Trading Networks and Equilibrium Intermediation

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Model and Results

- Endogenous network formation in a 'hot potato' model of intermediation
  - a seller values potato at 0
  - a buyer with value 1
  - layers of intermediators in between pass it on
    - each subject to i.i.d. liquidity shocks
  - each layers bid in a second-price auction for the potato

- Two basic treatments
  1. What if horizontal and vertical mergers are possible for a cost? What is needed for stability?
  2. What if entry is possible for a cost? What is an equilibrium? What is the planner’s solution?
Results

- an equilibrium where all with no shock bid the expected resale value: pins down equilibrium prices by backward induction
  - each likes more agents above and below in the chain (help to get and sell the asset), and dislike more at the same level
- mergers:
  - not all merge as long as liquidity shocks are sufficiently large.
  - if zero cost of horizontal mergers, all merge in each layer.
  - Agents don’t benefit from horizontal competition. Vertical can go both ways (more vulnerable (if any layer defective, whole integration is), but more market power).
- free entry
  - multiple equilibria, there is one with maximal agents in each layer
  - more agents near buyers: asymmetry in the effect of shocks.
    - to get a potato need one agent not shocked upstream
    - to sell one with profit: need two agents not shocked downstream
    - closer to the buyer: less uncertainty, more profit, more entrants
  - planner does not care for profit: in planner’s solution same number of agents in each layer, too little entry close to seller
Comments

▶ a very elegant model
▶ a clear analysis
▶ all results make a lot of sense within the model
▶ some very interesting thoughts: but not completely clear: What do we learn? Which are the explored mechanisms help to understand the economy?
▶ under-entry: idea that agents would not fully internalize the benefit of intermediation they provide often comes out when entry is a choice (e.g. Atkenson-Eisfeld-Weill)
▶ more interesting: asymmetry and example on mergers
  ▶ asymmetry:
    ▶ comes directly from assumptions: profit is more sensitive to competition across buyers than across sellers
    ▶ Perhaps it is true in some contexts: which?
    ▶ in general what counts is the structure of uncertainty on demand and supply.
    ▶ Perhaps it can be characterized in a way to map to industries. Perhaps testable.
example on mergers:

- private information and adverse selection is endogenous to the network formation smaller bids when competing against a conglomerate
- An interesting thought. What does it imply?
- why not developed to a proposition? It might even be testable in some ways.
- in a less specific model (e.g. with quantities) might have welfare consequences. Agents might trade less in fear of adverse selection when the conglomerate is present.
bigger picture

- asking IO questions in networks of models is a very promising way forward
- (for future work:) why focusing on hot potato model?
  - quantities and prices are set in a very specific way.
  - links are either work or not: it is not possible to divide the flow across intermediators
  - perhaps network tools pushes us to this direction, instead of economics?
- (perhaps not surprisingly), I find it more natural to think of equilibria determined by demand and supply curves.
  - A better comparison with existing IO models
  - simpler connection with data
  - more natural welfare analysis
  - (e.g. extending Babus-Kondor (2013) with producing firms instead of dealers, asymmetric expected private values (sellers/buyers) might work.)
Sum-up

- elegant model and analysis
- delight to read
- perhaps more work on
  - the connection between demand and supply side competition and asymmetry
  - the example on mergers
- would be helpful