BOX 3.4 Narrow Fiscal Space and the Risk of a Debt Crisis[1]

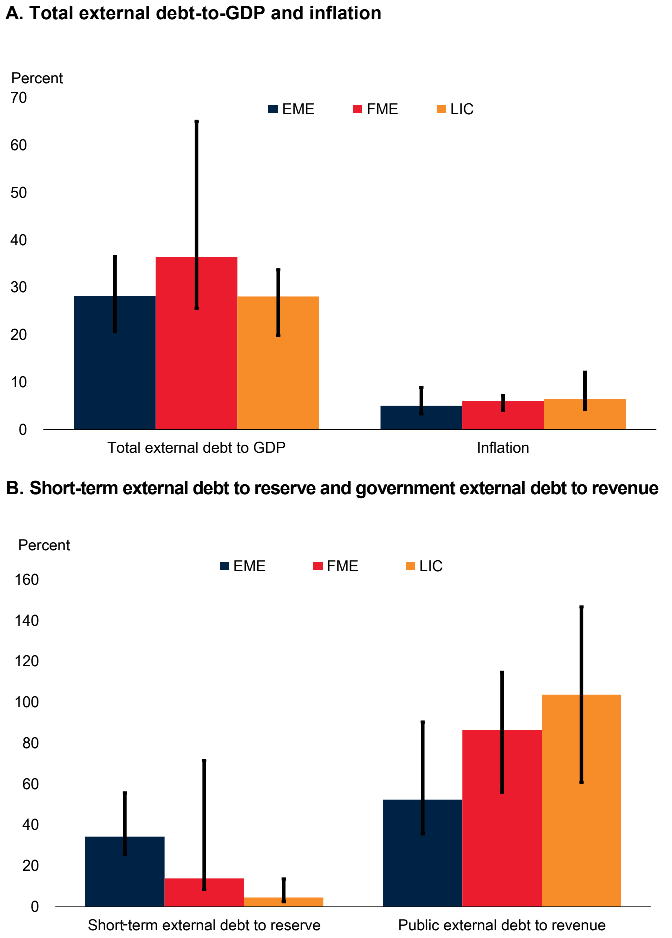
This chapter has examined how fiscal space had been built and used in the course of the Great Recession. Although in most countries it remains significantly wider than in the early 2000s, it has yet to be rebuilt to pre-crisis levels. Severely depleted fiscal space may become a contributor to possible future stresses, such as a debt crisis. This box reviews some of the key indicators that have been associated with debt crises.[2]

The implications of high public debt or high external debt have been extensively explored in the debt intolerance literature. Debt intolerance is often associated with the extreme stress that developing economies experience at levels of external debt that would be easily managed by advanced economies. Empirical studies of debt intolerance and serial default suggest that the likelihood of an external debt crisis rises substantially when external debt of an emerging economy is above 30-35 percent of GDP (Reinhart and Rogoff, 2009; Reinhart, Rogoff, and Savastano, 2003). Later estimates building on the early warning systems literature find a somewhat higher threshold: external debt as a share of GDP in emerging markets could be as high as 50 percent before a debt crisis becomes likely (Bandiera, Cuaresma, and Vinclette., 2010; Manasse and Roubini, 2009).

The literature on the determinants of debt crises has considered a range of different indicators.[3] However, for liquidity crisis-prone and solvency crisis-prone economies, four indicators can be identified as being particularly relevant: total external debt-to-GDP ratios, inflation, short-term external debt-to-reserve ratios, and public external debt-to-revenue ratios. These variables have threshold values (although always conditional on other factors) at which they indicate elevated debt crisis likelihoods.

The threshold values are 31–50 percent for external-debt-to GDP ratios; 11 percent for inflation rates; 134 percent for short-term external debt-to reserve ratios; and 300 percent for public external debt-to-revenue ratios.[4] With these thresholds in mind, most emerging market economies (EMEs), frontier market economies (FMEs), and low-income countries (LICs) do not appear to be at imminent risk of a debt crisis (Figure B3.4.1).

FIGURE 3.4.1 Indicators of resilience in 2013



Source: World Bank estimates.
Note: All statistics refer to the sample medians. Error bars indicate the range from the 25th to the 75th percentile within each country sample.

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[2] Aside from the broader macroeconomic environment, the composition of debt can also matter, as excessive amounts of short-term debt can threaten liquidity (Detragiache and Spilimbergo, 2004). Eichengreen, Hausmann, and Panizza (2009) and Dell'Erba, Hausmann, and Panizza (2013) also show that foreign currency debt and large foreign liabilities can exacerbate debt vulnerabilities. For example, EMEs with low levels of foreign currency debt are characterized by lower correlations between debt levels and spreads.

[3] Jedidi (2013), Reinhart and Rogoff (2011) and Bandiera, Cuaresma, and Vinclette (2010) offer extensive reviews of the literature, describing the ranges of methodologies and variables considered.

[4] IMF (2002) reports that the relevant threshold for external debt-to-GDP ratios (excluding heavily indebted poor countries) was between 31 and 39 percent. Similarly, Reinhart, Rogoff, and Savastano (2003) find that, on average, an external debt-to-GDP ratio of 35 percent increases the likelihood of a debt crisis, although they caution that this threshold could be lower if the economy has a poor institutional investor rating. Manasse and Roubini (2009) and Bandiera, Cuaresma, and Vinclette (2010) find an elevated likelihood of debt crisis risk if total external debt is greater than 50 percent of GDP. Manasse and Roubini (2009) note that external debt-to-GDP ratios greater than 50 percent can contribute to debt crisis risk especially if inflation rates are greater than 11 percent and public external debt-to-revenue ratios are greater than 300 percent. If external-debt-to-GDP ratios are less than 50 percent, then other key indicators must reach threshold values for a crisis to become likely: short-term external debt-to-reserve ratios must be greater than 134 percent, public external debt-to-revenue ratios must be greater than 215 percent and inflation must be greater than 11 percent. Kraay and Nehru (2006) also find that inflation rates in excess of 40 percent could contribute to greater debt crisis risk while a cross-country event study of debt crises between 1980 and 2002 (Ciarlone and Trebeschi, 2006) finds that short-term external debt-to-reserve ratios surge from 220 percent to 383 percent in the year before a crisis.