



**Nexa Center for Internet & Society**  
*Politecnico di Torino*

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# IoT and Competitiveness: monopoly and price discrimination

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# Agenda

- Internet and the digital future: paradise or hell?
- Characteristics of big data
- Possible risks and role of antitrust regulation
- Price discrimination: always bad?
- Conclusion: towards a market for data?



# The problem

- To what extent the exponential growth in data production will improve economic performances and, above all, generate benefits to firms and consumers?
- Are predicted benefits equally distributed or some players may take advantage of data and exploit new forms of market power?
- From an economics perspective, which regulation should be further improved to avoid discriminatory practices and misuse of information?

# Internet revolution and economic growth: the optimistic viewpoint

NETWORK ECONOMY  
innovation is combinatorial  
(e.g. Internet components)



ECONOMY OF ATTENTION  
Advertising model



DATA IS THE NEW OIL  
Information is the asset of competitive advantage



Information has economic value because it allows individuals to make choices that yield higher expected payoffs or expected utility.

- The Internet reduces some **search and transaction cost**
- **Reputation** and **brand** are less effective signal of the quality of the product
- New mechanisms of **trust** generation are pivotal:
  - Rating;
  - Computer-mediated transaction;
  - P2P networks...

# Few giants and the long tail

Big (Data) Techs compete in multiple markets

- multi-sided platforms
- social networks
- search engines
- consumer electronics
- software
- ...



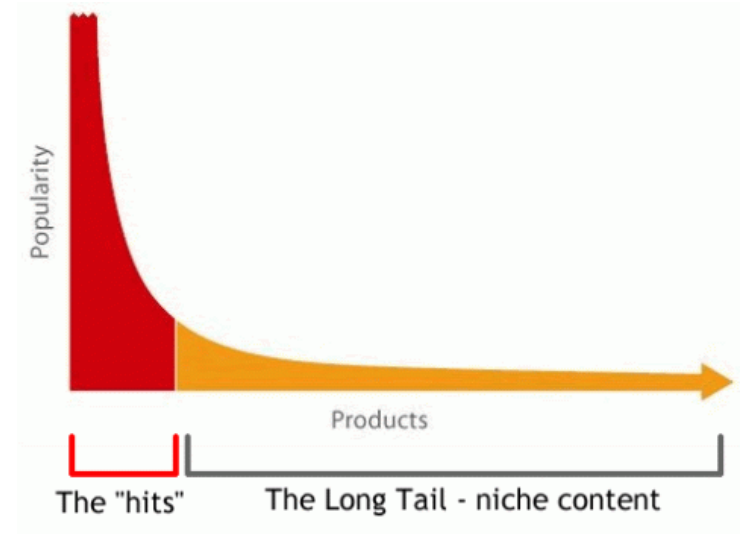
Opportunity for producers to access a broader market and for consumers to satisfy their specific taste (Anderson, 2006)

YAHOO! FINANCE: "GET COMPETITOR FOR" (28 MAY 2016)

GOOG	AAPL	FB	AMZN	MSFT
YHOO	HP	GOOG	AAPL	ORCL
PVT1	GOOG	MSFT	WMT	GOOG
FB	PVT1 (Blackberry)	TWTR	BABA	AAPL

YAHOO! FINANCE: "GET INDUSTRY FOR" (28 MAY 2016)

"Internet Information Providers"	"Electronic Equipment"	"Internet Information Providers"	"Catalog & Mail Order Houses"	"Business Software & Services"
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# Sharing economy or access economy?

- you don't directly sell the thing, you sell the benefits of the thing
- ownership vs. rental exchange (Eckhardt & Bardhi, 2015):
  - consumers are more interested in **lower costs** and convenience than they are in fostering social relationships;
  - they would rather sample a **variety of identities** which they can discard when they want.



Better, faster, and cheaper than a taxi



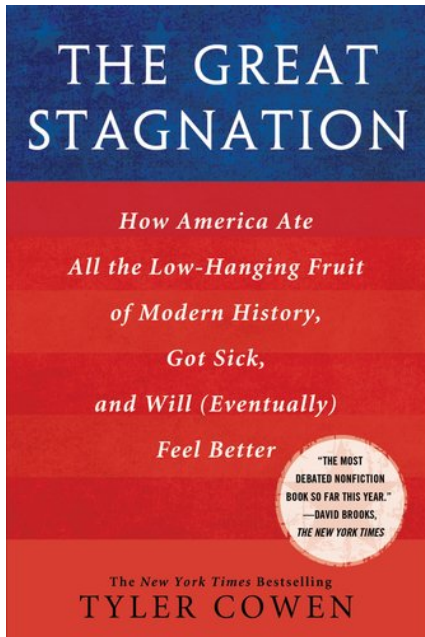
Welcome home



freedom from the financial, social, and emotional obligations embedded in ownership and sharing

>> *Is this real disintermediation? Or we have witnessed the rise of new intermediaries (aggregators)*

# Internet revolution and economic growth: the pessimistic viewpoint



The International Monetary Fund is coming around to the idea that the world is in the grip of an economic “secular stagnation”, meaning the living standards of future generations will be lower than previously expected and national debt burdens will be harder to reduce.

IMF – April 2015

Summers, Lawrence (2014). “U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound”, *Business Economics*, Vol. 49, No. 2, National Association for Business Economics.

*A new form of “technological unemployment”: more consumers, less jobs*



# Some characteristics of Big Data

- Big Data as public good
  - Not rival, potentially excludable
- Volume and variety
  - Ubiquity - not only for digital players
  - diminishing returns
  - real-time value
- Scale and network advantages (self-reinforcing positive feedback loops)
  - Direct network effect
  - Indirect network effect (in two-sided platforms)
    - learning by doing (improving targeting, one's own product, new products)
    - congestion effect





# Which are the risks?

- Technological, legal and behavioural barriers not only in the collection of data (Rubinfeld and Gal, 2017)

Low search and switching costs prevent market power

- What should regulation limit?
  - Platform lock-in → open source
  - Exclusive access → multi-homing / data portability (demand) and third-parties interoperability / (supply)

# Bad or good price discrimination?

- a dominant firm exploits final consumers by:
  - diminishing total or consumer welfare
  - excluding or weakening actual and potential rivals

Big data favours a shift from II- and III degree- to I degree price discrimination

- in monopolistic market with particularly high fixed cost only with price discrimination both the market is profitable and can be accessed by low-value users
- Protecting information on wtp may not always benefit consumer: freemium model is considered an incentive to new entries in the market
- the effect of bundling (subscription model) is controversial



# Discussion

- Antitrust regulation: as long as switching costs are low and technology lock-in avoided, it is difficult to claim that big data can be a source of market power
- Data is an input: the online providers do not have market power in a market of data as a product

We witnessed a shift of market power from product and content producers to service providers and distributor

- Cultural and organizational change
  - heterogeneous skills
  - new approach to continuous innovation
- most of major players compete in multiple markets
- being a first-mover is not necessarily an advantage
- the average birth of the major players is recent



# Conclusion

- a good business model (easy, convenient and reliable) is facilitated by a data-driven approach, but underlying solutions are more important
  - not-tipping market exist (online dating, videogames, job matching, etc.)
- consume protection and privacy law are more effective than antitrust and better fitting issues around big data
- regulation may accelerate the creation of a real market for personal data (Kerber, 2016)
  - monetary value (heterogeneous preferences on privacy)
  - protection of sensitive data (context-specific)
  - risk: monopsony



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