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An Optimal Public Debt-to-GDP Ratio?

Proposed prudential limits on public debt-to-GDP ratios play a crucial role in current debates on fiscal consolidation. Such benchmarks typically come from technical work by IMF staff, although these benchmarks are not necessarily officially endorsed by the IMF. Should these proposed prudential limits on public debt-to-GDP ratios be treated as optimal for designing fiscal policy?

A public debt-to-GDP ratio of 60 per cent has been proposed as a prudent limit for developed countries.¹ It implies that crossing this limit will threaten fiscal sustainability. For developing and emerging economies, 40 per cent is the suggested public debt-to-GDP ratio. Based on these figures, an April 2010 report by the IMF's Fiscal Affairs Department (IMF, 2010)² offered illustrative "fiscal adjustments" for economies to reach these suggested public debt-to-GDP ratios by 2030.³ Thus, there is a tendency to treat these debt-to-GDP ratios as "optimal" in the specific sense that crossing these thresholds threatens debt sustainability. This is consistent with the IMF's global macroeconomic model which assigns a dual role to fiscal policy: (1) smoothening out business cycles in the short run; and (2) meeting debt sustainability targets in the long run.⁴

Are these benchmarks really optimal? The 60 per cent figure was one of a handful of targets European governments set at the start of the 1990s to prepare for economic

and monetary union, and the eventual formation of the euro zone. There was no hint of optimality; it was simply the median debt-to-GDP ratio. The IMF paper does not explain the rationale for the suggested benchmark for developing and emerging economies. However, one can find some indication in the 2002 Sustainability Framework of the IMF which notes that "an external debt ratio of about 40 per cent provides a useful benchmark" (IMF, 2002, p. 25).⁵ In interpreting this benchmark, the authors offer an important caveat: "it bears emphasizing that a debt ratio above 40 per cent of GDP by no means necessarily implies a crisis – indeed ... there is an 80 per cent probability of not having a crisis (even when the debt ratio exceeds 40 per cent of GDP)."

A September 2010 IMF study (Ostry *et al.*, 2010, p. 3)⁶ on fiscal space emphasizes that the debt limit "is not an absolute and immutable barrier ... Nor should the limit be interpreted as being the optimal level of public debt." According to this study of 23 advanced countries, the estimated debt limits – using the historical interest rate–growth rate differential – range from about 150 to 260 per cent of GDP, with a median of 192 per cent. The study assumes that interest rate–growth rate differentials are generally projected to be less favorable than the actual historical experience, and finds the corresponding median long-run debt ratio to be 63 per cent of GDP and the

median maximum debt ratio to be 183 per cent of GDP.

Yet, they conclude, “prudence dictates that countries target a debt level well below the limit” on the ground so that “the limit delineates the point at which fiscal solvency is called into question.” Two key factors affecting solvency are: (1) the response of primary balance (i.e., the budget balance net of interest payments on debt) to increases in debt; and (2) the possibility of adverse shocks. It is assumed that when debt gets very large, it may be difficult to generate a primary balance sufficient to ensure sustainability, and that shocks can push countries beyond their debt limit. So, the advice is to remain *well below the limit for the sake of prudence*. This advice is not derived from any analysis of liquidity or rollover risk. Liquidity is not an issue for domestic debt as it can always be paid off by printing money, a sovereign right which households or firms do not have.

In 1988, Belgium had the highest public debt ratio; that position is now filled by Japan, whose debt rose from below 60 per cent in 1988 to 170 per cent of GDP in 2007. Italy’s debt also rose above 100 per cent of GDP during this period.⁷ None of these countries experienced spiraling inflation or very high interest rates, as is commonly feared when government fiscal deficits rise. Japan is facing just the opposite problem – deflationary pressure and a zero interest rate. The higher debt-to-GDP ratio in Japan is partly due to very low inflation. A higher, but still moderate, inflation rate will raise nominal GDP and lower the public debt-to-GDP ratio unless there is an actual increase in the government’s gross liabilities.

As long as there is spare capacity in the economy or unemployment, higher fiscal

deficits add to purchasing power and do not exert any upward pressure on interest rates or inflation, nor do they cause large current account deficits. However, it is often claimed that higher public debt today has to be paid by higher taxes tomorrow. This is not necessarily true. As long as the interest on the debt is less than the annual increase in nominal GDP, the debt need not be repaid because it will be a shrinking fraction of GDP. This was pointed out more than half a century ago by Domar (1944, p. 822)⁸: “the problem of the burden of debt is essentially a problem of achieving a growing national income.”

Fifty years later, Domar again emphasized that “the proper solution of the debt problem lies not in tying ourselves into a financial straight-jacket, but in achieving faster growth of the GNP” (Domar, 1993, p. 478).⁹ Yet, it is claimed that high debt-to-GDP ratios cause macroeconomic instability, which is not good for growth, and hence makes debt unsustainable. However, careful scrutiny of the data on which this claim is made shows that the relationship between the debt-to-GDP ratio and macroeconomic instability is weak.¹⁰

A July 2010 IMF study (Kumar & Woo, 2010)¹¹ of 38 developed and developing economies for the 1970-2007 period, found that the elasticity of growth with respect to debt is only -0.02. The same study found that the elasticity of growth with respect to other variables (such as initial schooling years which contribute positively to growth) is much higher (the size of the elasticity coefficient on schooling is well in excess of 2.0). As such, the growth-inhibiting effects of a given percentage increase in the debt-to-GDP ratio is much less than growth promotion achieved by public spending.

This is why it is important to look at the composition of debt, instead of only focusing on the aggregate value of debt.

The issue, however, is different when it comes to the accumulation of external liabilities. The question then is not only one of being able to repay, but also whether other countries will be willing to continue to lend. Paradoxically, in crisis-hit countries with access to private capital markets, fiscal prudence does not offer any safeguard against the pitfalls and perils of private sector-led accumulation of external liabilities because they eventually become government liabilities. This is a lesson that several countries have painfully discovered in the wake of the Great Recession of 2008-2009, as Indonesia and Thailand also discovered previously during the 1997-1998 Asian financial crisis.

The current preoccupation with identifying prudential limits to public debt-to-GDP ratios have distracted attention from the crucial role that fiscal spending can play in promoting recovery, growth and development. This point was convincingly made in an insightful Interim Report for the

World Bank and the IMF in April 2006. The report noted that debts and deficits are useful indicators for “controlling the growth of government liabilities, but [they] offer little indication of longer term effects on government assets or on economic growth. Conceptually, the long-term impact is better captured by examining the impact of fiscal policy on government net worth.” The report argues that “there is clearly a need for fiscal policy to incorporate, as best as possible, the likely impact of the level and composition of expenditure and taxation on long-term growth.”¹² Of course, governments must maintain fiscal sustainability, but, at the same time, they should not succumb to arbitrary numerical debt-to-GDP ratio limits.

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¹ On average, public debt rose from 60 per cent of GDP on the eve of the crisis (end-2007) to almost 75 per cent by end-2009. IMF country teams project debt ratios to continue rising over the next five years, averaging more than 85 per cent of GDP by 2015. Japan's public debt is expected to reach nearly 200 per cent of GDP in 2010. Portugal, Italy, Ireland and Greece all have projected 2010 public debt already above or headed for 100 per cent of GDP, with Italy leading at 127 per cent, Greece at 120 per cent, Portugal at 90 per cent and Ireland at 65 per cent.

² IMF (2010). *From Stimulus to Consolidation: Revenue and Expenditure Policies in Advanced and Emerging Economies*. Fiscal Affairs Department April 30.

³ Fiscal adjustments refer to improvements in the cyclically adjusted primary balance needed to achieve

the illustrative gross general government debt target' (IMF, 2010, p. 9).

⁴ See Kumhof, Michael, Douglas Laxton, Dirk Muir, and Susanna Mursula. (2010), the authors of GIMF, arrive at 'calibrated debt-to-GDP ratios' that range from 50 to 60 per cent (Table 7), noting that they are 'roughly in line with the data' (p. 52). [Kumhof, Michael, Douglas Laxton, Dirk Muir, and Susanna Mursula (2010). *The Global Integrated Monetary and Fiscal Model (GIMF) – Theoretical Structure*, February, IMF Working Paper 10/34.]

⁵ IMF (2002). *Assessing Sustainability*, May 28, Washington, DC.

⁶ Ostry, Jonathan D., Atish R. Ghosh, Jun I. Kim, and Mahvash S. Qureshi (2010). *Fiscal Space*. IMF Staff Position Paper SPN/10/11, September 1.

⁷ OECD (2009). *OECD Observer* No 270/271 December 2008-January 2009.

⁸ Domar, Evsey D. (1944). The 'Burden of the Debt' and the National Income. *American Economic Review* 34(4), pp. 798-827.

⁹ Domar, Evsey D. (1993). On Deficits and Debt, *American Journal of Economics and Sociology* 52(4), pp. 475-478.

¹⁰ Figure 4 (p. 67) of the IMF Fiscal Monitor, May 2010 confirms this. The claim that high public debt causes lower growth is also not grounded in robust empirical evidence as can be seen from Figure 1 (p. 63) of the same IMF source. The weak relationship is driven by extreme values or outliers.

¹¹ Kumar, Manmohan S., and Jaejoon Woo (2010). 'Public Debt and Growth', IMF Working Paper WP/10/174 (July).

¹² See Development Committee (2006), p. i, Executive Summary. This report was attached to the April 23, 2006 Development Committee meeting. [Development Committee (2006). Fiscal Policy for Growth and Development: An Interim Report. Prepared by Poverty Reduction and Economic Management, World Bank, April 6.]