

2021 Financial Stability Conference  
Planning for Surprises, Learning from Crises

Discussion by  
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# In a nutshell

- 3 nice papers
  - Cyber security
  - Carbon and climate change
  - Interconnectedness and risk
- 3 very diverse topics, ideas and datasets. It was a pleasure and very educative to read the papers.
- I'll try and focus on some big picture issues.

# 1. Cybersecurity

- Examines: small banks targeted by cyber attacks
- Finds: Deposit flight from small banks to large banks.
  - Heterogeneity: low social capital, low digital literacy, concentrated markets see more flight
  - CD rates at affected banks increase
- Hacked banks lower credit standards
  - Riskier mortgages originated, same total volume.

# 1. Cybersecurity

- Reading it was harder than it needed to be.
  - Cutting paper by 30-50% will probably increase impact. Maybe consolidate Implications in a separate section?
- Possible pitch for paper: ask why cybersecurity is special -- Is it loss of funds or loss of (highly private) data of bank customers?
  - Does the data view explain mortgage results? CD results?
- What are the real consequences of cyberattacks? If none, may further beef up loss of privacy interpretation of deposit flight.
- Mortgage results.
  - Riskier mortgages originated, same total volume but perhaps **quality** of volume is lower?
  - Ex-post defaults on originated mortgages?

## 2. Banking on Carbon

- Well executed paper.
- Exposition is somewhat difficult. Two experiments, two datasets, one paper means difficult reading. Especially when there is back and forth between the two within paper.
- But I don't have a fix as the experiments are a little different. I'd suggest making one (2011?) focal and the other one a robustness section.

## 2. Banking on Carbon

- I was curious about utilities. They are carbon emitters, look at their responses.
- Is maturity reduction driven by banks, by firms, or is it bilateral?
- What is the real effect of reducing maturity on firm outcomes? Nothing? If so, is it an (efficient?) bilateral response to the law?
  - The substitution to cash seems to have no real effects.
- Implications of - and motivation for - private versus public firm results?
  - Hard to not think of endogeneity of private status. I'd jote it. I don't think this paper can do much about it but I'd note it and cite the relevant literature.
  - Is the story that monopolies of banks over firms and regulators over banks matter, perhaps not beneficially?
- Shadow bank share increases. Are their preferences driving the results?

## 2. Banking on carbon

- Several take aways from the paper, all interesting. Do you want to sort them out.
- Firms alter their financial contracts with banks. These are {bilaterally negotiated} {forced}
- As a result, firms face {increased} {similar} costs of bank financing. These costs are {temporary} {permanent}
- The changes are not relevant for private firms, suggesting that {competitive financial markets undo regulatory effects} {banks have oligopoly over private firms}.

# 3. Counterparty Choice

- Evidence on bank network formation.
  - On the extensive + intensive margin, banks increase connectedness to non-bank counterparties.
  - Riskier counterparties used for the most material exposures.
- Very interesting question and findings.
  - Risk taking occurs through choice of counterparty.
  - Excellent data -- FR Y-14Q, 2013-2020, covers pandemic period. The data are a first order contribution.



# 3. Counterparty Choice

- This is a paper about pairwise tie formation.
  - If it is a paper about the dynamics of tie formation that pushes the network to an unstable state, i.e., how tie formation creates instability -- great!
  - But should there then be a focus on separating the end product of the tie formation process from its dynamics?

# 3. Counterparty Choice

- End state network architecture matters.
  - Transmission of new shocks probably depends on the current network created by ties as opposed to how ties were formed.
  - Is the end product a sequence of closed or nearly closed clusters (communities)? Should one study transitions from state to state and figure why these happen?

# 3. Counterparty Choice

- Tie formation versus end-product of tie formation.
  - The mapping between the two may not be one to one. That is, we don't know what pairwise dynamics lead to what end-state. If the paper can say something, great.
  - Or, one can view the network as dynamically changing with no end point in mind. If so, what is the economic significance of the way ties develop?

# 3. Counterparty Choice

- The choice of tie formation is bilateral
  - So one has a high order dynamic programming problem where multiple parties choose each other and an equilibrium emerges.
  - Perhaps one can simplify this into 2 types of agents (bank and non-bank). Then examine the links between the two and their evolution.
  - Networks sometimes have unexpected end products. If A ties with riskier B, B also ties with less risky A. The implications for network fragility and risk taking are unclear.

# 3. Counterparty Choice

- Interpreting pairwise ties versus stock market correlation measures.
  - Wasn't quite sure what to make of it without an understanding of its quantitative effect.
- Overall, I suggest a mapping of the results to a structural or the implication of one.
- Either will likely increase the influence of this paper well beyond financial stability -- and finance.

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