Structure, Conduct, and Contact: Competition in Closely-Related Markets
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The Paper

- Very ambitious project: identification of collusive, potentially collusive markets.
  - New, careful look at cross industry analysis.
  - Midway between very different and single industries.
- Application to the food industry in Israel
- Look forward to see the outcome

Building Blocks

- The food industry in Israel
    - Highly concentrated markets
    - Substantial overlap of firms across markets
- Estimation of demand in each market
- Study of conduct
    - Inference of critical discount factor
    - Regressions of prices on markups
    - Alternative measure of concentration
    - Multimarket contact

Critical Discount Factor

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- Idea: Repeated game

$$\pi_{Deviation} + \delta EV_{Nash} \leq \frac{1}{1 - \delta} \pi_{Collusion}$$

- Collusion sustainable if $\delta > \delta^*$
- δ^*: parameter of how "hard" it is to collude

Critical Discount Factor: Comments I

Main problems:

- ▶ Deviation profits
    - Understudied issue. We don't know how firms undercut, punish in reality (Levenstein 1997).
    - Discrete time: Time period is one month. $\pi(p^{Deviation}, p^N)$
    - Monitoring? Likely to vary across categories (Alé Chilet, 2016)
    - If cartel is allocating markets, deviation in this industry could be entry.

Critical Discount Factor: Comments II

- Collusive profits
  - Collusion is (usually) not fully profit maximizing. Genesove and Mullin (1998).
  - Less patient firms may still collude in price levels lower than collusive ones.
  - As suggested in slides, can be relaxed.

Critical Discount Factor: Comments II

- Collusive profits
  - Collusion is (usually) not fully profit maximizing. Genesove and Mullin (1998).
  - Less patient firms may still collude in price levels lower than collusive ones.
  - As suggested in slides, can be relaxed.
- Suggestion:
  - Show that approach works: Higher prices associated with lower critical δ?
  - Maybe more potential in comparison with multimarket contact

Testing for Collusion

- Regression of prices on inferred collusive markup
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- Suggestion:
  - Given previous discussion, might be more useful to test for competitive behavior (rather than for full profit maximization).

The Effect of Concentration on Prices

- ▶ Measure of concentration (elasticity-adjusted) RM
  - $HHI = \frac{\text{Competitive margin}}{\text{Collusive margin}}$ (HLZ, 1992)
  - Allows for "continuous market bounds"– cross elasticities determine markets
  - Thanks to the framework, can implement HLZ's idea
  - Clearly, policy relevant: better measure of oligopolistic behavior.
- ▶ Regression of prices on RM (using instruments)

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- ▶ Regression of prices on RM (using instruments)
- ▶ Comments:
  - Probably too difficult to compute for generalized use in policy
- ▶ Suggestions:
  - If it performs better than HHI in predicting prices, show that it is robust to using other demand estimates, simpler to compute for policy makers.

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- Suggestions:
  - Evidence for collusive mechanism–division of the market (Levenstein and Suslow, 2006); deviation: entry?
  - Check if firms' overlap have effect on prices (Evans and Kessides, 1994)
  - Using demand estimates, calculate margins implied by MMC and compare them to multiproduct behavior.
    - Ciliberto and Williams (2014) estimate demand and supply *simultaneously* under various behavioral assumptions (NB, Col., MMC).
  - Entry? Is there difference in behavior (entrant/incumbents) when MMC?

Demand

- ▸ 40 categories, 4 retail channels; very careful, on-going work.
- ▸ Suggestion: Take advantage of multiple channels. Joint estimation (very similar coefficients). Another nesting level, maybe RC on price?
- ▸ Minor comment: possible criticism: model selection, ad-hoc choices?
  - • Researcher choices: many potential instruments (Cost shifters $\times$ brand interactions, BLP), choices of outside option.
- ▸ Suggestion: unified criterion. LASSO (e.g., Gilchrist and Sands, 2016), number of households.