

## **Addendum: Q&A with the Authors and the Foundations and Trends in Finance Editor**

1. Implicit in your discussion is that markets sometimes fail, e.g., a coordination failure where somehow a bad equilibrium is realized. The potential for these bad outcomes motivates a number of policies, e.g., deposit insurance. Are there impediments to market solutions that can also solve these problems, (i.e., private insurance), which necessitates a government solution? Do we get too many runs in equilibrium without government intervention?

On pages 21-23, we discuss how the coordination-failure framework provides a basis for policy analysis, most prominently for deposit insurance by the government. While private institutions can probably provide some insurance as well, there are impediments for this to fully work. The size of the failure is sometimes so large that only the government can feasibly intervene. Moreover, the government has the power to tax individuals and firms to pay for such intervention and to regulate financial institutions to address some of the incentive problems that come up with such insurance programs. The experience of the U.S. indeed shows that deposit insurance was very effective in reducing the frequency of runs. As we discuss in the article, however, the optimal design of such insurance is far from being fully understood.

2. Your review discusses the fact that financial institutions tend to be very highly levered and you cite a number of papers with competing explanations. The authors of these competing papers tend to have very strong opinions. What is your opinion of the main drivers of financial institution leverage? To what extent would you say that regulation is needed to limit leverage versus the alternative that existing regulation (e.g., deposit insurance and “too big to fail”) is the cause of the high level of leverage?

We discuss the issue of bank leverage on pages 23-26 of the article. We think that some of the features of banks, such as liquidity provision, imply that they need to have more leverage than non-financial firms. However, the current extremely high leverage ratios of banks suggest that there is also a moral hazard problem that makes banks choose too much leverage knowing the implicit and explicit guarantees the government provides for them. While these guarantees serve an important role in mitigating panics, it is important to supplement them with higher capital requirements to prevent extremely high leverage and excessive fragility.

3. A major concern of policymakers is what you refer to as contagion and systemic risk. The idea that the failure of one bank can trigger the failure of other banks. You present two broad reasons for why this might be the case. The first is that the failure of one bank provides information that can trigger a run in other banks. The second is that the failure of a bank, or for that matter the bankruptcy of individual firms, can lead to liquidations that lower asset prices, thereby putting financial pressure on other firms with similar assets. Do you have views on

which of these two channels is the more important? Was there evidence that one or the other channel was more important during the 2008 financial crisis? Do policy suggestions depend on which of the two channels is more important?

We discuss the issue of contagion in pages 26-28. Indeed, contagion can be a result of information spillovers or due to connections among banks and financial institutions. Such connections can take different forms, via banks directly lending to and borrowing from each other, via common investments, or via common investors. In general, empirical and anecdotal evidence seems to suggest that the extent of contagion is too large to be explained only with informational spillovers and one needs to resort to some interbank connections to provide a fuller explanation. Indeed, policymakers should be aware of this, since understanding the spillovers across banks is key to quantify implications for systemic risk and so to design the regulation of banks' activities.

4. As you mention in your discussion, a channel that links currency crises and banking crises is the fact that borrowers often have liabilities denominated in a foreign currency. For example, Thai borrowers in the 1990s had liabilities denominated in US dollars, which triggered defaults when the Thai baht collapsed. This mismatch between currencies and liabilities seems to be inefficient ex ante, and clearly created a problem ex post. What is the explanation for the prevalence of dollar denominated debt in emerging markets?

We discuss the link between currency crises and banking/credit crises in pages 55-60 of the review. Papers along this line of work fall into the category of third-generation models of currency crises and were indeed motivated by the Asian crisis. There is no consensus as to why banks and firms exposed themselves to a currency mismatch by borrowing in foreign currency to finance assets in domestic currency. A common explanation goes back to agency problems between lenders and borrowers. In such models, borrowing in a foreign currency helps alleviating the credit frictions that such agency problems create. The downside of course is that this aggravates fragility in times of crisis.