

# Market Power (I.O.)

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# Market Power in the Media



*„Today, an oligarchy is taking shape in America of extreme wealth, power and influence that literally threatens our entire democracy, our basic rights and freedoms, and a fair shot for everyone to get ahead“ and Biden was „equally concerned about the potential rise of a tech-industrial complex that could pose real dangers to our country as well“ (Joe Biden, Farewell Speech, Jan. 16th, 2025)*

# Market Power in the Media

- ⊙ ,There is no limit to Google's market power' (The New York Times, April 28th, 2016)
- ⊙ ,Across the West powerful firms are becoming even more powerful' (Economist, Nov. 15th, 2018)
- ⊙ ,The next capitalist revolution: Market power lies behind many economic ills. Time to restore competition' (The Economist, Nov. 15th, 2018)
- ⊙ ,Time for US to act on monopolies' (The Times, February 1st, 2019)
- ⊙ ,America has a monopoly problem' (Forbes, April 11th, 2019)
- ⊙ ,The growing demand for more vigorous antitrust action' (The Economist, January 10th, 2022)

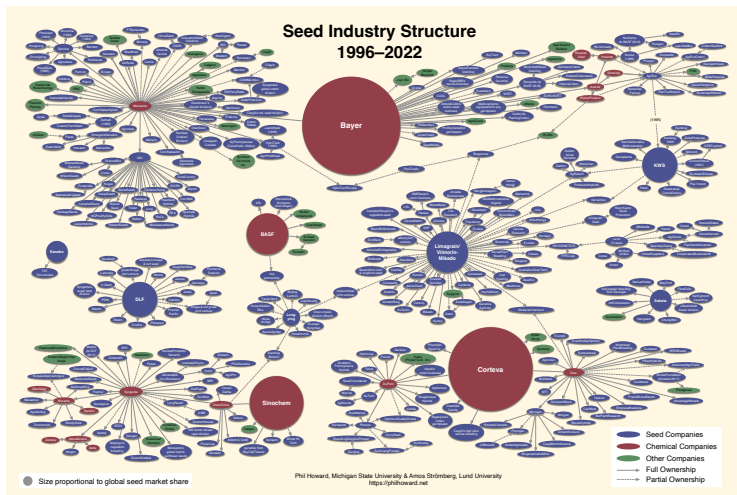
Market power of firms:  
reasons / consequences / remedies

## The specific case of corn:

- ⊙ until 1930: 'open polinated' corn (pollinated naturally by birds, insects, wind, or human hands ⇒ produce plants roughly identical to their parents)
- ⊙ until 1980: most corn was hybrid (seed produced by deliberately cross-pollinated plants which are genetically diverse ⇒ dramatic rise in agricultural output, hybrid seeds cannot be saved year by year, typically not self-sustaining)
- ⊙ 1980 landmark case for U.S. patent law (Diamond v. Chakrabarty): United States Supreme Court ruled that living organisms can be patented
- ⊙ Since 1980: strong incentives to invest in R&D in chemical/seed markets
- ⊙ Starting in 1990s: numerous M&As due to increasing returns to scale in R&D ⇒ widespread suspicion of market power

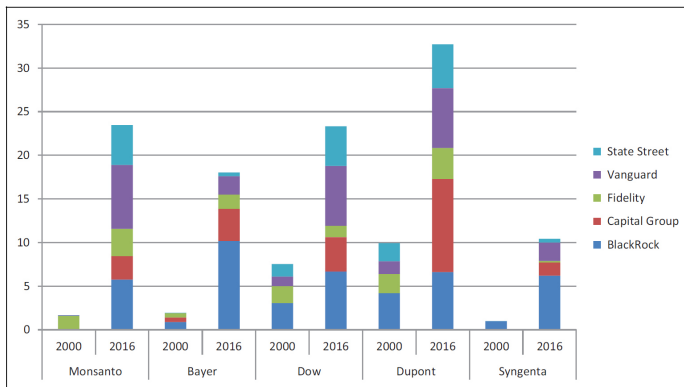
# Case: Market Power in the Seed Industry

## Mergers in the Seed Industry 1996 – 2022



# Case: Market Power in the Seed Industry

Do these few firms compete intensively? Note: strong ownership concentration!



**Figure 2.** Major global seed companies (prior to recent mergers)—percentage of shares owned by the top five asset management firms, 2000 and 2016. Source: Thomson Reuters Eikon database.

Source: Torshizi and Clapp, (2021). Price Effects of Common Ownership in the Seed Sector.  
*The Antitrust Bulletin*, Vol. 66(1), p. 42.

- ⊙ Do (these) firms have market power and how can we find out? What about asset management companies like BlackRock (‘common ownership’)? [The Rise of Market Power](#)
- ⊙ Can mergers explain these phenomena? Why do firms merge and why do mergers come in waves? What are the economic consequences of mergers and why do so many mergers fail? [Mergers and Acquisitions](#)
- ⊙ (How) should we protect IP? Are patents the most appropriate instrument? What about (compulsory) licensing? [Patents & Corona](#)
- ⊙ Why do cartels occur in some sectors more often than in others and how can we fight collusion?
- ⊙ Is market power (always) harmful to customers? What are its effects on prices, (product) innovation and product quality?
- ⊙ Why did companies in the IT business (Facebook, Amazon, ...) grow so incredibly fast? What is so specific about ‘information products’? [Information Revolution](#)
- ⊙ Do consumers benefit from privacy (the fact that firms do not know their characteristics)?
- ⊙ How can competition authorities intervene? Do fines help in preventing anti-competitive behaviour? [Fines for Microsoft and Google](#)

**Industrial Organization** (I.O.) investigates the *behaviour (strategies)* and the *internal organization of firms* in markets with *imperfect competition*.

## I. Static Models with Imperfect Competition

1. Strategic Substitutes and Complements
2. Identification/Estimation of Market Power
3. Collusion, Cartels and Mergers

## II. Strategic Firm Behaviour

4. Collusion in Repeated Games
5. Classification of Strategic Behaviour (with Applications)
6. Horizontal and Vertical Product Differentiation
7. Vertical Relations and Control

## III. Market Power in the Information Age

8. Innovation
9. Information: Search, Reputation, and Privacy
10. Network Effect, Platforms and Two-sided Markets

*„One should hardly have to tell academicians that information is a valuable resource: **knowledge is power.** And yet it occupies a slum dwelling in the town of economics. Mostly it is ignored.’ (Stigler, G., 1961, *JPE*, p. 213)*

*„... two tools that have revolutionized the discipline over the past forty years: **game theory and information theory.**’ (Tirole, J., 2017, p. 80)*

*„... the potential rise of a **tech-industrial complex** ... ‘ (J. Biden, Jan. 16<sup>th</sup>, 2025)*

- ⊙ Introduce/explain key models/approaches in I.O. Textbooks
  - Many different oligopoly models
  - Presentation/discussion of key models in class
  - Practice with problem sets
  
- ⊙ Guide towards recent (empirical) research in I.O.
  - Voluminous literature in I.O. since 1980s
  - Specialized journals: *Rand Journal of Economics*, *International Journal of Industrial Organization* (1983), *Journal of Industrial Economics* (1952), *Review of Industrial Organization* (1984), ...
  - Short references in class
  
- ⊙ Provide starting point for master thesis (this includes searching for and studying scientific literature)

I am available for supervising theoretical and empirical work in all areas of industrial organization. I am specifically interested in the following topics:

- ⊙ Vertical product differentiation (product quality)
- ⊙ Horizontal (spatial) product differentiation
- ⊙ Prices: (asymmetries in) price adjustment, price dispersion, price endings
- ⊙ Consumer information about product prices
- ⊙ Firm growth, entry and exit and structural change
- ⊙ Food and energy (gasoline) markets

Recent Examples:

- ⊙ *„Competition and Discrimination against Women - An Analysis of Knowledge and Technology Intensive Sectors‘*
- ⊙ *„Focal Point Pricing and Consumer Information in the Austrian Retail Gasoline Market‘*
- ⊙ *„Competition and Price Dispersion: Empirical Evidence from U.S. Airlines‘*

## ⊙ **Field Course: Industrial Organization (4137), 6 ECTS**

- From March 4<sup>th</sup> until May 7<sup>th</sup>  
Wednesday, 10:00 - 12:00 TC.4.18 and  
Thursday, 10:00 - 12:00 TC.4.02
- No compulsory attendance (but problems sets! **Problems**)
- Two exams: Wednesday, April 8<sup>th</sup>, 10:00 - 12:00 and  
Thursday, May 7<sup>th</sup>, 10:00 - 12:00 **Grading**

,Field Course: IO' is requirement for

## ⊙ **Research and Policy Seminar: Industrial Organization (5053), 4 ECTS**

- from May 20<sup>th</sup> until June 25<sup>th</sup>  
Wednesday, 10:00 - 12:00 and  
Thursday, 10:00 - 12:00

## Aim and Organization:

- ⊙ The aim of this seminar is to apply and extend standard models in IO to study firms' strategies in specific markets and discuss individual cases in competition policy.
- ⊙ Students gain hands-on-experience by working on a selected research project.
- ⊙ This involves giving a presentation (30 minutes) on the chosen topic.
- ⊙ The literature provided is meant as a starting point for an independent search for additional studies in the area.
- ⊙ The seminar could also provide the basis for more extensive work on the topic in the context of a master thesis.
- ⊙ For each presentation, authors have to prepare slides as well as a two-page hand-out (no seminar paper is required).
- ⊙ Active participation of all participants in the discussion of all presentations is essential.

## ⊙ Do Powerful Retailers Exploit Consumers?

- Busso, M., and Galiani, S., (2019). The Causal Effect of Competition on Price and Quality: Evidence from a Field Experiment. *American Economic Journal: Applied Economics*, 11(1): 33 – 56.
- Matsa, D., (2011). Competition and Product Quality in the Supermarket Industry. *Quarterly Journal of Economics*, 126(3): 1539 – 91.

## ⊙ BlackRock: Does (Common) Ownership Matter?

- Torshizi, M., und Clapp J., (2021). Price Effects of Common Ownership in the Seed Sector. *The Antitrust Bulletin*, Vol. 66(1) 39 – 67.
- Anton, M., Ederer, F., Gine, M., and Schmalz, M., (2024). Innovation: The Bright Side of Common Ownership. *Management Science*, <https://doi.org/10.1287/mnsc.2024.04363>

## ⊙ IP Protection: Should We Abolish Patents?

- Kremer, M., Levin, J., and Snyder, C.M. (2020). Advanced Market Commitments: Insights from Theory and Experience. *American Economic Association: Papers and Proceedings*, 110: 269 – 273
- Watzinger, M., Fackler, T.A., Nagler, M., and Schnitzer, M., (2020). How Antitrust Enforcement Can Spur Innovation: Bell Labs and the 1956 Consent Decree. *American Economic Journal: Economic Policy*, 12(4): 328 – 359.

Thanks for your attention!

De Loecker J., Eeckhout J., Unger G. (2020). The Rise of Market Power and the Macroeconomic Implications, *The Quarterly Journal of Economics*, 135(2), pp. 561 – 644.

RISE OF MARKET POWER AND MACROECONOMIC IMPLICATIONS 575

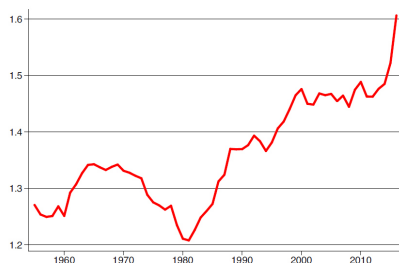


FIGURE I

Average Markups

Output elasticities  $\theta_{st}$  from the estimated production function are time-varying and sector-specific (two-digit). The average is revenue weighted. The figure illustrates the evolution of the average markup from 1955 to 2016.

‘... two tools that have revolutionized the discipline over the past forty years: game theory and information theory’ (Tirole, J., 2017, p. 80)

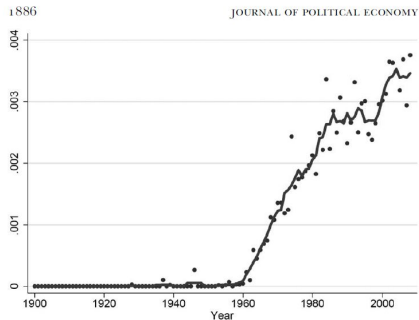


FIG. 1.—Information economics over time. Data from Google Books Ngram Viewer (Michel et al. 2011). The y-axis depicts the share of “information economics” among all 2-grams plus the share of “economics of information” among all 3-grams divided by the share of “economics” among all 1-grams (all phrases case insensitive) in books published that year. The dots indicate raw data by year while the solid line depicts a 5-year moving average.

Source: Kamenica E., (2017). Information Economics. *Journal of Political Economy*, 125(6), p. 1886



Table: Time to reach \$ 50 billion in annual revue (inflation adjusted)

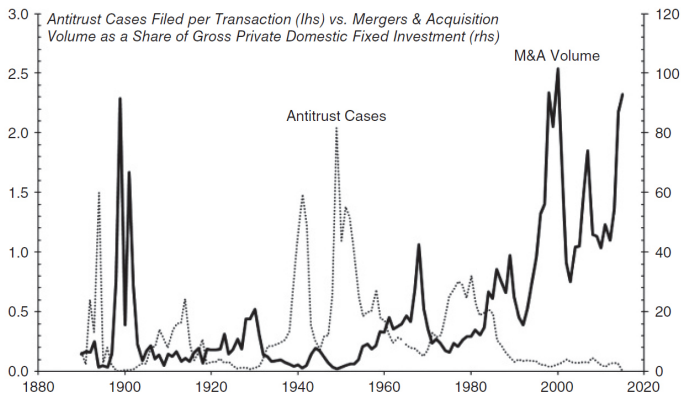
Company	Years to reach \$ 50 billion
Berkshire Hathaway (Conglom.)	162
JPMorgan Chase (Fin.Serv.)	133
Johnson & Johnson (Medical)	116
AT&T (Telecom)	114
Exxon Mobile (Oil & Gas)	73
Apple (IT)	33
Microsoft (IT)	33
Amazon.com (IT)	17
Alphabet (IT)	14
Facebook (IT)	14

Network effects in platforms and two-sided markets (amazon, ebay, google, ...)

Platforms

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# One Source of Market Power: Mergers



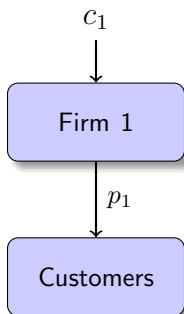
**Figure 1.1** Merger Manias: 1890–2015

Source: Tepper, J. (2018). *The myth of capitalism: Monopolies and the death of competition*. John Wiley & Sons, p. 9.

## The Information Revolution and Market Power

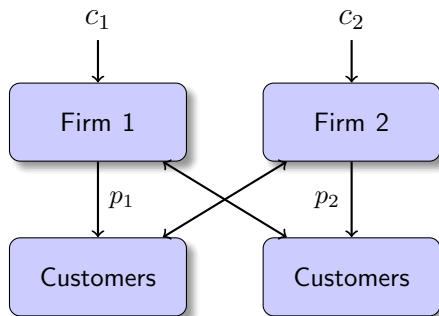
- ⊙ Information changes **consumer behaviour**
  - Consumer search and pricing
  - Privacy and the ‚privacy paradox‘
  - Consumer demand with network effects
- ⊙ Information changes **firm behaviour**
  - Price discrimination
  - Price conditioning
  - New managerial strategies (compatibility and standardisation, ...)
- ⊙ Information changes **market structure** and **organization of businesses**
  - Platforms and Two-Sided Markets

‘Traditional’ (textbook) models:



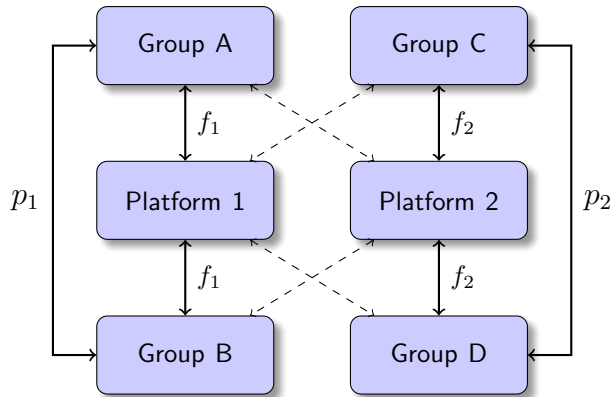
**Monopoly**

‘Traditional’ (textbook) models:



**Duopoly**

# Platforms and Two-sided Network Effects



## New Strategies:

- ⊙ Expectation management
- ⊙ Compatibility / Exclusivity
- ⊙ Penetration pricing

## Implications:

- ⊙ Winner-take-all and lock-in effects
- ⊙ Tipping and critical-mass phenomena
- ⊙ Multiple equilibria and high speed of market penetration

Examples:         , ...

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## Microsoft and the Windows Media Player (Commission Decision of 24.3.2004, COMP/C-3/37.792)

*,In a nutshell, **tying** WMP with the dominant Windows makes WMP the **platform** of choice for complementary content and applications which in turn risks **foreclosing competition** in the market for media players.' ...*

*,Microsoft's tying practice creates a serious risk of foreclosing competition and stifling innovation.'*

The European Commission imposed large fines:

2004: € 497 million

2006: € 280 million

2008: € 899 million

2013: € 561 million

2023: New Case (Teams and Office bundling)

The European Commission imposed even larger fines:

- ⊙ June 27th, 2017: Commission fines Google € **2.42 billion** for abusing dominance as search engine by giving illegal advantage to own comparison shopping service.
- ⊙ July 18th, 2018: Commission fines Google € **4.34 billion** for illegal practices regarding Android mobile devices to strengthen dominance of Google's search engine.
- ⊙ March, 20th, 2019: Commission fines Google €, **1.49 billion** for abusive practices in online advertising.

Largest fines for anti-competitive behaviour in EU: [Fines](#)

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'Former world leaders call on Biden to suspend Covid-19 vaccine patents'

(Financial Times, April 14th, 2021)

A group of 175 former world leaders and Nobel laureates is urging the US to take 'urgent action' to suspend intellectual property rights for Covid-19 vaccines to help boost global inoculation rates.

*'A WTO waiver is a vital and necessary step to bringing an end to this pandemic. It must be combined with ensuring vaccine knowhow and technology is shared openly.'*

Alternatives to patents?

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Rally in Berlin, March 10th 2021

- ⊙ **Pepall, L., Richards, D., Norman, G., (2014). Industrial Organization: Contemporary Theory and Empirical Applications. Blackwell Publishing. 5th Ed.**
- ⊙ **Motta, M., (2004). Competition Policy: Theory and Practice. Cambridge University Press.**
- ⊙ Carlton, D., Perloff, J., (2015), Modern Industrial Organization, 4th. Ed., Addison-Wesley.
- ⊙ Belleflamme P. and Peitz, M., (2015), Industrial Organization: Markets and Strategies. 2nd Ed. Cambridge University Press.
- ⊙ Church, J., and Ware, R., (1999), Industrial Organization; McGraw-Hill
- ⊙ Bester, H., (2017), Theorie der Industrieökonomik, 7. Auflage, Springer (available WU-online at <https://link.springer.com/book/10.1007%2F978-3-662-48141-7>).
- ⊙ Martin, S, (1993), Advanced Industrial Economics, Blackwell.
- ⊙ Tirole, J., (1988), The theory of Industrial Organization, The MIT Press
- ⊙ Tirole, J., (1999), Industrieökonomik, 2. Auflage, Oldenburg.
- ⊙ Schmalensee, R., and Willig, R., (1989), Handbook of Industrial Organization, Vol. 1-2, North-Holland.
- ⊙ Armstrong, M., R.H., Porter, (2007). Handbook of Industrial Organization, Vol, 3, North Holland

Additional references on slides

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- ⊙ Option 1: two partial exams
- ⊙ Option 2: one final exam
- ⊙ Option 3: first partial exam and final exam; in this case, the result from the first partial exam will be ignored/deleted.
- ⊙ Final grade will be determined by the results of the exam(s) (45 % each) as well as class participation and problem sets (10 %). To receive the 10 % for class participation and problem sets, at least 50 % of problem sets must be solved.

Points (in Percent)	Grade
$\geq 60$	4
$\geq 70$	3
$\geq 80$	2
$\geq 90$	1

To receive the 10 % for class participation and problem sets, at least 50 % of problem sets must be solved.

*„John von Neumann, who deserves to be on a short list of the greatest minds of the 20th century, is reported to have said that you don't understand a theory or an abstract structure until you have seen and worked through hundreds of examples of it. Even if he didn't say that (and I think he did), I agree with it.“*

(Michael Spence in his Nobel Prize Lecture on ‚Signaling in Retrospect and the Informational Structure of Markets‘, December 8 2001.)

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