Fire sales, indirect contagion and systemic stress-testing
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* The views expressed in this note are those of the authors solely and do not represent those of the IMF or IMF policy.
The Model

Common Holding of Assets

Shock

Fire-sale

Leverage

P↓
Main contributions:

- Common asset exposures as important channel of contagion
- Second round effects due to fire sales significantly contribute to system-wide losses
- Asymmetric balance sheet constraints generate more explosive contagion than symmetric constraints

- The Indirect Contagion Index (ICI) is a simple and practical way to measure potential for contagion

\[ F(\Omega_{ij}, D_j) \xrightarrow{\text{Principal Eigenvector of } \Omega} \text{ICI} \]
DISCUSSION

The main limitations:

- The paper misses important channels of contagion

Common Holding of Assets
Main limitations:

• Misses important channels of contagion

• Requires granular data on the asset exposures and price elasticities for each bank
  • Data is unlikely to be available in many countries
  • Is granularity of data correct?

• Elasticities on asset prices and functional forms on “the market impact function” are an important inputs in the estimation of fire sales
  • Assumptions on calibration of elasticities
  • Assumptions on the structural form of the “Market Impact function”
• **The banks’ behavior is mechanical**
  
  • In short-lived crises the model would probably over-predict contagion
  
  ![Graph showing mechanical behavior](image1)
  
  • Whereas faced with structural shocks, the model might under predict contagion
  
  ![Graph showing structural shocks](image2)
  
  • Would ICI represent a good proxy for contagion losses if key assumptions are relaxed?
REFERENCES


