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Contagion: Understanding How It Spreads

International Financial Markets

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Overview

- Research question: “How do macro- and microeconomic variables and institutional factors influence contagion risk among economies?”
- Method: Literature review and analysis based on existing empirical evidence
- Main findings:
  - Comovements are unavoidable and fundamental factors are cruical but contagion also plays an important role
  - Impossible to limit contagion → the ways of dealing with crises have to be improved

Defining contagion

- "Contagion is best defined as a significant increase in cross-market linkages after a shock to an individual country (or group of countries), as measured by the degree to which asset prices or financial flows move together across markets relative to this comovement in tranquil times" (p. 178).
- "Contagion refers to the spread of market disturbances – mostly on the downside – from one country to the other, a process observed through comovements in exchange rates, stock prices, sovereign spreads, and capital flows" (p. 179).

Causes of contagion

- Spillovers
  - Changes in commodity prices
  - Changes in interest rates/yields
  - Trade links
  - Financial links
- Shock transmission of non-economic fundamentals
  - Dependent on level of financial market integration
  - Investor’s behaviour

Spillovers I

"Fundamentals-based contagion": normal interdependencies can lead to shock transmission through real and financial linkages

- Global shocks:
  - Changes in commodity prices → crises or capital inflows in emerging markets
  - Changes in the US interest rate → volatility in capital flows in South America
- Trade links and competitive devaluations:
  - CCY devaluation of one country will put pressure on other countries due to export competition

Spillovers II

- Financial Links:
  - Economic integration → trade and financial links
  - Direct effect of a national crisis on other economies, also leading to reductions in trade credits, foreign direct investment and other capital flows abroad

Shock transmission I

Contagion as a results of the behaviour of investors and financial agents

- Rationality:
  - ex ante individually rational actions, which lead to excessive comovements
- Informtion asymmetries and coordination problems:
  - Imperfect information
  - Differences in investor expectations → herding

Shock transmission II

- Multiple equilibriums:
  - Changes in expectations become self-fulfilling in financial markets subject to multiple equilibriums → contagion
- Changes in the rules of the game:
  - Changes in investor's assessment of the rules under which financial transaction occur → contagion

Empirical evidence I

- An incresing correlation of asset prices (interest rates, stock prices and sovereign spreads) is considered as evidence of contagion (endogenity problems)
- The conditional correlation of probabilities shows if the probability of a crisis increases in a country if there is a crisis in one or several other countries
  - Mixed results
  - Regional or creditor channel concentration

Empirical evidence II

- Volatitlity spillovers show mixed results and most studies do not distinguish between fundamentals and contagion
- Capital flows are a robust indicator for crises, with a high importance of common creditors
- Other tests focus on macroeconomic weaknesses

Regulatory approaches

- Incentives to not engage in competitiv devaluation of currecies
- Capital controls on capital inflows could prevent the build up of vulnerabilities
- Higher liquidity regulations for banks regarding foreign capital
- Advanced regulation for financial disclosure in order to decrease information assymetries

Additional Perspectives I

- Utilize contingancy mechanims to overcome crisis
  - Fiscal stimulus has a general positive effect and leads to spillovers in connected countries
  - Monetary policy should focus on price stability, reacting only to demand shocks
- Protectionism is not a real solution as it does not outweigh the loss of international trade
  - Even less if counties introduce trade/investment limits
  - Taxation could be a more stustainable solution

Additional Perspectives II

- Additional crises fonds (global, regional) as a risk sharing tool in a monetary union can help to overcome a crisis and prevent its spreading
- Countries should limit their fiscal deficit, since fiscal stimulus as a reaction to a crisis is more effective if the previous level of debt is lower (higher government spending multiplier)

Exam Questions

1. Explain the concept of rationality in the context of bank runs.
2. What is a “fundamentals-based contagion”? Name different variables that can lead to such a crisis and give examples from the past.
3. Describe the process of shock transmissionsand possible outcomes when investors are facing multiple equilibria?

Bibliography

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