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Public debt in Brazil: Sustentability and its implications

Octavio Augusto Fontes Tourinho [a], Guilherme Macedo Reis Mercês [b], Jonathas Goulart Costa [b,*]

[a] *Faculdade de Ciências Econômicas/UERJ, Brazil*
[b] *Gerência de Economia e Estatística/FIRJAN, Brazil*

Abstract

This paper tests sustainability of Brazilian public debt in the period 1991 to 2009, and analyzes implications of requiring that the Brazilian fiscal policy be primarily committed to the sustainability of the public debt. The retrospective analysis utilizes a set of unit root tests and avoids some of the criticism leveled at previous studies by using data which has not previously been used for this purpose, and concludes that the public debt was sustainable in the period we consider. The prospective analysis is based on the DSGE model proposed by Jodi Galí et al. (2007) calibrated for Brazil, using the conclusions of the retrospective analysis for the fiscal parameters. The scenarios produced with the help of the model show that maintaining the sustainability of the public debt is consistent with the monetary policy of inflation targeting. We also conclude that it is possible to reduce interest rates to levels below those prevalent at the end of 2010 simultaneously maintaining the stability of the trajectory of the public debt.

JEL classification: E52; E62; H11

Keywords: Public Debt; Public Deficit; Interest rate

Resumo

Este trabalho testa a sustentabilidade da dívida pública brasileira no período 1991 a 2009, e analisa as implicações da exigência que a política fiscal brasileira seja prioritariamente comprometida com a sustentabilidade da divida publica. A análise retrospectiva utiliza uma bateria de testes de raiz unitária, evita algumas das críticas feitas a estudos anteriores usando dados que não foram anteriormente empregados para este fim, e conclui que a dívida publica foi sustentável no período que consideramos. A análise prospectiva se baseia no modelo DSGE proposto por Galí et al. (2007) calibrado para o Brasil, usando as conclusões da analise retrospectiva para os parâmetros fiscais. Os cenários produzidos com o auxilio do modelo mostram que a manutenção da sustentabilidade da divida publica é consistente com a política monetária de metas para a inflação. Concluímos também que é possível reduzir as taxas de juros a níveis inferiores aos vigentes no final de 2010 mantendo simultaneamente a estabilidade da trajetória do endividamento publico.

Palavras chave: Dívida Pública; Déficit Público; Taxa de juros

* Corresponding author.
E-mail addresses: jonathas_goulart@hotmail.com, jgcosta@firjan.org.br (J.G. Costa).
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1. Introduction

Governments around the world have engaged in active fiscal policies characterized by a significant increase of the public deficit, in response to the effects of the 2008 global crisis sparked by problems of funding and liquidity that began in the U.S. This has led in recent years to a rapid and significant increase in indebtedness, especially in countries of the Eurozone and the United States.[1]

In Brazil, the fiscal situation has also worsened since 2008, for two reasons. On the one hand, the tax exemptions granted by the federal government aggravated the fall in government revenue resulting from reduced economic activity due to the domestic effects of the external crisis. On the other hand, public spending continued to grow fast: between 2008 and 2010, the current expenditure of the Union accelerated, jumping from 23.08% to 26.08% of GDP (close to the record observed in 2006 of 26.61% of GDP). Due to a combination of declining revenues and increased spending, there was a significant reduction in the primary surplus of the public sector, from 4.15% in September 2008 (the start of the global crisis) to 1.17% of GDP in September 2009.[2] As a result there was an increase in the debt/GDP ratio, from 40.0% to 44.9% in the same period.[3]

In this frameword, although the current Brazilian tax position is more comfortable than that observed in developed countries, it is appropriate to ask whether the public debt in Brazil is sustainable in view of the current fiscal policy. Several studies have attempted to answer questions similar to this at other moments of the Brazilian economy (and world). This is the case Rossi (1987), Pastore (1995), Rocha (1997), Bevilaqua and Werneck (1997) and Issler and Lima (1998). These studies, however, relate to the period prior to 1994 and roughly conclude that the Brazilian public debt sustainability to the mid-90s was achieved by increasing the tax burden and the collection of the inflation tax. One goal of our study is to extend the analysis to the more recent period, using the methodology followed by Luporini (2002), Tanner and Ramos (2002), Giambiagi and Ronci (2004) and Mello (2005), and to improve the database for the analysis, making use a time series of the public deficit not previously explored in the literature.

In addition to testing the sustainability of public debt through a retrospective empirical analysis, this paper aims to investigate the macroeconomic implications of its results. In this sense, it has similar goals to other prospective studies such as Bevilaqua and Garcia (2000), Goldfajn (2002) and Rossi (2006), but uses a different approach. Specifically, we simulate the prospective performance of the Brazilian economy in the framework of a macroeconomic model, under the assumption that the fiscal authority is committed to debt sustainability. For this purpose, a dynamic stochastic general equilibrium model (DSGE) of the type proposed by Galí et al. (2007)[4] was calibrated for the Brazilian economy, and used to analyze the effects of public spending on consumption. It considers the hypothesis of price rigidity as in Calvo (1983), and explicitly includes the need to finance public deficits. This allows the analysis of the sustainability of economic policy in late 2010, when inflation control was one of the main objectives of economic policy, but the tax burden was close to 40% of GDP, real interest rates are higher than 6,5% per year and the primary surplus is of the order of 1.6% of GDP.

We examine the dynamic behavior of the main macroeconomic aggregates (private consumption, taxes, public debt, inflation and interest rate) on simulations produced by the model in response to various shocks. As we shall see, these exercises indicate that there is no incompatibility between the maintenance of debt sustainability and monetary policy of inflation targeting. The analysis also suggests that it is possible to manage economic policy in order to obtain lower interest rates than those prevailing in early 2011.

This paper has four other sections besides this introduction. The second presents the methodological framework of sustainability tests, and the third describes the DSGE model used to simulate the future behavior of the economy. The fourth section presents the results of empirical tests of sustainability and the prospective model. The last section summarizes the conclusions.

[1] The Eurozone debt jumped from 66% of GDP at the end of 2007 to 85% in 2010, while the U.S. jumped from 64% to 92% of GDP in the same period.

[2] Results accumulated in 12 months, according to the Central Bank.

[3] Comparison of fiscal performance from the end of 2009 with the previous years is difficult, if not impossible, due to successive changes in accounting criteria that affected the characteristics of the official data series of public deficit.

[4] Calvo (1983) constructed a model of time-dependent nominal rigidities that made possible the introduction of price stickiness in the real business cycle models.