

IMPLICATIONS OF BIG DATA FOR COMPETITION POLICY & PRACTICE

THE MILTON HANDLER LECTURE

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OVERVIEW

1. Defining Big Data and Discussing Specific Areas of Competitive Concern
2. Redefining Consumer Welfare
3. Redefining Product Markets and Market Power
4. Redefining Potential Impacts on Competitive Effects and Exclusionary Conduct
5. Practical Issues

DEFINING BIG DATA FOR PURPOSES OF COMPETITION IMPACT



WHAT IS BIG DATA?

- Digital capture of **vast quantities** of information **capable of algorithmic manipulation**
- Including:
 - Details about **firms** that interact in a digitally-networked manner
 - Information about digitally-networked conduct of **individuals, households, and population segments**
- Both **current** and **historical**
- Both **domestic** and **international**

SOME EXAMPLES OF THE UTILITY OF DATA SETS

Access to unparalleled data sets can enable firms to:

- Engage in **targeted advertising** at a sophisticated level—can create demand through manipulated/perceived need
- Enjoy a **first mover advantage** in new product areas
- Gain a **competitive advantage/dominance** by tying consumers/firms to “sticky” experiences (Think Facebook, Linked In, Amazon, Uber, etc.)
- Engage in **price discrimination** at sophisticated levels

ADDITIONAL EXAMPLES

Furthermore, access to data sets can enable firms to:

- Gain unparalleled **insight into purchasing patterns/prices**
- **Create a market opportunity** to enter new markets early and compete—firms with data access become nascent horizontal competitors
- Observe, analyze, and act on **incremental pricing behavior** like flash securities traders
- **Provide data on an exclusive basis** to firm that may shelve it
- Engage in **price fixing** through “understandings” based on knowledge previously unattainable

REDEFINING CONSUMER WELFARE



CONSUMER WELFARE

- A consumer's ability to acquire goods or services based on market forces free from unreasonable external manipulation
- Premise of competition law & policy: maintaining robust and competitive competition between firms and discouraging/penalizing exclusionary behavior enhances consumer welfare
- Traditionally, measured through analyses of price and output effects

A NEW DEFINITION

- In addition to price and output effects, we must now include a new driver:
 - How firms can and do acquire, collect, use, and trade in vast quantities of information
 - This all has **direct impact** on competition and consumer welfare

**Data manipulation that reduces free-market
decision making reduces overall welfare.**

EXAMPLES OF BIG DATA IMPACTING CONSUMER WELFARE

- Use of data by a firm to inhibit entry or preclude consumer choice.
- Sophisticated price discrimination based on robustness of digital presence:
 - Leading to consumer “leave behind” or “jump ahead”

REDEFINING PRODUCT MARKETS & MARKET POWER



A REDEFINITION

Firms with the capacity to harvest and utilize big data now have **two products**:

- 1. Their nominal products (widgets)**
- 2. Their data collections & related processes for algorithmic analysis**

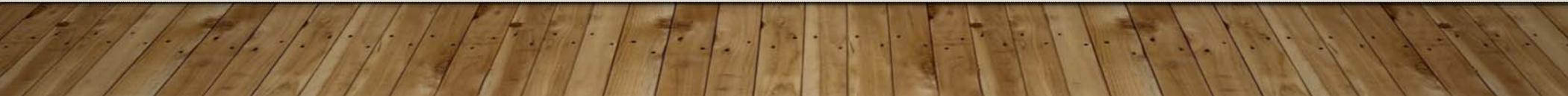
REDEFINING POTENTIAL IMPACTS ON COMPETITIVE EFFECTS & EXCLUSIONARY CONDUCT



NEW FACTORS TO CONSIDER

- Individual or collective firm conduct that seeks to utilize data to **reduce independent decision making, create unparalleled dominance, or preclude timely/effective entry must be subject to scrutiny or redress**
- However, more access to data sets or algorithms may not be the solution; **non-exclusivity could proliferate rather than reduce market manipulation**

PRACTICAL ISSUES



ANALYZING FIRM BEHAVIOR

1. In what ways can firms cause **anti-competitive price effects** simply through data manipulation?
2. In what ways is **price discrimination** an acceptable/unacceptable market outcome of data manipulation?
3. What are the competitive implications for firms in one line of business to **share non-price, non-output related data sets**?
4. How do we include an analysis of informational access/manipulation to **merger analysis**?

FINAL THOUGHTS

- Regulators and firms need to understand and think through the negative impacts of data manipulation
- Firms may want to consider self-policing through codes of conduct
- This is an inflection point requiring **fundamental alteration to legal theory**