Oligopolistic Price Leadership and Mergers: The United States Beer Industry

Nathan H. Miller and Gloria Sheu and Matthew C. Weinberg

Discussed by Gaurab Aryal (UVA)

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Short Summary: 1

- Authors consider infinitely-repeated price setting game.
- One firm (oligopolistic leader) moves first and chooses a price:

$$\texttt{Price} = \texttt{Bertrand-Price} + \texttt{Something}.$$

- "Member firms" are enticed to follow the leader and choose the `Price`, if
  - they value the future enough.
  - the `Price` satisfies incentive compatibility constraints.
  - (implicitly) there is "good-enough" monitoring so punishment is credible.
- There exists a SPNE in oligopoly price leadership.

Short Summary: 2

- Industry: US beer.
- Context: post 2008 Miller/Coors merger, where ABI acts as a price leader.
- Estimate super-markup (i.e., `Something`) $\approx 6\%$ of `Price`.
- Price leadership $\Rightarrow \uparrow$ profit by 8.9% and $\downarrow$ consumer surplus by $4 \times \Delta$`Profit`.
- Looking ahead what can we expect from future (ABI/Modelo) mergers?
  - Incentive compatibility constraints are relaxed: one less non-cartel firm.
  - Equilibrium super-markup increases.
  - Amplify coordinated effects.

Empirical challenges

- A tractable structural model of repeated games with price leadership.
- PLE need not be Pareto optimal because the leader can be selfish, and no side-payments.
- Identification of the Something=**supermarkup**:
  - One (pricing) first-order condition (FOC) but two unknowns: marginal cost and *supermarkup*.
  - Assumption: before 2008, *supermarkup* equals zero.
  - (1) from the FOC applied to pre-2008 data identifies marginal cost.
  - (2) take that marginal cost and determine *supermarkup* from post-2008 FOC.
- Costs are "same" before and after 2008.

Empirical Challenges cntd.

- Example 1:
  - Alex Gross (2019, UVA JMP): considers bargaining over wholesale price and retail price.
  - Only observes retail price, but want to identify bargaining power and marginal cost.
  - He considers wine industry and uses alcohol control states to estimate marginal costs.
  - Uses that cost estimate to identify bargaining powers.
- Example 2:
  - Grennan (2013, AER): considers hospitals and medical devices manufacturers bargaining.
  - Crucially, he observes payment from hospitals to the manufacturers.
  - And exploits the fact that when contracts are long-term but demand changes, prices are out off-equilibrium, and future negotiations will be along the demand curve, thereby "tracing" it.

Antitrust Risk-1

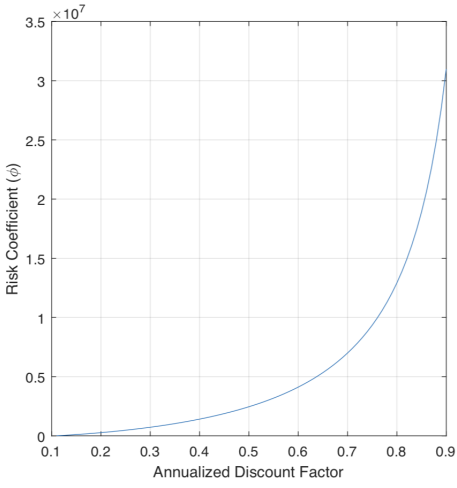
- Often, antitrust risks are mostly ignored.
- Here, it is incorporated in the payoff function: $R(\texttt{supermarkup})$.
- It is the primary policy response from the regulators.
- In my UG class on auction: for collusion, because of $R(\cdot)$, we focus on larger projects.
- But we know very little about firms' expectation about the risk.

Antitrust Risk-2

- How can we identify $R(\cdot)$?
- Ideal (naïve?) exercise:
  - Fix the "pie" from PLE fixed, and vary the antitrust regime (politics?)
  - The change in *supermarkup* (if it can be identified) should inform about $R(\cdot)$.
- Here parametrize $R(\texttt{supermarkup}; \phi) = \phi \times \texttt{supermarkup}$.
- But in PLE the incentive compatibility constraint for ABI or MillerCoors should bind.
- Besides the estimated parameters, the constraint depends on (ϕ, δ).
- Identifying δ is a nightmare; e.g., Abbring and Daljord (2019, WP).

Antitrust Risk-3

MillerCoors IC constraint



Antitrust Risk-4

- Can we use the additional profit under PLE to bound (ϕ, δ)?
- We observe PLE so that suggests an upper bound on ϕ?
- Perrigne and Vuong (2011, ECMA) consider optimal regulation contract

$$\max_{\texttt{contracts}} \texttt{Social Welfare} = \mathbb{E}\Big\{ CS(\texttt{contracts}) + \lambda \times PS(\texttt{contracts}) \Big\}$$

  and study the identification of λ, which plays similar role as $R(\cdot)$ here.
- They show that λ can be identified if
  - observed payment is not always optimal; and
  - the error is independent of the observed cost of production.
- Encourage authors to write another paper that goes into this problem.

Thank You!