

Uma análise da sustentabilidade da dívida no Brasil

An analysis of debt sustainability in Brazil

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Resumo: Este artigo tem como objetivo discutir a sustentabilidade da dívida da economia brasileira, que está sob escrutínio desde 2013. As economias emergentes podem enfrentar instabilidade com balanço de pagamentos ou aumento da inflação devido a uma possível desvalorização cambial. Assim, foram realizadas simulações prospectivas da dinâmica da dívida bruta utilizando dados disponíveis até 2023. Até 2040, sob as expectativas do mercado e certos pressupostos, a dívida bruta não parece explosiva. A Dívida Bruta do Governo Geral (DBGG) tende a aumentar no curto prazo, estabilizando-se no médio e longo prazo. Contudo, não é uma situação confortável, especialmente considerando que os níveis de DBGG estão acima dos países emergentes e dada a possibilidade de choques adversos nas variáveis mais relevantes sobre a dinâmica da dívida. A combinação de “ $r - g$ ” deve melhorar para que o Brasil tenha uma trajetória de dívida mais benigna.

Palavras-chave: Sustentabilidade da dívida e economia brasileira

Abstract: This article aims to discuss the debt sustainability for the Brazilian economy, which has been under scrutiny since 2013. Emerging economies may face instability with balance of payments or rising inflation due to a possible currency devaluation. Thus, prospective simulations of gross debt dynamics were conducted using data available up to 2023. Until 2040, under market expectations and certain assumptions, gross debt does not seem explosive. General Government Gross Debt (GGGD) tends to rise in the short term, stabilizing in the medium and long term. However, it is not a comfortable situation, especially

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considering that GGGD levels are above those of emerging countries and given the possibility of adverse shocks in the most relevant variables regarding debt dynamics. The combination of “ $r - g$ ” should improve for Brazil to have a more benign debt trajectory.

Key-words: Debt sustainability and Brazilian economy

Introduction

This article aims to discuss the debt sustainability for the Brazilian economy. In fact, Brazil's fiscal situation has been at the center of national debate since 2013 due to the so-called creative accounting and the deterioration of the primary surplus and public debt – a situation that was aggravated by COVID-19. Given this vulnerability, economies may face instability with balance of payments or rising inflation due to a possible currency devaluation. Thus, an analysis of debt sustainability in the country was conducted based on prospective simulations of its dynamics using data available up to 2022.

Prospective scenarios were outlined for the General Government Gross Debt (GGGD) to verify whether debt would be on an explosive – unsustainable – trajectory. In short, over the horizon until 2040, under market expectations and certain assumptions, the gross debt seems to be sustainable. GGGD tends to rise in the short term, stabilizing in the medium and long term. However, it is not a comfortable situation, especially considering that GGGD levels are above those of emerging countries (according to the International Monetary Fund – IMF – methodology for standardizing public finances, Brazil had 85.9% of GDP in gross debt in 2022, while emerging countries have an average of 64.58% of GDP) and given the possibility of adverse shocks in the most relevant variables regarding debt dynamics.

2. Debt Sustainability in Brazil

While there isn't an explicit number indicating when public debt interferes with a country's economic performance (contrary to what Reinert; Rogoff, 2010, and others have suggested²), there are mechanisms that can negatively impact countries, especially less developed ones, when debt levels rise.

Debt dynamics are more complex for developing countries like Brazil, which have part

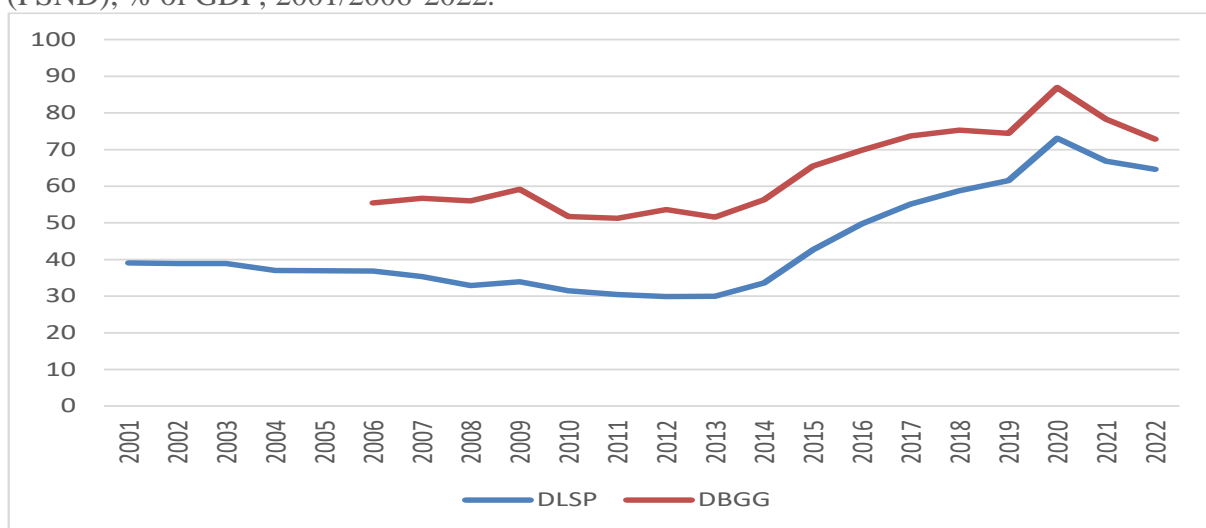
² See Heimberger (2022), in which he verifies the effect of increasing public debt on growth. It appears that, removing a bias for the effect to be negative, there is no robust evidence of the existence of a negative effect of greater debt on economic growth.

of their debt in foreign currency. Indeed, market conventions indicate that increased debt would be a central problem for the Brazilian economy which could create self-fulfilling prophecies³. The hierarchy of currencies, expanded by financial globalization, can fuel these prophecies. During crises, capital might move to centers with more liquid currencies, the called flight to quality (Calvo et al., 2014).

As a result, an increase in debt can lead to currency devaluation, capital outflow, rising inflation, and, in an inflation-targeting regime, a need for restrictive monetary policy. Consequently, the effects on output can be negative due to these factors.

The Brazilian economy has undergone different fiscal phases over time. After an agreement with the IMF in 1998, the government achieved stronger primary results, particularly through increased tax burden. Consequently, the recurring primary result of the General Government changed from -0.64% of GDP in 1998 to 2.83% of GDP in 2003⁴. The recurring primary surplus remained high until 2008, staying above 3% of GDP. To combat the effects of external crises, this was interrupted, although efforts were made to restore the primary result in 2011 – 2.72% of GDP. From then on, due to the exhaustion of the positive commodity cycle, the formalization process in the economy, the policy of tax exemptions, the deterioration of the Brazilian economy itself, and the growth of certain expenses (especially in social security), this result began to decrease, reaching almost -3% of GDP in 2016. Since then, the recurring primary result has been approaching -2% of GDP until the onset of the pandemic.

Graph 1 – General Government Gross Debt (GGGD) and Public Sector Net Debt (PSND), % of GDP, 2001/2006-2022.



Source: Central Bank of Brazil. Author's elaboration.

³ See Carvalho (2014) on conventions; Modenesi et al. (2013) on conventions and monetary policy; Fraga (2019) on the impact of conventions on investment.

⁴ Data from the Fiscal Policy Observatory of Fundação Getúlio Vargas (FGV).

As observed, after a period of decline (in the case of PSND) or stability (in the case of GGGD), public debt began to rise in both concepts from 2014, reaching approximately 60% of GDP for PSND and 80% of GDP for GGGD by the end of 2021. In 2022, a significant decline in GGGD is observed to almost 73% of GDP.

The 'r-g' component of the country, in general, contributes positively to debt variation, except in 2021. On the other hand, the primary result contributed to reducing debt until 2013 (when there was a primary surplus). However, it is important to emphasize the relevance of stock-flow adjustments in public debt. Therefore, expanding the determinants of debt for forecasts in the coming years is interesting.

3. Intertemporal budget constraint and debt dynamics

To assess the fiscal sustainability of governments, several methodologies exist in the literature, primarily econometric approaches based on historical series' behavior. It's worth examining another approach that attempts to project public debt through its determinants. Based on the intertemporal budget constraint, using the final equation from Barbosa-Filho (2021), the prospective dynamics of debt can be verified:

$$d_t = -b_{p,t} + \left(\frac{1+r_{D,t-1}}{1+g_{Y,t}} \right) d_{t-1} + \left(\frac{g_{Ah,t}-i_{Ah,t-1}}{1+g_{PY,t}} \right) a_{h,t-1} + \left(\frac{g_{Af,t}-i_{Af,t-1}}{1+g_{PY,t}} \right) a_{f,t-1} - s_t + z_{J,t} + z_{G,t} \quad (1)$$

Where: d is debt as a share of GDP; b is the primary surplus as a share of GDP; $g_{(Y,t)}$ is the real GDP growth rate; $g_{(PY,t)}$ is the nominal GDP growth rate; i_A is the nominal interest rate for fixed-income government assets; $g_{(A,t)}$ is the nominal growth rate of fixed-income government assets; $r_{(D,t)}$ is the implicit interest rate on gross debt; the stock and flow effects of exchange depreciation are also in proportion to GDP ($z_{(J,t)}$ e $z_{(N,t)}$, respectively); g_{Ah} and g_{Af} represent the nominal growth rates of assets in domestic and foreign currency, respectively; a refers to assets as a share of GDP; s is seigniorage; h and f refer to domestic and foreign variables, respectively.

4. Public debt prospective scenarios

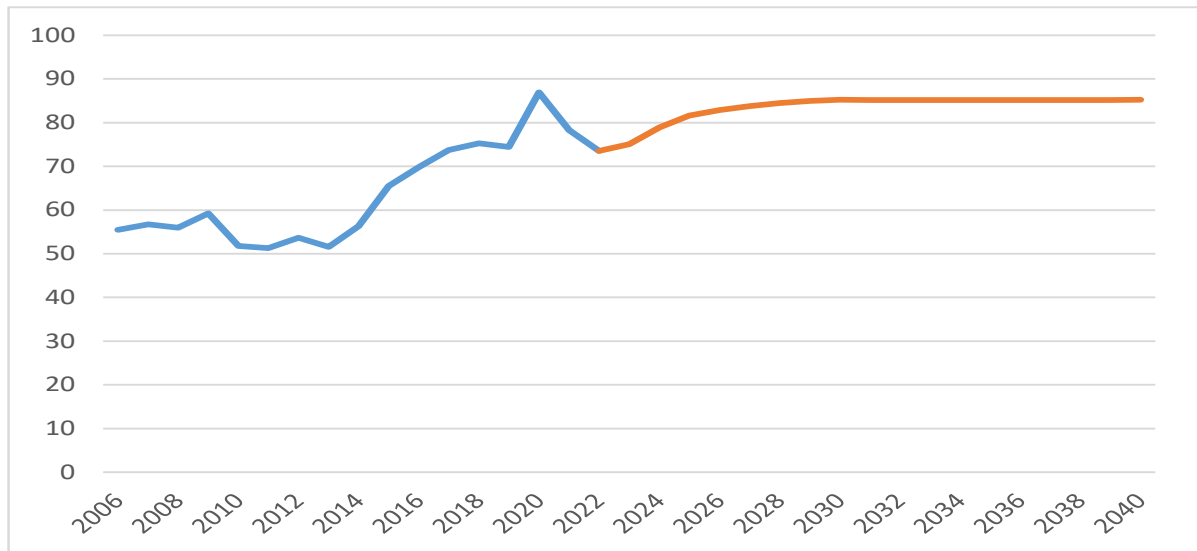
In this section, debt projections until 2040 are outlined with various scenarios that could alter its trajectory. Parameters and assumptions for the baseline scenario were applied.

The primary result from 2023 to 2026 follows the Central Bank's Focus report expectations (as of September 1, 2023). From 2027 onward, it is assumed that the primary surplus will annually increase until it reaches 1% of GDP in 2033, remaining at this level until 2040. The implicit interest rate on gross debt between 2023 and 2025 uses the average between the year-end expectation for each year and the rate that would have closed in the previous year. From 2026 onward, the Selic expectation is used, which is typically very close to the implicit rate, as most of the gross debt comprises operations linked to the Selic rate (BCB, 2018). The inflation rate measured by IPCA is used until 2022; from 2023 to 2026, the Focus expectation is used; from 2027 onward, the market's expected value is 3.5%. The GDP deflator is calculated by IBGE; from 2024 onward, it uses IPCA plus 0.69p.p. – assuming it remains higher than IPCA, as commonly observed; this value, conservatively, is half the median of the difference between the implicit GDP deflator and IPCA from 2013 to 2022 over the past 10 years.

Assets in fixed income with domestic currency⁵ are considered until 2022, and from then onward, they follow a trend depending on their remuneration and the government's funds return schedule. For the rate related to these securities, it is assumed to be similar to the implicit rate of GGGD. The nominal GDP growth rate depends on real growth and the GDP deflator. Assets in fixed income denominated in foreign currency represent international reserves until 2022; from 2025 onward, an annual increase of 1% in dollars is assumed. The exchange rate follows the Focus report until 2026, with the rate approaching around 5.17; thereafter, an increase of 1.5% per year is anticipated due to the inflation target differential between Brazil and the United States, taken as reference. The interest rate concerning these securities would be the U.S. basic interest rate – reaching 5.5% in 2023, reducing to 2.5% from 2025 onward. Moreover, there's seigniorage, given by the variation of the Monetary Base over the nominal GDP (from 2023 onward, the Monetary Base would expand in line with the nominal GDP, making seigniorage around 0.39% of GDP, close to the historical average of 0.44% of GDP between 2007 and 2022). Based on this, it's possible to outline the base scenario for the Gross Debt of the General Government's evolution until 2040.

Graph 2 – General Government Gross Debt (% GDP), baseline scenario – 2006-2040*

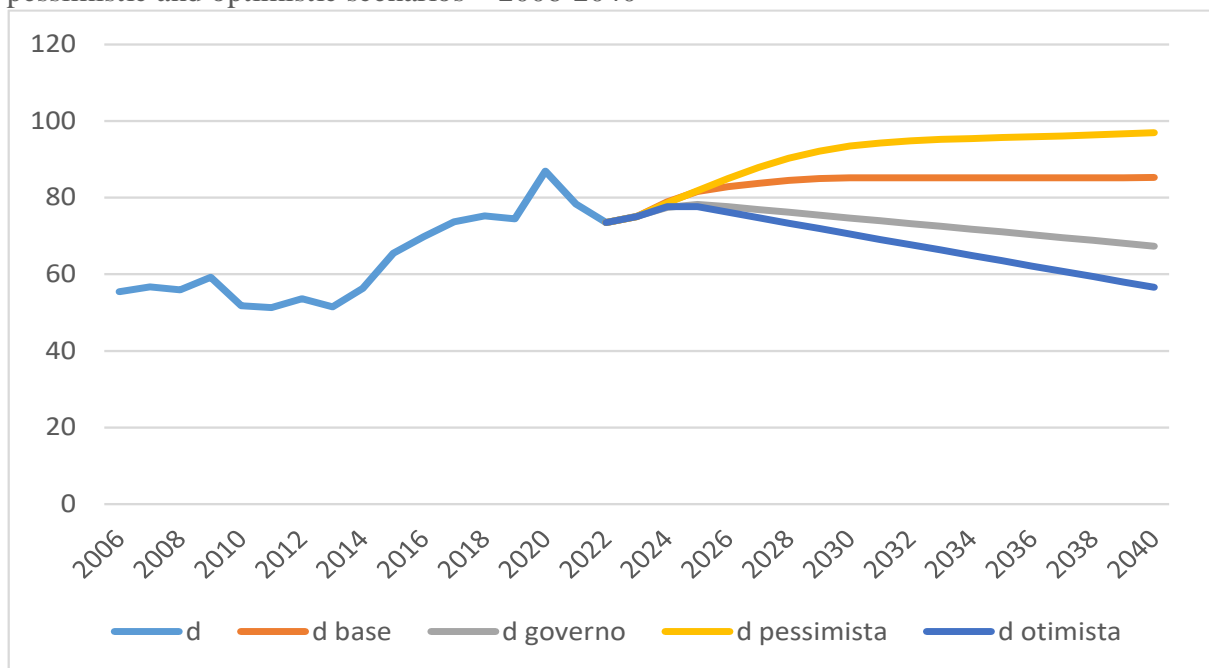
⁵ Resources at BNDES; resources in other official financial institutions (IFOs); FAT resources in the banking network; others.



Source: Author's elaboration. *Projections from 2023 onwards.

As observed, in the baseline scenario, GGGD grows to about 85% of GDP by 2030, then remains relatively stable⁶. Initially, there's an increase in debt, particularly due to deteriorated interest rates and the expected reduction in the primary result, followed by debt stabilization. Alternative scenarios can also be projected, for example, with slight changes based on market expectations, more optimistic or pessimistic.

Graph 3 – General Government Gross Debt (% GDP), baseline, government, pessimistic and optimistic scenarios – 2006-2040*



⁶ In this scenario, it's not considered the payment of liabilities regarding court sentences which were postponed in a

Source: Author's elaboration. *Projections from 2023 onwards.

In the 'government scenario', parameters of growth from 2023 onward were modified (2.5%, 2.3%, 2.8%, 2.5%, 2.6%, and 2.6% thereafter), considering the Fiscal Macro Bulletin from the Economic Policy Secretariat, alongside the announced primary result as a goal (-1% in 2023, 0% in 2024, 0.5% in 2025, and 1% in 2026, continuing thereafter). In the pessimistic scenario, compared to the baseline scenario, the primary result would be -1% of GDP in 2024, increasing by 0.2 percentage points each year until reaching 1%, remaining thereafter; interest rates would be 11.5% in 2024, decreasing by 0.5 percentage points each year until reaching 8.5% thereafter; IPCA would be 4.5% in 2024, decreasing by 0.5 percentage points until reaching 3.5% thereafter. In the optimistic scenario, the primary result would remain the same as in the government scenario; the interest rate would be 12.75% in 2023, decreasing to 9.5% in 2024 and to 8% thereafter; growth would be 2% in 2024 and 3% thereafter. It's noticeable that, depending on variables like the primary result, growth, and interest rates, not to mention other influential factors in debt dynamics, as observed earlier, there are several possible trajectories. The scenario presents challenges ahead, either in defining the fiscal framework, pursuing primary result targets, or attempting to accelerate economic growth. Indeed, the government scenario is closer to the optimistic scenario, showing a more favorable trajectory for GDGG. With a slightly more optimistic scenario, with 3% annual growth, GDGG approaches 55% of GDP by 2040. Clearly, with a more pessimistic scenario, debt takes an upward trajectory, given lower growth and primary results.

In any case, the issue is to provide a more favorable “ $r - g$ ” relationship, as anticipated by Domar (1944), which presupposes accelerating growth without putting pressure on interest rates. This involves the need for more modern fiscal rules that do provide fiscal sustainability, but that also preserve more productive spending – which tend to have more robust multipliers. Thus, together with growth-friendly reforms, it is possible to achieve a better perspective.

Final remarks

In this article, the Brazilian fiscal situation was contextualized, including the determinants of debt evolution that can impact its sustainability. Subsequently, prospective scenarios were outlined for the GGGD to assess whether debts would be on an explosive trajectory.

In summary, over the horizon until 2040, under market expectations and with certain

assumptions, there doesn't seem to be debt unsustainability. Indeed, it tends to rise in the short term and stabilize in the medium and long terms. Nonetheless, it's not a comfortable situation, partly because GGGD levels are higher than those of emerging countries, and also due to the importance of maintaining some fiscal space for future adverse shocks that may occur (and invariably do). Another long-term concern is the evolution of pension expenses and other benefits, which exert pressure on expenses in general.

Therefore, there's a clear need for a debt as a share of GDP reduction in the medium and long terms. To achieve this, increasing economic growth and the primary surplus will be necessary, which can be pursued in different proportions and ways – more gradually or rapidly; focusing on revenues, expenses, or a combination of both; with higher growth and/or formalization of the economy.

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