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Demystifying Domar Debt Sustainability

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The level of public debt in a country is an important indicator of its financial health and greatly affects external perception about its economy in today's globalized world. The level of public debt has been an important issue in the narrative of an economy and public comments by international organizations or rating agencies tracking the level of public debt of countries act as a signal to policymakers and international investors about the economic wellbeing of the country. The risks of high public debt became prominent during the aftermath of the global financial crisis particularly during the European debt crisis of 2010 when countries like Greece were on the verge of default and had to be bailed out by the European Union.

According to IMF, the public debt to GDP ratio for India has increased from around 74% to 90% in recent times warranting the attention for the sustainability of Indian public debt. In the press conference following the June 2021 monetary policy meeting, RBI Deputy Governor, Dr. Michael Patra stated that according to RBI's assessment of the Domar condition of debt sustainability, which requires the economic growth rate to be greater than the interest rate at which the debt is serviced by the Government, India's public debt is sustainable as this condition is fulfilled for now. Further, he also stated that the proportion of debt to GDP is set to decline over the next 5-6 years, implying that the public debt of India is sustainable in medium term.

The question central to any in-depth economic analysis on public debt is: What is the level of public debt that is sustainable for the economy? Consequently, when does the public debt become unsustainable for the economy? The economist Evsey Domar in his pioneering work, "The Burden of Debt and National Income" (1944) carried out while he was a member of the Board of Governors of the US Federal Reserve System, offers answers to these questions. The paper centered on the discussion of the dynamics of public debt and economic growth, and it assessed the risks of public debt and emphasized the need to push economic growth rather than being skeptical about increase in public debt. The Domar condition states that for the public debt of a country to be sustainable, the nominal rate of growth of the economy should be greater than the growth rate of nominal public debt. As long as this condition is met, according to the Domar model, any level of public debt is sustainable, and the country remains solvent.

Public debt is a function of the government's spending and revenue patterns, which naturally create either a budget surplus or a deficit. In the case of budget surplus, there is no need of financing, but in the case of a budget deficit, financing the deficit is necessary. This financing can be done in two ways, either by issuing bonds (issued by the government) or by printing currency (issued by the central bank). The third method to finance deficit is by way of external financing which can be safely ignored presently looking at the size of external debt of India compared to the size of domestic debt.

Apart from this, non-marketable sources of financing for the Government like Small Savings, being relatively smaller as compared to bond financing have not been reckoned. The Domar Debt stability condition is given by the equation as follows:

$$d^* = \frac{s}{r-g}$$

Where, d* is the stable level of debt, s is the primary deficit and r is the nominal interest rate and g is the nominal growth rate and the denominator contains the famous interest rate growth differential (r-g) .

The debt stability condition suggests that as long as the nominal growth rate of the country is greater than the nominal interest rate, any level of the primary deficit would be sustainable. The numerator of the equation points to the movements in the fiscal balance in the economy. Theoretically, primary deficit is the fiscal deficit minus the interest payments on outstanding debt stock. The debt stability condition holds when seigniorage revenue is zero, implying that bond financing is the major or only source of deficit financing without any recourse to money printing by the central bank.Seigniorage revenue is the income made by the government by printing money. The equation implies that any level of debt is sustainable as long as the denominator is negative. In other words, the nominal economic growth rate is larger than the nominal interest rate.

This gives rise to multiple scenarios for various combinations of the primary deficit, interest rate and growth rate. Generally, the direction of the Domar value will depend on the numerator as well as denominator, but it depends particularly on the interest rate-growth differential (IRGD) i.e. the denominator.

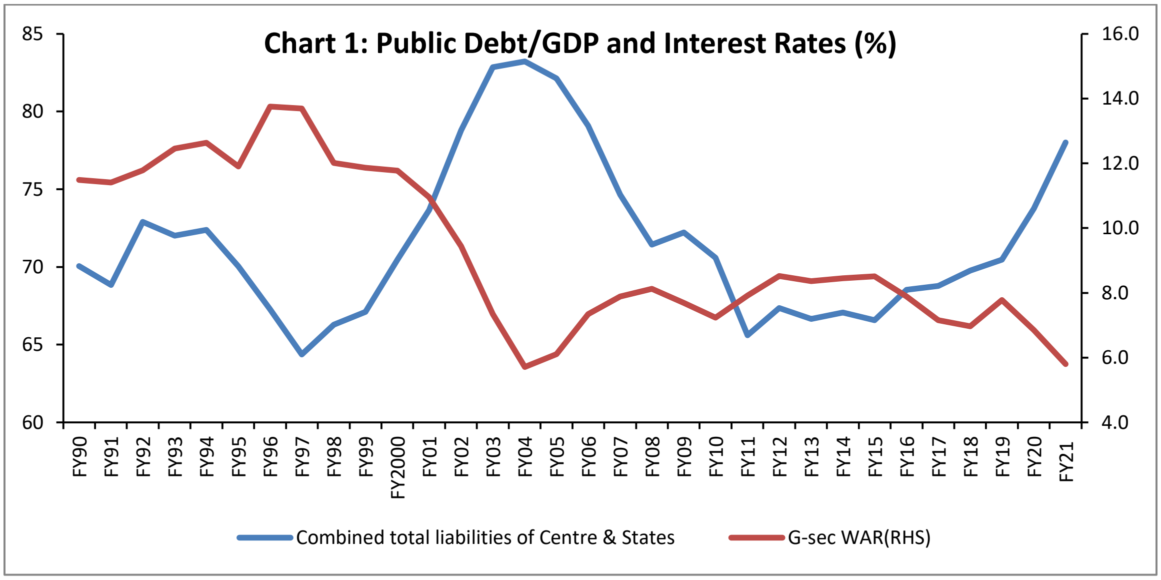
1. The mechanics of the equation state that for negative IGRD i.e. g>r with a primary surplus the public debt will decline and reach a stable level and hence it can be concluded that public debt is sustainable. This situation will lead to public savings as revenue receipts would exceed revenue expenditures and cost of borrowings would also be less than the economic growth rate.

2. If the IGRD is negative i.e. g>r and the primary balance is in deficit then the public debt remains sustainable as economic growth exceeds the cost of borrowings, despite witnessing a primary deficit.

3. If the IGRD is positive i.e. g<r rate of growth is less than the cost of borrowings and the government encounters a primary surplus the situation is undefined as it depends on the initial level of public debt. If the initial level of debt is less than or equal to the primary surplus the debt might be sustainable, as the primary surpluses will lead to

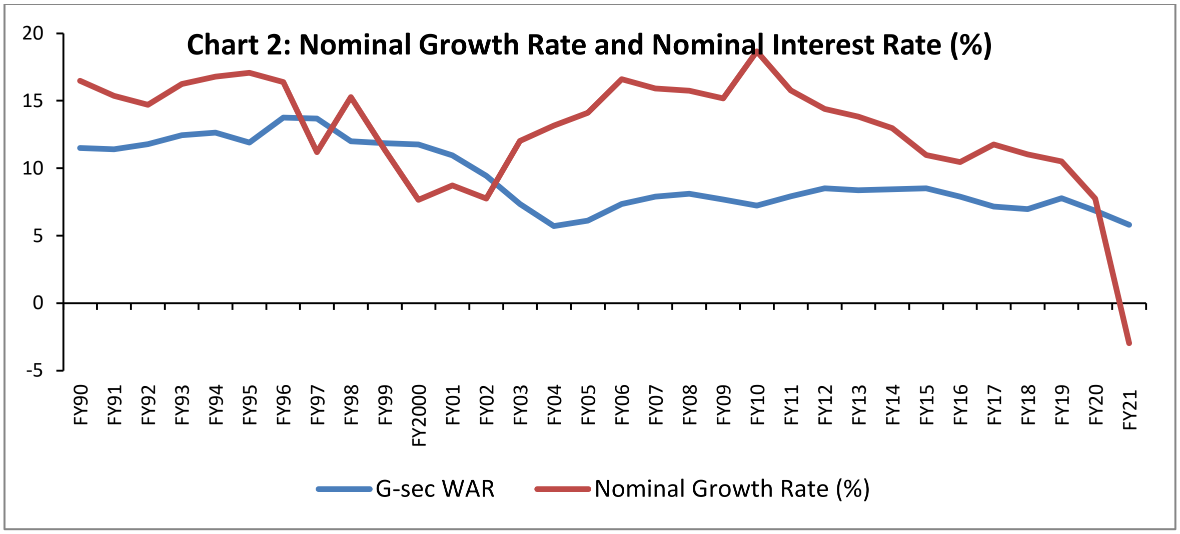
decline in debt over time. If the IRGD keeps widening in this case debt would become unsustainable.

4. If the IRGD is positive i.e. g<r and the government records a primary deficit, then the debt level is unsustainable and public debt will continue to grow indefinitely.



Source: RBI, STCI PD Research

Chart 1 shows that in the case of interest rates surging up too high, the level of borrowing ebbs to a lower level and vice versa, for interest levels which are moderate naturally borrowing by the government increases. The relationship between debt and interest rates is usually inverted in the sense that high interest rates are a deterrent for borrowings and a low or benign interest rate scenario aids the government to expand the size of its borrowings to an extent. Although, the ex-post impact of this expansion in turn results in a hardening of the bond yields. The extant condition is an idiosyncratic one since the level of borrowing for both years FY21 as well as FY22 has been very high as compared to the trend prevalent before the advent of the pandemic. On the other hand, interest rates have been kept low by RBI's support to the market via various instruments like OMOs (regular, special and G-SAP).

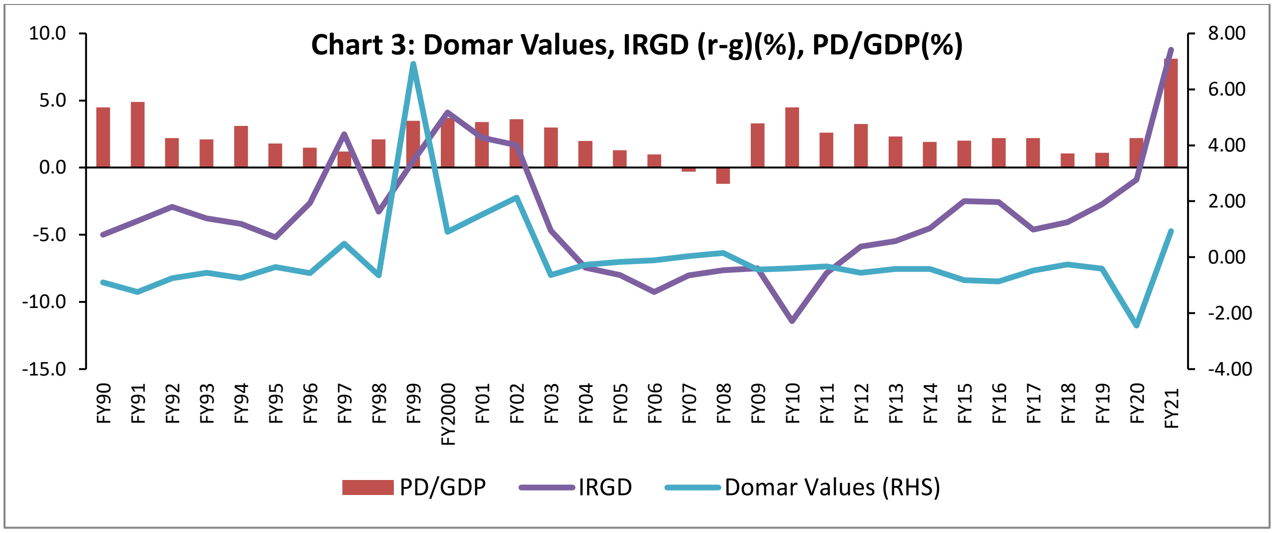


Source: RBI, STCI PD Research

Although for a major part of the past two decades, there have been episodes of the nominal interest rate being higher than the economic growth rate, seldom was India's debt deemed unsustainable simply because the expected rate of growth for India was higher than the nominal interest rate. The advent of the Covid-19 pandemic in 2020 has opened up the debate on the sustainability of public debt in India as both the numerator and the denominator of the Domar stability condition have been stretched significantly. The nominal GDP declined for the first time in FY21 printing at -3% on a year on year basis. This creates a situation which leads to a positive IRGD and as shown in the Chart 3, leading to positive Domar debt stability ratio values which have been encountered in India in three significant episodes since 1990s - the Asian currency crisis(1997), the dotcom bubble burst (2000) and the third instance being the present COVID-19 crisis(2020).

The present situation has led to negative nominal growth and hence the denominator of the ratio is positive. This should likely change soon as FY22 is expected to see positive nominal growth of around 15%, if one were to assume a real growth rate of 9.5% (RBI's estimates) and an average inflation rate of 5.5% for the year. As growth picks up in the subsequent quarters, the ratio of primary deficit to the IRGD should again turn negative indicating that the level of public debt will decline over time.

This is reflected in the Union Budget's Economic Survey where in the second chapter titled "*Does Growth Lead to Debt sustainability? Yes, but not Vice Versa!"* The survey argues that economic growth makes debt sustainable but debt sustainability certainly does not lead to economic growth. In the face of the crisis such as the one the economy is facing presently, it is indeed the primary function of the government to embark on counter cyclical fiscal policy to ensure that economic activity is supported and the quality of government spending percolates into increased economic growth. Hence, the recent changes in the fiscal indicators can be thought of as a shock response of the government to the crises and will be moderated over time.



Source: RBI, STCI PD Research

Conclusion: The recent upturn in the primary deficit to IRGD ratio can be seen as a one time and temporary event. The Deputy Governor's statement and the Economic Survey indicate that RBI and the Government expect a robust recovery in the growth trends in the country such that the level of outstanding debt will keep growing at a slower pace as the pandemic and related government expenditures subside in intensity and frequency. As long as the expected future growth trajectory appears to be robust, India's debt would remain sustainable. The central premise of the Domar Model is to focus on enhancing the economic growth rate rather than worry about increased debt levels. The moot point remains whether the increased levels of debt are leading to an increase in growth.

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