

Comments on
Financial Intermediation and the Post-Crisis Financial System
by
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Hyun Shin and his various coauthors have emphasized in a series of papers that practices within the financial system were hugely consequential for the buildup in risk-taking that preceded the current crisis and for the virulence of the subsequent pullback. In particular, the increase in leverage within the sector, the lengthening of intermediation chains, and the reliance on short-term financing that was subject to runs contributed to the vulnerability of the system and the severe aftereffects of its ensuing collapse. His analysis shows that we can't look through the veil of finance, as was so common in our models and, to a lesser extent, in our thinking. His suggested reforms flow naturally from that diagnosis: Constrain leverage, especially in good times, and shorten intermediation chains.¹

I agree that the nature of the chains of interactions within the financial sector and the leverage and maturity mismatches were important factors in the buildup of imbalances and the difficult correction. And addressing these should contribute to a more robust financial system.

But, to an extent, leverage was a symptom rather than a cause of the underlying crisis. And I'm not sure the accounting identity Shin uses, while a useful pedagogic device, illuminates the interactions within the financial sector and between that sector and the economy that led to the crisis. Treating symptoms helps, especially when the disease is complex and difficult to diagnose, but we also need to look for and treat the underlying causes, as I'm sure Hyun agrees.

In my opinion, the root cause of the problems was the underpricing of risk as the financial sector interacted with nonfinancial sectors. On the lending side of the financial sector balance sheet, underpricing of loans relative to true risk resulted in a buildup of leverage in the household sector that left lenders vulnerable to declines in collateral values and debt servicing

¹ The views expressed are my own and do not necessarily reflect the views of the other members of the Board of Governors. Matthew Pritsker of the Board's staff contributed to these remarks.

capacity. On the borrowing side, households ended up with some assets--like shares in money market mutual funds--that weren't as liquid as they were thought to be; when money funds began to worry about the liquidity of their assets, like asset-backed commercial paper, and when households and businesses tried to use their perceived liquidity, the resulting fire sales accentuated asset price declines and transmitted problems from one sector to another.

The initial problems from the excessive risk buildup were exacerbated by the deleveraging that followed, including in the financial sector. Although there are many reasons that the deleveraging process has been so painful, one of the defining characteristics has been a sharp increase in uncertainty. Uncertainty is an aspect of every crisis, but it escalated to such an extreme degree in the summer of 2007 in response to an unexpected decline in housing prices that the financial system, which had been unusually stable and resilient, was pushed into a zone of increasing instability that in turn triggered an adverse feedback loop between the financial sector and the economy.

Risk had been mispriced, but by how much? Who was vulnerable? Would the markets and the economy overshoot or return to a more sustainable relationship? Financial market participants didn't know the value of assets, the financial health of counterparties, or the likelihood that they themselves would be subject to unexpected hits to their capital or liquidity, for example, from ostensibly off-balance-sheet entities. The result was a hoarding of capital and liquidity, a sharp increase in risk premiums, and a generalized flight to liquidity and safety that only gathered momentum as instabilities in the economy and financial markets fed off each other.

The characteristics of the networks and the instruments accentuated the uncertainty. The instruments and the relationships among the institutions had become much more complex and

opaque. The complexity of the instruments meant that investors did not understand the risk characteristics of the assets they were buying; among other problems, they relied on credit rating agencies for due diligence. The complexity of the networks meant that participants did not understand how reliant they had become on a few large core institutions and how those institutions were entwined with each other in very complex ways; when vulnerabilities started to become evident, market participants became worried about who their counterparties were exposed to. In sum, financiers were taking on more risks than they would like to, and in many respects they did not understand or were unaware that they were doing so.

This reasoning suggests that policy actions to treat underlying causes should address the causes of risk mispricing and should attempt to reduce uncertainty. One approach to attend to both is through greater transparency of

- *Instruments*--for example, by creating simpler structures that are easier to look through to evaluate, and by making the underlying credit extensions more visible; and, as a complement, by having clearer and more robust credit ratings.
- *Institutions*--by enhancing financial disclosures to report more detail on financial institutions' asset holdings and their value. Defining "value" is very difficult, and the appropriate value of any given asset may depend on the use of the information. But the publication of the results of the capital assessments of U.S. banks last month showed how additional information about the risks and vulnerabilities of financial institutions--however imprecisely measured--can reduce uncertainty and promote financial stability.

- *Markets*--by reporting market aggregates on position-taking that would help market participants and policymakers alike monitor the buildup of risk exposures within the financial system.
- *Networks and interrelationships*--for example, by using central counterparties (CCPs). The presence of such counterparties solves an information problem, since market participants would only have to worry about the solvency of the CCP and not each other. CCPs may make it easier for market participants to more willingly absorb the other's sales during a period of deleveraging. But CCPs do concentrate risk, so they need especially robust risk-management systems.

In addition, to reduce uncertainty in response to a shock, we need to strengthen those increasingly critical institutions at the core of the system. Because of their systemic importance, they must be held to higher capital, liquidity, and risk-management standards. Moreover, resolution authority for systemically important institutions needs to be clearly delineated ahead of time, so their failure will be orderly and the authorities can choose who will bear the cost without the uncertainty and delay involved in bankruptcy.

The mispricing of risk and the resulting uncertainty also reflected skewed incentives. Attempting to encourage appropriate pricing of risk at the level of the bank through capital standards may be too blunt an instrument on its own to restrain bank risk-taking, since those standards can never be tuned so finely that traders will not find positions for which risk is underpriced--and then load up on those risks. The solution, in addition, lies with more closely tying traders' compensation to the long-run performance of their portfolios. This internalization of the costs of risk-taking toward those most capable of understanding and measuring the risks should help blunt the buildup of excessive risk and leverage.

Long and complex chains present problems, importantly because of the incentive problems along the chain. Nevertheless, there may be sound economic reasons why long chains are desirable. For example, long chains of lending allow for some financial intermediaries to specialize in screening borrowers, others to specialize in arranging initial short-term financing, and others to focus on securitizing the assets and selling them to investors. Specialization lends itself to long chains, but such specialization comes with incentive problems at every step of the chain. These incentive problems need to be recognized and dealt with. Proposals that require intermediaries along the chain to maintain “more skin in the game” are worth considering, but that approach is not a panacea. Many institutions that had skin in the game got into trouble anyway--perhaps because it is hard to judge how much skin is enough to maintain proper incentives. In addition, it may be impossible to police whether an institution has chosen to keep its own skin in the game or whether its risk has been mitigated through hedging. In the end, no one can police the market better than the final investors, provided the instruments are simpler and more transparent.

Finally, our efforts to stabilize the system by guaranteeing much of the liabilities of systemically important institutions have further distorted the incentives of their counterparties. Offsetting the effects of this moral hazard is another reason to hold these institutions to higher standards and find better resolution mechanisms for them.

I want to close by reiterating the importance of Hyun’s contributions. He has led the way in showing that the organization of financial structures is critical to the resiliency of the financial system. Going forward, we need to address not just the unstable structures that have become so evident in the recent crisis, but we also need to better understand why these sorts of structures emerge and take steps to prevent their reoccurrence in whatever forms they may take.