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.

Discussion of “March of the Chains: Herding in Restaurant Locations”
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.

Discussion of “March of the Chains: Herding in Restaurant Locations”
- 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 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
• 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 formation story?
  • Does rival learn differently if a strong incumbent fails vs if a weaker one fails.

<table>
<thead>
<tr>
<th>Chain</th>
<th>First entrant</th>
</tr>
</thead>
<tbody>
<tr>
<td>A &amp; W</td>
<td>100</td>
</tr>
<tr>
<td>Burger King</td>
<td>50</td>
</tr>
<tr>
<td>Harvey’s</td>
<td>65</td>
</tr>
<tr>
<td>McDonald’s</td>
<td>334</td>
</tr>
<tr>
<td>Wendy’s</td>
<td>34</td>
</tr>
</tbody>
</table>
• 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 \(\omega_m\) just \(\eta_m\) 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 (\textit{crucial})
  • \(\lambda_{imt}\) 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 $\Pi_{\text{imt}}$ in data?

- If not, then the identification on levels of fixed/sunk cost/$\rho$ 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 $\phi_1$
  - Probability of common prior belief $\lambda_0$.

- 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?
  To explain the meaning of the interplay between firms and strategic effects.

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• 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