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Journal of International Money and Finance 26 (2007) 403–429
Journal of International Money and Finance
www.elsevier.com/locate/jimf

Informational contagion of bank runs in a third-generation crisis model

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Abstract

This paper highlights the international spread of bank runs in a third-generation model of financial crises through an informational channel. Banks' short-term liabilities include loans granted by foreign creditors who have imperfect information about the liquidation costs of banks' assets. A bank panic in a country induces lenders to downgrade early-liquidation yields in other countries, and thus to require higher interest rates to enable their banks to roll over their maturing debt. Those banks become therefore more prone to self-fulfilling depositors' runs. The paper then studies the effect on contagion of increased transparency and bailouts.

JEL classification: F3; G2; D8

Keywords: Contagion; Bank panics; Transparency; Bailouts

1. Introduction

It is now generally accepted that the spread of recent financial crises is only partly explained by close trade or financial links within regions or by common external economic factors; in other words, by channels of ''real contagion''. Masson (1999) and others have argued that these linkages were weak in the contagion of the Tequila crisis from Mexico to Argentina and Brazil in 1994–1995, the contemporaneous crises in several Asian countries in 1997–1998, and the

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doi:10.1016/j.jimonfin.2006.11.005

ripple effects of the Russian default on many emerging markets in August 1998. This makes the case for ''pure contagion'', namely, the propagation of crises unrelated to effective shifts in macroeconomic fundamentals.

Pure contagion can stem from wealth effects on common creditors. A crisis in a market has a negative effect on investors' wealth. It then may induce investors to liquidate portfolio positions in other markets (Kyle and Xiong, 2001) or may reduce their incentives to stay invested in other countries, since they become more risk averse – assuming decreasing absolute risk aversion (Goldstein and Pauzner, 2004).

Most models of pure contagion display an information channel. In an environment of incomplete information, a crisis in a country may lead to ''shifts in market sentiment'', such as a change in the risk tolerance of investors (Kumar and Persaud, 2002) or a loss of confidence. A crisis in a market may also trigger changes in the interpretation given to existing information. Information reassessment can materialize in various forms: herd behavior – on the grounds of asymmetric costly information and/or size heterogeneity; informational cascades – based on the combination of asymmetric information and sequential decisions; reappraisal of economic fundamentals; or alterations in how equilibria are selected in models of multiple equilibria (sunspots).

Most existing models of informational contagion feature financial markets and are based on asymmetric information. Calvo (1999) presents a model of capital markets populated by informed and uninformed investors. The uninformed try to extract information from informed investors' trades. This opens up the possibility that, if informed investors are forced to sell emerging market securities, say, to meet margin calls, then uninformed investors may misread this action as signaling low returns in emerging markets. Kodres and Pritsker (2002) emphasize optimal portfolio rebalancing as a channel. When portfolio reallocation occurs in markets with information asymmetries, the resulting price movements are exaggerated because the order flow is misconstrued as being information-based.

At this point, we have made the case for informational contagion and have referred to such models in which financial assets play a key role. Nevertheless, recent episodes of financial fragility went far beyond mere falls of securities' prices, and it is of interest to build a model of informational contagion in line with the new theoretical foundations of crises.

The literature on financial crises has trended in new directions in the aftermath of the crises in Asia in 1997–1998. Those events have led to a questioning of anterior models that basically viewed crises as retribution for governments that have mismanaged the economy or as consequences of lack of credibility.

First-generation models (Krugman, 1979; Flood and Garber, 1984) explain crises as the product of budget deficits coupled with fixed exchange rates. However, the series of speculative attacks on The European Exchange Rate Mechanism of 1992–1993 mostly occurred on economies with budget surpluses and substantial foreign exchange reserves.

So, a second generation of models gives a quite different version of what crises are all about. The pioneering work of Obstfeld (1994) explains crises as a result of a conflict between a fixed exchange rate and the desire to pursue a more expansionary monetary policy to fight high unemployment. When investors begin to suspect that the government or the central bank will opt to abandon the exchange rate peg, as the unemployment costs of defending it become too large, the resulting pressure on interest rates can itself push the government over the edge. This new perspective implies that crises could be driven by self-fulfilling prophecies.

However, most of the economies at stake in the Asia crisis of 1997–1998 enjoyed low unemployment and booming exports. Instead, they featured troubled local financial institutions