Data and Antitrust:

Insights from Recent Research

Yassine Lefouili, TSE

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Toulouse School of Economics

Introduction

- Data at the center of the ongoing vivid debate about the regulation of the digital economy

- Fact that firms seek to gather information about their consumers and market environment is not new

- What's new then?
  - Data is available faster
  - Data has greater coverage and scope
  - Data includes new types of observations
  - Data can be processed using better algorithms

Introduction

- Benefits
  - New products/services
  - Customized products/services
  - New business models
  - Improved processes

- But also concerns
  - Exploitative behavior: price-discrimination, lack of privacy
  - Exclusionary behavior: data as a barrier to entry or a cause for market tipping
  - Effects of data-driven mergers?

Introduction

Data is a heterogenous economic object

- Different ways to collect/obtain data
  - Voluntary provision
  - Crawling, tracking
  - Inferring
  - Buying
- Different natures
  - Personal vs non-personal data
- Different uses
  - Targeted advertising
  - Personalized recommendations
  - Price discrimination
  - …

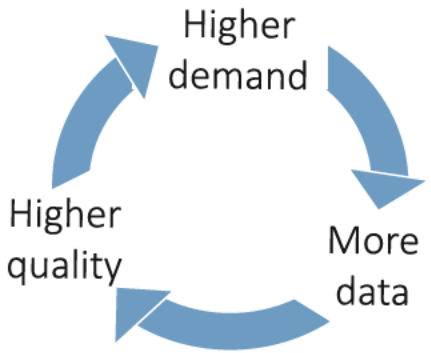
Today's talk

- Data and market dynamics
- Data sharing
- Data-driven mergers
- Privacy

Data and market dynamics

- *Data-driven markets*:
  - Data about customer preferences or characteristics can be used to improve product/service quality
  - Examples: search engines, digital maps, hotel booking, transportation, dating, video-on-demand, etc.

- Key mechanism:



- Initial competitive advantage of a leader may increase over time → market may end up tipping in its favor (making it a dominant firm)

- Why is this a problem?

Data and market dynamics

- When market tips, incentives of *all* firms to compete by offering better products decrease:
  - Laggards and new entrants know that the dominant firm is very likely to match their offers because it has a large amount of data
  - Dominant firm knows that its actual or potential competitors will not compete fiercely

- Important insight from recent research (de Cornière and Taylor, 2020):
  - The long-run *anticompetitive* effect of data just described can happen only if data is *procompetitive* in the short run
  - Intuition: For a firm to increase its demand and ultimately become dominant, it needs to use data to offer consumers higher satisfaction in the short run

Data and market dynamics

- This means that there is a *trade-off* between the short-run and long-run effects of data on competition
- This trade-off should be accounted for when designing remedies that aim at mitigating the long-run anticompetitive effect of data
- A remedy that has received a lot attention: mandated data sharing

Data sharing

- Data sharing has the potential to mitigate the long-run anticompetitive effect of data:
  - It removes the competitive advantage stemming from access to more user data

- However, it may also have adverse effects on short-run competition for two reasons
  - A firm that is required to share its data with its rivals may have less incentives to compete for users who generate this data
  - A firm that benefits from data sharing also may have less incentives to compete for users: attracting new customers is no longer the only way to get more user data

Data sharing

- *A priori*, overall effect of mandated data sharing on consumer welfare are ambiguous
- Quite frustrating for both academics and regulators
- Can we go beyond this unsatisfactory preliminary conclusion?
- YES!

Data sharing

- Recent research (Hagiu and Wright, 2020) shows that mandated data sharing is likely to increase consumer welfare if the following two conditions are met:
  - Access to user data needs to play a significant role in firms' ability to improve the quality of their products
  - The firms that benefit from data sharing should be significantly far behind the leader

- In this case,
  - the positive impact of data sharing on long-run competition is likely to be large,
  - while the negative impact on short-run competition is likely to be small

Data-driven mergers

- Several high-profile mergers in which the acquisition of data was arguably an important motivation:
  - TomTom/Tele Atlas (2008)
  - Google/DoubleClick (2008)
  - Facebook/WhatsApp (2014)
  - Microsoft/LinkedIn (2016)
  - Google/Fitbit (2020)

Data-driven mergers

- Merger in a setting in which data is collected in a market (A) and used in *another* market (B)
  - Example: Google/Fitbit
  - Data is collected in the market for wearable devices and may be used in the digital health care market

- In this setting, data is a byproduct of the activity on market A
  - Therefore, it depends on the satisfaction offered to consumers on that market
  - The higher the quality (or the lower the price) of the product offered by a firm to these consumers, the more customers it gets, and the higher the amount of data it collects

Data-driven mergers

- Merger between a firm in market A and a firm in market B can affect consumers through two channels
  - Distribution of data and intensity of competition in market B
    - For instance, the merged entity may decide not to sell data to other firms in market B
  - Incentives to collect data in market A
    - If the merger reduces these incentives, consumers in market A will be harmed

- In practice, more attention has been devoted to impact on market B but important to look at market A as well

Data-driven mergers

- Effect of merger on market A depends on whether data trade is possible absent a merger
  - If data trade is not possible, a merger increases incentives to collect data in market A
  - This requires the merged entity to make better offers to consumers in market A, which benefits them

- Factors that may hamper data trade between independent firms
  - Privacy regulation may make it harder to share data with third parties
  - Reputational concerns with respect to data protection, misuse (e.g., Cambridge Analytica)
  - Risk of entry in market A: having access to data from market A may enable firms in market B to enter this market

Data-driven mergers

- De Cornière and Taylor (2020) use a theoretical model to show that when data is used to provide more satisfaction to consumers (e.g., through higher-quality products), a merger between a firm in market A and a firm in market B:
  - benefits consumers in *both* markets if data trade is impossible absent a merger,
  - harms consumers in *both* markets if data trade is possible absent a merger

- Their study offers both:
  - an efficiency argument in favor of a data-driven merger: it may enable desirable data uses in adjacent markets,
  - a new theory of harm: merger may reduce incentives to collect data, thus harming consumers not only in market B but also in market A

Data-driven mergers

- To what extent should authorities and courts use the existence of pre-merger trade as a test in merger analysis?
- Suppose first that market investigations reveal the existence of such a trade
- Authorities should then dismiss any efficiency argument related to trade
- However, three conditions should be checked for the theory of harm to be relevant
  - The firm in market A has market power on the data market
  - Data trade is an important part of this firm's activity
  - Collecting data should not be perceived by consumers in market A as a major privacy violation

Data-driven mergers

- Suppose now that there is no pre-merger trade and no indication that such a trade might take place in a near future
- Important to identify the reason why trade is not happening
- A merger allowing firms to bypass regulations may undermine other public objectives
  - Less weight should be given to the efficiency argument in this case
- If data trade is hindered by other reasons than regulation, the merger is more likely to benefit consumers

Privacy

- Privacy means different things to different people

- It has been described as:
  - the protection of someone's personal space and their right to be left alone,
  - the control over and safeguarding of personal information,
  - and an aspect of dignity, autonomy, and ultimately human freedom

- Economists' interest in privacy has primarily focused on its *informational* dimension
  - Trade-offs arising from the protection and sharing of personal data

Privacy

- Data can create value for consumers

- However, consumers can also be harmed by firms having access to their personal data
  - because data is used in exploitative ways (e.g., adverse price discrimination or “distorted” recommendations)
  - because data might be leaked
  - because of intrinsic preference for privacy

Privacy

- If consumers value privacy, one can view it as an economic good
- If privacy is a good, one could expect the market to deliver it.
- Is that so?

Privacy

- First issue: lack of competition
  - The firms that collect the most data don't face much competition
- Second issue: opacity
  - Hard to know what data firms collect and how they use it
- Can't rely on competition to solve the problem on its own: regulation is needed
- Data regulations requiring firms to be more transparent and to obtain explicit consent deal with the second issue but *not* the first one.

Privacy

- Consent is not always “voluntary”
  - In the absence of good alternatives to their services, dominant firms can use their market power to impose “abusive” privacy policies, the same way they could impose “excessive” prices

- In February 2019, the German competition authority ruled that some of Facebook’s data practices constituted “exploitative abuse”

Privacy

- To address these concerns, regulators could
  - impose limitations on the types of data that (dominant) firms are allowed to collect,
  - or set limitations on the use, and in particular, the sharing of the data they collect

- Such restrictions would enhance privacy...
  - …but could reduce revenues of firms who solely rely on the monetization of their user data...
  - …which might reduce their incentives to invest in innovation

- Suggests that there is a *trade-off between privacy and innovation*

- Are privacy-enhancing restrictions always bad for innovation?

Privacy

- Short answer: NO

- Long answer: Lefouili and Toh (2019) address this question in a setting in which
  - A monopolist offers a service at zero price and can invest in innovation to improve the quality of the service
  - It derives revenues from sharing user data with third parties (advertisers, third-party apps)
  - Consumers decide
    - whether they use the service (e.g., have an account on a social media platform)
    - how much information they provide (e.g., how much content they share on the social media platform)
  - Consumers provide more data when the quality of the service is higher

Privacy

- We find that the *responsiveness of demand to privacy* is a key determinant of the impact of privacy-enhancing restrictions on innovation

- First scenario: demand is essentially unresponsive to privacy
  - If there is less privacy, users reduce the amount for personal information they share but most of them keep using the service
  - Privacy-enhancing restrictions lead to less innovation
  - Intuition: they reduce the value of acquiring more data from a given user through innovation

Privacy

- Second scenario: demand is significantly responsive to privacy
  - If there is less privacy, users reduce the amount of personal information they provide, and a significant share of them stops using the service
  - In this scenario, privacy-enhancing restrictions can lead to *more* innovation in some circumstances (which we characterize)
  - New effect that goes in the opposite direction of the effect previously discussed and can outweigh it:
    - Privacy-enhancing restrictions boost demand
    - This increases the firm's user base and, therefore, the total benefit derived by the firm from inducing users to share more information by offering them innovative features

Thank you for your attention