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Fiscal insurance and public debt management: Evidence for a large emerging economy

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Abstract

This paper is a contribution to the analysis concerning fiscal insurance and public debt management. We built fiscal indicators and present empirical evidence for the effect of the public debt management on the fiscal insurance based on the Brazilian economy. The analysis is based on two steps: the first builds fiscal indicators and analyzes their performance over time, and the second presents regressions of the main variables regarding public debt management on the fiscal insurance indicators. The findings denote that there was a reduction in the fiscal vulnerability, but the public debt management was not effective in increasing fiscal insurance.

JEL classification: E43; E62; H62; H63

Keywords: Fiscal insurance; Public debt management; Fiscal indicators; Brazil

Resumo

Este artigo é uma contribuição à análise sobre a segurança fiscal e o gerenciamento da dívida pública. Com base na economia brasileira foram construídos indicadores fiscais e apresentadas evidências empíricas referentes ao efeito do gerenciamento da dívida pública sobre a segurança fiscal. A análise é realizada em duas etapas: a primeira constrói indicadores fiscais e analisa o desempenho ao longo do tempo; e a segunda apresenta regressões das principais variáveis relativas ao gerenciamento da dívida pública sobre os indicadores de segurança fiscal. Os resultados denotam que houve uma redução da vulnerabilidade fiscal, mas o gerenciamento da dívida pública não foi efetivo para aumentar a segurança fiscal.

Palavras-chave: Segurança fiscal; Gerenciamento da dívida pública; Indicadores fiscais; Brasil

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1. Introduction

A recurring theme in the theory of fiscal policy is the fiscal imbalance due to an increase in the government debt. The increased level of indebtedness can imply negative impacts on the economy such as raising the cost of government funding, reduction of private investment and thus a decrease in the potential economic growth (Lojsch et al., 2011). Moreover, excessive debt can lead to a situation of fiscal vulnerability which, in turn, threatens liquidity conditions and public debt solvency (Hemming et al., 2003).

The fiscal vulnerability can be mitigated by a policy based on a tight fiscal policy (increase in taxes or decrease in government spending) as a way of generating primary surpluses. Another possibility for reducing fiscal vulnerability, such as pointed out by Giavazzi and Missale (2004), is the low cost government funding. Therefore, public debt management can be an important tool for reducing fiscal vulnerability (Angeletos, 2002). In particular, the dependence of term structure of interest rates to the state of the economy and the sensitivity of the market value of the government debt to the interest rate enables the public debt management to promote protection against shocks to the economy.

When the fiscal trajectories are modified by shocks on the economy, a fall in the prices of government securities helps keep the intertemporal budget constraint. In other words, the market value of government debt equals the net present value of future primary surpluses thus maintaining fiscal solvency. One difficulty for this analysis as pointed out by Faraglia et al. (2008) is that the standard indicators for evaluating the performance of the public debt management do not allow one to observe a possible reduction in the fiscal vulnerability. According to these authors the use of fiscal insurance indicators open the doors for studies concerning public debt stabilization against fiscal shocks.

This paper is a contribution for the analysis concerning fiscal insurance and public debt management through empirical evidence for one of the largest emerging economies. This analysis is especially important because traditionally the conduct of fiscal policy in emerging economies is considered permissive and thus the risk of a fiscal imbalance is high. Moreover, it is important to highlight that in a different way from Faraglia et al. (2008) who cannot use a time series approach due to a resulting problem of a lack of reliable inference, the analysis for Brazil is not subject to this problem. Since 1999, the Brazilian National Treasury announced a strategy for extending the maturity of federal securities and for improving the composition of government liabilities. As a result, key variables such as maturity and composition of debt change over time.

In short, this paper builds indicators and makes an empirical analysis that permits us for the first time to evaluate the fiscal performance of the Brazilian economy concerning the effect of the public debt management on the fiscal insurance. With this objective, the analysis is divided into two main parts. The first builds four fiscal indicators (coupon payments, ratio of market value of debt to GDP, relative persistence of debt, and covariance between the primary deficit and the rates of return on debt) and analyzes their behavior over time. The second makes regressions (Ordinary Least Squares – OLS – and Generalized Method of Moments – GMM) for observing the effect of the main variables regarding public debt management (on the average maturity of debt and public debt indexing factors) on the fiscal insurance indicators. The findings indicate that debt management was not effective in increasing fiscal insurance.

This article is organized as follows: Section 2 depicts the data and the fiscal indicators. Section 3 presents the empirical evidence through OLS and GMM models regarding the effect of the management debt on fiscal insurance. Section 4 concludes the article.

2. Data and methodology

As pointed out by Faraglia et al. (2008), most fiscal indicators in the literature fail in the analysis on the role of debt management in providing insurance against budget shocks as to stabilize the debt-to-GDP ratio. Under this view, a first indicator that is considered is the coupon payments (*cp*) and it is the result of the internal federal government nominal interest payments (*interest*) divided by federal domestic securities (*debt*), then

$$cp = interest/debt. \tag{1}$$

Public debt stability is very important. As highlighted by Nosbusch (2008) it is desirable that an increase (decrease) in the interest rate due to a shock in the economy is offset by a decrease (increase) in the market value of government