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Tiedekunta-Fakultet-Faculty
Faculty of Social Sciences

Laitos-Institution-Department
Department of Economics

Tekijä-Författare-Author
Hukka, Janne

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Spread of financial crises from the perspective of risk management by financial institutions

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International Economics

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Tiivistelmä-Referat-Abstract
This study examines how propagation mechanisms for financial crises may emerge as an externality of financial institutions' management of their assets and liabilities. Inherent to these activities is the incentive to control for the associated risks. It follows that institutions are exposed to one another's economic fundamentals through various capital markets. Consequently, risk control activities may contribute to the formation of contagious channels. Through these, the effects of a local crisis can spill over to other regions. This implicit externality to some of the measures of risk management thereby necessitates a reassessment of their appeal.

Among the constitutive principles of asset management is diversification of investment portfolios. Financial institutions limit their exposure to any particular risky prospect by holding multiple positions simultaneously. As long as the correlation between these is imperfect, the variability of portfolio returns is reduced. The average return to asset holdings remains the same. On the other hand, diversification increases inter-institutional connections in capital markets. A local crisis, by reducing returns to one position, may induce a risk-averse investor to liquidate other positions in her portfolio. Financial institutions of unrelated characteristics may thereby become exposed to one another through the medium of common third party investors.

Financial institutions also undertake measures of liquidity management. The need for these stems from a maturity mismatch between their assets and liabilities. For instance, an unexpected local liquidity shock may necessitate a costly liquidation of some long positions. In particular, such risks are faced by commercial banks with many liabilities of uncertain maturity. Therefore, they typically pool the risk by participating in interbank loans markets. Banks with surplus liquidity provide credit for those unable to meet their short term liabilities. However, each interbank loan embodies a credit risk. A bank that becomes insolvent may default on its debt. The balance sheets of exposed creditors consequently deteriorate. This makes them more vulnerable to a crisis.

The analysis is characterized by the theory of global games. In a framework of imperfect information, crises are viewed as a result of coordination failure among economic agents. Contagion emerges as an endogenous property of the framework, highlighting the externalities of the described risk management activities. Also, the likelihood of each outcome to agents' coordination game is unique. The effect of contagion to the probability of a crisis can therefore be isolated from other factors. Given the contribution of portfolio diversification and interbank loans to emergence of contagion, this makes their reassessment possible.

The most central sources in this investigation are Dasgupta (2004) and Goldstein and Pauzner (2004).

Avainsanat-Nyckelord-Keywords
financial crisis
contagion
risk management
asset management
liquidity management
portfolio diversification
interbank loans
taloudelliset kriisit - leviäminen
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Säilytyspaikka-Förvaringsställe-Where deposited
Muita tietoja-Övriga uppgifter-Additional information