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Leading indicators for euro area government deficits☆

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Abstract

I evaluate the usefulness of a set of intra-year fiscal indicators in forecasting General Government fiscal deficits in the euro area and most of its member countries. The indicators are mainly based on monthly and quarterly Public Accounts' figures. The indicators anticipate annual fiscal deficits, both in qualitative and in quantitative terms.

JEL classification: C53; E6; H6

Keywords: Leading indicators; Fiscal forecasting and monitoring; General Government deficit; European Monetary Union

1. Introduction

Forecasting and monitoring fiscal variables' developments is currently an important policy issue in Europe. In the light of the operation of the Stability and Growth Pact (SGP), European Union (EU) countries are committed to submit multi-annual plans to the European Commission (EC), presenting forecasts for a certain number of years. Assessing deviations from budgetary targets well in advance appears to be crucial for the appropriate operation of the SGP, given the weak ex-post enforcement criteria embedded in the Pact.

The relevant official figures for the EU policy framework are expressed in annual terms, using the European System of Integrated Economic Accounts (ESA95) as the conceptual reference method. These figures are only available with a considerable delay, and are subject to important revisions (see Bier, Mink, & Rodríquez-Vives, 2004). In order to fill in this informational gap there is a running Eurostat project aiming at building up quarterly fiscal figures in ESA95 terms (European Commission, 2002a). The project presents some shortcomings in terms of coverage of revenue and expenditure items, sample size, timeliness (with at least 90 days delay), and revisions (given the link to the annual ESA95 figures). These unfavorable facts regarding the intra-annual ESA95 fiscal information render the monthly/quarterly cash data of the Central Government sector and other sub-sectors of the General Government the most relevant pieces of direct information on intra-annual fiscal developments. Cash figures are published regularly and in a timely manner, with a wide coverage of revenue and expenditure categories. Cash figures can also be used as a companion to the quarterly ESA95-based Eurostat series once they are made available by Eurostat.

☆ The views expressed in this paper are those of the author and do not necessarily reflect those of the European Central Bank.

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The literature on revenue forecasting using monthly and quarterly government data is quite well developed for the US case, and to a lesser extent for the UK. The empirical works for the US case tend to focus on forecasting tax revenue for the individual States, given the need to achieve an end-of-year balanced budget (Fullerton 1989; Lawrence, Anandarajan, & Kleinman, 1998). Cash figures in the euro area have been the subject of little attention in the academic literature. Some exceptions are Kinnunen (1999), who analyzes the univariate properties of some revenue and expenditure items for Finland; and Moulin, Salto, Silvestrini, and Veredas (2004), who use monthly cash figures for the Central Government to monitor the annual outcome of the Central Government itself, in the US literature tradition.[1]

The purpose of this paper is to fill in the existing gap for the euro area by trying to assess whether there is valuable information in some EU countries' intra-annual cash fiscal information that could be used to improve the forecasting and monitoring of the annual General Government deficit in terms of ESA95, the relevant policy variable in the framework of the SGP. The specific features of public sector budgeting and the recording of information on issues such as tax collection, or social payments, make it necessary for the relevant recording period to be the calendar year. For example, in the case of tax and social contributions collection, cash amounts are recorded in public sector accounts, but they should be time-adjusted so that they are attributed to the period when the activity took place to generate the liability. This makes a monthly profile based on cash accounts irrelevant for the monitoring of public sector development *within the calendar year*. Nevertheless, new incoming monthly and quarterly cash figures can be used by the analyst to infer likely changes in the final *annual* outcome of the relevant government sector/sub-sector.

The analysis is focused on public deficit series for nine selected euro area countries[2]: Belgium, Germany, Spain, France, Italy, the Netherlands, Ireland, Austria, and Finland. These countries account for the almost 95% of euro area GDP. The available series refer to the Central Government sector, with some exceptions. The adopted standard methodology (the so-called "bridge equations" methodology, see for example Grasmann & Keereman, 2001, or Parigi & Schitzler, 1995) consists of the following steps: (i) once a new quarterly figure for the cash-based indicator is available, univariate forecasts for the rest of quarters within the calendar year are obtained; (ii) an annual figure for the cash-based indicator is obtained by summation of the four quarters of each calendar year (some being actual figures, some forecasts); (iii) a regression is run with annual data between the target variable (General Government deficit) and the cash-based indicator from step (ii). Thus, by following the previous steps, it is possible to obtain a new estimate of the annual ESA95 General Government deficit for each quarter.

The forecasting performance of the cash-based indicators is checked both in quantitative (size of forecast errors) and qualitative (likely evolution of variables) terms. In addition, the forecasting ability of the indicator-based approach is compared to the EC forecasts, and to an alternative which combines indicator-based estimates and the estimates provided by the EC. Results for the euro area as a whole are also shown, computed as the weighted sum of the cross-section of country forecasts.

The paper is organized as follows. Section 2 describes the data, and presents some illustrative qualitative evidence, which is incorporated into econometric models in Section 3. The forecasting performance of the models is checked in Section 4. Section 5 concludes.

2. Data description

2.1. Public Accounts and National Accounts

Each European country tends to apply its own national practices in the budgetary process. More specifically, the accounting procedures, methods of data compilation, timing of the recording of transactions, as well as the coverage of budgets, differ from country to country. It is common to refer to these figures as the Public Accounts. In the context of the International Monetary Fund's Special Data Dissemination Standard (SDDS), there has been an attempt to unify these methods, and to make national practices transparent. In contrast, the EU budgetary surveillance

[1] Camba-Méndez and Lamo (2004), on different grounds, provide estimates for quarterly balances for Germany and Italy, on the basis of annual General Government deficits and quarterly GDP, focusing on the study of structural deficits.

[2] The ordering of the countries throughout the paper follows the standard convention of using the alphabetical order in the national language.