

Press Points for Chapter 2: *Assessing the Systemic Implications of Financial Linkages*
Global Financial Stability Report (GFSR), April 2009

Key points

- The ongoing crisis has shown how financial innovations have enabled risk transfers that were not fully recognized by financial regulators or by institutions themselves, complicating the assessment of a “too-connected-to-fail” problem. It is thus essential to improve our understanding and monitoring of direct and indirect systemic linkages.
- The interconnectedness in the financial system is not constrained to interbank exposures as has become clear from the spillovers to the whole financial system brought about by financial institutions’ difficulties in rolling over their liabilities.
- The chapter illustrates several complementary approaches that can provide concrete measures of the too-connected-to-fail problem, thereby contributing to discussions about how to approach systemic-focused surveillance and regulation.
- Information on systemic linkages could help address questions such as which institutions are “systemically important”—an issue that the G-20 has asked the IMF with the Financial Stability Board to examine in the next few months—when to limit an institution’s exposures, and the desirability of interconnectedness-based capital surcharges.
- The chapter also reports changes in payments clearing efforts to dampen the effects of institutions’ interlinkages. Specifically, efforts to mitigate over-the-counter counterparty credit risk through recent proposals for credit default swap central clearing party.

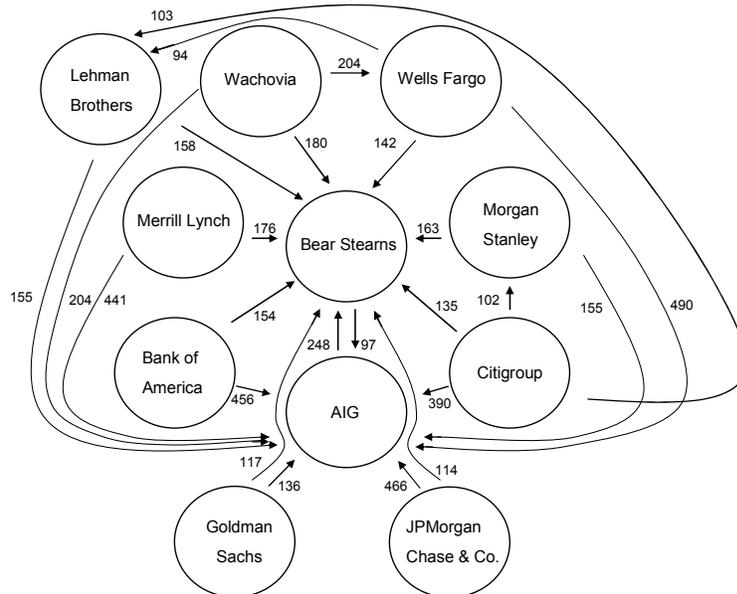
While the rise in the complexity and globalization of financial services has contributed to stronger economic growth, this has also increased the potential for disruptions to spread swiftly across markets and across borders. The crisis has shown how difficult it is to assess counterparty risk and to detect potentially systemic interlinkages across financial institutions in relation to a “too-connected-to-fail” problem.

This chapter presents an approach which relies primarily on institutional data to assess “network externalities”—how interconnections can cause unexpected problems. This analysis, which can track the reverberation of a credit event or liquidity squeeze throughout the financial system, can provide important measures of financial institutions’ resilience to the domino effects triggered by credit and liquidity distress.

Because detailed information at an institution level is hard to obtain, the chapter also illustrates methodologies that draw from market data to capture direct and indirect systemic linkages. Figure 1 shows the percentage increase in the conditional credit risk (CoRisk)—

measured by the increase in credit default swap (CDS) spreads of a “recipient” institution that would result when the “source” institutions (at the base of the arrow) is at the 95th percentile of its own CDS spreads distribution. This measures market’s perception of the increase in the “tail risk” induced by one institution toward others, as of March 2008, before Bear Stearns was merged into JPMorgan.

Figure 1. A Diagrammatic Depiction of Co-Risk Feedbacks



Sources: Bloomberg, L.P.; Primark Datastream; and IMF staff estimates.
 Note: This diagram presents the conditional co-risk estimates between pairs of selected financial institutions. Only co-risk estimates above or equal to 90 percent are depicted.

Finally, the chapter presents a methodology with high predictive power that exploits historical default data for the United States to assess direct and indirect systemic linkages bank-system wide.

Each approach by itself has limitations, but together they provide an important set of surveillance tools for regulators and supervisors. In addition, the tools can form the basis for policies to address the too-connected-to fail problem, one of the most pervasive ways in which systemic risk manifests itself. More specifically, the chapter helps to inform policy makers in three areas:

- assessing direct and indirect spillovers under extreme (tail) events;
- identifying information gaps to improve the precision of this analysis;
- and providing concrete metrics to assist in the re-examination of the perimeter of regulation and what constitutes a systemically-important institution or sector.

Policy makers should give greater consideration to the hypothetical tail scenarios analyzed with these methodologies, lest they risk underestimating the probability of a tail event a

phenomenon that has been dubbed “disaster myopia.” Similarly, the global dimension of the current crisis underscores the need to assess these exposures from a cross-border perspective, which would require further coordination and data sharing by national regulators. For example, the BIS is well suited to extend its data collection exercises to aid in this exercise. The IMF could also play a role by analyzing such data in the context of its bilateral and multilateral surveillance roles.

Press Points for Chapter 3: *Detecting Systemic Risk*
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Key points

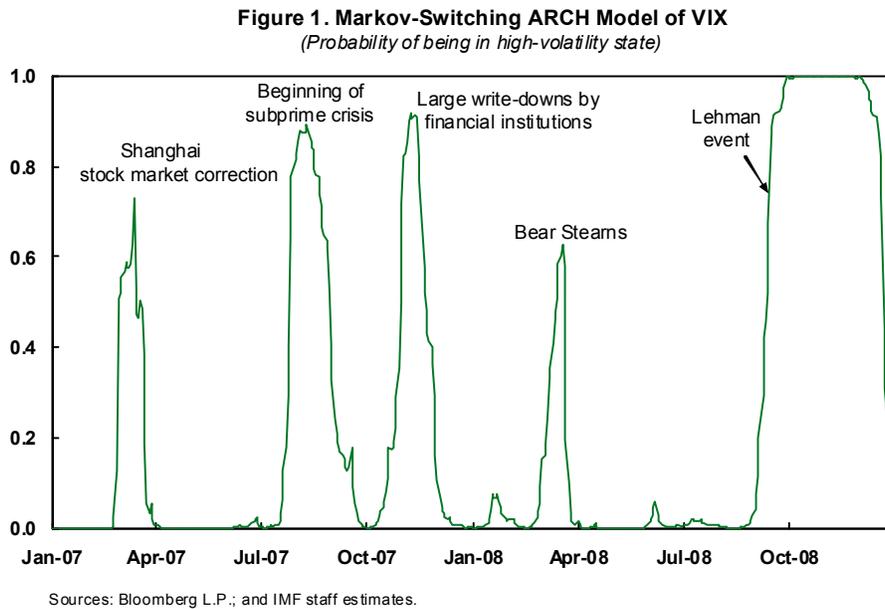
- As the latest G-20 Communiqué emphasized, further progress is needed to identify and address systemic risks—those risks that are above and beyond the summation of those arising from individual financial institutions or markets. This chapter deals with the identification and measurement of systemic events, focusing on the current crisis but also extending the analysis to earlier episodes of financial stress.
- Being able to identify systemic events at an early stage enhances policymakers’ ability to take necessary exceptional steps to contain the crisis. Also, being able to detect when those pressures may be easing would help to determine when to initiate exit strategies.
- Given that there are many facets and causes of systemic risks, this chapter presents a range of measures that can be used to discern when events become systemic and thus help policymakers in their detection.
- Macro-prudential regulation should aim to require institutions to enhance their stress tests and hold additional capital to take account of the build-up of systemic risk and their contribution to it. The analysis presented could be a starting point to calibrate the contribution of a financial institution to systemic risk, and perhaps lay the basis for additional regulatory capital that would help to encourage behavior that mitigates systemic risk.

The chapter first reviews the basic information typically used to identify a financial institution’s vulnerability. These standard “financial soundness indicators,” are examined to see if they could identify which financial institutions proved vulnerable in the current crisis. For the sample of global financial institutions examined, leverage ratios and return on assets proved the most reliable indicators, while capital asset ratios and non-performing loan data lacked predictive power.

Several techniques analyze forward-looking market data for groups of financial institutions in order to detect whether and when systemic risks became apparent. Market-based measures that are able to capture joint tail risks—the risk that multiple financial institutions become distressed simultaneously—seem to have given prior indications of impending stress for the overall financial system.

Proxies for “market conditions,” such as variables used to measure investors’ risk appetite, which influence (and reflect) the risks facing financial institutions are examined to capture the bigger picture of system-wide stress. The signaling capacity of these indicators is examined by observing whether and when they moved from low, to medium, and to high volatility “states,” with the high state associated with systemic crisis. Several measures suggest that letting Lehman Brothers collapse in September 15, 2008 aggravated what appeared to be a global systemic

financial crisis already in the making. For example, Figure 1 summarizes the various volatility states derived from the index of implied volatilities on S&P 500 options contracts (VIX).



The various techniques used in the chapter clearly identify major stress events, such as those associated with the assisted merger of Bear Stearns and JPMorgan, as well as the failure of Lehman Brothers, as systemic. Some indicators, as early as February 2007, also signaled rising systemic pressures. However, advance notice of systemic stress using market-based data was relatively brief.

In sum, the policy implications drawn from the analysis are:

- Although systemic events are difficult to predict, and may only become apparent concurrently in some cases, policymakers should monitor a wide range of market indicators tuned to systemic risk and combine these indicators with more thorough information from financial institutions.
- More public information on key data, especially on off-balance derivative exposures and measures of market liquidity, is needed.
- Due to the difficulties in predicting systemic events, policy makers should develop comprehensive crisis plans that can be implemented quickly if needed. Having such a scheme in place before a crisis erupts may help diminish uncertainty, which is often a key factor in the transition of a “contained” financial crisis to one that is systemic.