

Discussion of
“Financial Frictions in Production Networks”
Bigio and La’O (2015)

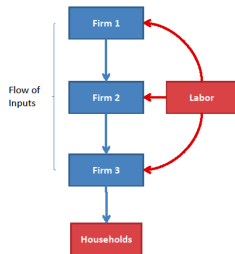
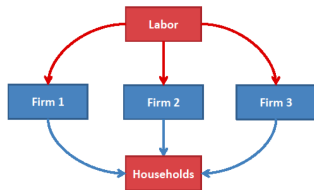
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Overview

- Main question:
 - Importance of financial frictions in business cycle fluctuations
 - Already a large literature
(going all the way back to [Bernanke and Gertler , 1989](#))
- This paper:
 - Thinking about financial frictions without taking input-output linkages into account can be misleading (specially quantitatively).
 - There is a “network liquidity multiplier”: an aggregate tightening of liquidity constraints has differential impacts across different economies.

Leading Example



- The two economies are observationally equivalent in the absence of pledgeability constraints.
- But behave very differently if

$$\text{expenditure}_i \leq \phi_i \cdot \text{sales}_i$$

- An **identical, aggregate** shock to the constraints has a much larger impact in the vertical economy.

More General Setting

- A general economy of size n , with input-output matrix $W = [w_{ij}]$.
- Firm i can only pledge a fraction ϕ_i of its sales.
- In the competitive equilibrium of the economy:

$$\log(\text{GDP}) = \sum_{j=1}^n v_j (\log A_j + \log \phi_j),$$

where

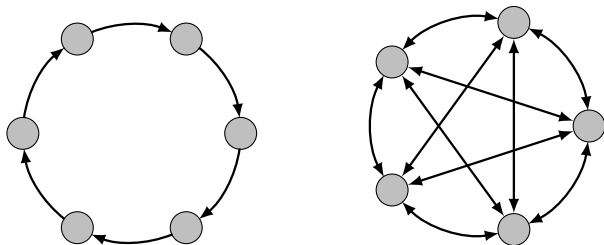
- v_i is the i -th column sum of the Leontief inverse $L = [I - W]^{-1}$.

Comment 1: Liquidity Multiplier

- The horizontal vs. vertical example shows that
 - more transactions between firms → more liquidity necessary.

- But is it only about the volume or transactions or the distribution of transactions matters too?

Comment 1: Liquidity Multiplier



- **macro equivalence:** in the absence of frictions, both economies have identical aggregate outputs.
- **micro equivalence:** but also all firms are of equal sizes.
- What happens if we now introduce the frictions?

Comment 2: Aggregate vs. Idiosyncratic Shocks

- The paper mostly focuses on the response of aggregate variables to an aggregate tightening of the liquidity constraints.
- But the setup is rich enough to also study the role of idiosyncratic shocks (after all, not all sectors rely on credit equally).
 - again, studied in the context of the vertical and horizontal economies, but can be done more generally too.

Comment 3: Micro vs. Macro Effects

- The vertical vs. horizontal example shows clearly that two economies
 - (i) can be observationally equivalent in the absence of frictions.
 - (ii) but behave very differently in the presence of frictions.
- Focus on aggregate variables (output, liquidity multiplier, aggregate labor wedge).
- Again, the setup is rich enough to study how firm-level variables (say, output or sales) are impacted.
- Would provide a deeper understanding of how these frictions “propagate” and impact other firms is still missing.

Summary

- Super interesting paper
(caution: subject to the discussant's bias!)

- Comments: leverage the more general characterization to learn more about
 - the aggregate effects of **idiosyncratic** shocks
 - the **micro effects** of (aggregate and idiosyncratic) shocks.
 - whether it is only the aggregate transaction amount that matters or is it truly a network story?