

## Summary

This chapter describes the growth and risks of and regulatory responses to shadow banking—financial intermediaries or activities involved in credit intermediation outside the regular banking system, and therefore lacking a formal safety net.

The largest shadow banking systems are found in advanced economies, where more narrowly defined shadow banking measures indicate stagnation, while broader measures (which include investment funds) generally show continued growth since the global financial crisis. In emerging market economies, the growth of shadow banking has been strong, outpacing that of the traditional banking system.

Although shadow banking takes vastly different forms across and within countries, some of the key drivers behind its growth are common to all: a tightening of banking regulation and ample liquidity conditions, as well as demand from institutional investors, tend to foster nonbanking activities. The current financial environment in advanced economies remains conducive to further growth in shadow banking. Many indications there point to the migration of some activities—such as lending to firms—from traditional banks to the nonbank sector.

Shadow banking can play a beneficial role as a complement to traditional banking by expanding access to credit or by supporting market liquidity, maturity transformation, and risk sharing. It often, however, comes with bank-like risks, as seen during the 2007–08 global financial crisis. Although data limitations prevent a comprehensive assessment, the U.S. shadow banking system appears to contribute most to domestic systemic risk; its contribution is much less pronounced in the euro area and the United Kingdom.

The challenge for policymakers is to maximize the benefits of shadow banking while minimizing systemic risks. This chapter encourages policymakers to address the continued expansion of finance outside the regulatory perimeter through a more encompassing approach to regulation and supervision that focuses both on activities and on entities and places greater emphasis on systemic risk. To begin with, however, important data gaps need to be addressed because even aggregate information about many activities remains scarce in most countries.

This chapter was prepared by Nico Valckx (Team Leader), Goran Amidzic, Nicolas Arregui, Johannes Blankenheim, Johannes Ehrentraud, Dale Gray, Artak Harutyunyan, John Kiff, Yoon-Sook Kim, Ivo Krznar, Alexander Massara, Samar Maziad, Miguel Segoviano, and Nobuyasu Sugimoto, with contributions from Viral Acharya, Stephen Cecchetti, and Poonam Kulkarni.

## Summary

There is broad consensus that excessive risk taking by banks contributed to the global financial crisis. Equally important were lapses in the regulatory framework that failed to prevent such risk taking. Reforms are under way to further strengthen the regulatory framework, realign incentives, and foster prudent behavior by bankers. These reforms aim to enhance capital and liquidity buffers and influence the incentives that induce bankers to take excessive risk. Regarding the latter, measures are being introduced to enhance risk governance and to ensure that pay practices fully reflect the risks that bankers take.

To be effective and avoid unintended consequences, such reforms must be based on a thorough understanding of what drives risk taking in banks. This chapter aims to contribute to that understanding through an empirical investigation that relates various measures of bank performance and risks to bank characteristics of governance, risk management, pay practices, and ownership structures.

The results show that banks with board members who are independent of bank management tend to take less risk. The level of executive compensation in banks is not consistently related to their risk taking. More pay that is related to longer-term job performance is associated with less risk. Moreover, banks that have large institutional ownership tend to take less risk. As expected, periods of severe financial stress alter some of these effects because incentives change when a bank gets closer to default.

With these results in hand, the chapter recommends policy measures, some of which are part of the current policy debate but have so far not been empirically validated. Measures include more appropriate alignment of bank executives' compensation with risk (including the risk exposure of bank creditors), deferment of some compensation, and providing for clawbacks. Bank boards should be independent of management and should establish risk committees. Supervisors should ensure that board oversight of risk taking in banks is effective. Consideration should be given to including debt holders in addition to shareholders on bank boards. Finally, transparency is critical to accountability and the effectiveness of market discipline.

This chapter was prepared by Luis Brandão Marques and S. Erik Oppers (team leaders), Isabella Araújo Ribeiro, Kentaro Asai, Jonathan Beauchamp, Pragyan Deb, Nombulelo Duma, Johannes Ehrentraud, Oksana Khadarina, Ashraf Khan, Antonio Pancorbo, Ceyla Pazarbaşıoğlu, Rohan Singh, and Oliver Wuensch, with contributions from Harrison Hong and Poonam Kulkarni.