



Sovereign Debt Crises and Early Warning Indicators: The Role of the Primary Bond Market

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- ◆ One of the main difficulties for most of the traditional early warning models is that they themselves are endogenous to crises and thus useful only once the crisis has begun.
- ◆ The information provided by the primary bond market and, in particular, the fee paid by governments to investment banks to place the bonds could be used as an early warning indicator in the sovereign bond market.

During the 1990s and the 2000s a variety of crises affected the stability of international capital markets: from the European Monetary System crisis in 1992-93 and the emerging market crises to today's financial crisis have been present in the arenas of capital markets.

These crises stimulated the theoretical and empirical literature on the economics of the crises in several ways, among other things on the determinants of a crisis, its impact on domestic output, and policy implications. In most of the recent crises public sector financing difficulties combined with currency problems dominated the collapse of these countries. Both unsustainable fiscal and monetary policies were important factors behind these crises.

Some of the literature on the determinants of crises has concentrated on the question of how to predict a crisis. This resulted in the construction of a monitoring tool, the so-called early warning system (EWS). A common feature of all existing EWS studies is the use of fundamental determinants of the domestic and external sectors as explanatory variables. Most of the EWS models developed have tried to signal the onset of currency and banking crises, both individually and jointly determined. Comparatively little work has been done on sovereign debt crises. The empirical literature reveals the following variables as crucial in anticipating sovereign debt crises: first, liquidity variables related to debt runs due to maturity mismatches. This result corroborates the theory of self-fulfilling crises developed in the "second generation" of crisis models. Second,

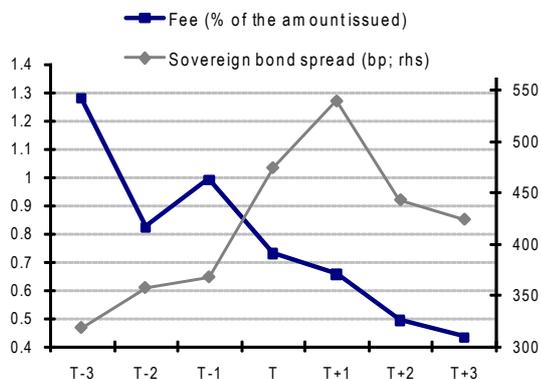
fundamental variables such as the level of external debt, international reserves, debt service and the degree of openness are very significant in predicting sovereign debt crises. Finally, financial variables such as credit default swaps are also used as early warning indicators. One of the main difficulties for most of these indicators is that they themselves are endogenous to crises and thus useful only once the crisis has begun. These indicators can be interpreted more as a definition of crises than as a signal of them.

An interesting aspect related to sovereign debt crises is the interaction among market actors (i.e. investors, policy makers, investment bankers and market analysts) before the onset of the crisis. Indeed, in order to understand international financial markets it is crucial to analyze the most important actors, their investment behaviours as well as cognitive regimes during booms and busts of emerging markets. To that extent, by entering the "black box" of capital markets we can understand market sentiment prior to sovereign debt crises. A recent study published at the Development Centre¹ argues that the primary bond market is a good laboratory for this kind of analysis. The primary bond market can be used to understand the behaviour and sentiment of major players in the international bond market: issuers, investment banks (or underwriters) and investors. More precisely,

1. See Nieto Parra, S. (2008), "Who Saw Sovereign Debt Crises Coming?", Working Paper No. 274, OECD Development Centre, November.

price formation on the sovereign bond market can give an idea of the confidence game established by these actors. In this game, investment banks play a crucial role. They serve as intermediaries between issuers (governments) and investors, and they involve a close, regular, and often privileged, relationship with important actors in governments.

Figure 1. **Fee and Primary Sovereign Bond Spread Around Sovereign Debt Crises**



Note: T is the onset of the crisis (annual frequency). Non-overlapping crises episodes are used.

Source: see footnote 1.

By analysing investment banks' perceptions of sovereign risk through the fee paid by governments to investment banks (i.e. the underwriting spread or underwriting fee) to place the bonds on the market, we find that prior to the onset of sovereign bond crises, investment banks demand a high compensation for these services. This finding contrasts with the high price paid by investors (i.e. low sovereign bond spread) of sovereign bonds prior to the crisis (see Figure 1).

This result is above all valid for two types of crisis: first, countries that restructured their debt following a sovereign default (Russia 1998, Ecuador 1999 and Argentina 2001). Second, countries that received a large package from the IMF due to public finances vulnerabilities (Mexico 1995, Brazil 1998, Turkey 2000 and Brazil 2001).

To conclude, results suggest that information provided by the primary bond market and, in particular, the fee paid by governments to investment banks to place the bonds could be used as an early warning indicator in the arenas of emerging capital markets. Consequently, for market participants as well as for policy makers, this variable would be a valuable tool in order to monitor the risks of the sovereign bond market.