

ABSTRACT

An Early Warning Model of Sovereign Debt and Financial Sector Crises with an Application to the Case of Jamaica

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Systemic financial crises involving governments and financial institutions have become a recurring phenomenon and a key threat to institutional stability and social and economic well-being over the last several decades. This thesis, which is based on the premise that financial and government systems develop entropically and are prone to chaos, examines the solvency-stability nexus between these two sets of institutions. The system dynamics model developed evaluates the interplay between behavioural heuristics employed by the banking agent and government agent in relation to investment and borrowing decisions, respectively, and how these may culminate in a twin default in the event of exogenous shocks. The proposed test of the validity of the model is the evaluation of the framework's ability to replicate historical crisis-dynamics which ensues post 'stress-tests' to the macroeconomy based on a perfect foresighting exercise. Specifically, the impact of the recent global financial crisis on macrofinancial considerations in Jamaica is explored using the framework. The framework thus enhances the understanding of how spill-over of risk from one sector to another can amplify the deleterious impact of an initial set of shocks when these institutionally interconnected agents interact over time. As a macroprudential tool several policy options for the redesign of financial regulations are considered. Specifically, both the establishment of a financial stability fund as well as the implementation of dynamic risk-weights for bank's holdings of government securities are found to improve macro-financial stability considerations when compared to a 'bank bail-out' strategy. The boundary conditions for the successful implementation of a debt restructuring exercise are also explored in a set of sensitivity tests utilizing the framework. Both a delayed debt-restructuring implementation and persistent deficit financing post-restructuring are found to undermine macro-financial stability considerations and result in a repeat of the 'vicious cycle.'

Keywords: Jide Carlton Lewis; stress testing; sovereign debt crisis; bank crisis; macrofinancial risk model; Jamaica