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# Macroeconomic imbalances, financial stress and fiscal vulnerability in the euro area before the debt crises: A market view

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This paper tries to identify the macro-financial imbalances that exposed the euro area countries to fiscal stress before the outbreak of the European debt crises. Contrary to conventional wisdom that interprets fiscal stress in terms of fiscal sustainability, we focus on short-term fiscal vulnerability as reflected by the conditions of debt refinancing in the sovereign bond markets. We find that market-based indicators capturing risk perceptions of sovereign debts have been influenced by the indicators defined in the European Macroeconomic Imbalance Procedure (MIP) and by variables of financial vulnerability. When pricing the risk of sovereign bonds, the holders of government debts take into account not only the macroeconomic imbalances but also factors such as banking distress, corporate bond risk, liquidity risks in the interbank market or the volatility of stock prices.



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## 1. Introduction

Following the height of the European debt crises from 2012 onward, concerns have risen about the global nature of these crises. Rather than focusing on debt ratio and fiscal balance alone, the European Commission has set up a scoreboard of indicators that defines the "Macroeconomic Imbalance Procedure"[1] (MIP). This is conceived as an early warning system that alerts policymakers on the buildup of macroeconomic imbalances. The variables defining the MIP are designed to provide an early detection of fiscal stress in the euro area countries. Policymakers consider that the debt crises in European countries have been brought by the vulnerabilities associated with the current account imbalances, lack of price competitiveness, over-indebtedness in the private sector, weak economic growths. This view is echoed in recent empirical papers. For instance, Berti et al. (2012) and Hernández de Cos et al. (2014) show that some of the MIP indicators provide a good explanation of fiscal vulnerability in the European countries. Their approach goes beyond the paper of McHugh et al. (2011) and Dobrescu et al. (2011) which focus on fiscal variables alone as a source of fiscal stress.

Our paper looks back in time (before 2012 onward, the years corresponding to the height of the debt crises in Europe). Macroeconomic imbalances had already risen concerns among investors in the sovereign bond markets, in spite of the fact that they were not yet incorporated in the multilateral surveillance mechanism by policymakers. The markets' view of fiscal vulnerabilities differs from the policymakers'. The latter seek to keep sovereign debt sustainable over a medium-to-long-term horizon. In contrast, the former have short-term motivations and pay attention to whether governments service their debt in due time, whether they face credit or illiquidity risks. The markets' view needs to be taken into account in the exercise of monitoring fiscal vulnerabilities for several reasons. Firstly, governments can face more stringent financing constraints that degenerate into a future debt crisis. Secondly, since sovereign debts are financed in the bond markets, investors pay attention to the share of interest in the governments' fiscal revenues (interest burden). A large share increases the probability that a government faces a higher liquidity risk on debt coming due. Thirdly, the exposition to sovereign debts in the euro area concerns both sovereign and private lenders. The recent experience of the Greek default suggests that private investors are the front runners in the debt crises. Markets' sentiments can therefore alert the policymakers about forthcoming debt vulnerability.

Against this background, this paper suggests that policymakers should make their judgment about their fiscal vulnerability by monitoring "market-based" indicators.

The recent literature resurrected the idea that fiscal stress and fiscal vulnerability in Europe were the consequence of adverse market participants' sentiment, thereby implying too high sovereign rate spreads compared with their "fundamental" value (see, Aizenman et al., 2013; Borgy et al., 2014; De Grauwe and Ji, 2013; Saka et al., 2015). Therefore, there is a need to consider variables of fiscal vulnerability reflecting markets' sentiment.

Our contribution to the existing literature is threefold.

The paper's first contribution is to interpret fiscal stress as the result of investors' behavior in the bond markets (rather than in terms of fiscal sustainability). We do not consider fiscal stress as reflecting "extreme" situations like a risk of default, debt restructuring, or debt unsustainability. Here, fiscal stress is understood as a worsening of the financing conditions in the sovereign bond markets."[2]

The second contribution of the paper concerns the variables used as advanced indicators of fiscal stress. A first set of variables includes macroeconomic variables that have been already used in the recent literature. The MIP indicators are considered to summarize different facets of macroeconomic imbalances: competitiveness, private sector indebtedness, potential bubble in asset markets, fiscal and current account imbalances, etc. In addition to these variables, we consider financial stress indicators.

Our paper intends to examine which types of financial stress can be associated with higher fiscal vulnerability. The next section provides all the details about the choice of these financial variables.

Our third contribution concerns the methodology. A methodology which is common in the literature addressing the fiscal stress issue in Europe is the non-parametric signals approach (Berti et al.,

[1] The new Excessive Imbalance Procedure (EIP) was set up in November 2011 in EU Regulation 1176/2011.

[2] For robustness, we consider different measures of fiscal stress. These variables are extensively described in the next section.