs EUR = 0.9355 (6 June 2023) . Source: European Central Bank, 2023.

https://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/eurofxref-graph-usd.en.html

3. Then, the currency amount of tax revenue found is compared to the tax revenue reported by McNabb et al. (2021) as a percentage of 2018 GDP to find the currency value they used for 2018 GDP.
4. Thus, the EUR value of tax capacity as found by McNabb et al. (2021) is calculated based on the McNabb et al (2021) EUR value of 2018 GDP found in the previous step.
5. Finally, the tax capacity found by McNabb et al. (2021) is recalculated with the values found with the calculations above to make tax capacity values coherent with WEO data. The produced tax capacity is thus equal to 40.39% in 2019.

This data adaptation exercise was carried out to produce homogenous indicators comparable to the results of later scenarios. The calculations described above are proven to be correct by the fact that the tax effort computed with the found data, i.e., tax revenue relative to tax capacity, is equal to 0.88, the same value reported by McNabb et al. (2021). Given the lack of any later data, this value is hereby assumed to be constant throughout the adjustment period (2024-2030).

Since the Bulgarian yearly climate public finance gap is assumed to be constant year-on-year by Van den Noord (2023), the remaining indicators will be considered in average terms, since slight yearly variations are not likely to substantially change Bulgaria's ability to narrow its green gap every year. Now, the difference between Bulgaria's tax capacity and average government revenue, i.e., its tax gap is equal to 4.98%, indicating that if the country were to raise an additional 4.98% of GDP in taxes, it would exploit its full tax potential. This would also raise its tax effort from 0.88 to 1. In line with the assumption of full absorption capacity, Bulgaria would instantly meet the 1.9% green investment required to decarbonise its economy, even without the help of the share of RRF pledged towards the green transition, equal to 0.78% per year. Table 1 below shows all the variables used in these calculations.

Table 1: Recapitulation of variables and relative values used in the calculations of Bulgaria's potential increase in public investment.

Variable (IMF World Economic Outlook April 2023)	Value
Green investment requirement (per year, in % of GDP) (Van den Noord, 2023)	1.9
Green RRF (employed every year in the period 2021-2027, in % of GDP)	0.78
Average yearly general government revenue (in % of GDP, over the 2021-2030 period)	35.41
Bulgaria's tax capacity (in % of GDP)	40.39
Tax effort (tax revenue/tax capacity)	0.88
Average difference between tax capacity and tax revenue (in % of GDP, over the 2021-2030 period) = additional spending after 2027	4.98
Total possible increase in yearly investment in the period 2021-2027 (RRF + difference between tax capacity and tax revenue) (in % of GDP)	5.76

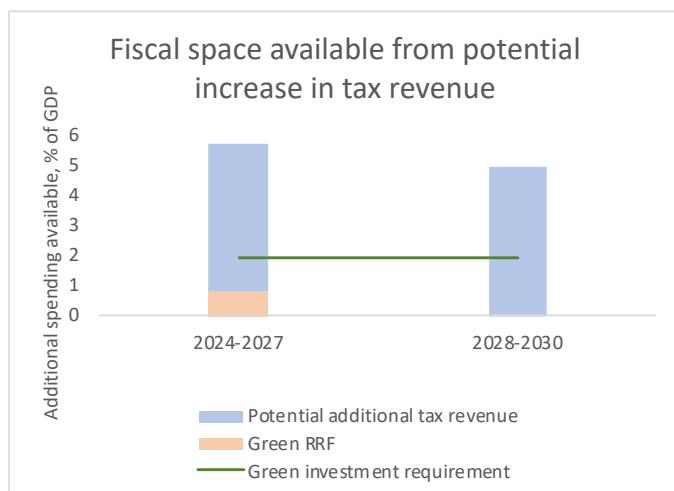


Figure 5: Fiscal space available from potential increase of tax revenue to the full tax capacity of Bulgaria. Source: own calculations.

Additionally, Figure 5 shows a visual representation of Bulgaria's wide ability to finance its 1.9% green investment gap by increasing its tax revenue to its full capacity, both during RRF years and later, throughout its fiscal-structural adjustment period.

It is shown that Bulgaria can potentially mobilise an additional 4.98% of its GDP by raising taxes, for a total of

5.76% of additional green funds in throughout the life of the RRF. This indicates that the

country, through a reform implemented solely through a national effort, has potential to fully cover its 1.9% climate finance gap on its own and hit the 55% emissions reduction target by the end of its adjustment period.

6.2. Scenario 2: golden rule for debt-financed green public investment scenario

This scenario, envisioning a reform at the supranational level, is chosen as an alternative to co-funding from the centre. Instead, it explores the potential of an alternative clause to be added to the Commission's SGP reform proposal.

Paul van den Noord (2023) finds that, without co-funding from the centre, Bulgaria would not be able to access the 3-year extension of their adjustment period, as spending an amount equal to its green investment needs would result in it exceeding the 3% deficit ceiling. Thus, the 3% deficit condition to access the adjustment period not only excludes those countries with urgent investment needs, but also those who *de facto* have available fiscal space. Not being able to access the spare fiscal room resulting from these countries' low debt levels is hereby believed to constitute yet another loophole in the Commission's SGP reform proposal.

Hence, Bulgaria is reasonably considered one of these countries, with a 22% debt-to-GDP ratio and thus, a large fiscal share left unexploited. Therefore, in this scenario, the new deficit ceiling is raised to 5%, which would be granted to all countries meeting specific conditions. They would need to have a debt-to-GDP ratio below 60% as well as a low debt sustainability risk, assessed in the latest debt sustainability analysis carried out by the European Commission. They would then need to display large climate finance gaps, very unlikely to be fully covered solely by mobilising the domestic resources available to them. Lastly, they would need to present plausible investment plans and show that their debt would not exceed the 60% reference value throughout the duration of the adjustment period.

In this case, Bulgaria would meet all the requirements and it would have a total of up to 7 years to increase its deficit beyond the 3% reference value, but below 5%. This would allow it to exploit a larger share of its budget potential by issuing more debt and spend all the proceedings in decarbonising its economy.

This would bring to an increase in debt that, however, would most likely not exceed the 60% threshold, given its currently low debt. Given the simply numerical nature of the present scenario, the said calculation of the increase in debt is left to future research. However, given Bulgaria’s very low debt levels, it seems reasonable to assume that a slight increase in deficit for a brief period of time will not cause its debt to explode above the 60% reference value.

Given the allowance of an increase in deficit beyond the EU-wide reference value, it is assumed that Bulgaria will need to drive its deficit back towards 3% after the end of the adjustment period, to control for the Frugals’ opposition to this clause. Since the SGP reform also includes a review of the EDP, its 0.5% yearly deficit reduction requirement could be applied in the instance of this clause too, to avoid any additional administrative hassles on the Commission’s side.

Thus, as shown in Figure 6, Bulgaria’s climate finance gap is arithmetically added to its primary deficit, while the yearly green share of the RRF is subtracted from it, as it alleviates Bulgaria’s green spending needs throughout its duration. As depicted, the country is able to

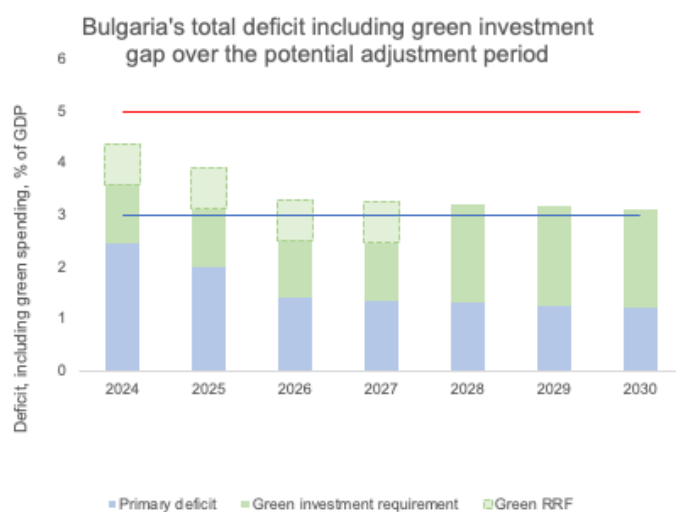


Figure 6: Bulgaria's total deficit compared to a new deficit limit of 5% in line with a golden rule for debt-financed green public investment. Source: own calculations.

cover its green investment requirements within the 3% limit only in 2026 and 2027 and only thanks to the RRF. In the remaining period, it clearly needs a higher deficit limit to fund its green investment needs. After the fiscal-structural plan comes to an end, Bulgaria would only take four years to bring its primary deficit back to the 3% EU-wide reference value if it enacts a 0.5% yearly deficit reduction.

From the computation of this scenario, it is clear that, if added to the SGP reform, such a golden rule would be effective in helping Bulgaria, the poorest country and highest emitter in the EU, cover its green investment requirement, effectively including it in the beneficiaries of this reform.

6.3. Scenario 3: policy mix scenario

This third scenario is envisioned as an alternative to the first two, given the political challenges they both present. A simple, computational formula is hereafter constructed to depict the rough calculations carried out to numerically illustrate the rationale behind this policy mix.

This scenario envisions an increase in debt-financed green investment by as much as needed to reach the 3% deficit limit, with the remaining yearly climate finance gap to be funded by a slight increase in tax revenue. Thus, in an attempt to make the employed approach applicable not only to Bulgaria, but also to other Member States, the formula followed in the calculations is hereby reported.

$$\boxed{\text{Year-specific green investment from taxes}} = \boxed{\text{Year-specific structural primary balance}} - \boxed{\text{Yearly green investment requirement}} + \boxed{\text{RRF}*(0.78)} + \boxed{3}$$

For an effective and unbiased application of this formula, the deficit limit of 3% is taken in its absolute value as, in this case, it is to be interpreted as the *maximum fiscal space available*. Additionally, the RRF indicator is to be intended as a dummy variable. Accordingly, if the year in consideration has RRF funds available, the RRF value is equal to 1. If the year is not an RRF year, the value is equal to 0.

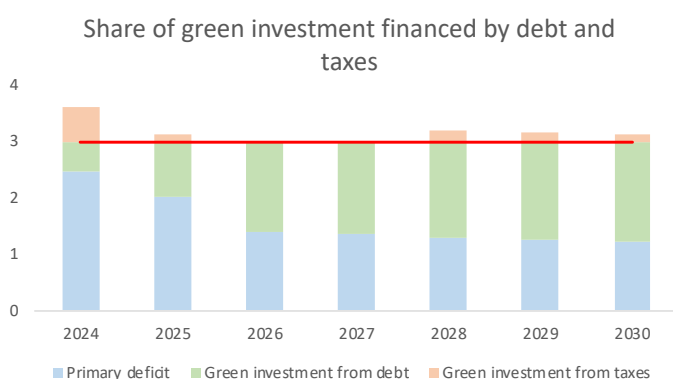


Figure 7: Share of green investment to be financed by debt and taxes in case of a national policy mix. Source: own calculations.

By applying this formula year-by-year to the adjustment period 2024-2030, the results show that the needed increase in tax revenue is null in 2026 and 2027 and very slim in the remaining years, as Figure 7 depicts. This implies that the needed increase can simply be achieved through, for example, a reform aimed at

improving the effectiveness of the Bulgarian tax system, without raising the tax rate. Lastly, the share of Green RRF is not shown in the figure below because, as enshrined in the formula above, it is already included in the calculation for year-specific green investment from taxes.

7. Discussion and limitations

The numerical illustrations conducted in the three scenarios above reveal that Bulgaria has various possibilities to leverage its fiscal tools effectively towards financing its green public investment requirements. This assessment, based on a purely arithmetic examination of Bulgaria's fiscal space, reveals viable options that can facilitate the country's green transition without relying on financial aid from the centre backed by the whole bloc. These findings contradict the theory for which Bulgaria, among countries with low debt sustainability risk, is the most likely case to need an EU common fiscal capacity. Consequently, since Bulgaria does not, in fact, require co-funding from the centre to meet the EU CO₂ emissions reduction targets, the methodological approach operated in the present research aligns with the theory-infirming case study method (Odell, 2001).

However, a question spontaneously arises from the results of this research: if Bulgaria has enough fiscal capacity to cover its large climate finance needs, why is it not unlocking its additional fiscal space? This could be explained by the purely arithmetic nature of the computations carried out in the present research, as they solely show Bulgaria's macroeconomic potential to leverage its fiscal tools. Yet, translating it into practice is much more complex.

Studies have shown that, despite the undeniable value of arithmetic analyses, many more factors ought to be taken into consideration when assessing the capacity of a country to meet certain requirements. For example, the concentration of political influence in a given country is worth considering when analysing its fiscal potential, as it might not have the political capacity to fulfil it (Bolch et al., 2022). Bulgaria is found to score 0.53 on the Political Influence Concentration Index as of 2007 (*ibid.*). If compared to, for example, the Slovak Republic, scoring 0.50 on the same index, Bulgaria has less political capacity to mobilise enough fiscal resources towards narrowing its climate investment gap because of the stronger political opposition to reform.

As a consequence, it is important to acknowledge that fiscal capacity is only a fraction of state capacity. In fact, the latter includes legal capacity, defined as the protection of citizens and private property, as well as public administration capacity, involving the effective use of taxpayer money by the state (Gaspar et al., 2016). This does not invalidate the results produced

by Scenario 1, as tax capacity was employed to effectively operationalise fiscal space, which is the focus of the present research. However, with fiscal capacity being only a share of state capacity, further research is hereby called to evaluate, in a comparable manner, the Bulgarian legal and public administration capacity, to assess the feasibility of the fiscal reforms assumed throughout the scenarios conducted in the present study.

To do so, one point to start from could be not to assume full absorption capacity of tax revenue and EU funds. In fact, it is renowned that EU Member States generally have low absorption capacity (Corti et al., 2022) and often experience large delays in the *de facto* increase in investment after a higher financial inflow (Alcidi & Corti, 2021). Yet, this omission does not reduce the validity of the results hereby produced, as the aim was not to evaluate how long Bulgaria takes to meet the EU green targets after cashing in additional resources, but whether it has the fiscal capacity to raise them by itself.

Furthermore, political considerations were, too, omitted from the calculations and shedding light on the political context might be important to gain a more comprehensive understanding of the constraints facing Bulgaria. In fact, this Member State has suffered from a political crisis throughout the last two years, undergoing no less than five national elections (Nikolov, 2023a). The lack of trust between political parties has for long impeded the arrangement of a coalition government, but in May 2023, an agreement was finally reached. The centre-right party Citizens for European Development of Bulgaria (GERB) and the anti-corruption alliance We Continue the Change and Democratic Bulgaria (PP-DB) formed a grand coalition and settled on alternating two prime ministers, one for each party (Camut, 2023). Yet, the success of the country's green transition solely depends on the political intentions of the incumbent government and on whether the current situation will pose an end to the Bulgarian political crisis.

However, the premises do not bode well. With the Bulgarian economy being highly dependent on coal, coal phaseout has for long been contested. In fact, the coal industry is backed by large political and corporate interest, with coal historically portrayed as a symbol of Bulgaria's independence (Nikolov, 2023b). Additionally, in January 2023, following large protests led by coal miners, the Bulgarian government scrapped their commitment to slash their CO₂ emissions by 40% by 2025, previously agreed with the Commission (Jack, 2023a). This decision entails an incredible risk for the largest emitter on the bloc, as it might lose billions of EU funds to be

received under the RRF (Jack, 2023b). As the country already lost EUR 55 billion under the Just Transition Funds in 2021, which were meant to be employed to support workers during the phaseout of coal, initiative needs to be taken as soon as possible because, one way or another, inaction would lead to a “social catastrophe” (Alexander Zogorov in Jack, 2023b).

Furthermore, according to Transparency International (2023), Bulgaria is the most corrupt country in the EU, which greatly hinders its chances to unlock its unexploited fiscal space and ultimately meet its climate obligations. In fact, corruption is negatively correlated with tax revenue (Fenochietto & Pessino, 2013), thereby augmenting its fiscal gap. However, it is also found that corruption is a technical inefficiency that countries have the ability to modify (ibid.), thus Bulgaria needs to mobilise its resources to address this structural issue.

When Bulgaria and Romania joined the EU in 2007, the European Commission established the Cooperation and Verification Mechanism (CVM) to ease the new Member States’ efforts to reform their judiciary and fight corruption, as well as organised crime in the case of Bulgaria (European Commission, 2007). Despite the positive feedback provided by the Commission throughout the years on the country’s progress in fighting corruption, public opinion in Bulgaria has been largely negative to this regard, expressed through several mass protests (Hadzhieva, 2023). As a testament to this, some argue that the underlying setup of the CVM was not fit for its purpose since its inception. Accordingly, this might be explained by the lack, on the Commission’s side, of both appropriate means and incentives to fully evaluate Bulgaria’s progress on corruption eradication (Vassileva, 2020). In fact, interesting allegations have emerged regarding under-the-counter agreements between Boyko Borissov, the former Bulgarian Prime Minister from GERB, and the European Commission itself (ibid.). Given the inefficiency of EU-led efforts to fight corruption in the country, a light of hope is shed on the topic by the current grand coalition’s pledge to finally implement a constitutional reform and eradicate high-level corruption in Bulgaria (Camut, 2023).

The Bulgarian extremely troubled political context was omitted from the calculations hereby carried out for one simple reason: the EU fiscal rules, and accompanying sanctions, are purely numerical (Pasinetti, 1998). For comparability, the present research conducted a mere arithmetic illustration of Bulgarian fiscal indicators, showing how arbitrary these rules are. Despite the reliability of the results, the omission of political and administrative indicators from

the scenarios may have thus biased the results, providing a reason why Bulgaria is failing to unlock its fiscal space.

Firstly, Scenario 1 demonstrates that a tax reform to increase Bulgaria's tax revenue would raise the country's chances of meeting its climate obligations, but tax reforms are highly political. In fact, their political feasibility depends on a range of indicators, such as the degree of redistribution the reform would entail, the visibility of the taxes implemented and the extent of the influence of business interest on the incumbent (Lakin, 2020). Also, tax reforms increasing the tax rate are strictly dependent on the political cycle: politicians will only adopt them when the electoral cost of doing so is minimal (Berry & Berry, 1992).

Moreover, empirical studies revealed that fiscal reforms are subject to time delays (Krysovatyi et al., 2019). Just like other policy domains, fiscal policy is also affected by a policy lag. The period between a government's recognition of a crisis and the actual realisation of the benefits from the implementation of a fiscal reform can be significant and may extend over several years (ibid.). By postponing the benefits of a tax reform, a fiscal policy lag could augment the Bulgarian yearly climate finance gap, since the longer the lag, the more the unfunded climate investment gap accumulating in the following years. The assumption of full absorption capacity in the present research was made to control for the fiscal policy lag found by the literature, so to expose a clearer picture of the fiscal space available to Bulgaria. Further research ought to calculate the actual absorption capacity and fiscal policy lag detected in the Bulgarian public administration if its purpose is to assess the exact period of time needed for the Member State to reach the EU climate target.

Secondly, Scenario 2 shows that Bulgaria would greatly benefit from a golden rule for debt-financed green public investment. By assuming an increase in the deficit limit to access the extension of its fiscal-structural adjustment period as in the SGP reform proposal, it was illustrated that Bulgaria can successfully increase its public investment as much as needed to cover its climate finance gap within the EU fiscal rules. However, a few considerations need to be addressed.

The increase in the Bulgarian debt level due to the higher deficit is omitted from the present study, as its current debt level is considered low enough to prevent a breach of the 60% limit

after a temporary increase in deficit. However, this calculation would involve variables other than just the deficit increase. One of these is the possible change in the interest rate on the Bulgarian debt, as an increase in the debt level might drive down market confidence in Bulgaria's capacity to service its debt and, thus, inflate the interest demanded by its investors (Gamber & Seliski, 2019). While it is complicated to predict variations in market confidence due to an increase in debt, future research is needed to delineate an approach aimed at finding the optimal maximum deficit level and controlling for market sentiment in case such a golden rule was to be considered in the SGP reform.

Another limitation of Scenario 2 is posed by the 0.5% yearly reduction of deficit after the adjustment period, included in the scenario as an attempt to make this option less contestable by frugal countries. During the adjustment period, the green investment requirements can be met every year because of an increase in the deficit threshold. This is important because Bulgaria can trigger the green transition through one-off, long-term investments, effectively setting its economy on the path towards decarbonisation. Given the reliability of the dataset producing the present results, this would essentially lead to Bulgaria meeting the 55% emissions reduction target by 2030. However, after the end of the adjustment period in 2030, the Bulgarian climate finance gap still remains to be funded every year, as climate neutrality needs to be reached by 2050. Now, after the end of its adjustment period, Bulgaria needs to cut its deficit by 0.5% every year until it reaches 3%, but it would be inefficient to cut spending in green, given the progress made. Despite some long-term, one-off investment being made in the early years, the green transition still needs to be perpetually funded to reach the next targets. Thus, to reduce its deficit every year by 0.5%, Bulgaria would likely resort to cut important spending in other policy areas. This could have very adverse societal consequences, as it is comparable to a return to austerity (ETUC, 2023). It is reported that Bulgaria will already see a cut in spending of EUR 423 million in 2024 in *status quo* conditions. These cuts would probably have to come from essential public services, which would surely be detrimental for the Bulgarian public service sector, already underdeveloped *per se* (Sotiropoulos et al., 2003).

It is also true that in Scenario 2, Bulgaria never reaches the 5% increased threshold, thus it would take less than four years to decrease the deficit level back to the 3% reference value, given the 0.5% yearly requirement. Nevertheless, some spending cuts would still need to be implemented, with large losses in public services. However, it remains valid that the country has the capacity to meet climate targets under a golden rule for green public investment. Yet,

further research needs to investigate an alternative escamotage to mitigate the Frugals' opposition to this rule, excluding the possibility of a yearly 0.5% deficit reduction that would undermine the progress made.

Alternatively, Scenario 3 carried out in this paper has shown that Bulgaria has the fiscal space necessary to finance the green transition without additional help from the centre, but it would all be politically and socially complicated, for two reasons. Firstly, despite the new government's pledge to implement a constitutional reform and fight high-level corruption (Camut, 2023), the increase in tax revenue found to be needed in Scenario 3 strictly depends on the extent to which the incumbent manages to keep its reform promises. Secondly, a prolonged increase in deficit to the 3% reference value does not leave any fiscal space to Bulgaria in case of an economic shock or in case of investment needs arising in other policy areas. Thus, Scenario 3 is the most politically feasible at the supranational level, as it does not involve EU intervention, but it is also met with political challenges at the national level.

The recognition of political and administrative factors possibly altering the effectiveness of the policy tools does not affect the reliability nor validity of the results reached in the present research, as the latter is a simplified attempt to explore the fiscal space at Bulgaria's disposal. Taking into consideration the political and administrative context shows, however, that a Member State's fiscal potential is not fully representative of its state capacity, which is ultimately what influences the effectiveness of fiscal policy. The present research highlights the inconsistency between Bulgaria's available fiscal space and the political feasibility of unlocking it. This contradiction sheds light on a fundamental discrepancy between the Commission's pressures on Member States to invest in its priorities, including the green transition, and the strictness of its fiscal rules. This, in turn, emphasises the paradox of basing a policy area highly dependent on political and administrative constraints on arbitrary numerical values. As a result, separating the EU fiscal rules from considerations regarding the political restraints facing a country's economy is not fit for the EU priorities set for all.

8. Conclusion and policy recommendations

The results provided by the present research underscore the fundamental discrepancy between the EU fiscal rules and the pressures exerted by the European Commission on Member States to meet its priorities. This contradiction is a clear indicator of the arbitrary nature of the 60% and 3% debt and deficit reference values, which shows once again that the EU is failing to address the structural loopholes present in its economic governance framework, in line with the postfunctionalist “failing forward” theory of European integration (Jones et al., 2016).

This research investigated Bulgaria’s fiscal capacity to finance the green transition by reshuffling the fiscal tools at its disposal as a last resort, to ultimately find that it does have the capacity to do so. However, it is not able to access its large fiscal room in the *status quo*, given some restrictions posed by the proposal for a reform of the Stability and Growth Pact. This barrier effectively excludes the EU’s dirtiest economy from benefitting from the additional fiscal leeway intended by the Commission with this reform, clashing with its urgency to meet the upcoming climate targets. While previous studies already established that the country would draw advantages from the SGP reform in case of co-funding from the centre (Van den Noord, 2023), the present research has found that Bulgaria has other potential fiscal pathways available to avoid needing a common EU fiscal capacity.

Yet, it is met with other constraints: Bulgaria is not mobilising its resources enough towards decarbonisation and the reasons behind this are other than fiscal. While, arithmetically, Bulgaria does not need an EU common fiscal facility, it does not have the political capacity to meet important targets on its own. Solely looking at fiscal indicators misses the point of effectively evaluating Member States’ potential to activate the green transition, as governments are polyhedric, with more than just numerical values at play.

By conducting a quantitative analysis of Bulgaria's fiscal space, this study provides a foundation for future research to expand upon and effectively explore the political and administrative challenges that hinder Member States' progress towards decarbonization. Furthermore, by addressing political and administrative factors, the findings of this study hold societal significance by motivating reforms for more equitable judicial and administrative systems in Member States. Lastly, this research contributes to the existing literature by identifying loopholes in the European integration process. It highlights the incompatibility

fiscal rules purely based on numerical values with the priorities of the European Union, which acts as a significant obstacle to their attainment. Accordingly, this research calls for further reforms in the EU's economic governance framework. As a starting point, a few policy recommendations are presented hereafter.

1. EU policymakers need to consider the **political and public administration inefficiencies** facing their Member States. One-size-fits-all numerical values do not reflect the diversity and complexity of the countries on the bloc, especially in the context of the climate crisis. The 60% and 3% reference values are incompatible with the urgency of the climate targets imposed by the European Commission itself and the latter should recognise the political and public administration issues facing countries.
2. Once the previous has been done, the EU needs to step up its efforts to assist countries in addressing the political and public administration inefficiencies. **Upscaling the Cooperation and Verification Mechanism (CVM)** for countries severely affected by high-level corruption, such as Bulgaria, can be a first step in this direction. By doing so, the EU can raise the incentives to address inefficiencies in the government, so that funds can be disbursed and the green transition can be triggered.
3. In the context of the debate on the EU common fiscal capacity, civil society could advocate not only in favour of countries with debt sustainability constraints, but also **in favour of Member States with highly inefficient governments as well as explosive CO₂ emissions levels**. These countries are, in fact, currently incapacitated from exploiting their fiscal tools to their maximum capacity and would bring a great benefit to all if their economies were effectively decarbonised.

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Annex

Data manipulation in Scenario 1, the domestic resource mobilisation scenario

T_c = tax capacity

T_r = tax revenue

Step 1: McNabb et al. (2021) find two slightly different values for 2019 tax potential (read *capacity*) using two marginally different calculations, thus an average of the two results is computed here, for simplicity, producing a tax capacity equal to 24.43%.

McNabb et al. (2021) T_c with method TRE: 24.18% of 2018 GDP

McNabb et al. (2021) T_c with method TREz: 24.67% of 2018 GDP

For simplicity, the average of the two is computed and found to be equal to 24.43% of 2018 GDP.

Step 2: The 2019 tax revenue, employed by McNabb et al. (2021) as a percentage of 2018 GDP, is then calculated in EUR⁴, based on 2018 GDP data reported in the 2019 World Economic Outlook (WEO) (IMF, 2019).

Since T_r in McNabb et al. (2021) is reported as a percentage of 2018 GDP and the EUR value of the latter is not provided in their study, a known EUR value of 2018 GDP is taken from the World Economic Outlook 2018 (IMF, 2018).

Bulgarian 2018 GDP in WEO 2018 = EUR 59.55 billion

Since 2019 T_r is relative to the Bulgarian 2018 GDP in McNabb et al. (2021), the Bulgarian 2019 T_r is taken from the WEO 2019 as a percentage of 2018 GDP, to find the EUR value of the 2019 T_r according to the WEO 2019, as follows.

⁴Converted “GDP, current prices” from USD to EUR using the current exchange rate USD vs EUR = 0.9355 (6 June 2023) . Source: European Central Bank, 2023.

https://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/eurofxref-graph-usd.en.html

Bulgarian WEO 2019 T_r in terms of WEO 2018 GDP = 35.05%

$$\text{WEO 2019 } T_{r(\text{EUR})} = \frac{35.05 * 59.55}{100} = \text{EUR 20.87 billion}$$

Step 3: Then, the currency amount of tax revenue found is compared to the tax revenue reported by McNabb et al. (2021) as a percentage of 2018 GDP to find the currency value they used for 2018 GDP.

Since the 2019 T_r from WEO 2019 has now been found in EUR value, it can be used to find the EUR value of 2018 GDP as used by McNabb et al. (2021), based on the T_r percentage of 2018 GDP they report in their study, as follows.

Bulgarian 2018 T_r in McNabb et al. (2021) = 21.20% of 2018 GDP

$$\text{McNabb et al. (2021) 2018 GDP}_{(\text{EUR})} = \frac{20.87 * 100}{21.20} = \text{EUR 98.44 billion}$$

Step 4: Thus, the EUR value of tax capacity as found by McNabb et al. (2021) is calculated based on the McNabb et al (2021) EUR value of 2018 GDP found in the previous step.

(average) T_c in McNabb et al. (2021) = 24.43% of 2018 GDP

$$\text{McNabb et al. (2021) 2019 } T_{c(\text{EUR})} = \frac{24.43 * 98.44}{100} = \text{EUR 24.05 billion}$$

Step 5: Finally, the tax capacity found by McNabb et al. (2021) is recalculated with the values found with the calculations above to make tax capacity values coherent with WEO data. The produced tax capacity is thus equal to 40.39% in 2019.

To find the tax capacity coherent with WEO 2019 data, the Bulgarian WEO 2019 GDP is used, as follows.

$$T_{c(\% \text{WEO2019GDP})} = \frac{24.05 * 100}{59.55} = 40.39\% \text{ of WEO 2019 GDP}$$

The calculations described above are proven to be correct by the fact that the tax effort computed with the found data, i.e., tax revenue relative to tax capacity, is equal to 0.88, the same value reported by McNabb et al. (2021).

$$\text{Tax effort} = \frac{\text{tax revenue}}{\text{tax capacity}} = \frac{21.20}{24.43} = \frac{30.05}{40.39} = 0.88$$