Economic Modelling 30 (2013) 10–21

Contents lists available at SciVerse ScienceDirect

Economic Modelling

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

Public debt management and credibility: Evidence from an emerging economy

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ARTICLE INFO

Article history:
Accepted 5 September 2012

JEL classification:
E62
E63

Keywords:
Public debt
Fiscal credibility
Indexation

ABSTRACT

This study is a contribution to the literature concerning the management of the public debt in emerging economies. A novelty in this article is the introduction of a fiscal credibility index based on the market's expectations in regard to the public debt to GDP ratio. The main objective is to present empirical evidence for the Brazilian case concerning the framework of the public debt composition and also the effect of this framework on public debt to GDP ratio. The findings demonstrate that the commitment with the public debt increases the fiscal credibility and that it is crucial for the success of the management of the public debt. Contrary to what is recommended in the standard literature an increase in the average maturity and the share of inflation-linked bonds imply costs that cannot be neglected.

1. Introduction

Fiscal balance is essential for increasing private investment and sustaining economic growth (see Blanchard, 2010). The recent fiscal crisis observed in countries such as Greece, Italy, Ireland, Portugal, and Spain, turned on the red light for emerging economies. In particular, the management of the public debt must be implemented in a way that eliminates the default risk. Fiscal credibility is a key player in the economy because it enables a government to stabilize expectations in a manner that avoids a rise in long-term interest rates and thus mitigates the risk of insolvency. In short, nowadays, there is the recognition that credibility is crucial for building fiscal buffers in emerging economies (IMF, 2011).

Brazil, one of the leaders of the emerging economies which had success in avoiding fiscal insolvency due to the subprime crisis, has, since 1999, implemented a strategy for managing public debt with the objective of extending the average maturity and improving the public debt composition. The main challenge for the Brazilian case is that credibility is not sufficiently developed and as a consequence there exists a trade-off between extending average maturity and public debt indexation.

This study is a contribution to the literature concerning the management of the public debt in emerging economies. A novelty in this article is the introduction of a fiscal credibility index based on the market's expectations in regard to the public debt to GDP ratio. The main objective is to present empirical evidence for the Brazilian case concerning the framework of the public debt composition and also the effect of this framework on public debt to GDP ratio.

The remainder of this study is organized as follows. The next section provides a brief overview of the literature regarding public debt management. Section 3 provides an analysis for credibility and management of the public debt and creates a fiscal credibility index based on the Brazilian case. Section 4 shows empirical evidence, through an econometric analysis, concerning the framework of the public debt composition and its effect on public debt to GDP ratio. The last section concludes the paper.

2. Public debt management a brief overview

The main concerns in the analysis on public debt management are the financial stability and how to mitigate the effects due to a crisis of confidence. Giavazzi and Pagano (1990) analyzed whether the risk of a crisis of confidence (likelihood of change in the exchange regime) can be reduced through a correct choice of the maturity structure of the public debt. The authors observed that a short maturity of the public debt increases the default risk due to an increase in the interest rate in order to reduce the chance of currency devaluation. A corollary of this analysis is that a good strategy for public debt management is to increase the average maturity of the public debt and to smooth out the payments over a longer period.

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0264-9993/$ – see front matter
http://dx.doi.org/10.1016/j.econmod.2012.09.009

Calvo and Guidotti (1990) considered several possibilities for the indexation and maturity of public debt in order to study their impact and optimal levels. The analysis is based on a framework of two periods (0 and 1), where the government's decisions from period 0 are applied to period 1 (full precommitment). The findings indicate that the optimal public debt management strategy lies in longer debt maturities and a partial indexation of the public debt.

The recommendations from the analysis above inspired several other studies. In particular Missale et al. (2002) observed that governments are more likely to increase the maturity of public debt in the face of asymmetric information (investors are not aware of the government's preference for implementing the announced policies). The argument is that this mechanism is a way of reducing the risk of refinancing and thus increasing the expectation that the fiscal effort will be successful. According to Barro (2003) smoothing the tax burden leads the government to issue bonds whose payment is contingent on expenditure. In this view, when expenditure is equal in every period, public debt must be structured in consolidated annuities (consols) because this framework protects the budget from unexpected variations in the market prices of indexed bonds with different maturities. More recently, Marchesi (2006) through a two-period model with asymmetric information observed that a good strategy would be to buy back government debt to reduce debt service costs. The argument is that it would improve the liquidity and efficiency of the secondary market which would be able to reduce the risk premiums, improve the government's credibility, and improve market conditions.

Although a large part of the literature suggests that the increase in the maturity of the public debt is a good strategy for managing public debt, some authors, such as Georges (2006), do not agree with this recommendation. According to this critical view, a short maturity of the public debt is on average cheaper and can imply less risk to the public budget. Through an analysis that considers the effect of several maturity frameworks on interest rate and on primary surplus for Canada, Georges (2006) observed that when both effects are considered, the trade-off between cost and risk can decrease.

According to Wolswijk and de Haan (2006), after the creation of the euro zone, a combination of a decrease in the foreign exchange risk, increases in the maturity of the public debt, use of derivatives (swaps), and inflation-linked government bonds, was observed. Although this strategy has not been enough to prevent the deleterious effect of the crisis of 2007 in the European countries, Anderson et al. (2010), based on a sample of 24 emerging economies, pointed out that the improvement in the public debt management (particularly the increase in the maturity of the public debt) cushioned the impact of the crisis in those countries.[1]

3. Credibility and public debt management

The risk of monetization of the public debt is particularly relevant in an inflation targeting environment because it can start an inflationary process (Mishkin and Savastano, 2000). In addition, According to Sargent and Wallace (1981) a large public debt implies a difficulty for reducing the interest rate. Moreover, as pointed out by Giavazzi and Pagano (1990) there is a connection between the maturity of public debt and interest rate. The idea is that a short (long) maturity debt may be associated with a high (low) interest rate due to the high (low) risk of default. As pointed out by King (1995) the consequence of a low credibility is a high interest rate.

In order to prevent a possible explosive path for the public and to increase the credibility in economic policy, in November 1999 the Treasury announced a strategy of lengthening the federal debt. In addition, as a way of improving the composition of the public debt, this strategy also considers the search for increasing the share of bonds with fixed rate or inflation-linked, and reducing the percentage of debt indexed to the interest rate and exchange rate.

The interaction between private agents and the government interferes in the choice of the strategy for public debt management. This influence is related to the optimal maturity, the level of debt indexation, and the composition by indexing factor. Therefore, it is desirable to use strategies that are capable of neutralizing the impacts caused by external or domestic shocks that would endanger fiscal balance. In short, it is important that fiscal policy develops credibility through well-defined rules and structural reforms to ensure public debt sustainability which improves public expectations and thus a better economic performance (Kopits, 2000).

If a country is not able to signal to economic agents that its debt will be honored, no other foundation of the economy will be able to avoid default. As the purchase of government securities that finance the public debt is done by the private sector, the influence of these creditors in building credibility is significant. Therefore, market expectations influence the demand for these securities and thus the ability of the government to roll its debt.

The public debt management is directly related to the credibility in the economic policy. According to Calvo (1997) the lack of credibility weakens the long-term securities market. As a consequence, there is the necessity for a drastic reduction of the debt/GDP ratio as a way of reducing the temptation of government to repudiate the debt, implying lower interest rates. On the other hand, Dominguez (2005) points out that low credibility leads governments to adopt, as an optimal strategy, the reduction in the maturity of the public debt as a way of reducing the interest rate.

Since credibility is the belief by the public in the probability of a successful execution of the policy (Drazen, 2000), and taking into account IMF's recommendation and Maastricht limits to public debt, this study develops a credibility fiscal index based on government's commitment to public debt sustainability. Furthermore, since credibility can be measured by “the absolute value of the difference between the policymaker's plans and the public's beliefs about those plans” (Cukierman and Meltzer, 1986, p. 1108), an index which captures the public's expectations regarding fiscal solvency allows one to see the current fiscal policy credibility.[2] It is important to highlight that this analysis is particularly well suited for the Brazilian case because one of the main objectives of the Brazilian National Treasury is enhancing the foreseeability and transparency of the federal public debt (ABP, 2012).

[1] The average maturity of Latin American countries, for example, that in 2000 was 1.3 years, tripled in the last decade rising to 4 years in 2009, reducing exposure to refinancing risk.

[2] For an analysis regarding monetary policy credibility for the Brazilian case, see de Mendonça (2007) and de Mendonça and Souza (2009).