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Determinants of budget deficits in Europe: The role and relations of fiscal rules, fiscal councils, creative accounting and the Euro

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ABSTRACT

We analyze the determinants of the budget balance of 27 EU countries from 1991 to 2011 with a panel approach. Our focus is on the effectiveness of fiscal rules and fiscal councils as well as the impact of EMU membership and creative accounting, approximated by stock-flow-adjustments. We especially contribute to the literature by analyzing the joint influence of fiscal rules with fiscal councils and stock-flow-adjustments, measured by their interaction terms. We find a significant influence for fiscal rules and stock-flow-adjustments and as well as under crisis conditions for fiscal councils. Also the interaction variables display influence.

1. Introduction

Excessive fiscal deficits are considered to be one of the fundamental causes of the European debt crisis. The future handling of deficits has huge impact on the further financial, economic and political integration of Europe. This leads to the question of what are the determinants of deficits, and which measures can be applied to efficiently fight excessive fiscal deficits. For several, understandable, reasons, European governments agreed during the crisis to help troubled countries with providing funds at comparably low interest rates. This means however, that a market-based solution, where high interest rates set strong incentives to run lower deficits, will not work efficiently. When establishing the Fiscal Compact in order to deal with public deficits in the future, governments agreed instead that countries should install fiscal rules to prevent the government from running excessive public deficits. This brings about several issues for scientific research. First, one may ask how effective fiscal rules are. Here one may distinguish between internal fiscal rules, which were installed by the country's own decision, and external fiscal rules, that the country is subject to because of international contracts (e.g. the Stability and Growth Pact with the well-known Maastricht criteria). In this respect it is especially interesting to see which type of fiscal rules is more effective. In addition, it is important to know how fiscal rules interact with other institutional arrangements that are meant to ensure sustainable budgets, especially fiscal councils. Moreover, inspired by findings of the recent literature (see von Hagen and Wolff, 2006), which concludes that stock-flow-adjustments are used systematically for creative accounting, one has to ask how this influences the fiscal budget and how it interacts with fiscal rules in particular. We tackle these questions by analyzing empirically whether there are significant relations between the fiscal budget as the dependent variable and indices describing (the strength of) fiscal rules and fiscal councils and their interaction terms.

We contribute to the literature in several ways. First, by applying an index with data from the European Commission that has not been applied so far we contribute to the already existing literature that analyzes empirically the influence of *fiscal rules on fiscal budgets*. Second, we analyze the influence of *fiscal councils on fiscal budgets*, a question which has been tackled so far in a few papers only. Here we also use a new index constructed using data from the European Commission. As our most important contribution we see that we shed light on how the interaction between fiscal rules and fiscal councils influences budget deficits. Finally, we contribute by including stock-flow-adjustments as a

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measure for *creative accounting* in our analysis, which seems to be an important issue in this context.

As von Hagen and Wolff (2006) have shown, creative accounting, measured by stock-flow-adjustments, is strongly related to fiscal rules. Thus, one should consider creative accounting in analyzing the influence of fiscal rules at least as a control variable. Furthermore, we ask how creative accounting interacts with fiscal rules in influencing the fiscal budget.

The influence of fiscal rules on fiscal deficits is an often discussed and analyzed topic in political economy and a number of studies on this issue have been published so far. Most quantitative analyses on the effect of fiscal rules focused on the US states and the European Union, even though other regions, such as Swiss cantons or Latin America, have been covered as well. In general, most of the studies find a significant, positive influence of fiscal rules on fiscal aggregates. For a detailed survey of the relevant literature see Table A-1 in Appendix A.

As mentioned above, we explicitly consider whether the interaction between fiscal rules and fiscal councils influences fiscal budgets. Wyplosz (2012) argues here that time inconsistency makes fiscal rules potentially ineffective as politicians face the incentive to violate the rules when they stand in the way of their policy objectives. By performing case studies he finds that fiscal councils can help to mitigate this problem if they are given a formal advisory and monitoring role, thus ensuring that the fiscal rule is not manipulated or overridden. This finding is, however, not verified empirically. All in all, interplays between fiscal rules and fiscal councils have attracted surprisingly little attention in the empirical literature so far. Debrun (2007) and Debrun and Kumar (2007a, 2007b) provide bivariate analysis on the relationship between the restrictiveness of fiscal councils and the strength of fiscal rules. However, they find that the relationship between both is rather weak and that there is even some evidence for a negative relationship between them. This leads to the counterintuitive assumption that fiscal rules and councils might be substitutes rather than complements. The reason could be "that countries that feel the need for relatively restrictive fiscal rules, may be reluctant to allow for additional external influence on the policymaking process, possibly because they value discretion per se" (Debrun and Kumar, 2007b). Finally, Nerlich and Reuter (2013) set out to test the relationship between fiscal rules and fiscal councils in a multivariate context. Analyzing the EU-27 from 1990 to 2012 they find – in contrast to Debrun (2007) and Debrun and Kumar (2007b, 2007a) – that the effectiveness of fiscal rules can indeed be strengthened by fiscal councils, especially when they are independent from the government in regard to the nomination of staff and resources. We enhance this interesting literature by using indices that measure the strength of fiscal rules and fiscal councils with higher precision than with dummy variables used in these papers. Instead we use an interval-scaled index in order to measure different characteristics of fiscal rules and councils. Furthermore, we especially consider whether fiscal councils improve the situation in crises times.

The remainder of the paper is organized as follows: In the next section we describe our empirical analysis in more detail. Then we explain the variables used as well as the regression approach and the data sample. In the third section we provide our results and the fourth section concludes.

2. Description of the empirical analysis

In the empirical analysis we perform panel regressions where the primary budget balance as the dependent variable is related to several explaining variables. A detailed description of the data and the data sources can be found in Table A-2 in Appendix A. The primary budget balance is the difference between government's revenues and expenditures excluding interest payments for outstanding debt. We use this measure because it better depicts the current situation and the work of the actual government. This is because interest payments are typically contracted years ago (except for very short-term debt) when loans were taken up or bonds were issued. Also the amount of outstanding debt is piled up in former years and only a small amount is under the control of the current government.

We include different groups of explaining variables. First of all, we include measures for the variables that are our primary concern, i.e. indices that describe the existence and strength of fiscal rules and fiscal councils. In addition, we consider how the EMU membership (which implies external fiscal rules) influences the fiscal budget. As mentioned above we also include stock-flow-adjustments as a measure of creative accounting. Furthermore, we include interaction terms for these variables. In addition, we include economic and socio-political control variables.

We include the European Commission's fiscal rule index. The numbers are provided by the European Commission (2011). The index reflects whether fiscal rules are in place, as well as the characteristics of these rules, such as the statutory basis of the rule, the possibility to set and revise objectives, the nature of the institutions which monitor and enforce the rules, the enforcement mechanisms, the media visibility of the rules, how many rules a country employed at a given time, and

Table 1
Criteria and scores for the construction of the fiscal rule index.
Source: Fiscal Rules Database; see also European Commission (2006, 163-4).

Criterion 1: Statutory base of the rule	
4	Constitutional base
3	The rule is based on a legal act (e.g. Public Finance Act, Fiscal Responsibility Law)
2	The rule is based on a coalition agreement or an amendment reached by different general government tiers (and not enshrined in a legal act)
1	Political commitment by a given authority
Criterion 2: Room for setting and revising objectives	
3	There is no margin for adjusting objectives (they are encapsulated in the document underpinning the rule)
2	There is some but constrained margin in setting or adjusting objectives
1	There is complete freedom in setting or adjusting objectives (the statutory base of the rule merely contains broad principles or the obligation for the government or the relevant authority to set targets)
Criterion 3: Nature of body in charge of monitoring respect and enforcement of the rule	
The score of this criterion index is constructed as a simple average of the two elements below:	
Nature of the body in charge of monitoring respect of the rule	
3	Monitoring by an independent authority (Fiscal Council, Court of Auditors or any other Court) or the national parliament
2	Monitoring by the ministry of finance or any other government body
1	No regular public monitoring of the rule (there is no report systematically assessing compliance)
The score of this sub-criterion is augmented by 1 if there is real time monitoring of compliance with the rule, i.e. *if alert mechanisms of risk of non-respect exist.*	
Nature of the body in charge of enforcement of the rule	
3	Enforcement by an independent authority (Fiscal Council or any Court) or the national parliament
2	Enforcement by the ministry of finance or any other government body
1	No specific body in charge of enforcement
Criterion 4: Enforcement of mechanisms of the rule	
4	There are automatic correction and sanction mechanisms in case of non-compliance
3	There is an automatic correction mechanism in case of non-compliance and the possibility of imposing sanctions
2	the authority responsible is obliged to take corrective measures in case of non-compliance or is obliged to present corrective proposals to Parliament or the relevant authority
1	There is no ex-ante defined actions in case of non-compliance
The score of this variable is augmented by 1 if escape clauses are foreseen and clearly specified.	
Criterion 5: Media visibility of the rule	
3	Observance of the rule is closely monitored by the media; non-compliance is likely to trigger public debate
2	High media interest in rule compliance, but non-compliance is unlikely to invoke public debate
1	No or modest interest of the media