Selected Readings in Micro: Session 2

Zhentong Lu

SOE and IAR, SUFE

March 19, 2017

Agenda

- Course Overview
- Bounded Rationality in IO: Ellison (2006)

Learning: Mobius(2001)

- competition in local telephone service in the US in the early 20th century
  - AT&T was a monopolist until key patents expired in 1893/4
  - 8 years later, three thousands firms had build separate networks not connected to AT&T and taken approximately half of the rapidly growing market
  - entrants continued to do well for another decade or so, followed by a period of consolidation in 1920's and competition ended

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  - entrants continued to do well for another decade or so, followed by a period of consolidation in 1920's and competition ended
- a rule-of-thumb learning model to explain this pattern

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- firms' decision rules are similar, but also want to get two telephones so as to be accessible to consumers on both nestworks
- the assumptions determine a Markov process governing telephone adoption, which resembles the pattern we observed in reality

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- usefulness of bounded rationality: it makes things tractable to directly make assumptions on behavior, intead of assuming fully rationality

Computational Complexity

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- Fershtman and Kalai (1993) examine IO questions using a similar complexity notion
  - multimarket monopoly and single-/multi-market duopoly competition
  - complexity is dis-economy of multimarket operation
  - two states of demand in each market, then there are 2^n possible states for n markets, a full optimizing monopolist would therefore need a plan with 2^n contingencies
  - monopolists may want to avoid entering some markets to reduce complexity

Models of Sales

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- Sobel (1984): some infinitely impatient consumers who buy immediately regardless of the potential gain from waiting for a good to go on sale

Models of Sales

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- intuition for sales: firms want to price discriminate and give discounts to the more sophisticated shoppers

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  - provide models of sales in which the discounts-for-sophisticated-consumers intuition is more formally grounded
- Rubinstein (1993): cognitive complexity is captured by the order of the "perceptron" needed to implement a strategy
  - some agents can only implement very simple strategies, say buying if price is above a threshold
  - some can implement nonmonotone strategies involving two or more cutoffs
  - a monopolist wants to charge high-cognitive-ability agents a lower price

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- Kahnemann, Knetsch and Thaler (1986): sales might have a different irrational origin
  - survey: many subjects say that it is "unfair" for firms to raise prices when demand goes up
  - incentive to hold sales rather than reducing regular prices: if firms lower regular prices when demand is low, they will be branded as unfaire if they raise prices back to normal when demand returns to normal

Obfuscation

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  - intuition: the firm with the highest possible quality will always want to disclose its information to increase consumers' willness to pay, then the firm with the next best news will also gain from separating from any firm that are pooling on nondisclosure, and so on

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- Ellison and Ellison (2005): big differences between this theoretical prediction and what we see in many real-world environments
  - mattress manufacturers put different model names on products sold through different stores and provide sufficiently few technical specifications so as to make it very difficult to compare prices across stores
  - credit card: complex fee schedules in small print on the back

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- basic observation: many of the firms have clearly adopted pricing practices that make it time-consuming and difficult for consumers to understand what exactly a firm is offering and at what price
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- another observation: retailers appear to obtain substantial markups over marginal cost even though there is easy entry, minimal product differentiation and minimal inherent search costs
  - possible explanation: artificially increase product differentiation and search costs

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- the equilibrium markups for a given error distribution can be derived as in Perloff and Salop (1985)
  - derive new results on the asymptotic rate at which markups decline as the number of firms increases

Spiegler (2006): A Rule-of-Thumb Model

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- result: firms randomize across dimensions making the product very good on some dimensions and not so good on others, which is an intentional obfuscation
- comparative statics: obfuscation increases when there are more firms in the market, and when outside option is more attractive (very unfortunate for consumer...)

Add-on Pricing

- in many industries, it is common to sell high-priced add-ons
  - hotels charge high prices for dry cleaning, telephone calls, meals, parking etc.
  - credit cards have high late-payment fees
  - upgrading a Dell computer/Apple Mac

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- Ellison (2005): standard way to think about it is that we may simply be seeing the outcome of a standard multi-good price discrimination
  - suppose more price-sensitive, lower willingness to pay for add-ons, firms simultaneously announce for low- and high-quality goods and all consumers are perfectly informed and rational, firms will charge higher markups on high quality goods

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- Ellison (2005): with "cheapskates" (price sensitive consumers), a severe adverse selection problem discourages price-cutting: price cuts attract cheapskates who don't buy add-ons

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- how will multiple dimensions be weighted and how high will the overall hurdle be?
  - fully rational approach is usually infeasible: no clear objective, not enough information

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  - eventually, the entire pool of recent successful candidates has achieved exactly this performance level
- an interesting finding: when the function v change over time, e.g., shifting from v to v' and back to v again, the equilibrium performance/effort declines

Technology Adoption

- Griliches (1957)'s work on hybrid corn and Mansfield (1968)'s work on industrial technologies: slow pace of technology adoption may have significant welfare consequences
  - sociologists: individuals attitudes toward new technologies
  - rational expectation on long machine lifetimes
  - information: not easy to know what technologies really are cost-effective
  - risk and uncertainty? cloud service...

Next Class Presentation

- Stefano Della Vigna and Ulrike Malmendier: "Paying Not to Go to the Gym", *American Economic Review, 2006*