Updating the EU's fiscal rules

How improving the EU's potential output methodology can mitigate the risk of deepening recessions

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How improving the EU's potential output methodology can mitigate the risk of deepening recessions

Executive Summary

Both the COVID crisis and the implications of the war in the Ukraine for the European economy have highlighted the need for countercyclical fiscal policy that enables the public sector to spend more in recessions and save up in boom periods for the next recession. This allows governments to cushion the negative economic effects of crises without drifting into austerity. While the EU fiscal framework includes a structural budget balance rule that is supposed to trigger countercyclical fiscal policy by EU Member States, the commonly agreed output gap methodology underlying this rule often prevents sufficient spending in recessions. This methodology not only includes certain components that limit countercyclical fiscal policy in the first place but is also subject to frequent procyclical ex-post revisions. To address these issues, two potential approaches which are discussed in recent policy debates are analysed.

First, the structural budget balance rule and its underlying output gap methodology could be replaced with an expenditure rule with an underlying potential output growth methodology. While both methodologies build on the same concept of potential output, the latter methodology uses a medium-term average growth rate of the potential output. The multi-year average creates the possibility to smooth out the procyclical tendencies that arise from the output gap methodology. Depending on the concrete design of that rule, it can also create more fiscal flexibility for Member States.

Second, the commonly agreed output gap methodology as used by the Output Gap Working Group (Blondeau et al., 2021) could be amended by applying technical improvements to the different components of the methodology, such as the budgetary semi-elasticity, the non-accelerating wage inflation rate of unemployment (NAWRU), or the trend participation rate. Technical improvements to those components can mitigate procyclicality, both in the initial estimations and in the revisions. They would also permanently increase potential output, which would create more fiscal space for EU Member States in general. However, the quality of public expenditure, i.e., what the increased fiscal space would be used for, would not be considered. Moreover, it is crucial to consider the heterogenous effects that the technical improvements would have on different Member States. Some of these improvements could increase the fiscal space of some Member States enormously while granting other Member States only negligible fiscal space.

Introduction

Both the COVID crisis and the implications of the war in the Ukraine for the European economy have highlighted the need not just for good economic policy but also for sufficient fiscal flexibility to enable the required economic stabilisation in recessions. These crises have shown that the public sector needs leeway for expansionary fiscal policy in recessions, be it by supporting 'healthy' businesses after the sudden demand shock in the COVID crisis or by protecting vulnerable households from rising energy costs caused by supply shocks. To enable this, fiscal policy needs to be designed countercyclically, i.e., allowing for higher government spending and lower government revenues in recessions and compensating this with lower spending and higher revenues in a boom. Without countercyclical fiscal policy, there is a threat that the higher public expenditure needed for addressing the consequences of a crisis or a recession require fiscal consolidation in other parts of the government's budget, which could lead to austerity, for example by cutting social spending.

That is why the EU's Stability and Growth Pact (SGP), the central part of the EU fiscal framework, includes a structural budget balance rule which is supposed to encourage countercyclical fiscal policy. In practice, however, the structural budget balance rule is often subject to procyclical estimations that counteract the SGP's ambition of allowing for countercyclical fiscal policy.

There are different approaches to address this problem. On the one hand, the structural budget balance rule could be replaced by an expenditure rule. Consequently, the output gap methodology underlying the structural budget balance rule would be replaced with a potential output growth methodology underlying the expenditure rule. On the other hand, technical improvements could be made to the commonly agreed output gap methodology which underlies the structural budget balance rule.

In reference to the former option, this study first presents and compares the output gap methodology and the potential output growth methodology and assesses to which extent they enable countercyclical fiscal policy. In reference to the latter option, the study then presents technical improvements for improving the output gap methodology.

The potential output growth methodology as an alternative to the output gap methodology

Considering the huge public investment needs for the green and just transition[i], fiscal policy plays a crucial role in enabling the provision of these public investments. To sustain the required public investments over the next years and decades, the cyclicality of fiscal policy, i.e., the behaviour of government budgets over the course of the business cycle, is an important aspect. Fiscal policy can be countercyclical (budget deficits are larger in recessions than in booms, e.g., because a government spends more money and has lower revenues), a-cyclical (budget deficits remain constant over the course of the business cycle), or procyclical (budget deficits are larger in booms than in recessions). While some procyclicality might be desirable to support structural adjustment processes in the economy[ii], the highly important stabilisation of the economy over the course of the business cycle is only achieved by countercyclical fiscal policy. In a recession, larger budget deficits through increasing public expenditure and decreasing public revenues stimulate the economy and bring it back on track.[iii] In booms, increased public revenues and lower public expenditure avoid an overheating of the economy and generate budget surpluses that neutralise previous and future budget deficits from recessions.

Automatic stabilisers are of high importance for this mechanism. Automatic stabilisers are any government policies that automatically adjust the government's expenditure (e.g., transfer payments) and revenues (e.g., tax revenues) countercyclically. They are automatic because they are triggered without government action. Examples of automatic stabilisers include unemployment insurances on the expenditure side and income taxes on the revenue side. In a recession (boom), government expenditure automatically increases (decreases) through increased (decreased) unemployment insurance expenditure and revenues automatically decrease (increase) through lower (higher) income tax revenues. These automatic changes in government expenditure and revenues can help stabilising the economy over the course of the business cycle.

The EU fiscal framework initially only referred to nominal values for deficit and debt and thus did not encourage countercyclical fiscal policy. To overcome this issue, the structural budget balance rule which only limits the structural but not the cyclical government deficit was adopted in the early 2010s. In practice, however, the structural budget balance rule does not induce countercyclical fiscal policy to the extent it should. Recent research has shown that fiscal policy has actually been procyclical (Gootjes & de Haan, 2022). Against this backdrop, a critical assessment of the output gap methodology that underlies the structural budget balance rule and a discussion of potential improvements is essential.

This chapter presents the output gap methodology as used in the structural budget balance rule and the potential output growth methodology as it could be used in an expenditure rule. It further compares the two methodologies and explains why the structural budget balance rule is not sufficiently countercyclical in practice and how an expenditure rule could solve this issue.

[i] The European Commission estimates the additional annual investment needs to achieve the objective of the European Green Deal to be €520 billion (European Commission, 2022).

[ii] The different periods of the business cycles can lead to desirable structural adjustments of the factors of production, e.g., resulting in higher productivity. By slightly extending the business cycle periods, some procyclicality of fiscal policy can secure sufficient time for this adjustment process.

[iii] For example, during the lockdowns in the COVID pandemic, governments supported businesses with public money.

The methodologies

Following the idea of countercyclical fiscal stabilisation, the SGP entails an a-cyclical deficit rule[iv] and a structural budget balance rule which is supposed to encourage countercyclical fiscal policy. In theory, the idea goes as follows. A structural budget balance is calculated which represents the part of the nominal budget balance that is structural in the sense that it is independent of the business cycle. Automatic stabilisers as well as temporary and one-off measures are considered non-structural and are therefore excluded from the structural budget balance. Thus, the structural budget balance rule only restricts the part of the budget balance which is structural, i.e., independent of the business cycle and not the part of the budget balance which is dependent on the business cycle. Consequently, the non-structural part of the budget balance can operate freely in a countercyclical manner, e.g., higher automatic stabilisers in a recession than in a boom. The only limitation for this is the ceiling of 3% of GDP of nominal budget deficit as specified by the deficit rule. Since this rule does not differentiate between the structural and the non-structural deficit, budget deficits can never exceed 3% of GDP, irrespective of how much of the deficit is structural. However, this still grants Member States considerable fiscal flexibility. Assuming that a Member State has a structural budget deficit of 0.5% of GDP, automatic stabilisers of up to 2.5% of GDP are enabled without breaching the 3% deficit rule[v] (Claeys et al., 2016).

The structural budget balance is calculated by deducting from the nominal balance the cyclical component as well as temporary and one-off measures. Temporary and one-off measures can refer to both public revenues and public expenditure. An example of the former is the revenue stream from privatisation and an example of the latter is expenditure for bank bailouts. The cyclical component is calculated as the product of output gap and budgetary semi-elasticity. The latter measures the sensitivity of the budget balance to the economic cycle[vi]. The output gap is simply the difference between actual output and potential output. Potential output is the medium-to-long-term estimated level of sustainable real output in the economy (ECB, 2011). It is calculated using a Cobb-Douglas Function:

$$Y = L^{\alpha} \times K^{1-\alpha} \times TFP$$

with L being the potential labour supply, K being the potential capital stock and TFP being the total factor productivity. L is estimated as the product of trend working hours and potential employment, with the latter being the labour force corrected for the structural unemployment rate, the non-accelerating wage inflation rate of unemployment (NAWRU)[vii]. The NAWRU is the estimated lowest possible unemployment rate at which wage inflation does not accelerate. K is estimated as the previous capital stock corrected for depreciation and investment. TFP consists of the utilisation of factor inputs and their technological level and is calculated using a Bivariate Kalman Filter Model (Havik et al., 2014).

The potential output of each Member State is calculated twice a year by the European Commission, in the spring forecast and in the autumn forecast. In addition, potential output is not only calculated for the current year but also for past years as well as five years into the future (Blondeau et al., 2021).

To sum up, the European Commission regularly estimates the output gap for each EU Member State by deducting from the actual output the calculated potential output. Multiplying the output gap with the budgetary semi-elasticity yields the cyclical component, which, together with temporary and one-off measures, expresses which part of the government budget balance is non-structural, leaving the rest

[iv] Budget deficits cannot exceed 3% of GDP, irrespective of the business cycle.
[v] 0.5% structural budget deficit and 2.5% non-structural budget deficit add up to 3% nominal deficit.
[vi] See chapter “Technical improvements” for further elaboration.
[vii] Not to be confused with the NAIRU (non-accelerating inflation rate of unemployment) which describes the unemployment rate at a constant inflation rate in the long-term.

as the structural budget balance. This structural budget is referred to by the Medium-Term Budgetary Objectives which form a crucial part of the SGP. Figure 1 illustrates the entire methodology.

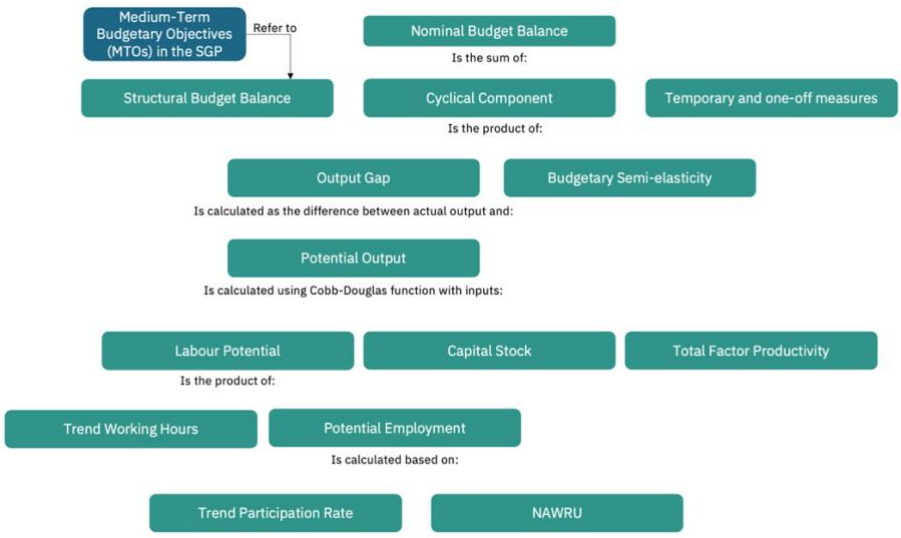

Figure 1: Estimation methodology of the structural budget balance rule in the SGP

However, there is another part of the SGP that is based on potential output estimations. The expenditure benchmark limits the net growth-rate of government spending to a country's potential output growth rate. For any given year T, this potential output growth rate is estimated as the average of the potential output growth rates from T-5 to T+4. Using a basic model of a business cycle, Figure 2 illustrates the difference between the output gap and potential output growth. The actual output fluctuates over time, i.e., over the course of the business cycle. The potential output as the long-term potential level of GDP represents the long-term average of GDP when smoothing out the fluctuations. It grows at a constant rate, which marks the potential output growth. The output gap is the difference between actual and potential output.

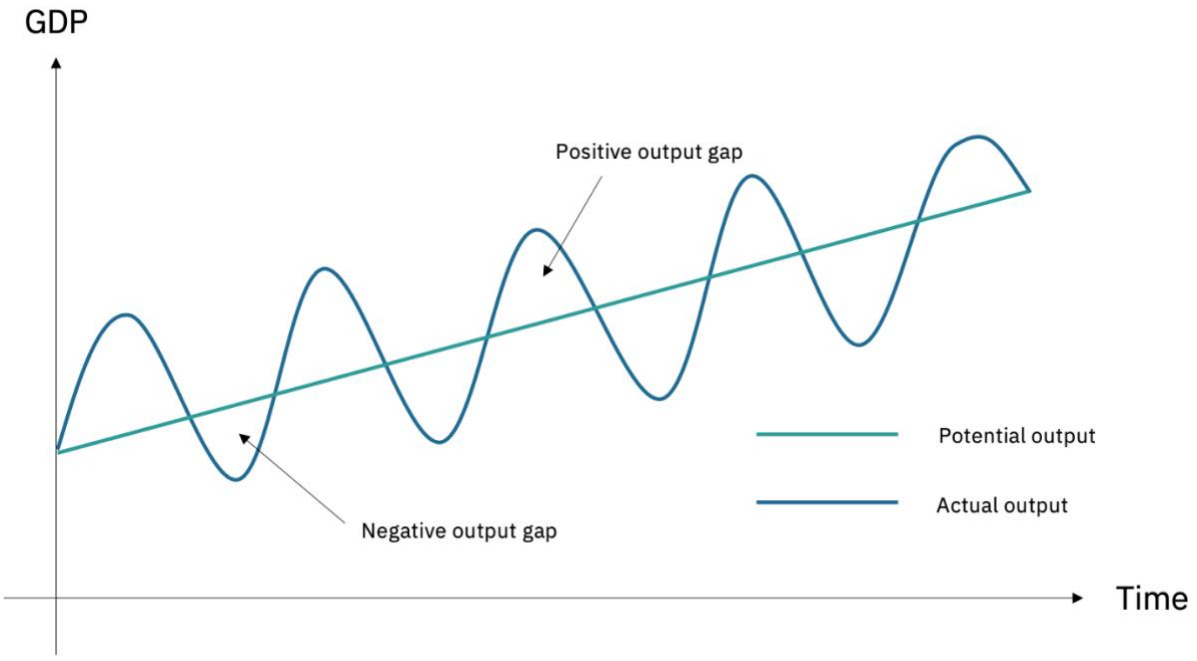

Figure 2: Theoretical model of the business cycle

In contrast to the structural budget balance rule, the expenditure benchmark uses potential output growth as a benchmark for government expenditure growth instead of using the output gap for assessing the structural budget deficit. Building on this, many reform proposals for the SGP call for an expenditure rule based on a potential output growth methodology as a central instrument (Bénassy-Quéré et al., 2018; Christofzik et al., 2018; Claeys et al., 2016; Darvas et al., 2018; European Fiscal Board, 2018). The rationale of replacing the structural budget balance rule with the expenditure rule is not only securing countercyclicality but also accounting for the fact that expenditure is directly controllable by the government whereas the structural budget balance is not. Because the structural budget balance depends on automatic stabilisers which fluctuate over the course of the business cycle, a government cannot directly control the structural budget balance but only the discretionary government expenditure. The potential output growth is not necessarily the only benchmark that can be used for an expenditure rule, but can also be complemented by inflation targets or debt correction targets (Claeys et al., 2016) or replaced by alternative indicators (Bertram et al., 2022). However, it certainly represents a popular alternative to the output gap methodology used in the structural budget balance rule. The next section will evaluate and compare both methodologies.

Critical assessment

To assess whether replacing the structural budget balance rule with an expenditure rule based on potential output growth estimations would improve the fiscal framework of the EU, this chapter compares and assesses the underlying methodologies. A critical assessment must consider the different aspects that a good benchmark for fiscal rules should have.

First, it should avoid procyclical fiscal policy and should incentivise countercyclical fiscal policy instead. Research has demonstrated that procyclical fiscal tightening has negative growth effects (Blanchard & Leigh, 2013; Jordà & Taylor, 2016). It can also lead to hysteresis effects, i.e., procyclical fiscal tightening can reduce the growth potential and thereby hamper the compliance with fiscal rules (Darvas & Anderson, 2020; Fatás & Summers, 2016). Cyclicality is therefore an important aspect to consider when assessing the benchmarks.

Of similar importance is the aspect of revisions. With the output gap being the difference between actual and potential output, revisions to the output gap can come from both revisions to the actual output and revisions to the potential output. Actual output revisions occur when the GDP deviates from its projections. While projections of GDP can be compared ex-post with the level of GDP that emerges, potential output estimations are always unobservable. Nonetheless, the estimated level of potential output is often revised afterwards as estimations are updated. For instance, the estimated potential output for the year t+2 as estimated in year t could be revised in t+1 or even in t+2 as new data becomes available. Those revisions are problematic because they deprive policymakers of reliability in the budget planning process. Since government budgets must comply with the structural budget balance rule, estimates of the output gap are needed in the budget planning process. If these estimates are revised afterwards, the structural budget balance rule is affected even without a change in the budget policy. Thus, revisions hamper the budget planning process. Another problem with revisions is that they can be procyclical. For instance, a downward revision of potential output in a downturn of the business cycle decreases the output gap and hence fiscal space. Such revisions reinforce procyclicality in the fiscal rules. Procyclical rules become even more procyclical; countercyclical rules become less countercyclical. The importance of this issue is further stressed by the fact that the European Commission has already introduced a ‘constrained judgement’ approach in 2016 which permits, under certain circumstances, overriding the results of the output gap calculation (Sigl-Glöckner et al.,

2021).To compare the output gap methodology and the potential output growth methodology, it is therefore crucial to assess both the magnitude and the direction of revisions.

Another important aspect is the fiscal flexibility[viii] that the underlying fiscal rules would generate. While fiscal flexibility should not come at the expense of endangering the sustainability of public finances over the medium term, it is crucial for good economic policy that allows the public sector to provide the necessary public funding during crises, or more generally, during recessions. An expenditure rule with a potential output growth benchmark might generate less or more fiscal flexibility than the currently used structural budget balance rule which is based on the output gap. However, as there are various versions of expenditure rules[ix], an undifferentiated comparison between the two rules in terms of the fiscal flexibility they generate is not possible. A consideration of all the different versions of expenditure rules would be required. In general, the fiscal flexibility generated by an expenditure rule is larger if it does not involve a debt reduction pathway, if it is complemented by a green golden rule, and if automatic stabilisers are not considered and can thus operate freely. Due to these decisive determinants, a comparison between the structural budget balance rule and the expenditure rule in terms of fiscal flexibility would require analysing different scenarios. Thus, in the following section, the output gap methodology and the potential output growth methodology are assessed in terms of countercyclicality and the impact of revisions.

Countercyclicality

Countercyclicality in both the output gap methodology and in the potential output growth methodology arises from the estimation of potential output. A major reason for this is the path-dependency of the NAWRU estimates that are used in the estimation of potential output. The NAWRU is estimated using a Kalman filter approach which separates the unemployment rate into a trend component and a structural component. The latter is used as the NAWRU and is often procyclical, i.e., the NAWRU tends to be lower in booms than in recessions. This is due to the so-called 'endpoint bias': the Kalman filter model assigns higher importance to the most recent data. Since these data fluctuate over the business cycle, the NAWRU estimation itself is dependent on the business cycle and hence procyclical (Heimberger & Kapeller, 2017). Additionally, Gechert et al. (2016) have shown that the NAWRU also depends on actual unemployment because the estimation of the NAWRU is sensitive to recent cyclical developments of actual unemployment. This further increases the procyclicality of the potential output estimation as higher (lower) unemployment in a recession (boom) increases (decreases) the NAWRU, which decreases (increases) the output gap and hence fiscal space.

In principle, both the output gap methodology and the potential output growth methodology rely on potential output estimates and are therefore both subject to the outlined weaknesses. However, as potential output growth as a benchmark for the expenditure rule would be used as an average over many years, procyclical fluctuations would be smoothed out better than in the output gap benchmark used in the structural budget balance rule (Darvas & Anderson, 2020). For example, a 10-year average of potential output growth could constitute the benchmark of an expenditure rule. Net government expenditure growth would have to be aligned with the 10-year potential output growth. Using such a 10-year average would yield a lower procyclical bias than using an annual output gap estimate as in the structural budget balance rule. If procyclicality in potential output estimation results in estimates of

[viii] While cyclicality refers to the behaviour of fiscal policy over the business cycle independent of the total fiscal leeway available, fiscal flexibility refers to this total fiscal leeway, i.e., fiscal flexibility refers to the overall fiscal leeway while cyclicality only refers to how the overall fiscal leeway is distributed over the course of the business cycle.

[ix] An expenditure rule could, for example, include or exclude automatic stabilizers, a debt reduction pathway and/or a green golden rule.

potential output that are too high in a boom and too low in a recession, a 10-year average of these estimates would neutralize this bias to some extent. As a result, the average potential output growth benchmark would be less cyclical than the non-averaged output gap estimates.

Revisions

Revisions of potential output can occur for different reasons. They occur when the European Commission modifies the estimation methodology as in 2002, 2004, 2010, 2013 and 2016. This obviously results in revisions to the potential output estimations (Sigl-Glöckner et al., 2021).

A more regularly occurring reason for revisions of potential output is a change in the data used as input to the estimation methodology. Because potential output and consequently the output gap are not observable, they rely on estimations based on the methodology presented above. These estimations are often subject to revisions when forecasted data used in the estimation turns out to be wrong retrospectively as new data becomes available. A change in any of the inputs to the Cobb-Douglas Production Function presented above results in a change in the estimated potential output. For instance, a change in the NAWRU would affect the amount of labour and would thereby revise the estimated potential output.

Ademmer et al. (2019) have shown that the problem of revisions in estimating potential output does not occur exclusively in the estimations of the European Commission but also in the estimations of the OECD and the IMF. However, due to the implications of revisions outlined above, they are still highly problematic.

Figure 3 shows the average absolute revision of the change in structural budget balance from the year preceding the estimation to the year of the estimation in GDP percentage for different country groups. Although this figure does not reveal whether the revisions result from revised actual output estimations or revised potential output estimations, it is striking that the average revisions have almost always been higher than 0.5% and often higher than 1%. Considering that the required annual baseline adjustment of the MTOs is 0.5% (European Commission, n.d.), the revisions to the indicator that the MTOs rely on (structural budget balance) are often much higher than this required baseline adjustment itself (Darvas et al., 2018).

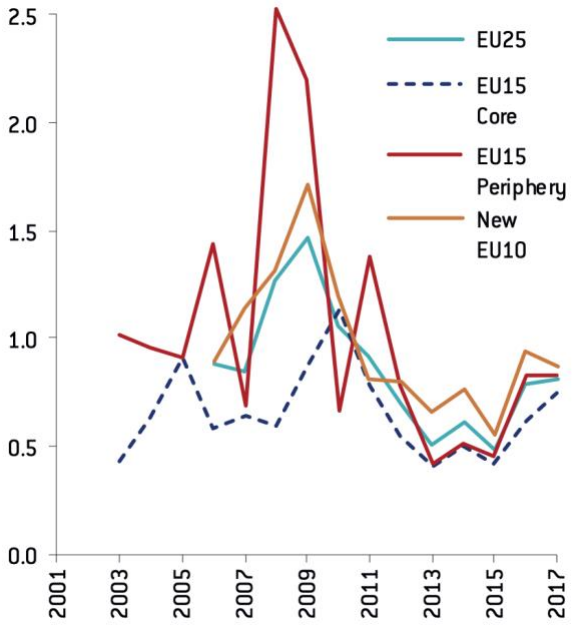

Figure 3: Average absolute revision of the change in structural budget balance from the year preceding the estimation to the year of the estimation, % GDP (Source: (Darvas et al., 2018))

Figure 3 and Ademmer et al. (2019) also demonstrate that revisions are very pronounced in recessions and the adjacent years, when forecasts are subject to great uncertainty.

As in the case of the countercyclicality aspect, both the output gap methodology and the potential output growth methodology rely on the same potential output estimations which are subject to the discussed revisions. However, by using a multi-year average, the potential output growth methodology again manages to smooth out some of the effects of the revisions. In an additional advantage unique to the revision aspect of the potential output growth methodology, revisions tend to be large for the near future but low for the border values of the timeframe that is used for calculating the average (Darvas & Anderson, 2020). Thus, calculating the average over a timeframe for which only some values are subject to major revisions reduces the overall magnitude of revisions. Confirming this theory, Claeys et al., (2016) and Darvas & Anderson (2020) provide evidence that the revisions of the structural budget balance estimates have been much higher than revisions of the medium-term potential growth rate in the past.

While the previous section has shown that using potential output growth as a benchmark in an expenditure rule would mitigate some of the discussed problems, the expenditure rule is still based on the same potential output methodology as the structural budget balance rule. Both the procyclicality of the estimations and their revisions depict serious weaknesses of the methodology of potential output estimations that need to be addressed. The following section presents some technical improvements to the potential output methodology.

Technical improvements

As the previous section has shown, the output gap methodology has some severe weaknesses in terms of procyclicality and proneness to revisions. Although the expenditure rule with its average potential output growth benchmark can mitigate these weaknesses by smoothing out fluctuations, it still relies on the same potential output methodology. There is considerable criticism of this potential output methodology in the literature (Bruegel & Efstathiou, 2019; Tooze, 2019)[x]. The authors argue that the potential output methodology used by the European Commission structurally underestimates the potential output of some Member States, which therefore face restricted fiscal flexibility, limiting their capabilities to increase potential output. A team from the European Commission has addressed this criticism (Buti et al., 2019) by arguing that potential output is determined by structural factors (e.g., trend productivity growth) and cannot be increased by fiscal policy. While it is certainly correct that government spending doesn't necessarily lead to increased potential output, good government spending can indeed influence potential output. Trend productivity growth can for instance be influenced by building better universities and schools (Chansarn, 2010; Marozau et al., 2021). Not only that, but some peripheral European countries also need increased spending capabilities to support the growth of their industrial production base. Without that they face serious difficulties in developing their economies (Gräbner & Hafele, 2020; Heimberger, 2020). Therefore, the very low estimation of potential output in some European economies can create a lock-in situation in which low potential output leads to low fiscal space, which restricts the leeway for good industrial policy, which in turn prevents an increase in potential output.

Thus, fixing the potential output methodology and avoiding a structural underestimation of potential output is of high importance. This bears the potential for a general increase in Member States' fiscal space. By amending the values that are used as an input for the methodology, the final estimate of potential output changes. Through the functioning of the fiscal framework described above, an increased potential output would lead to increased fiscal space. As the following chapter shows, this

[x] There is even a campaign called 'Campaign against Output Gap Nonsense' (CANOO).

can also mitigate procyclicality and reduce proneness to revisions. The reduced procyclicality then also reduces the risks of hysteresis effects.

Such technical improvements are also politically more feasible than more comprehensive reforms. The competencies for designing the commonly agreed output gap and potential output methodology lie within the Output Gap Working Group (OGWG), which consists of two representatives of each Member State. Although decisions about changes in the methodology must be initiated by the European Commission and still require unanimity among Member States in the ECOFIN Council, such technical adjustments are more likely to be consensual than more politically polarising proposals. Moreover, these adjustments do not require changes to the legal basis of the SGP[xi].

While most studies which address the underlying problems of the output gap methodology argue for a complete overhaul of the preventive arm of the SGP, i.e., a reform on the limits of public expenditure (Claeys et al., 2016; Darvas et al., 2018; European Fiscal Board, 2018), there are few proposals that focus on changes in the given inputs to estimate the structural budget balance of a Member State.

The following section mainly builds on the proposal by Sigl-Glöckner et al. (2021), which was developed for a reform of the German fiscal framework. However, since the potential output methodology used in the German fiscal framework strongly resembles its EU counterpart, the following section gives an overview of those proposals which could be applied to the EU fiscal framework. For each component that bears the potential for improvement, a brief overview of the concepts behind the component, as well as respective fixes to them, are given.

Adjusting the budgetary semi-elasticity methodology

The budgetary semi-elasticity is a key parameter in estimating the structural budget balance of a Member State. As Figure 1 has shown, it is not part of the potential output methodology, but is used to translate the output gap that results from the potential output estimation into the structural budget balance. In contrast to the following technical improvements, this improvement is therefore only relevant for the structural budget balance rule and not for an expenditure rule which, as explained above, does not rely on the estimation of a budgetary semi-elasticity.

The intuition behind the budgetary semi-elasticity is to measure the effect of a change in GDP on the government's budget balance. A higher (lower) GDP leads to higher (lower) government revenues (e.g., through taxes) and lower (higher) government expenditure (e.g., unemployment insurance). Thus, a higher (lower) GDP has a positive (negative) effect on the government budget balance. The budgetary semi-elasticity measures the magnitude of this effect. For instance, with a budgetary semi-elasticity of 0.2, a GDP increase of 1% increases the budget balance by 0.2% of GDP. This budgetary semi-elasticity is multiplied by the estimated output gap to determine the cyclical component, which is the non-structural part of the budget balance (see Figure 1). The rationale behind this idea is that with a negative output gap of, for instance 10€, it can be expected that with a budgetary semi-elasticity of, for instance 0.2, the budget balance would be 2€ higher if the output gap was closed (because of, for example, higher tax revenues and lower unemployment insurance expenditure). The product of output gap and budgetary semi-elasticity, the cyclical component, is therefore considered the part of the budget balance that is not structural because it only exists due to potential output being lower than actual output.

In practice, the actual budgetary semi-elasticity is determined by calculating the actual impact of the business cycle fluctuations on the fiscal balance without discretionary policy interventions (Sigl-Glöckner et al., 2021). It is difficult to measure as different types of shocks to the business cycle can

[xi] The Articles 121, 126 and 136 that specify the SGP as well as the regulation (1466/97 and 1467/97) concerning the preventive arm and the corrective arm of the SGP would not have to be amended.

have different impacts on a Member State's economy and thus on the budget balance. This, as well as the fact that cyclical revenues and spending can also deviate from their historic relationship (e.g., through changes in the composition of GDP), makes the current method of calculating the budgetary semi-elasticity vulnerable to inaccuracies.

Furthermore, it remains unclear whether any possible automatic stabilisers are allowed to operate on the scale of the determined semi-elasticity. Currently, the budgetary semi-elasticity only accounts for unemployment spending as the only type of spending that responds to cyclical fluctuations, although there are plenty that can be assumed as well (Darby & Melitz, 2008)[xii]. The common methodology also does not account for revenue windfalls and shortfalls[xiii] and the respective fluctuations in profit-related tax revenues (Morris et al., 2009). To mitigate the procyclicality in the structural budget balance rule, all these factors should be accounted for when estimating the budgetary semi-elasticity.

To address these issues, Sigl-Glöckner et al. (2021) suggest that more fiscal space could be achieved by allowing automatic stabilisers to operate under several criteria[xiv] instead of any cyclically dependent spending solely being determined by the value of the budgetary semi-elasticity. Under such conditions, the budgetary semi-elasticity would increase. In Germany, for example, in 2018, the semi-elasticity of the federal government amounted to 0.203. An increase to 0.5 would have resulted in an increase of fiscal space by a factor of 2.46, i.e., allowing for higher budget deficits because a larger share of this deficit would be considered cyclical instead of structural[xv].

Adjusting the NAWRU methodology

As Figure 1 presents, part of the production factor labour (L) in the Cobb-Douglas production function is the NAWRU, i.e., the estimated lowest possible unemployment rate at which wage inflation does not accelerate and which keeps a labour market in macroeconomic balance. This idea has often been advocated for by economists in the decades since Milton Friedman first came up with the concept in 1968 (Friedman & others, 1968; Phelps, 1967). Intuitively, any reduction of unemployment below the NAWRU through fiscal means (creating additional demand) would lead to wage-inflation (Heimberger & Kapeller, 2017). To prevent this, the NAWRU was included in the EU fiscal framework, especially because this framework serves the eurozone objective of inflation containment. As Figure 1 illustrates, the NAWRU directly impacts the estimated potential output. An increase (decrease) in the NAWRU leads to a lower (higher) potential output and therefore to a higher (lower) structural budget deficit. Similarly, under an expenditure rule the lower (higher) potential output would lead to lower (higher) allowed government expenditure growth.

Against the backdrop of this mechanism, very high NAWRU estimates for some EU Member States and the resulting low fiscal space have led to a debate about the role of the NAWRU in the potential output methodology. Part of the criticism of the potential output methodology mentioned above is spurred by the high NAWRU estimates for Member State that were hit hardest by the financial crisis (EU15 periphery countries) and that have since experienced slow growth as well as high debt-to-GDP ratios.

[xii] These, for example, include spending on old-age, sickness and disability, or health.
[xiii] Government revenues which "could not be fully explained by macroeconomic developments or discretionary fiscal policy measures" (Morris et al., 2009) and tend to exhibit a cyclical pattern. The authors point out two factors that are generally driving this pattern: (1) the complex nature of business taxation and (2) "extraordinary" profits (e.g., capital gains) and losses (e.g., induced by the development of the housing market in Spain and Ireland before the Great Financial Crisis).
[xiv] These criteria are „(1) maximum effectiveness, (2) comprehensive preservation of productive potential, (3) well designed triggers, (4) timeliness and (5) being allow to function in practice, as well as having few undesirable side effects as possible" (Sigl-Glöckner et al., 2021).
[xv] In absolute numbers it would amount to an increased fiscal space of 50 to 60 billion Euros from 20 billion Euros. These estimations of Sigl-Glöckner et al. (2021) also consider any increases in potential output through an adjustment of the underlying variables.

The ‘endpoint bias’ described above contributes to this development. Figure 4 demonstrates this post-crisis divergence in NAWRU estimates.

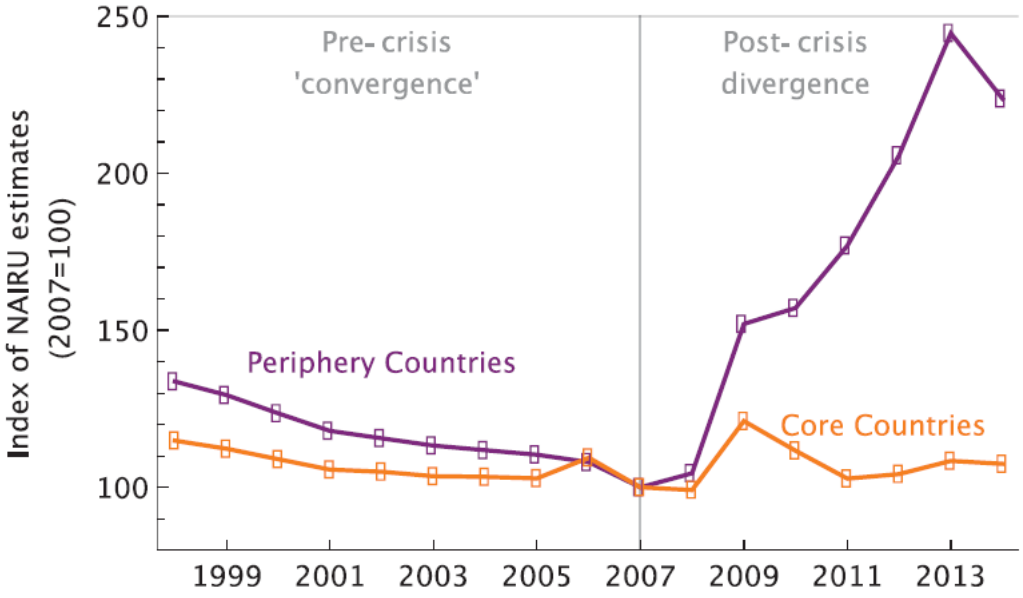

Figure 4: Development of real-time NAIRU estimates in the Eurozone (Source: (Heimberger and Kapeller, 2017))

The estimation of the NAWRU is based on recent historical trends which enforce procyclicality in the estimates (Heimberger & Kapeller, 2017). To fix this procyclicality of the NAWRU and the resulting dramatic consequences for some Member States’ public budgets, Sigl-Glöckner et al. (2021) suggest basing the NAWRU estimation on a proxy of full employment. This can be done by taking actual unemployment and deducting long-term unemployment from it. This would not just mitigate the procyclicality in the estimates but would generally increase fiscal space for most Member States. However, one might point to the fact that long-term unemployment is a backward-looking indicator and therefore may not be a suitable basis on which policymakers can make real-time policy decisions.

Adjusting the trend participation rate methodology

As Figure 1 presents, the potential output estimation is also based on the trend participation rate which corresponds to the proportion of the working-age population that participates in the labour market. There is some vulnerability to procyclicality in this approach. Rising (falling) unemployment during a recession (boom) can lead to more (less) unencouraged workers and hence to a decrease (increase) in the trend participation rate for the following years. This decreases (increases) potential output and thereby amplifies procyclicality.

To overcome this, Sigl-Glöckner et al. (2021) propose that the estimation of potential output could consider target values of labour force participation that correspond to full-capacity utilisation instead of using the trend participation rate. By doing so, cyclical shocks would have no impact on the trend participation rate estimates and thereby on potential output, i.e., the procyclicality of the potential output estimates would be reduced. Furthermore, Sigl-Glöckner et al. (2021) emphasise that for many EU Member States, there is a significant gap between the trend participation rates of men and women that should not be seen as structural. In Germany, for example, the labour participation rate of men has been persistently above 80 percent since 2005 while that of women has been more than 10 percentage points lower at times. In Sweden, on the other hand, this gap is only 3.4 percentage points and in Lithuania only 2.3 percentage points. Therefore, Sigl-Glöckner et al. (2021) suggest incorporating a target gap between male and female participation in the labour force of 3 percent into the calculation

of the trend participation rate. This would immediately increase the trend participation rate which would increase potential output and hence fiscal space.

All these technical improvements seem politically more feasible than other SGP reform proposals and bear considerable potential for increasing fiscal space and reducing or preventing procyclicality. However, in comparison to many other reform proposals to the SGP, the benefit of higher political feasibility comes at the expense of lower impact generated, as, for instance, the quality of public expenditure would not be considered. The fiscal flexibility that these technical improvements would generate would not be bound to supporting the green and just transition. In the worst case, it could be used for purposes that counteract the green and just transition. Against this backdrop, fiscal flexibility is a necessary but not sufficient condition for the green and just transition and needs to be complemented by sound public policy. Moreover, by amending the potential output estimation methodology, the technical improvements would mitigate the extent to which the structural budget balance rule restricts Member States' fiscal flexibility but would not do so for other restrictive rules such as the 3% deficit criterion, the 60% debt rule, or the debt-reduction benchmark. Additionally, it is crucial to consider the heterogenous effects that the technical improvements would have on different Member States. Applying these fixes could increase the fiscal space of some Member States enormously while granting other Member States only negligible fiscal space. For instance, an overhaul of the trend participation rate methodology could increase the trend participation rate of some Member States much more than for others. This would lead to very heterogenous effects on the Member States' fiscal space[xvi] which could cause political turmoil.

Conclusion

The COVID crisis and the implications of the current war in the Ukraine for the European economy have highlighted the need for economic stabilisation, for which countercyclical fiscal policy is an important tool. During the COVID crisis, large stimulus packages around the world helped cushioning the negative effects of the economic recession. The EU has declared the NextGenerationEU fund a non-permanent measure for this extraordinary crisis, which was only made possible through a deactivation of the fiscal rules in the SGP. While the SGP intends for the structural budget balance rule to enable countercyclical fiscal policy, this paper has shown that, due to procyclical estimations and revisions in the underlying methodology, it is often a-cyclical or even procyclical in practice.

An expenditure rule based on potential output growth, which has been discussed as a potential remedy, relies on the same estimation methodology and is therefore prone to the same issues, albeit to a lower extent. Thus, this paper has presented technical improvements to the estimation methodology that reduce its procyclicality and its proneness to revisions. Moreover, these improvements can generally increase Member States' fiscal space. While the political feasibility of these technical improvements seems higher than for other SGP reform proposals, they are not sufficient to resolve all fiscal rules' underlying problems. Moreover, it is crucial to consider the heterogenous effects that the technical improvements would have on different Member States. Applying these fixes could increase the fiscal space of some Member States enormously while granting other Member States only negligible fiscal space. The potential political and economic problems arising from this scenario as well as potential remedies such as country-specific parameters need to be evaluated.

[xvi] e.g., setting the structural gap between male and female labour force participation rate at the level of Lithuania (2.3%) would lead to no increase in fiscal space for Lithuania, a small increase for Sweden (with a gap of 3.4%) but a large increase for Member States that have a higher gap.

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