

## FISCAL FATIGUE AND PUBLIC DEBT LIMIT IN BRAZIL: ARE WE ON SUSTAINABLE PATH?

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There is a popular saying among economists that public debts are never paid. They just get diluted in economic growth, to the point that they become no longer meaningful. The huge debt contracted by the US government during WW II, for example, was never paid out. It just so happened that the US economy grew so vigorously during the 50's and 60's that the old wartime debt as a share of the new enhanced GDP was not a matter of concern. That is not saying, however, that economies can contract public debt indefinitely. There is obviously a limit, which is related to the fact that it costs money to move a constant stock of debt through time. That cost is proportional to real interest rates, and to the debt level. Now, let us suppose, by absurd, that a certain government can undertake unlimited debt. As the debt increases, so does its interest payments. Eventually this debt may be so high that servicing it costs the entire GDP of this economy. That is not an attainable scenario. In fact, earlier than that, at lower levels of debt, a sovereign default becomes a much better deal than the imposition of a large debt servicing burden to society. The important question is which level is this?

In this paper, I estimate the debt limit for the Brazilian economy. I do so using a methodology proposed by Ghosh et al. (2013). These authors estimate a common fiscal reaction function for a number of advanced economies. A fiscal function determines how administrations react to changes in the debt, in terms of changes in primary balances. Net public debt jumped from 30% to roughly 60% of GDP in a matter of just five years in Brazil, raising a red flag among economists. Is the current debt level sustainable in Brazil? How close is the economy to its debt limit? What is the magnitude of Brazil's fiscal space (the difference between the current and limit debt/GDP ratio)?

Good governance dictates that a higher debt should lead to a higher primary balance. This expected positive correlation does not say anything about the shape of this reaction function. Is it linear, quadratic, cubic? In fact, a large number of studies either assumed

a linear relation between the primary balance and the debt, or simply did not detect non-linearities at all. Ghosh et al.'s (2013) paper changed that perception. Important non-linearities are detected, possibly because of the inclusion of both low and high debt economies in the sample. They found an S-shaped curve, with important implications coming from the concave section of the curve. The phenomenon behind that concavity is interpreted as a fiscal fatigue, a situation in which policymakers progressively lose the ability to raise primary surplus in response to a higher level of debt. That may happen because when the debt is too high, individuals may not be willing to increase their already high sacrifice (high taxes levied to pay the high service of the debt) when the debt increases. Eventually, the primary balance may have been reduced so much by this fiscal fatigue effect that an exogenous increase in the debt leads to more debt. An explosive dynamics kicks in, and a sovereign default becomes inevitable.

I use Brazilian monthly data on the general government primary balances and debt. I estimate a few alternative fiscal reaction functions. In all of them the non-linearities are significant. I show that fiscal fatigue is present in Brazil at much lower levels of debt compared to the existing estimates for advanced economies. I also estimate the fiscal limit for a number of different scenarios of economic growth and real interest rates. I find fiscal limits ranging roughly from 65% to 85% of debt/GDP level in the Brazilian economy, depending on which estimates are considered, as well as which scenario of growth and interest rates. The implication is that Brazil's fiscal space may be relatively short, and policymakers should be aware that an irreversible fiscal collapse that leads to a sovereign default is not a far-fetched scenario.

### REFERENCE

GHOSH, A. et al. Fiscal fatigue, fiscal space and debt sustainability in advanced economies. *The Economic Journal*, v. 123, p. F4-F30, 2013.