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Stress testing the EU fiscal framework☆

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ABSTRACT

This study evaluates the efficiency of the cyclically-adjusted budget balance (CABB) as the central gauge in the reinforced European fiscal framework for evaluating fiscal discipline. We do this by means of a simulation experiment. We use an estimated DSGE model to simulate all the macroeconomic data needed to assess the CABB according to the official EC methodology. Additionally, the model contains an expenditure fiscal rule that accounts for non-automatic variation in the budget, which allows us to observe the *true* discretionary measures of fiscal policy. Our results indicate that the EC methodology frequently fails to identify the true fiscal policy stance and also frequently fails to correctly signal potential violations of the SGP limit on structural deficit. In the latter case triggering corrective fiscal contractions to comply with the SGP results in increased macroeconomic instability. In addition, we show that allowing for a bigger role for stability-oriented discretionary policy and thus relaxing the SGP limit on structural deficit could enhance the stabilization efficiency of fiscal policy without reducing the degree of compliance with the Maastricht Treaty. These conclusions apply to small countries in a monetary union as well as large countries with independent monetary policy.

1. Introduction

In response to the sovereign debt crisis the European Union (EU) took a number of measures to refine its fiscal governance. The main features include fostering fiscal discipline and strengthening the Stability and Growth Pact (SGP), enacted through the Fiscal compact and Six-Pack respectively.[2] However, the reinforced fiscal framework again assigns an important role to the cyclically-adjusted budget balance (CABB) overlooking the fact that a large body of literature questions its appropriateness as a gauge of discretionary fiscal policy (Blanchard, 1990; Chouraqui et al., 1990) as well as its estimation shortcomings (Alberola et al., 2003; Larch and Salto, 2003; Larch and Turrini, 2009, among others). Namely, the main provision of both cornerstones involves the CABB still left as the main reference criterion. This implies that also in the reinforced EU fiscal framework the question whether the CABB is a reliable measure of the fiscal policy stance still remains. Consequently, the effectiveness of the (reinforced) fiscal framework in terms of fostering fiscal discipline, while simultaneously allowing member countries to use fiscal policy as a tool of macroeconomic stabilization, continues to be an open issue.

The main goal of this study is to stress test the EU fiscal framework by analysing the efficiency of the CABB in evaluating fiscal discipline and determining the fiscal policy stance. We do this by means of a simulation experiment that is new to the literature.[3] We

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[1] The views expressed in this paper are solely the responsibility of the author and should not be interpreted as reflecting the views of the Bank of Slovenia.

[2] The Fiscal Compact embraces the *fiscal part* of the Treaty on Stability, Coordination and Governance and runs in parallel with the Six-Pack that covers not only fiscal but also macroeconomic surveillance in the EU. Both include strengthened provisions from the SGP. More details in Section 2.

[3] A similar DSGE-based simulation experiment is used by Chahrour et al. (2012) to evaluate different approaches to identification of fiscal shocks. They use DSGE model to generate data to which they apply the narrative and SVAR approaches for identification of fiscal shocks and assess how the two competing methodologies identify the true fiscal shocks from the DSGE.

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use an estimated DSGE model with a detailed specification of the fiscal block. Besides specifying a structural representation of automatic variation in budget revenues and spending, the estimated structural macroeconomic model includes a structural equation for government spending that captures true non-automatic or discretionary changes. In other words, with a structural model we directly distinguish between automatic and discretionary fiscal policy, which is the most important advantage of our approach. The model is used to generate macroeconomic data needed to estimate the CABB with the official European Commission (EC hereafter) methodology and check whether it is able to identify the true discretionary measures as generated by the DSGE model. This way we are able to evaluate the efficiency of the official EC methodology for estimating the CABB in correctly identifying the structural measures of fiscal policy.[4]

In addition to measuring the precision in determining the fiscal policy stance, we use the analysis to assess the macroeconomic implications of the two most important EU fiscal criteria. The first is the Maastricht 3% of GDP limit on the budget deficit, while the second is the SGP 0.5% of GDP limit on structural deficit.[5] Breaching either of the two can in principle trigger corrective restrictive fiscal policy measures. In this respect we address two issues. The first concerns the welfare implications of potential mis-signalling of the breach of the structural deficit threshold. Namely, in cases when the CABB estimated with the EC methodology signals a deficit above the 0.5% of GDP threshold, while in reality it is not so, the EC methodology could trigger procyclical corrective measures that might destabilize the economy.

The second issue is about the appropriateness of the 3% deficit-to-GDP and 0.5% structural deficit-to-GDP ceilings in terms of stabilization efficiency. We address the trade-off between fulfilling the Maastricht and the SGP deficit criteria by altering the responsiveness of government spending to output gap and to public debt. Doing so allows us to simulate whether the 3% of GDP deficit and 0.5% of GDP structural deficit limits allow for sufficient room to manoeuvre for stability-oriented fiscal policy.

Our main results show that the official EC methodology performs rather poorly in determining the fiscal policy stance. On average it signals wrongly either the expansive or restrictive fiscal policy stance in almost 40% of cases. This is due to the fact that a significant share of cyclical variation in the budget balance is wrongly attributed to discretionary fiscal policy.

In line with the Resolution to the European Council on the SGP that specifies how "adherence to the objective of sound budgetary positions close to balance or in surplus will allow member states to deal with normal cycle fluctuations while keeping the government deficit within the value of 3 per cent of GDP", we show that in principle this is almost true. In our model the budget is balanced over the business cycle, with the deficit exceeding the 3% deficit-to-GDP limit in only 9% of periods. But more importantly, in more than 37% of the cases breaching the SGP structural deficit rule does not lead to the violation of the Maastricht deficit rule. The EC methodology for measuring the structural budget balance identifies such cases with slightly lower probability. Thus, the provisions of the SGP seem to be too stringent for compliance with the Maastricht 3% deficit-to-GDP limit.

Stringency of the SGP provisions, combined with a weak capacity of the CABB to capture discretionary fiscal policy measures, yields suboptimal macroeconomic stabilization. The official EC methodology mis-signals the violation of the SGP structural deficit limit in about 25% of cases. Mis-signalling is even more pronounced during periods of Great Recessions. Triggering corrective measures (fiscal tightening) in such cases leads to an increased volatility of GDP growth. The inability of the official EC methodology to successfully recover the true discretionary measures of fiscal policy is manifested even more during periods of Great Recession, when a robust fiscal governance framework is even more important.

We fully acknowledge the fact that our results are conditioned by the specificities of our model representation of the economy and that alternative specifications might provide numerically different results. However, the DSGE model structure is standard in macroeconomics literature. Moreover, we show that our results apply equally to small and large economies with the latter potentially having a strong impact on the ECB's monetary policy. For these reasons we believe that our simulation experiment replicates a realistic environment faced by policy makers and offers two policy implications. The first is a revision of the methodology for estimating the CABB by explicitly incorporating a structural description of discretionary fiscal policy. An expenditure fiscal rule used in our analysis is only one possible suggestion. Secondly, while our analysis does not have the ambition to provide an exact alternative specification of the SGP structural deficit ceiling, it nevertheless suggests that a revision of the SGP provisions that would allow for a more active fiscal stabilization might increase the overall robustness of the EU fiscal framework. These policy implications should be taken without prejudice to the fact that a robust fiscal framework should first ensure a removal of the fiscal spending bias often observed in developed economies.

The rest of the paper is organized as follows: Section 2 gives an overview of the economic and fiscal governance framework within the E(M)U. Section 3 describes the simulation experiment and the model. It also presents the descriptive statistics of key macroeconomic data and CABB obtained within the simulation routine, emphasizing periods of Great Recessions. Section 4 discusses fiscal policy stance results obtained across different approaches, while Section 5 is reserved for stress test results of the European fiscal governance. In Section 6 we extend our analysis for a large open economy case by introducing independent monetary policy and thus investigate its effects on our main findings. Section 7 analyses the trade-off between fulfilling the EU headline and structural deficit criteria, while Section 8 contains the main concluding comments and policy implications.

2. The EU fiscal governance

The institutional setting of the European Economic and Monetary Union (EMU) consists of a single monetary policy coupled with national fiscal policies. Such a combination requires strict fiscal rules for avoiding excessive government deficits to not only ensure fiscal discipline and sound fiscal stance, but also safeguard the policy of price stability (European Commission, 1990).

The origin of the EU fiscal framework dates back to 1992 when the Maastricht Treaty on European Union (TEU) formalized the thresholds on government deficits (to 3% of GDP) and public debt (to 60% of GDP). However, it is with the introduction of the SGP in 1996 that the European fiscal governance took the basic shape we know today. Under the so-called *preventive arm* the SGP seeks to ensure that member states are maintaining a sound fiscal stance,

[4] Other studies discuss the effectiveness of the EC methodology in estimating the CABB by contrasting CABB estimates based on ex-ante (forecast) budgetary and macroeconomic figures with CABB estimates based on ex-post budgetary and macroeconomic figures (see Beetsma et al., 2009 and references therein).

[5] To be precise, the SGP allows a structural deficit up to 1% of GDP, but the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union makes the same provision more stringent formalizing the limit at 0.5% of GDP. More details are provided in Section 2.

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