CHALLENGES TO ANTITRUST IN A CHANGING ECONOMY
Measuring Concentration

Moderator: Nancy L. Rose, MIT

Panelists:
Bruce H. Kobayashi, Federal Trade Commission
Henri Piffaut, DG Comp, European Commission
Lawrence J. White, NYU
An overview
Widespread concern about growing concentration

In the press, among policymakers, and academics

FIGURE 1.
Market Concentration and Growth by Industry, 1982–2012

Note: Market concentration refers to the Herfindahl-Hirschman Index (HHI; sales). After defining the boundaries of a market and calculating each firm’s share (e.g., of total sales), HHI is calculated by summing the squared market shares of all firms, then multiplying the sum by 10,000. HHI growth is for the date range available (1982–2012 for all series except Utilities and Finance, which show 1992–2007 and 1992–2012, respectively). The dashed line indicates the threshold market concentration established by the U.S. Department of Justice (DOJ) and Federal Trade Commission’s (FTC's) Horizontal Merger Guidelines above which a proposed merger would trigger enhanced scrutiny.
A widespread effect

Top four firms’ share of total industry revenue, %

United States, 893 industries, grouped by sector

Sources: US Census Bureau; The Economist

*Latest available, 2007 or 2012
†By valued-added
Figure 3: Mean 8-firm CR by Sector: EU vs US

Gutierrez & Philippon, 2018
A “competition problem,” especially in the US?

America Has a Monopoly Problem—and It’s Huge

America’s Monopolies Are Holding Back the Economy

The Wall Street Journal

Wave of Megadeals Tests Antitrust Limits in U.S.

Analysis shows that in many industries, most firms are competing in highly concentrated markets.
PANEL QUESTION:

What should we make of these reported trends in concentration?

Is Europe different?
Thinking Sensibly about Markets and Market Concentration

Lawrence J. White
Stern School of Business
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Presentation at the Harvard Law School, November 9, 2018
Do national concentration measures reflect relevant antitrust markets?

- Usually not
  - A relevant market is one in which market power can realistically be exercised

- National measures are too aggregated at the product level and/or geographic level
  - Why would we think that nationwide “financial services” constitutes a relevant market for antitrust/competition purposes? Or nationwide “wholesaling”? Or “retailing”? Or???

- Banking as an example
National asset shares of the top 5 banks in the U.S.: 1996-2016

Shaded areas indicate U.S. recessions

Source: World Bank
Average HHIs for bank deposits in local geographic areas: 1980-2016
Figure 3: Mean 8-firm CR by Sector: EU vs US
PANEL QUESTION:

What do you make of reports linking concentration to worse market outcomes?
Do rising margins (as reported) reflect increases in market power?

- Not necessarily
  - Rising levels of IP may well be the source of rising margins
  - There may also be sectoral shifts that influence the calculations of average margins
Are large companies becoming more important in the U.S.?

- This is separate from antitrust/competition measurements
- How should we measure economy-wide importance?
- Measuring importance by the share of private-sector employment accounted for by the largest 500 companies in the U.S.
  - But does employment really measure Facebook’s importance?
Conclusion

● Concentration in relevant markets may – or may not – be rising
  – Most of the national NAICS data are way too broad

● Increased margins may – or may not – reflect increased market power
  – But rising IP will mean higher margins

● Aggregate concentration seems to have risen moderately over the past 20 years
  – But still below the levels of the early 1980s
  – This is irrelevant for antitrust/competition issues

● More research!
PANEL QUESTION:

How do antitrust enforcers use concentration measures?

How should they?
Some quirks in the measurement of concentration in relevant markets

- We still don’t know how to define/delineate markets in most monopolization cases
  - The HMGs’ “hypothetical monopolist” SSNIP test is invalid if the alleged monopolization is already present
    - All firms – monopolistic or competitive – should find a 5-10% price increase from current prices to be unprofitable
    - This is the “cellophane fallacy”

- In merger cases: If “unilateral effects” are significant, then the 2 merging firms constitute a relevant market – and any additional efforts at market definition/delineation are irrelevant and potentially misleading.
PANEL QUESTION:

Do these trends suggest the need for changes in merger enforcement approaches?

If so, what direction should we look toward?
Thank you!
Overview

- Do national concentration measures reflect relevant antitrust markets?
- Do rising margins (as reported) reflect the exercise of market power?
- But what about the increasing size of large companies?
- Some quirks in the measurement of concentration in relevant antitrust markets
- Conclusion
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● More research!
CHALLENGES TO ANTITRUST IN A CHANGING ECONOMY

James Bessen
Technology & Policy Research Initiative, BU School of Law

Harvard Law School, November 9, 2018
Rising Industry Concentration

Source: Autor et al. 2017
Lax M&A enforcement?
Technology?
Technology?

Binned scatterplot

Market Share of Top 4 Firms

IT Share of Workforce

Causal
Rising Industry Concentration

Source: Autor et al. 2017
Example: Walmart

• 1982: 3% market share

• Major logistics IT
  • Speed delivery, faster response
  • Greater assortment
  • Lower prices

• 2012: 52% of general merchandise
Rising Industry Concentration

- **Good news:**
  - Top firms more productive
Rising Industry Concentration

• Good news:
  • Top firms more productive

• Bad news:
  • The rest fall behind
US Productivity Gap

Relative Labor Productivity
US public nonfinancial firms, 1980 = same

1980 1990 2000 2010

Top 50 Firms Other Firms
US Productivity Gap

Relative Labor Productivity
US public nonfinancial firms, 1980 = same

Diffusion gap

- Top 50 Firms
- Other Firms
Growing productivity gap, global

Source: OECD 2017
Rising Industry Concentration

• **Good news:**
  • Top firms more productive

• **Bad news:**
  • The rest fall behind
    • Slower productivity growth
    • Slower wage growth
    • Greater inequality
Policy

- IP balance
  - Innovation incentives
  - Diffusion

- Balance lost
  - Innovation incentives strong
  - But diffusion less
  - LESS optimal balance since 2000
Evidence that policy matters

• Patents, especially software
  • Reduce sequential innovation in SW (Galasso & Schankerman 2014)

• Employee non-compete agreements
  • Reduce labor mobility (Balasubramanian 2018, Marx et al. 2009, Fallick et al. 2006, Garmaise 2009)
  • Reduce entrepreneurship (Samila & Sorenson 2011)

• Inevitable disclosure doctrine
  • Reduces labor mobility (Png and Samila 2013)
  • Reduces innovation (Contigiani et al. 2018)
What can policy do?

• Antitrust
  • Compulsory licensing?

• IP
  • Clearer boundaries
  • Narrow scope

• Employee mobility
  • Restrict non-compete agreements
  • Restrict inevitable disclosure doctrine
CHALLENGES TO ANTITRUST IN A CHANGING ECONOMY, HARVARD LAW SCHOOL, NOV. 9, 2018
Average Change in HHI from First Year

Across All Divisions

Average Change in HHI from First Year
Across SIC8s with Positive National and Negative ZIP Trends

Average Change in HHI after Top Enterprise Opening
Across SIC8s with Positive National and Negative ZIP Trends

The views in this presentation are those of the author and do not represent the views of his employer or any other party.
Concentration
CEA brief on competition and market power

<table>
<thead>
<tr>
<th>Industry</th>
<th>Revenue Earned by 50 Largest Firms, 2012 (Billions $)</th>
<th>Revenue Share Earned by 50 Largest Firms, 2012</th>
<th>Percentage Point Change in Revenue Share Earned by 50 Largest Firms, 1997-2012</th>
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<td>Transportation and Warehousing</td>
<td>307.9</td>
<td>42.1</td>
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<td>Retail Trade</td>
<td>1,555.8</td>
<td>36.9</td>
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<td>Finance and Insurance</td>
<td>1,762.7</td>
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<td>Real Estate Rental and Leasing</td>
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<td>4.6</td>
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<td>Educational Services</td>
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<td>22.7</td>
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<td>Professional, Scientific and Technical Services</td>
<td>278.2</td>
<td>18.8</td>
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<td>Health Care and Assistance</td>
<td>350.2</td>
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<td>Accommodation and Food Services</td>
<td>149.8</td>
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<td>Other Services, Non-Public Admin</td>
<td>46.7</td>
<td>10.9</td>
<td>-0.2*</td>
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Source: CEA
CEA brief on competition and market power

- Data from US Census US companies only, foreign firms are not measured
- 50-firm concentration ratio has little to say about competition
- 2-digit industries are far too coarse to be useful
- Local competition is not considered
The Economist article

- From Shapiro (2017)
  - Census data, CR4 at 4-digit NAICS level, 893 industries
  - No foreign competition
  - 85% of the industries see increased concentration (above 45 degree line)
  - But it is a relatively small increase: average CR4 goes from 26% to 32%. This would not be considered problematic by antitrust economists
The Rise of Market Power
I have posted the draft of J. De Loecker, J. Eeckhout, "The Rise of Market Power and the Macroeconomic Implications".

Media coverage:

Video: A funny take on Market Power by John Oliver

New paper: Global Market Power
This paper documents the evolution of markups for 134 countries around the world.

Sabbatical at Princeton
This academic year 2017-2018 I am the Louis A. Simpson visiting fellow and visiting professor at the Department of Economics at Princeton University.

Upcoming Seminars
This semester I give talks at ASU, Columbia, Yale, IMF, UPenn, McGill, Northwestern, Saint Louis Fed, Philadelphia Fed, UCLA, Banque de France, SED Mexico, Singapore (NUS and SMU).
De Loecker and Eeckhout equation

\[
\frac{\text{price}_t}{\text{marginal cost}_t} = \frac{\text{output elasticity of labor}_t}{\text{revenue share of labor}_t}
\]

- One equation...
- Two unknowns
  - Margin (price/marginal cost)
  - Output elasticity of labor (% change output over % change in labor input)
- We need another equation to determine margin!
De Loecker and Eeckhout equation

\[
\frac{\text{price}_t}{\text{marginal cost}_t} = \frac{\text{output elasticity of labor}_{t}}{\text{revenue share of labor}_t}
\]

Assume that output elasticity of labor has been constant for 70 years!
Labor share in US

Source: FRED
The evolution of average markups (1960 - 2014)

Source: DeLoecker and Eeckhout
Facts about labor share

● Labor share fell in essentially all OECD countries and most industries starting around 1980
● Which is more plausible?
  ○ “All OECD countries decide to relax antitrust policy in all industries around 1980.”
  ○ “Around 1980 there was a technological shock that reduced marginal cost going forward.”
● In the data, both price and marginal cost both fall but marginal cost falls more rapidly, leading to an increase in markup
The assumption that technology is constant is critical

If you assume that:

\[ \text{output elasticity of labor}_t = \text{revenue share of labor}_t \]

then there is no change in markup over time!
Competition
Concentration and competition?

- Autor, et. al. (2017a and 2017b) present two interpretations of concentration increase
  - “...super-star firms with higher productivity increasingly capture a larger slice of the market,”
  - “…arise from anticompetitive forces whereby dominant firms are able to prevent actual and potential rivals from entering and expanding.”
- Their conclusion: industries that became more concentrated were those in which productivity increased the most
- Related findings by Ganapati [2017] and Bessen [2017]
Where’s the competition in search? Follow the money.

- General purpose search is a tough business: you can only sell 6% of what you produce.
  - Why? Only 6% of clicks are commercial clicks (ads)
  - Competition is intense for commercial clicks: Amazon, eBay, Yelp, Travelocity, Expedia, Orbitz, Trip Advisor, and thousands of comparison and review sites
- Nobody cares about competition in non-commercial clicks: book search, scholar search, patent search, encyclopedia search, etc.
- Is Wikipedia dominant in online encyclopedia search? Who cares?
Competition

Tech firms compete intensely against each other. That’s why prices are low and innovation is high.

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Global R&D spend

Tech companies are leading spenders on R&D.

Source: Bloomberg
Kill zone: where is it?

- Kill zone: “areas not worth operating or investing in, since defeat is guaranteed.”
- Google, Apple, Amazon, Microsoft, Facebook, China, Europe, and many others have all announced major AI initiatives.
- Surely no startup would want to enter this “kill zone”
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- Or would they?
Capital investment

Also true for CapX: 59% increase YoY. “Alphabet and Microsoft accounted for much of the increase...”

Source: CNBC
Entry
Entry: VC finance of US startups

Source: Sand Hill Econometrics
Entry: VC finance of European startups

Source: [Sand Hill Econometrics](http://sandhill.com)
The End
Two-Sided Red Herrings

I'm here to distract you

Richard Schmalensee
November 9, 2018
Nothing New Here
Everybody’s in the Pool
It’s Just Like Pimples
Not Interchangeable, Not in
Two-Sided Analysis Will *Devastate* Antitrust!