Systemic Risk and the Financial System: Background

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Setting the context

- How does one define systemic risk?
  - For what questions is this critical?
- What historical episodes provide input for thinking about financial stability and systemic risk?
- What are the salient elements of the financial system?
  - How have these been evolving over the last 10 ~ 20 years?
- What types of models have been used to help think about these issues?
- Where might new approaches be useful?

Defining systemic risk

- Systemic risk is notoriously difficult to define precisely
  - — Most definitions involve some degree of financial sector disruption that affects the broader (“real”) economy
  - — Typically the idea of self-reinforcing feedback or similar propagation mechanism lies just beneath the surface
- But what is the threshold?
  - — Disruptions to other sectors might also create externalities; does this justify public policy intervention?
  - — Should the focus be on episodes where disruptions have the potential to move economy to an inferior equilibrium?
- Does the debate over definition matter?
  - — Is it simply a reflection of our collective lack of precise understanding of the relevant phenomena?
  - — To what extent does it reflect different perspectives/biases with respect to the desirability of public policy intervention?

Drawing on historical experiences

- Banking panics of the 19th and early 20th century
- Great Depression (Crash of 1929 & bank failures in 1930s)
  - Did financial sector events set in motion a self-reinforcing downward economic spiral?
  - Role of central bank actions in the events?
- Herstatt crisis of 1974 and settlement risk
- Stock market crash of 1987
  - Role of market liquidity and central bank actions
  - Clearing and settlement mechanisms
- Asia/Russia/LTCM 1998
  - What would have been the consequences of a disorderly failure of LTCM?
- Sept 11, 2001
  - Disruptions to operational infrastructure

Understanding key features of the financial system

- Large globally active intermediaries
  - Commercial and investment banks provide a range of wholesale and financial services
  - Typically significantly leveraged institutions themselves
- Wide variety of asset managers
  - Pension funds, mutual funds, endowments, hedge funds, private equity funds
- Immense volumes of trading and settlement on a daily basis
  - Many of the related flows are mutually offsetting but can involve transient credit exposures
- Growth of capital markets activities
  - Securitization
  - OTC derivatives

Modelling systemic risk

- Models of contagion and banking panics
  - Assume that forced liquidation of real investments is costly
  - Banks provide liquidity transformation and are inherently subject to “runs”
  - Contagion may be due to common factors, to inter-bank exposures, or to perceptions of the above
- Models of market panics
  - Coordination failures among market participants
    - Each acts individually to restrict risk-taking
    - Collectively market liquidity is materially reduced
  - Attempts to characterize “bubbles” and “panics”
    - Importance of leverage
    - Does not necessarily assume fully rational behavior
- Economic/financial literature on these and other relevant models is large and growing

Highlighting new directions

- Can systemic episodes be predicted?
  - What combination of market and institutional characteristics are most likely to give rise to these phenomena?
- What is the effect of financial market innovation on the potential for systemic risk?
  - Probability & Consequences Given Event
- Can operational disruptions alone create a systemic event?
  - Could the financial system adjust smoothly to a much lower level of activity?