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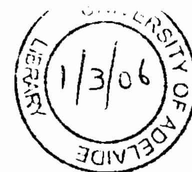

On Currency Crises, Exchange Rate Regimes and Contagion

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On Currency Crises, Exchange Rate Regimes and Contagion

Abstract

The enormous literature that the East Asian crisis generated has provided the necessary fertile inputs that brought forth specific proposals on how to strengthen the *architecture* of the international monetary and financial system. Viewed in this context, this thesis attempts to revisit or re-assess prevailing conventional wisdom or recent empirical evidence on some key issues that have arisen in discussions/debates regarding reform efforts towards strengthening the international financial architecture. Towards this end, the core chapters rely on recently developed research methods in time-series econometrics and examine the major East Asian countries that were acknowledged to have either directly or indirectly been impacted by the crisis of 1997-98.

The starting point or the first core chapter (chapter 2) focuses on speculative attacks and crises identification, one of the basic ingredients of early warning system models that seek to identify and measure the determinants of a countries' vulnerability to crises. The underlying contention is that the current design of these early warning models in terms of empirically defining or identifying currency crises is that it implicitly assumes that either the changes in exchange rates alone or an index of exchange market pressure are normally distributed. If, on the contrary, however, these variables are not normally distributed, this signifies that the conventional method of employing the mean and some arbitrary multiples of the standard deviation in current designs of early warning systems underestimates the frequency or incidence of speculative attacks. Using three indices of exchange market pressure popularly adopted in the literature and employing an alternative approach that makes far fewer parametric assumptions, the results reveal that these indices are non-normal, while, in

the process, there is evidence to suggest that the identification of currency crises is sensitive to the choice one adopts with regard to the weights of the index of exchange market pressure. This finding is not only true among the East Asian countries of Indonesia, Korea, Malaysia, Philippines, Singapore and Thailand, but also for a select group of Latin American countries (Argentina, Brazil, Chile and Mexico).[1] More tellingly, a statistical method that avoids *a-priori* assumptions about the statistical distribution of any exchange market pressure series will dominate conventional method regardless of whatever standard weighting scheme one adopts.

Soon after the East Asian crisis, the proposition that countries are, or should be, moving to the corners according to a certain continuum of exchange rate policy, was rapidly adopted as the new conventional wisdom and rapidly thrown into the mix with regards to reforms in the international financial architecture. Either keep convertibility and a stable currency but abandon monetary independence and fix the currency, backed by some institutional commitment such as through a currency board, or keep monetary policy and convertibility but abandon currency management and adopt a free float. This so-called 'corner solution' emanates from some broad consensus that behind almost all recent crises is the collapse of a non-credible exchange rate peg, the foremost examples being that the East Asian countries of Indonesia, Korea, Philippines, Thailand, and to a lesser extent, Singapore, were widely acknowledged to have operated a *de-facto* or soft US dollar peg several years before the crisis.

As such, the second core chapter (chapter 3) analyses the behaviour of exchange rate policy before and, especially after the crisis in each of these countries.

[1] The select group of Latin American countries were included in the analysis to test the robustness of the results in this chapter whether apart from the East Asian countries, the findings will also be true for a geographical group of countries that are acknowledged to be no stranger to speculative attacks and currency crises.

The primary motivation in undertaking this worthwhile task is that more recent evidence, however, have shown that that the post-crisis exchange rate policies of these countries have reverted to an arrangement akin to their pre-crisis *de facto* US dollar peg. The concern is that in view of the bipolar hypothesis and the increased international financial integration of these countries, the resumption of such practices might make these same countries vulnerable to a similar fate that befell previously on these countries in 1997-98.

The empirical results suggest that the *de facto* exchange rate regimes of the four crisis-hit countries of Indonesia, Korea, Philippines and Thailand changed after the crisis. To be more precise, these four East Asian countries, in contrast to previous evidence, have tended to manage their exchange rates more flexibly after the crisis, whereas, the evidence in Singapore's case is in conformity with its exchange rate-centred monetary policy strategy before and after the crisis.[2]

The result that the countries of Indonesia, Korea, Philippines and Thailand have tended to manage their exchange rates more flexibly after the crisis appear consistent with the establishment in these countries of institutions and mechanisms to implement monetary policy around an inflation target. In particular, these same countries have fashioned most, if not all, elements of inflation targeting as a monetary policy strategy in terms of an institutionalised commitment to price stability, publication and presentation of inflation reports, policy of communicating to the public and financial markets the rationale for the decisions taken by the central bank.

The third core chapter (chapter 4) examines the issue of shift-contagion. Previous literature has attempted to test whether there is a shift in how shocks are transmitted across countries, with preliminary results that suggested the existence of

[2] Malaysia is excluded from the analysis as the decision to peg the ringgit in September 1998 was officially-declared which makes it trivial to examine its *de facto* exchange rate regime since its *de-jure* (actual or official) exchange rate regime is also its *de-facto*.

contagion. But Forbes and Rigobon (2002) and others have argued that these conclusions might be misleading, since the problem of heteroscedasticity in the data was not properly accounted for. Taking this econometric concern into account, these authors found that there is in fact, little or no contagion. However, an important limitation of empirical studies to date on shift-contagion is that these same studies are beset with the problem of sample selection bias, i.e., the crises and the associated low-variance periods are generally designated, ex post.

Therefore, this chapter goes one step further by implicitly adjusting for this problem by letting the entire detection of normal and crisis periods be endogenous for a sample of seven East Asian countries, namely, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, and Thailand, instead of exogenously determined.[3] The results reveal some evidence of shift-contagion, which suggests that, apart from permanent or long run channels being predominantly at work when crisis simultaneously occur, there is also some support for the role of transitory or temporary transmission channels. More importantly, this implies that aside from the role of introducing domestic policies that temporarily insulate countries, at the international level, there is justification for short-term multilateral support to mitigate the adverse effects of shocks that originated elsewhere.

[3] As this chapter examines specifically East Asian stock market data, the Hong Kong stock market is now included, in contrast to the previous two core chapters. The main reason for this is that according to Forbes and Rigobon (2002), during the onset of the East Asian crisis, for instance, American and British newspaper and periodical accounts paid little attention to the earlier movements in the Thai and Indonesian markets until only the sharp decline in the Hong Kong market that discussions about the possibility of contagion to the rest of the world from the crisis quickly started.