Economic Modelling xxx (2014) xxx–xxx

Contents lists available at ScienceDirect

Economic Modelling

journal homepage: www.elsevier.com/locate/ecmod

Economic forecasts and sovereign yields ☆

António Afonso [a,b,c,*], Ana Sofia Nunes [d]

[a] ISEG/UTL—Technical University of Lisbon, Department of Economics, Portugal
[b] UECE—Research Unit on Complexity and Economics, Portugal [1]
[c] European Central Bank, Directorate General Economics, Kaiserstraße 29, D-60311 Frankfurt am Main, Germany
[d] ISEG/UTL—Technical University of Lisbon, Portugal

ARTICLE INFO

Article history:
Accepted 11 March 2014
Available online xxxx

JEL classification:
C23
E44
H68

Keywords:
Macro forecasts
Fiscal forecasts
Sovereign yields

ABSTRACT

We assess whether the corrections made to the EC macro and fiscal forecasts (GDP growth rate, inflation, budget balance, debt ratio, current account) have an impact in sovereign yields. We perform a panel analysis of 15 EU countries (Austria, Belgium, Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal and Sweden), for the period from 1999:1 until 2012:1, and we also analyse each country individually, on the basis of a SUR estimation. We find that corrections in the EC's forecasts impinge on 10-year sovereign bond yields, particularly corrections in fiscal variables, being more pronounced in countries with less favourable economic conditions. The penalization for the yields is higher in corrections for the current and next years than for previous years.

1. Introduction

Since 1998 the European Commission (EC) releases in a regular basis twice a year, in the spring and in autumn, short-term economic forecasts for the member states of the Economic and Monetary Union (EMU), candidate countries and other important economies, as the United States, Japan and the United Kingdom.

Since the forecasts are publicly available, investors may use this information to decide their investment portfolio, notably their investment in the sovereign bonds. Therefore, the release of these forecasts should, theoretically, have an impact on sovereign spreads. Indeed, we may argue that rational investors use all the available information; thus, a release of new information will cause a rearrangement in their investment portfolio. However, it is not obvious that this happens in reality.

Hence, we are interested in assessing what is the impact of releasing economic forecasts on the sovereign yields. If, as expected, the impact on sovereign yields is significant, the institutions which release these forecasts (EC, Organization for Economic and Co-operation Development (OECD), European Central Bank (ECB), and others) and in particular the governments, want to be aware of the consequences of forecast accuracy. That is particularly relevant regarding forecasts for current and next years (the ones with most obvious possible influence), but also for past years, as there are often corrections to past data.

Moreover, there is also an interest for private agents to know the impact of macro and fiscal forecasts, especially traders, as every anticipation of future movements in bond's prices may bring profit. Therefore, knowing if and how the bond market reacts to the release of these forecasts is paramount.

The present research will try to provide an answer for this problem, and it is a contribution to the literature since these linkages have not been much explored, at least to our knowledge, after reading the existing related literature. In fact, there are only a few studies for the USA,[2] and some were made 15 or more years ago.[3] On the contrary, there are numerous studies on sovereign spreads' determinants, on forecasts' accuracy, and on the causes of forecast errors (notably, Jonung and Martin, 2006; Martins and Mora, 2007; Merola and Pérez, 2012; Moulin and Wierts, 2006).

☆ The authors are grateful to an anonymous referee, to Patrícia Martins and to participants at the UECE Conference on Economic and Financial Adjustments in Europe, Technical University of Lisbon, 28 June 2013 for very useful comments. The opinions expressed herein are those of the authors and do reflect those of the ECB or the Eurosystem.

* Corresponding author.
E-mail addresses: aafonso@iseg.utl.pt (A. Afonso), sofiacgnnunes@gmail.com (A.S. Nunes).

[1] UECE is supported by Fundacão para a Ciência e a Tecnologia (Portuguese Foundation for Science and Technology) through the project PEst-OE/EGE/UI0436/2011.

[2] See Canzoneri et al. (2003).
[3] See Porter-Hudak and Quigley (1994).

http://dx.doi.org/10.1016/j.econmod.2014.03.012
0264-9993/

We perform an econometric analysis of the linkages between different economic forecasts and sovereign yield spreads, using a panel of 15 EU countries (Austria, Belgium, Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal and Sweden), covering the period from 1999:1 until 2012:1. First we do the analysis for the entire panel, and afterwards we study each country individually, specifically on the basis of a SUR analysis. Notice that we use as variables the difference between the forecasts of two consecutive semesters, and not the forecast itself. This has as purpose to identify not only the impact of the forecasts' corrections in the yields, but also the credibility of the previsions.

In a nutshell, we can draw an important conclusion from our study: corrections in the EC's forecasts do impinge on the 10-year sovereign bond yield spreads, particularly the corrections in fiscal variables (public debt and budget balance), but this impact is different across countries, being more pronounced in countries with less favourable economic conditions. The penalization for the yields is higher in corrections for the current and next years than for previous years. The fact that markets react to this information on macro and fiscal forecasts could be consistent with the semi-strong form of efficient market hypothesis.

This paper is organized as follows. Section two covers the related literature. Section three explains and discusses the data and the construction of the variables. Section four presents the empirical strategy and the results. Section five summarizes the conclusions.

2. Literature review

2.1. Literature on sovereign spreads' determinants

To perform our analysis, we need to know the main determinants of sovereign bond yield spreads. There is a great amount of literature on this subject, but there are still some conflicting results, as there are many factors which may influence sovereign spreads.

However, there are some conclusions that are common to the majority of the studies. The variables which more often appear as significant are the level of GDP, GDP *per capita* or GDP growth rate (Afonso, 2010; Hischer and Nosbusch, 2010), fiscal performance, through public debt and budget balance (Afonso, 2010; Afonso et al., 2012; Akitoby and Stratmann, 2006; Amira, 2004; Baldacci and Kumar, 2010; Dell'Erba and Sola, 2011; Gruber and Kamin, 2010; Laubach, 2009), current account balance (Amira, 2004) and monetary policy (Gruber and Kamin, 2010).

The literature also presents several interesting conclusions. For example, the impact of the level of public debt is quantitatively lower than the one of public deficits (Faini, 2006; Laubach, 2009), and worst fiscal behaviour lowers the ratings of sovereign debt (Afonso and Gomes, 2010), which may induce a rise in the yields demanded by market participants. Indeed, government balance and the debt-to-GDP ratios could convey relevant information regarding credit risk or liquidity risk and help in explaining cross-country financial risk premia.

Dell'Erba and Sola (2011), using a panel of 17 OECD countries from 1989 to 2009, conclude that a budget deficit increase has a greater impact in small peripheral countries or in countries with low financial integration. Baldacci and Kumar (2010), with data from 31 developed and in developing countries, between 1980 and 2008, report that higher deficits and levels of public debt lead to a significant increase in long-term interest rates, and that the magnitude of such increase depends on the initial fiscal, institutional and structural conditions, and on the spillovers of the global financial markets.

A study by the EC (2011) finds a negative relationship between the strength of rules-based fiscal governance and sovereign spreads, using the Fiscal Rules Index as a measure of the quality of the fiscal institutions. Alexopoulou et al. (2009) conclude that the current account and budget balance, inflation, exchange and short-term interest rates, among other factors, influence the cost of long-term finance of new EU countries, while Afonso and Rault (2010) conclude that the inflation rate, budget and external imbalances have an impact on OECD countries sovereign spreads.

Thus, our empirical analysis will consider as determinants of the 10-year government bond yields the GDP real growth rate, the public debt-to-GDP ratio, the budget balance ratio, the inflation rate, given by the harmonized index of consumer prices (HICP), the real effective exchange rate (more specifically, the percentage change to the preceding year), the current account balance, also as a percentage of GDP (all of these sourced as EC forecasts), the international risk (represented by the VIX—the S&P 500 implied stock market volatility index), and monetary policy (represented by the short-term interest rates defined by the monetary authority). We also control for the existence and strength of fiscal rules, including as a variable the Fiscal Rude Index, calculated by the EC.

There is a theoretic economic relation between all the variables aforementioned and the 10-year government bond yields. For instance, with high inflation a government tends to unilaterally and partially inflate away from its fiscal indebtedness, and the need for a higher nominal and real long-term bond yield cannot be discarded. Moreover, expected inflation is also seen as an indicator of macroeconomic stability, implying higher sovereign risk. Deviations from past inflation can be assumed from the actual inflation rate, or taken as an average of past observations.

In addition, the current account balance-to-GDP ratio can convey the existence of a gap between saving and investment and provide expectations of a future depreciation of the domestic currency. Under those circumstances the risk premia demanded by the markets on sovereign debt may also increase.

2.2. Literature on forecast errors

Regarding forecast errors, there are two different topics usually explored: errors in government's forecasts and their causes, and errors in independent agencies' forecasts and their causes. Both are important for our work due to the dependency of the EC's forecasts on governments' forecasts, since they are based on the information provided by the country's government.

Concerning governments' forecasts, three main conclusions appear in the literature:

1) preliminary data releases are biased and non-efficient predictors of the true values, especially for GDP and public deficit, and several corrections occur over the subsequent vintages (Castro et al., 2011; Frankel, 2011; Jonung and Martin, 2006; Martins and Mora, 2007; Merola and Pérez, 2012; Moulin and Wierts, 2006);
2) the economic cycle is not fully included in the GDP forecast, making GDP forecast errors an important cause of budget deficit errors (Castro et al., 2011; Frankel, 2011; Jonung and Martin, 2006; Merola and Pérez, 2012; Moulin and Wierts, 2006);
3) being subject to a fiscal rule, without having strong and independent supervision, leads to an increase in GDP and budget deficit errors, possibly due to creative accounting (Frankel, 2011; von Hagen and Wolff, 2006).

Bernoth and Wolff (2008), and von Hagen and Wolff (2006) mention that most European Union's members incur in stock flow adjustments (i.e., the change in their government debt is higher than the budget deficit), which increases the yields demanded by financial markets. This increase is higher when the events of creative accounting are reported in the media. On the other hand, Castro et al. (2011) argue that modifications in Eurostat budget rules also explain a significant part of forecast errors, and forecasts may be considered rational after 2 years (i.e., forecast for year t may be considered correct in year $t+2$). This conclusion was the reason for the use in our study of forecast's corrections till 2 years ago as regressors.

Please cite this article as: Afonso, A., Nunes, A.S., Economic forecasts and sovereign yields, Econ. Model. (2014), http://dx.doi.org/10.1016/j.econmod.2014.03.012