Discussion of "March of the Chains: Herding in Restaurant Locations"

FTC Conference, Nov 2012

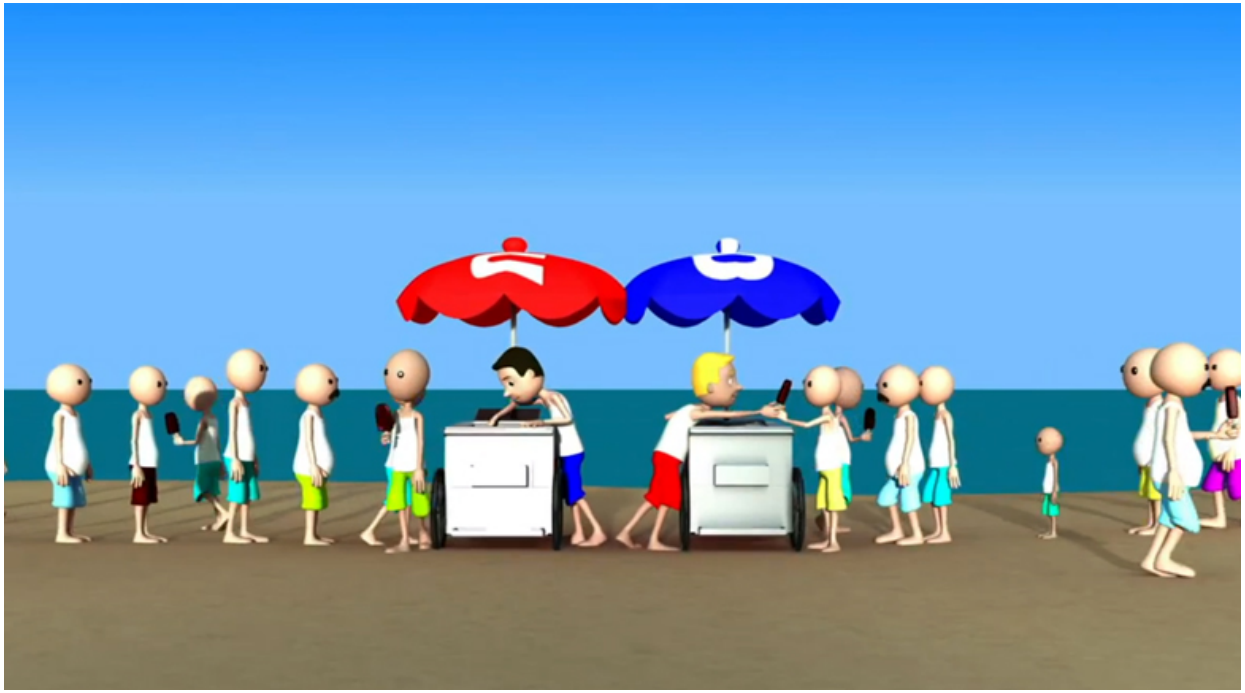
Motivation

- Industry agglomeration has been an important and long-lasting topic
- Traditionally more focused on manufacturing: Detroit, Silicon Valley, etc.
- Production side reasons dominate: local advantage, labor pooling, Marshallian externalities.
- This paper, as well as the few it cites, looks at retail clustering.

Why retail is interesting

- Localized markets: demand side crucial
- Few competitors and usually concentrated market: strategic interaction
- Suppliers, inventory, and the chain structure: production side still important.

- The early explanation....



Hotelling (1929): Consumer search/transportation cost vs head-to-head competition.

Retail Clustering

- Unobserved (time-varying) demand change
- New highways, malls, outlets etc.

This Paper

- A novel channel of clustering: learning from rivals
- Standard dynamic oligopoly model
  - entry barrier: sunk entry cost
- Model in this paper
  - entry barrier: sunk entry cost + unknown demand
  - later entrants learn from rival: effectively lowers entry barrier

This Paper

- This is an interesting and plausible story
- However, not clear to me it is THE channel
- Empirical challenge: how to separate it from timing-varying demand
- Mimic a standard "reflection" problem in social interaction models

This Paper

- Plausible exclusive restriction: cost side?
- Data variation that changes rival entry probability, yet uncorrelated with demand
- Candidate: making use of each Chain's supplier or inventory network
- How to think about a second entry of the same chain vs first entry of the rival chain
  - depends on whether franchised or not

- Well documented pattern of first-mover
- The most interesting data pattern - does model speak to it
  - Habit formaton story?
  - Does rival learn differently if a strong incumbent fails vs if a weaker one fails.

Chain	First entrant
A & W	100
Burger King	50
Harvey's	65
McDonald's	334
Wendy's	34

- Overall, the model could be more transparent
  - Hard to digest the learning rule:

$$\lambda_{imt} = \frac{Pr(a^*_{mt-1}|\omega_m \neq 0)\lambda_{imt-1}}{Pr(a^*_{mt-1}|\omega_m \neq 0)\lambda_{imt-1} + Pr(a^*_{mt-1}|\omega_m = 0)(1-\lambda_{imt-1})}$$

  - To what extent is this "Bayesian", why on choice prob rather than past actions
  - Isn't ω_m just η_m for informed players (what is 0)
  - What is the role of prior belief, noisiness of fixed cost, etc.
- The equilibrium concept.
  - Might be useful to emphasize that player beliefs are public information (**crucial**)
  - λ_{imt} can be anything spilled over from rivals, not necessarily learning.

Some empirical information left unspecified

- How should we think about market size (observed part) evolution?
- Trends of population growth or income change
- Is the distribution of market structure stationary over this long period
  - Does not seem to be the case for Chain retail in U.S
- Useful to take a stand on where is the transitory path vs. ergodic set of equilibrium market structure. Important for CCP estimation.

Estimation

- Question: do we observe Π_{imt} in data?
- If not, then the identification on levels of fixed/sunk cost/ρ surprises me.
  - how to interpret negative sunk/fixed cost.
- The standard deviation of IID random shock crucial to report: are we using a standard normal $N(0, 1)$?
- Also needs more details on how to separate
  - Unobserved market mixture prob ϕ_1
  - Probability of common prior belief λ_0.
- It is not observed by us as econometrician: what difference does it make that markets are truly good, or firms share common belief that it is good? How to tell?
- Details: are those in brackets standard errors, p-values. Statistical significance?

Counter-factual

- Would be nice to re-visit the question of retail clustering.
- Easy to compute distribution of market structure (i.e N)
- How much difference do we have by including learning.
  - Information spillover
  - Higher exit of incumbent
  - Countervailing forces