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Comment   Shinji Takagi

In this paper, Aaron Tornell uses the data from the Tequila and Asian crises to show that the severity of a crisis (defined as a weighted average of the decline in reserves and the extent of currency depreciation) can be explained by three variables: the weakness of the banking system (measured by a lending boom index defined as a real percentage increase in bank loans), real appreciation (measured in effective terms against the U.S. dollar, the Japanese yen, and the Deutsche mark), and central bank liquidity (measured as the ratio of M2 to reserves).

This paper makes an important contribution in showing that fundamentals (as opposed to simple fad or a change in expectations) play a role in explaining the spread of a crisis. The strength of Tornell's approach is that it is simple (consisting of only three explanatory variables) and based only on publicly available, timely information. Simplicity gives power to the prediction model as a policy tool because it allows policy makers to concentrate on a few important fundamental determinants. The use of public and timely information is reasonable because there is no other way that market participants can form expectations that may trigger a crisis.

It is important to keep in mind, however, that the nature of the exercise is conditional, in the sense that prediction is contingent on the occurrence of a crisis. Hence, it does not say anything about whether a certain range of fundamental values will trigger a crisis. In this sense, it is consistent with the so-called second-generation model of currency crises in which there are multiple equilibria. It is not clear, however, to what extent it succeeds in discriminating between first-generation and second-generation models.

There are at least four potential areas of concern. First, the benchmarks of low/high reserves and strong/weak fundamentals seem arbitrary. To the extent that we are interested more in knowing whether a crisis will occur (or spread) than in knowing how severe the crisis will be when one occurs (and spreads), it may be useful to endogenize these benchmarks. Second, in practice, the same benchmarks may have different implications, depending on how the particular outcome is brought about. For example, an increase in reserves may be "bad" if it is caused by an official foreign-exchange market intervention designed to maintain an inappropriate peg. Likewise, real appreciation can be "good" if it reflects the nominal appreciation of the currency in response to capital inflows. Prediction (or fit) may improve if good and bad types of reserve increase or real appreciation is separated out in the data.

Third, control needs to be made for policy responses (e.g., bailout by

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the IMF or capital controls). In other words, the severity of a crisis cannot entirely be captured by the author's variable if the outcome shows up in ways other than declining reserves or depreciation. Finally, there can be a fourth variable, reflecting the real and financial links across countries, which will likely manifest itself as regional links. For example, prediction of a crisis for Latin American and Asian countries may be improved, if it is made conditional on the occurrence of a crisis in Mexico (for 1994–95) and in Thailand (for 1997), respectively. These and other refinements may enhance the usefulness of Tornell's approach to understanding how a crisis may spread across countries.

Comment   Chi-Wa Yuen

Objectives of the Paper

This paper addresses two major issues about the currency crises in 1995 and 1997:

1. What are the "fundamental" determinants of these two crises?
2. Could the Asian crisis have been predicted given the lessons learned from the Tequila crisis and knowledge about the fundamentals above?

Main Findings

Regarding the first issue, the author has constructed a "crisis index" as a weighted average of the loss in reserves and the depreciation against the U.S. dollar, and found that its severity in both the Tequila and Asian crises is determined by three common factors.

1a. Central bank liquidity or foreign-exchange reserve adequacy as proxied by the M2/reserve ratio; the higher the ratio, the more severe the crisis.

1b. Strength of the banking system as proxied by the "lending boom" (LB) index (defined as inflation-adjusted percentage change in total domestic credit less government claims); the higher the LB index, the more severe the crisis.

1c. Extent of real exchange rate (RER) appreciation (where RER is defined as a trade-weighted average of bilateral RER's against the U.S. dollar, the Deutsche mark, and the Japanese yen); the higher the RER (the smaller the appreciation), the less severe the crisis.

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