

Credit Market Spillovers: Evidence from a Syndicated Loan Market Network

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This is an important contribution

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- Empirical literature on networks has not caught up yet in testing the theories

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Why?

- 1 Data access: often requires regulatory data
- 2 Challenging execution: exogenous variation in network structure rarely exists
- 3 Connecting the dots between theory and empirical tests is not straightforward

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I will talk about each one of them one by one, denoting them as:

- ① Data
- ② Econometrics
- ③ Economics

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- Constructed Network using Syndicated Loans Data, which has many advantages
 - Large and important market for bank lending to firms
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- Used market structure to design network measure
 - This is great! Much better than mechanically reusing network statistics
 - 2 step approach (roughly)
 - 1 Similarity between banks: similarity in portfolios by sector of investment
 - 2 Interconnectedness between loans: how “similar” the banks that invest in both loans are on average

$$w_{ij,t}^L = (\mathcal{P} \{B_{ij,t}\})^{-1} \sum_{(b_1, b_2) \in B_{ij,t}} (w_{b_1 b_2, t}^B)^{-1}, i \neq j,$$

Identification is not perfect but reasonably well done

- Saturate model with fixed effects
- Two step procedure

I really appreciate how clearly the paper communicated the identification challenges and solutions in general.

One suggestion would be to differentiate more carefully between the econometrician's and the banks' information sets.

I. Error term as a measure of complexity and counterparty uncertainty

- By definition, the error term is only unknown/uncertain to the econometrician
- It may not be what is unknown/uncertain to the banks
- Distinction between complexity and counterparty risk uncertainty is unclear

Suggestion: Use other theory implied measures to supplement W in the specification below and check whether conclusions are aligned

$$H_0^{\epsilon} : \rho = 0$$

$$\epsilon = \rho W \epsilon + \eta,$$

II. Two-step procedure to eliminate estimation bias

- Two-step aggregation can average over errors at the sector and bank-pair level that are mean zero
- This includes measurement error
- But anything that banks know and the econometrician does not and that is affecting the decision making will still bias the estimate

Suggestion: FEs are a stronger argument for identification

“One key parameter of interest is λ , which can be interpreted as a spillover, or peer effect, following the social interactions literature.”

$$y = \lambda(Wy) + X\beta + \epsilon.$$

But what does it mean?

- Statistically, it measures how loan volumes (loan rates) of loan i comove with other loan volumes (loan rates) weighted by the network structure.
- But how about economically?

Potential explanations:

- ① Herding (Acharya and Yorulmazer, 2007)
 - Banks choose to invest in the same assets
- ② Information related e.g. Holmstrom and Tirole (1997)
 - Informed lender with higher stakes in the project signals higher quality and incentivizes uninformed lenders to give out the loan
- ③ Learning externalities (Babus and Kondor, 2018)
 - In good times, collecting additional information about credit quality adds little value, increasing the probability of positive peer effects.

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But which one is it? Which channel actually holds? This matters because implications would differ.

- Looking at how things changed over the crisis is a step in the right direction.
- For example, it suggests consistency with private value becoming less correlated with market price dispersion and banks increasing the weight on their own signals (Babus and Kondor, 2018)

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More should and can be done to shed light on the economic channels at play.

Here are two examples.

I. Use special structure of loan syndication to test Holmstrom and Tirole (1997)

- 1 Make use of the fact that lead bank is the producer of information about the borrower
- 2 The stake that lead bank holds matters (Ivashina, 2009) and can be used to augment the network
- 3 i.e. differentiate between lead and participant banks in the network construction

II. Use sector specific information to test Acharya and Yorulmazer (2007)

- If banks herd to increase their chance of receiving bailouts
- They should be incentivized to invest in the most systemic sectors
- This can be ones that are highly leveraged and cyclical e.g. real estate
- Or it could be ones that the SIFIs are more heavily invested in
- i.e. use sector specific info to augment the bank distance weights

Overall, a really nice paper that constructs a new network measure and uses it to test important theories!

Just a few suggestions:

- 1 Think about and test for the econometrician's versus banks' info sets more carefully
- 2 Tighten the connection between empirics and theory.
 - E.g. I: Use different roles of the syndicate (lead versus participant)
 - E.g. II: Apply sector specific weights to the network matrix