

SPECIAL ISSUE ON SYSTEMIC RISK

GUEST EDITORS' INTRODUCTION

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In the last five years, we witnessed the failure or near failure of large financial institutions with significant effects on the global financial system. The recent financial crisis once again showed us the importance of systemic risk on the stability of financial systems. Recently, the crisis seems to affect the sovereigns with significant implications for their finances and the Euro area in general. An important issue in the prevention and effective management of financial crises is to quantify systemic risk to get a better understanding of potential fragilities within the financial system and the overall economy. This special issue aims at developing a framework to model and quantify systemic risk within the Turkish financial system using newly developed models.

The definition of systemic risk varies among economists and policymakers. Rochet (2010) provides a broad definition according to which systemic risk includes all events capable of undermining the stability of the banking and financial system, including macroeconomic shocks that affect all institutions simultaneously or situations of contagion, in which the default of one bank can spread to a significant number of other banks.

The financial crisis has led policy makers to undertake a major revision of the way banks are regulated in order to minimize systemic risk. Past regulation focused on seeking to improve the behavior and risk management practices of individual banks whereas the new approach put more emphasis on wider systemic issues (e.g. Brunnermeier et al. 2009; Goodhart, 2009; Morris and Shin, 2008; Acharya, 2009). Ongoing efforts at financial reform include the new Basel III agreement, which seeks to tackle systemic risk by both raising regulatory capital requirements and introducing a counter-cyclical element to them (Caruana, 2010).

Although there is now more awareness among economists and policymakers of the threat posed by systemic risk, more empirical and

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theoretical research is required to understand the nature of systemic risk. This special issue presents a number of important empirical studies investigating different aspects of systemic risk. However, future effort should be directed into developing more theoretical models. Such models could investigate systemic risk as the product of a continuous and complex set of interactions that take place within a systemic web that relates the actions of individual banks to the banking system as a whole, and to the (nonbank) corporate sector and the regulator.

The issue includes four articles: “Systemic Risk Contribution of Individual Banks” by Cagri Akkoyun, Ramazan Karasahin, and Gursu Keles, “Systemic Risk Analysis of Turkish Financial Institutions with Systemic Expected Shortfall” by Irem Talasli, “Stock Return Co-movement and Systemic Risk in the Turkish Banking System” by Mahir Binici, Bulent Koksall, and Cuneyt Orman, and “External Financial Stress and Short Term External Financing Vulnerability in Turkey” by Etkin Ozen, Cem Sahin, and Ibrahim Unalmis.

The two articles by Akkoyun, Karasahin, and Keles, and Talasli analyze the systemic risk contribution of individual banks. Akkoyun, Karasahin, and Keles aim at measuring the systemic importance of individual banks that are listed in the Istanbul Stock Exchange. In particular, they use a cooperative-game framework and Shapley values to assess the systemic importance of each bank according to its average marginal contribution to systemic risk. Their results suggest that market participants perceived the global financial crisis of 2008 less concerning than the 2000-2001 banking crises for the Turkish banking sector. Since 2002, the banking sector seems to do a good job in eliminating idiosyncratic shocks within the system.

Talasli uses stock market return and balance sheet data for Turkish financial institutions through the banking crisis period 2000–2001 and the global financial crisis period 2007–2009 to investigate the applicability of the systemic expected shortfall (SES) measure. SES is assumed to measure the risk contribution of each institution in case of a financial distress in the system. The results indicate that SES calculated with pre-crisis data fits better to financial sector losses data in crisis periods than other tested measures like expected shortfall, stock market beta, and annualized stock return volatility.

Binici, Koksall, and Orman use co-movement of banks’ stock returns as a systemic risk indicator to investigate the evolution of systemic risk in the Turkish banking sector over the past two decades. Their results show that the correlations between bank stock returns almost doubled in the 2000s in comparison to the 1990s. While the correlations experienced a decrease after 2002, they increased again as a result of the 2007-2009 financial crisis. The authors show that the main determinants of systemic risk appear to be the

market share of bank pairs, the amount of non-performing loans, herding behavior of banks, and volatility of various macro variables including the exchange rate, U.S. T-bills, EMBI+, VIX, and MSCI emerging markets index.

Ozen, Sahin, and Unalmis investigate the behavior of foreign financing channels of Turkey to analyze the effects of external shocks such as financial stress in advanced economies leading to potentially large and prolonged capital outflows from emerging economies. In particular, they use LIBOR-OIS spread as a measure of external financial stress and analyze the responses of non-core liabilities of the Turkish banking system, portfolio flows and external liabilities of the real sector to changes in the LIBOR-OIS spread. They find that, after an external shock, portfolio flows, and external real sector liabilities decline, whereas non-core liabilities of the banking system increase. Furthermore, the effect of an external financial stress shock on non-core liabilities and portfolio flows are not persistent. They suggest that the low persistency of shocks and ongoing borrowing ability of the Turkish banking system from abroad can explain the resilience of the Turkish economy to the recent financial crisis.

In summary, we believe the special issue provides us with a useful framework to model and quantify systemic risk using newly developed models and advances our understanding of potential sources of systemic risk in the Turkish financial system. The special issue should be of great interest to academics, policy makers, and to those interested in financial crises and systemic risk.

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