Economics of Industry Empirical Notes

Oligopoly

Nynex, Pro CD

- U.S. telephone directory industry in 1987: monopolist Nynex sold at USD 10,000. Following the entry of Pro CD, price fell by more than 90%.

Nintendo, Sony

- U.S. gaming console industry in 1999: Nintendo matched a Sony price cut within an hour.
- Interpretation: prices are quick to adjust and firms have strong incentive to price competitively.

Armed Services Medical Procurement Agency

- U.S. pharmaceutical industry in 1956: collusion broke down in the market for antibiotic tetracycline when the Armed Services Medical Procurement Agency placed a large order.

Joint Executive Committee

- U.S. eastbound freight shipment from Chicago to the Atlantic from 1880 to 1886: the Joint Executive Committee adopted a variant of the Green-Porter trigger strategy, resulting in occasional price wars following unobservable demand slumps.

Evans and Kessides (1994)

- U.S. airline industry in 1988: an index of "average contact" (number of markets in which competing airlines face each other) has a significant positive relationship to airfares.
- Interpretation: the pattern is consistent with the hypothesis that multimarket contact facilitates collusion.

Quaker, Ralston Purina

- U.S. dog food industry in 1986: Quaker Oats, a dominant player in the moist dog food segment acquired Anderson Clayton to gain a foothold in the dry dog food segment. Ralston Purina, a dominant player in the dry dog food segment responded by acquiring Benco Pet Food's Inc. to gain a foothold in the moist dog food segment.
- Interpretation: the behaviour is consistent with the intention to threaten a price war and respond to such a threat.

GE, Westinghouse

- U.S. large turbine generator market from 1963 to 1975: GE instituted a 6-month retrospective MFN, Westinghouse followed suit. Except for a brief period of price cutting in 1964, prices remained stable and identical until regulators intervened in 1975.

Entry and Predation

Bresnahan and Reiss (1991)

- 202 U.S. local markets for (relatively) homogenous services (doctors, dentists, druggists) in 1990: number of firms increased less than proportionately with market size.
- U.S. local markets for tires in 1990: price decreases as the number of firms increases
- Interpretation: the pattern is consistent with the Cournot free entry model.

Campbell and Hopenhayn (2005)

- 225 U.S. local markets for 13 retail trade industries in 1992: size of firms, measured by headcount and sales, increased less than proportionately with market size.
- Magnitude of effect: a doubling of market size corresponded to an increase in average sales of 3% to 19%.
- Interpretation: the pattern is consistent with the Cournot free entry model.

Goolsbee and Syverson (2008)

- U.S. airline industry from 1993 to 2004: incumbent major airlines responded to threat of Southwest entry (when Southwest began operating out of two airports but did not yet offer direct flights) by decreasing airfares dramatically.
- Magnitude of effect: the decrease in airfares prior to entry was larger than the further decrease upon entry.
- Controls: the decrease in airfares was not explained by shifts in airport-specific operating costs.
- Interpretation: incumbent airlines' responses can be interpreted as an investment in customer loyalty to deter entry or accommodate entry (by softening price competition).

Ellison and Ellison (2011)

- U.S. pharmaceutical industry from 1986 to 1992: incumbent producers' investments, approaching patent expiry, in advertising, product proliferation, and customer loyalty through competitive pricing had a non-monotonic relationship with market size. Incumbents over-invest in intermediate-sized markets and under-invest in small or large markets.
- Interpretation: incumbent producers' investment patterns suggest that incumbents invest to deter entry, and this is not necessary in small markets and not possible in large markets.

Lieberman (1987)

- U.S. chemicals industry from 1952 to 1982: threshold levels of market growth and capacity utilisation required to induce investment in an additional plant were similar for incumbents and entrants.
- Interpretation: the pattern undermines the hypothesis that incumbents expand capacity pre-emptively to deter entry.
- Evaluation: the result is not conclusive because incumbents and entrants face asymmetric problems. Incumbents can expand through additions to existing plants, which plausibly increases the threshold of market growth and capacity utilisation required to induce investment in an additional plant. Incumbents may open an additional plant not in an effort to expand capacity, but to replace existing capacity.

Milgrom-Roberts Signalling

- In general, the cost structure of incumbents, especially large publicly traded ones, is reasonably transparent from their financial reports and investor relations materials. What is generally more uncertain is how efficiently an entrant will be able to operate.

Product Differentiation

Schmalensee (1978)

- U.S. ready-to-eat breakfast cereal market from 1950 to 1972: incumbents retained high market share with a 85% 4-firm concentration ratio and a 95% 6-firm concentration ratio and introduced 80 brands into distribution. No new firm achieved non-negligible market share.
- Interpretation: high profits could not be accounted for as rewards for risk-bearing, and concentration could not be accounted for by barriers to entry including natural barriers to entry, patents, ownership of inputs, knowhow, advertising, or capital costs, especially for the potential entrants Pet and Colgate.

New Coke

- Coca-Cola struggled to introduce "New Coke" into the U.S. market to replace the outdated formula, even though the new product was almost indiscernible from the original. This suggests that consumer goodwill is far from perfectly mobile between brands.

Price Discrimination

Passenger Rail

- U.S. passenger rail market in the 1800s: third class passengers sat on wooden benches in open carriages while passengers in second class enjoyed upholstered seats in closed carriages.
- Interpretation: The conditions in third class were not primarily a cost-saving measure, and were instead aimed at making third class travel sufficiently unattractive for passengers who could afford to travel in second class. Rail companies "hit the poor, not because they want to hurt them, but to frighten the rich".

IBM Printers

- IBM sold a printer in two versions, a primary version which printed twelve pages per minute, and a secondary version that was handicapped such as to only print eight pages per minute. The two printers were otherwise identical.
- Interpretation: The objective of this handicapping, presumably, is to enable IBM to sell to mid-market customers at a lower price without also having to sell to more affluent customers at the lower price. By handicapping the printer, IBM made the low-end model sufficiently unattractive for affluent customers.

Horizontal Merger

Superior Propane/ICG Propane

- Two largest Canadian propane distributors successfully contested the Canadian competition authority's application to block a proposed merger on the basis of a decrease in competition by arguing that the merger would realise annual cost synergies of CAD29m, whereas the annual loss in consumer surplus was estimated to be CAD4m.

Sainsbury's/Asda

- In 2019, the U.K. CMA blocked the Sainsbury's/Asda merger on the basis of upward pricing pressure analysis. The CMA computed a "Gross (of synergies) Upward Pricing Pressure Index (GUPPI)" by estimating relevant margins and diversion ratios. Diversion ratios were estimated using surveys conducted in person at stores, where consumers were asked where they would have shopped instead.

Nestle/Perrier

- In 1992, the European competition authority blocked merger between Perrier (36%) and Nestle (17%), the largest and third largest European bottled water producers on the basis that the merged firm would enjoy excessive market power.
- Nestle and Perrier "counteroffered", proposing to sell Volvic (15%), a Perrier subsidiary, to primary outsider BSN (23%), yielding an approximately balanced duopoly.
- This was again rejected because of concerns that such a merger and sale would facilitate tacit collusion.