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Aghion-Howitt Celebration: "Competition Panel"

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• "Creative destruction" and technological change more generally is likely the major driving force of changes in society. Its what started my research interest in economics.

• Then I decided I needed industry details and empirical methodology to do so successfully and never quite got back, so its been fun thinking about this. One thing I learned is that technology, history, nature of demand . . . generate differences that help understand both appropriate policy and historical events.

Topics

- Industry studies now, and some of the issues we face.
- A few notes on the role of the antitrust authorities.
- Conclude: comments on the literature on "increasing concentration".

Current analytic capabilities.

• Empirical work on industries, though relatively successful in analyzing static pricing issues, have been less successful in analyzing dynamic issues.

• Both the analytic and the computational theory literature on dynamics is mostly notable for illustrating that "a lot can happen" even in very simple environments (e.g. Maskin/Tirole, 1987, theory, Doraselzki/Satterthwaite computation).

• Policy relevant advances in analyzing product repositioning (existing firms reposition their products in response to environmental change). Often products can be repositioned as easily as price can be changed (the one place where empirical two period models seem relevant). Shows importance of dynamics.

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Examples

- Nosko. Core 2 Duo innovation. Shows that the price changes that went with product repositioning was an integral part of earning the returns to innovation. Market with a dominant vertical characteristic. Intel empty's out the mid-level chips.

- Wollmann shows that repositioning responses would have occurred had we not bailed out GM and Chryslers' truck division in the great recession (and the bailout was not nearly as welfare improving as might have been thought).

• Note: discreteness in choice sets ⇒ multiple equilibria. Selection needed for counterfactual policy implications. Some success; use learning theory from theory (Doraszelski, Lewis, and Pakes, 2018).

• Going to richer dynamic models (with R&D, innovation, product displacement, etc.)

  • Analytic Problems: large state spaces.
  • Cognitive Problems: hard to believe that our standard models (Markov Perfect, Bayesian Perfect, . . .) are the best approximation to management behavior.

• Ways have been developed to get a usable approximation to management behavior from the data; empirical work just starting (Fershtman and Pakes, 2012).

• Still there are conceptual issues we don't know how to deal with. An interesting one is how to incorporate the importance of different "technological paths", and the benefits of research diversity. An Air Force procurement example makes this clear.

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- Air Force procurement: After the fall of the Berlin Wall the DOJ allowed a series of mergers. E.g. Lockheed buys Martin Marietta, Soral, Sikorsky.

- Economists complaint: "only one firm to bid in for procurement contracts".

- Procurement officers complaint; the winner gets far ahead of competitors. Competitors response is to move to a whole different technology. The advances occur when they are successful. With one firm, advances are only incremental.

- **Lesson:** There is an advantage to diversity, & it is most often not in our models. Still regulators should pay attention to it (merger activity).

Regulation & Mergers

- Effects on innovation are likely to differ by industry.

- E.g. Pharmaceutical Industry: Reduced form evidence 21st century: transactions led to a small increase in FDA approvals, and a 13% increase in R&D expenditures (3 year period).

- Most transactions are characterized by scientific overlap between the acquired and acquiring firms (capture later stage innovation, production, and marketing benefits).

- Note: Even in industries where the notion of an "output" from R&D activity is clearest (a new chemical entity), both the randomness and the correlation in outcomes (so disturbances do not average out), makes it difficult to analyze the R&D to output function.

- Different but related issues often turn up in cases involving "essential patents" (e.g. Roundup Ready and Monsanto).

• Still without a good reason for integrating firms doing similar R&D activity (like that above), the presumption is keeping laboratories separate is likely to be beneficial to society (e.g. the Bayer Monsanto merger). This because of

- the benefits of exploring different paths combined with
- competitions' effect on bringing down subsequent prices if the research is successful.

Regulation/Monopoization

Traditionally more difficult to analyze as there is not an agreed upon concept for "the alternative"; i.e. how would "remedies" work. The importance of platforms in digital markets has, however, increased interest in monopolization issues.

E.g.: Apple case: Platform which controls the apps that can be used on apple hardware.

- The case for leaving them alone; i) returns to innovation, ii) quality and safety monitor.

- Close historical case: AT&T control of the land lines. Though AT&T controlled equipment through its subsidiary (Western Electric) and Apple only requires fees.

- Why AT&T?; safety (protect the grid) and innovation (Bell labs). Similar to Apple. Remedies: i) registration and certification program, ii) the break-up, and Baby Bells could not own an equipment company.

- Retrospective: perception is that innovation in equipment did not slow down. On the other hand there is no longer a Bell Labs, and its list of achievements were seminal.

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More generally.

- As others have noted many of the other arguments directed at the power of digital platforms involve fixed costs (both of the producer and of the consumer), bundling, and the proprietary nature of the information they acquire. Research (evaluation and policy) needed here.

- It might be efficient to have a monopoly platform, but our undergraduates get taught that when monopoly is justified, we require regulation to protect (in this case) both consumers and app producers.

Concentration: Increases and Implications.

- Literature: share of the largest 10% of firms, and the labor share of their revenue has increased (De Loecker et al., 2020).

- Caveats mitigate the claim (e.g. tax treatment of the income of professionals; Yagan et al. 2019), but don't destroy it.

- The literature finds increases in concentration in Compustat data (dominated by multiproduct firms) and in the Census data (broadly defined industries, not consumer product orientated.)

- But Benkard, Yurukoglu, and Zhang, 2021 finds that product market concentration (marketing firm definition) has been decreasing since 1994. Increasing concentration only appears after aggregating to a broader sector level.

- Diverging trends: best explained by successful firms expanding into products that are in related product markets?

Impact on consumers.

• The revenue growth found can come from; (i) price increases, (ii) growth in the quantity or quality of the goods or services or (iii) a combination of both.

• If both, firms are increasing their prices, and yet people are buying even more from them. Maybe the quality of the goods sold are improving.

• Relationship to mergers has not been shown (aside from one or two industries).

- It should be possible (though perhaps tedious) to determine the role of mergers by examining sources of growth in Compustat firms (merger footnote).

- Detailing whether the mergers were with firms in the same product and/or geographic market, would both: i) lead to a deeper understanding of why this is happening, and ii) what role the antitrust authorities might have.

- Concentration issues perceived to hurt society's interests.

  - Acquisitions that "slip through" merger review because of size rules (e.g. Wollmann, 2019),

  - Dominant firm may find a way to spread its dominance across markets without being innovator (e.g. mimicking new ideas of others and then bundling the resultant products or services with their product or platform to enhance their competitive advantage). This flattens competition and diminishes incentives for research and innovation by others.

  - Bundling among makers of intermediate products might give more bargaining power to them, and increase costs to intermediary which are then passed on to consumers

- Not many answers but lots of food for thought!