How Do Firms Build Market Share?

by D. Argente, D. Fitzgerald, S. Moreira, and A. Priolo

Andrea Chiavari
(UPF)

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Main Contribution I

- How do firms grow?
  - Accumulating demand: Foster et al (2008);
- How do firm *accumulate* demand?

$$\pi = (p - c) \times \overbrace{\underbrace{\text{I}}_{\substack{\text{Intensive} \\ \text{margin}}} \times \underbrace{\text{E}}_{\substack{\text{Extensive} \\ \text{margin}}}}^{\text{Demand}}$$

  - **E**xtensive margin $\approx$ **70%**: Afrouzi et al. (2020), Einav et al. (2020);
- **This paper:** How do firms accumulate **new** customers?

Main Contribution II

- How firms *accumulate* customers? Two candidates:
  1. Strategic pricing (p);
  2. Advertisement (a);

$$\mathcal{V}(E_{-1}) = \max_{p,a} \quad (p-c) \times I(p) \times \boldsymbol{E(p,a;}E_{-1}\boldsymbol{)} - a + \beta \mathcal{V}(\boldsymbol{E(p,a;}E_{-1}\boldsymbol{)})$$

- **Authors' conclusion**:
  1. *Empirically*: Strategic pricing not important $\rightarrow \frac{\partial E(.)}{\partial p} \approx 0$; **advertisement** is the *main* margin;
  2. *Quantitatively*: Customer accumulation *important* for heterogeneity in firm size.

Data + Empirical Strategy

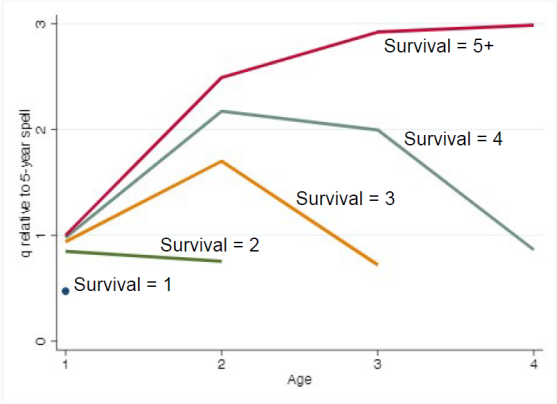
- **(Impressive) Data:** Nielsen Retail Scanner (RMS) data on *consumer food products*:
  1. **Prices** and **quantities** at firm-product-market-year level;
  2. (Staggered) Entry and exit of products at market level;
  3. Detailed advertisement expenditure at firm-product-market-year level;

- Main regression:

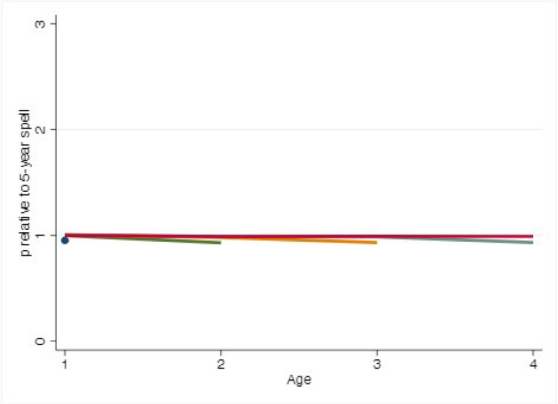
$$y_{imt} = \delta_{mt} + c_{it} + \boldsymbol{\beta}'(age_{imt} \otimes survival_{imt}) + cens_{im} + \varepsilon_{imt}$$

  where:
  - d_{mt} controls for **demand** factors common to all m and t;
  - c_{it} controls for **marginal costs** (and quality) common to all i and t;
  - $y_{imt} \in \{\log q_{imt}, \log p_{imt}, \log a_{imt}\}$

Main (Empirical) Results I



(a) Quantity

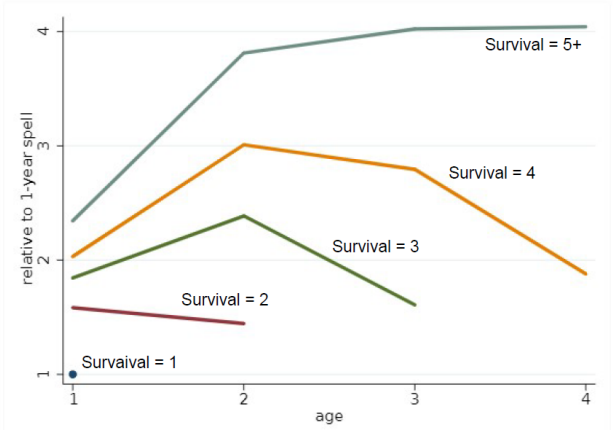


(b) Price

Quantities increase with product's age *but* prices don't!

Main (Empirical) Results II

Figure 6: Dynamics of advertising within market



Advertisement grows with product's age!

Comment I.a

Which prices should we look at?

- Nice to see novel evidences of prices over the life-cycle;
- Which role is played by *distribution margins* (τ)?



  - In the analysis assumed constant within market;
  - How is it in reality? Does it matter? Double marginalization?
  - Perhaps helpful to give some background to guide the reader;

Comment I.b

Which prices should we look at?

- Which are the prices customers respond to?
  - Do customers buy **barcodes** or **modules**? Useful to know where we expect to see pricing strategies;



  - Could some analysis be done at the barcode and month level?

Comment II

Why Firms Favour Advertisement to Prices?

- Are customers sensitive to prices?
  - Paciello et al. (2019) document:

$$\frac{\partial \Pr(\text{leave customer base})}{\partial p_{it}} \approx 0.14$$

- Why firms choose advertisement over pricing strategies?

Comment III

Demand elasticity to prices and advertisement

- One potential reasons why firms use prices less, compared to advertisement, is that are more effective;
- Could the model be used to select different explanations?
  - For example:

$$D = (1 - \underbrace{\delta(P, A)}_{\text{Depreciation}})D_{-1} + \underbrace{N(P, A)}_{\text{New customers}}$$

  - Use the model to infer:

$$\frac{\partial \log D}{\partial \log P} \quad \text{and} \quad \frac{\partial \log D}{\partial \log A}$$

Conclusion

- Very interesting paper:
  - Important topic linked to recent growing literature;
  - Impressive data;