Discussion of “Estimating Geographic Frictions on Interfirm Transactions”, by Kentaro Nakajima

Mitsukuni Nishida, Johns Hopkins Carey Business School

Summary

JOHNS HOPKINS CAREY BUSINESS SCHOOL

- "What drives agglomeration?"
  - Role of distance in choosing transaction partners?
- A structural model of many-to-many matching using transaction network data from Japanese manufacturing
  - Revealed preference approach
- Findings:
  - Distance negatively affect revenues
  - Magnitude seems larger for upstream firms
  - Magnitude varies across industries
- Contributions: to quantify benefits of shorter distance on choice of transaction partners relative to other factors
- Preliminary, but ambitious and promising

Revealed Preference Approach

- Matching games: a new area for theoretical and empirical IO
  - Cooperative behavior
  - Two-sided markets: Marriage, bank mergers, sellers and buyers, ..
- Two aspects of Fox (2010):

(1) Structural estimation

  - To uncover model primitives in revenue function (in this case, preference of firms with whom to conduct transaction)
  - Assumption: Data we observe are generated by equilibrium of matching game
  - Issue: “curse of dimensionality”
    - (# of assignments of 1-to-1 matching of 100 upstream firms to 100 downstream firms) > (# of atoms in universe)

(2) Revealed preference approach

  - Infer parameters by imposing restrictions “You cannot increase payoff by changing the link”
  - Lighter computational burden

Comment 1: Distance Parameters

JOHNS HOPKINS CAREY BUSINESS SCHOOL

- Remember normalization: every parameter is relative to ln (Degree) for a downstream firm
  - ln(degree): Average number of transaction partners of upstream firms, proxy for how sound your transaction partners are financially
- Increasing number of transaction partners *always* increases the payoff?
  - +: may avoid hold up
  - -: may reduce benefits from returns to scale/scope
  - -: may increase the costs of negotiation

- Suggestion (1): try other variables for normalization, which are less controversial to sign reversal, such as credit ratings?
- Suggestion (2): look at more closely at a particular industry, rather than looking at whole manufacturing sector?

Comment 1: Distance Parameters (cont'd)

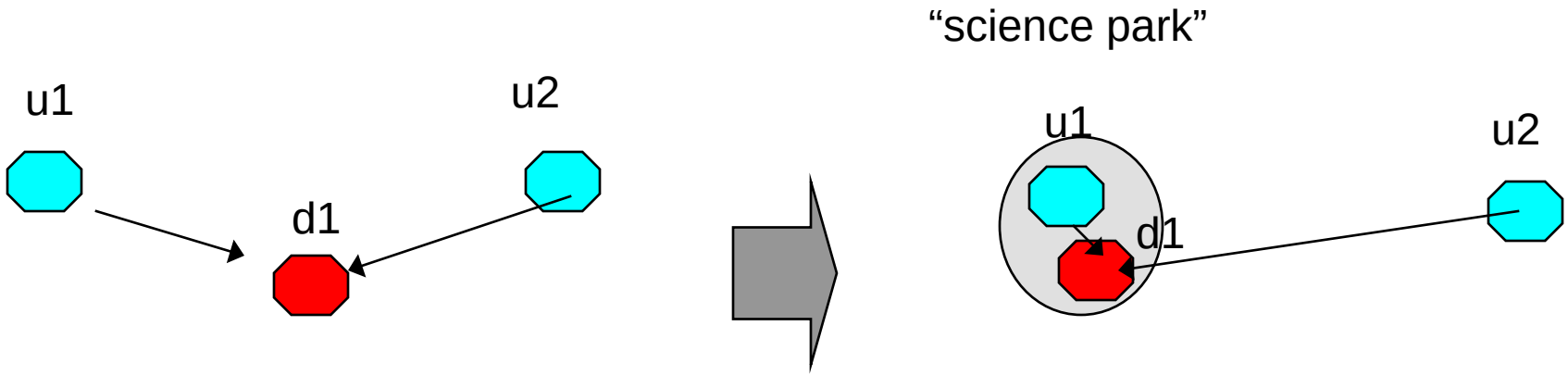
JOHNS HOPKINS CAREY BUSINESS SCHOOL

- Magnitudes vary wildly across industries
  - Are we picking up differences comparable across industries?
  - How ln (Degree) impact the revenue can be different across industries? E.g., cement or concrete industries

- Suggestion (1): Adjust the cross-industry differences by measuring the deviation from the industry mean?
- Suggestion (2): Adjust the Ellison Grazer index to incorporate the across-industry differences?

Comment 3: Policy Implications?

- The trade-off of exogenously creating a “cluster”



Other Comments

- Downstream distance parameters vary wildly
  - Hypothesis testing on restriction?
- Some coefficients are imprecisely estimated
  - Increasing # of inequalities helps?
- Direction of causality