Discussion of David Dicks and Paulo Fulghieri

'Uncertainty Aversion and Systemic Risk'

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Motivation

- Propose new theory of systemic risk based on Knightian uncertainty, in order to explain:
  - Idiosyncratic news that can snowball into systemic shocks
  - Contagion among apparently unrelated asset classes
- Contribute to a better understanding of the mechanisms that lead to contagion

Insights

Variety of insights related to:

- Propagation of financial crisis through the system
- Lending booms and freezes
- Flight to quality
- Likelihood of systemic bank runs
- Role of uncertainty and complexity
- Bail-outs, equity requirements, Volcker Rule

→ Key role for uncertainty *aversion* and *hedging* induced complementarities in asset holdings [makes runs on individual banks less likely, yet leads to systemic risk when run does occur…]

Uncertainty aversion and hedging

- Uncertainty: player does not know true prior
- Use Minimum Expected Utility approach
  - Calculate first expected utility with respect to each prior (this deals with risk), and then takes worst case scenario over all possible priors…
- ‘Hedging’ benefit – investing in two risky assets (banks) reduces uncertainty coming from individual asset – i.e. individual asset’s ‘source of risk in overall portfolio’

Main messages

- Uncertainty is source of systemic risk – do something about it…
  - Transparency???
- Be careful with limiting opportunities for risky investments!
- Aim intervention in times of crisis to TARP type asset sales (at unaffected banks)

Key result

- Uncertainty aversion may cause run on both banks – systemic run – following bad news about one, while it would not happen without this aversion.
- Yet uncertainty averse investor less likely to run on individual bank – would lose balance in portfolio

Implication: in stressful times assets co-move… even if negatively correlated in normal times…

Uncertainty *aversion* and uncertainty *hedging* as key concepts

- Uncertainty aversion
  - Beliefs are endogenous and depend on the agent's overall exposure to risk factors in the economy
  - Induces 'diversification/natural hedging benefit'
- What triggers contagion? Portfolio effect
  - Contrary to Goldstein-Pauzner (2004) where wealth effect with decreasing absolute risk aversion via higher market risk premium causes externalities

What is uncertainty hedging about?

- Uncertainty aversion and hedging are interesting concepts, but can we better understand them?
  - What type of uncertainties can be hedged and how?
    - Important for understanding what this has to do with banking and for getting handle on policy options
    - Tail risks? Triggers? Tipping points?
    - ‘Hedging’ uncertainty: e.g. having stake in bank-based Greek payment system and alternatives: Pay Pal Greece?

Really about banks?

- Investors hold positions in both banks:
  - Depositor as investor… is bank not supposed to be safe place?
  - Do we not have safety net to insulate banks from uncertainty?
  - Seems rather inefficient to have such fragility caused by deposit contracts with sequential service constraint. Jacklin's 1987 critique most relevant…
- Why against Volcker Rule?
- Banks typically follow very similar strategies: your analysis suggests that they should differentiate

Set-up…

- Diamond-Dybvig world where each bank has risky asset choice (and safe alternative)
- Return on risky assets depends on state of overall economy, and that state (also) delivers source of uncertainty in the model
- Success probability of asset of type τ depends on value of parameter θ, and is $p_r(\theta)$. Note uncertainty surrounds θ
- Strategic complementarity comes from: higher θ is good for A bad for B.

Set-up – 2

- Endogenous beliefs: investors choose portfolio across banks, and exposure to uncertainty dictates beliefs. θ is endogenous belief…, need to look at portfolio of risky assets/banks
- Bad news on one bank's risky assets distorts portfolio balance and increases perceived uncertainty of other asset – less portfolio balanced now