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Introduction to the *RIO* Special Issue on Antitrust and the Platform Economy

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Abstract
The emergence of large technology platforms has raised fundamental questions about antitrust enforcement. These questions, which are the subject of this *RIO* special issue, are now challenging scholars and policy makers. The topics covered here include the role of economics and the consumer welfare standard in antitrust; lessons from historic antitrust cases; the role of big data in antitrust analysis; antitrust analysis of multi-sided markets; and the interplay between competition and privacy regulation.

Keywords Antitrust · Attention platform · Consumer welfare standard · Data barrier to entry · Multi-sided market · Predatory pricing

1 Introduction

The last few years have seen increasingly intense debates about antitrust policy; these debates are motivated in large part by the emergence of large tech platforms. The concern is that "[t]he United States has a market power problem," and that "economic forces [today] mirror the industrial concentration and economic inequality of the turn of the twentieth century."[1] Some view today's tech giants as "just as dominant" as Standard Oil and AT&T were in their day.[2] And, indeed, the world's five largest companies by market capitalization are Apple, Amazon, Alphabet, Microsoft and Facebook.[3]

There is no question that these companies are the source of transformational new products and services. Whether they also have gotten too big and powerful is now

[1] Baker et al. (2018).

[2] Ip (2018).

[3] https://www.statista.com/statistics/263264/top-companies-in-the-world-by-market-value/.

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the subject of heated debate, with critics offering remedies that range from common carrier-style regulation to more aggressive antitrust enforcement (including a fundamental reevaluation of our approach to antitrust), possibly leading to the break-up of one or more of these companies.[4]

Any discussion of the role of antitrust in the platform economy should probably start with *Microsoft*: the seminal digital economy antitrust case. The *Microsoft* case raised a number of fundamental questions that involve industrial organization and antitrust enforcement[5]:

- Does the existence of network effects imply that technology markets are different from more traditional markets? Are these markets prone to concentration and conditions that make entry difficult? Does this require a different antitrust approach?
- Does rapid technological innovation necessarily make these markets vulnerable to new entrants and therefore diminish the need for vigorous antitrust enforcement? Alternatively does constant change make antitrust enforcement more difficult?
- Do dominant firms pose a threat to innovation due to their ability to extend their position into new markets and deter entry by potential competitors?

These questions are still relevant today. In addition, the emergence of large multisided platforms that are dependent on large amounts of user data raises additional questions:

- Is data a source of market power and a barrier to entry?
- How should markets be defined in this space?
- How should antitrust deal with products that are provided at no financial cost to consumers? How do we define harm in these markets?
- If an antitrust problem is found, can appropriate remedies—that yield benefits that are greater than the remedies' costs—be fashioned? The question of appropriate remedies was a major issue in the *Microsoft* case.
- Finally, do the criteria for antitrust more broadly need to change? In particular, should the consumer welfare standard be abandoned in favor of a different, perhaps broader, set of objectives?

The authors of the papers in this special issue address many of these questions, starting with an examination of lessons learned from some of the most important antitrust cases of the past century.

[4] See e.g., Khan (2017).
[5] Lenard (1999).

2 Historical Perspective

Calls for breaking up the large internet platforms typically reference the landmark Sherman Act Section 2 cases. Robert Crandall's paper examines what happened with those cases. The cases that Crandall analyzes include *Standard Oil*, *American Tobacco*, *Alcoa*, *Paramount*, *United Shoe Machinery*, *IBM*, *AT&T*, and *Microsoft*. The remedies involved structural relief, behavioral conditions, or a combination of both. He finds that the effects of these remedies were invariably overtaken by new technologies or other industry developments and concludes that the cases "have not proved to be as beneficial to economic welfare as commonly believed."

Standard Oil was found guilty of illegally monopolizing the production and distribution of refined petroleum products and required to divest 38 separate companies to stockholders. Crandall had earlier found no statistical evidence that the breakup of the company affected petroleum prices—perhaps because even before the case was brought, concentration in the petroleum industry had declined substantially due to new petroleum-in-the-ground discoveries.

Similarly, he found no evidence that breaking American Tobacco into three companies affected cigarette prices or made the industry more competitive.

In the *Paramount* case, the government forced the motion picture companies to divest the theater chains that they owned—just as TV was becoming a major source of entertainment and a substitute for movies. In the *United Shoe Machinery* case, the government won its Section 2 case just as shoe manufacturing in the U.S. began to decline in the face of foreign competition.

The *IBM* case—begun in 1969—was dropped 13 years later because the computer industry had changed so dramatically that the products that were originally in question were no longer being produced.

The *AT&T* case was different in that it involved a regulated monopoly. The government filed suit in 1974 alleging that the company had frustrated entry into the long distance market by making interconnection with local operating companies difficult. The result was a 1982 consent decree that separated the local operating companies and other assets (e.g., wireless) from AT&T's long distance and manufacturing operations; the intent was to bring competition to long distance. However, technological developments—the development of the internet, entry of cable, and the wireless explosion—eventually erased the distinction between local and long distance. Meanwhile, Crandall argues, the decree, combined with the 1996 Telecom Act, resulted in billions of dollars of wasted investment.

Finally, the *Microsoft* case further illustrates "the difficulties that are faced by courts, antitrust officials, and academics in foreseeing how markets will develop after they intervene through antitrust." The intent of the decree, which consisted of behavior conditions, was to bring more competition to the market for desktop operating systems and internet browsers. Almost 15 years later, Microsoft maintains over 80 percent of the desktop operating system market. Microsoft's share of the overall browser market (including mobile devices), however, has fallen to around 10 percent. Google's Chrome is now the dominant browser, which is surely associated with the development of the Android operating system for mobile devices.

Crandall acknowledges that the consent decree may have made it easier for Google to enter and eventually dominate the browser market. However, he argues that the more important element was "the technical change that induced consumers to substitute mobile devices for desktop PCs as the means to access broadband services that allowed Google to replace Microsoft as the overall leader in operating systems and browsers; this development had little or nothing to do with the Microsoft decree, unless one believes that the decree reduced Microsoft's 'animal spirits.'"

Timothy Muris and Jonathan Nuechterlein (MN) examine the parallels between the antitrust attacks on the A&P grocery chain more than 80 years ago and the current attacks on online retailers: most notably Amazon. MN explain how the "most innovative retailer in American history" became America's largest retail chain in the 1920s by vertically integrating into multiple stages of food production, distribution, and retail sales, and how that triggered a backlash in the Congress and the Justice Department.

A&P's strategy cut out middlemen and reduced costs, which made it difficult for smaller grocers to compete. A&P formed an affiliate (the Atlantic Commission Company or "Acco") to act as a purchasing agent for fresh produce. Acco sold its surplus to other grocers, typically at higher (market) prices. Notably, from the perspective of today's debates, A&P also used data to predict customer preferences and reduce losses due to unsold items. All of this contributed to A&P's large profits and lower prices for A&P's customers.

Congress responded in 1936 with the Robinson-Patman Act, which had the effect (according to MN) of preventing A&P and other chain stores from benefitting from lower wholesale prices than their smaller competitors and passing those savings on to consumers. In addition, starting in 1944, the Justice Department successfully prosecuted the company and its key executives for criminal violations of the Sherman Act. According to MN, "one studies in vain [in the district court's opinion] to uncover any business practice that could plausibly harm consumers." The government then sought the breakup of the company and ultimately (at the beginning of the Eisenhower Administration) settled in exchange for A&P's agreement to close its Acco business. This contributed to the ultimate demise of the company.

3 Data and Competition

Catherine Tucker analyzes whether the large amounts of data that are collected and used by the big technology platforms such as Google, Facebook, and Amazon should lead to antitrust concerns. Specifically, she examines whether the possession of large amounts of digital data is related to network effects or switching costs in a way that would give rise to market power concerns, or whether digital data can be considered an essential facility.

Tucker finds little evidence that digital data augments market power due to network effects or switching costs. In fact, she believes that digitization weakens these forces.

She argues that network effects of the type that were central to the *Microsoft* case are now weaker or nonexistent because so many activities have transitioned from the

Windows desktop world of the 1990s and early 2000s to the mobile world of today. In the desktop world, the costs of writing different software for different operating systems was high. Today, the costs of developing apps for both Android and iOS are lower. Switching between operating systems is also easier today, partly because storing data on the cloud makes porting easy and purchasing software by subscription (rather than up-front) allows users more easily to move between platforms: "If I want to use Microsoft Office today, I can simply subscribe to Office 360. My documents are stored on the cloud; and it matters not at all whether I edit them on my Android phone, my Microsoft desktop, or my Apple computer."

Tucker also points to evidence that economies of scale and scope in data may be relatively limited, and therefore a less significant source of incumbent advantage than might be expected. For example, a study she coauthored found no effect on search engine accuracy when search engines shortened the length of time that they retained data in response to European Union regulation. She concludes that better predictive algorithms about what consumers might want or do are more useful than are more data on past consumer behavior.

For consumers, if digital data are not portable, then switching costs will depend on the purpose of the application. Switching costs will probably not be important for most consumer-facing applications—for example, retail sales. They might be important for applications where historical records are important—for example, medical applications.

Data-driven network effects can be important if the primary purpose of the platform is to share data—for example, a genomic data-sharing website where people hope to match their genomic data with others.

Tucker argues that "it is unlikely that data can ever meet the criteria for an essential facility, simply because it is often not very valuable and because—since data are non-rival—many sources exist." She cites several studies and examples that suggest that large amounts of data are less valuable than commonly thought. The existence of multiple sources of data and of cloud-based resources providing access to powerful and inexpensive computing resources implies that it is becoming increasingly easy for smaller firms to compete.

Tucker does suggest, however that there is a "tension between consumer protection and antitrust" and that "the easiest way for companies actually to foreclose access to data is on the basis of privacy regulation or the stated privacy concerns of sharing it more widely."

Michael Katz "surveys what economics has to say about a wide range of antitrust issues—including the treatment of exclusionary conduct, merger, and privacy—raised by multisided platforms' reliance on user big data." Katz begins by observing, "*if* user data are commercially valuable, lack substitutes, and are not shared across platforms, then the existence of significant increasing returns in collecting and utilizing user data can limit the number of viable competitors and create a 'data barrier to entry', especially when accumulating the necessary data takes considerable time." This can raise antitrust concerns.

Katz believes that data can be a barrier to entry if there are no good substitutes for data that are essential to a platform's success. He notes, however, that requiring platforms to share data—as with required access in other contexts—reduces incentives

for incumbents and rivals to invest and creates a host of problems with respect to the terms and price on which the data would be shared. He also notes (as does Tucker) that the availability of multiple data sources—including data brokers who can realize economies of scale and scope—mitigates potential antitrust concerns.

Katz notes that firms might be motivated to reduce prices in order to build up their own user data sets to make the platform more attractive or to make it more difficult for rivals to build their own data sets. Both types of incentives may be present simultaneously. Because pro-competitive conduct can weaken rivals, it is very difficult in practice to distinguish such potentially predatory behavior from competitive behavior. Of the predatory pricing recoupment test, Katz notes "the recoupment prong is a test that any economically rational investment—predatory or otherwise—would have to meet." He suggests the right question to ask is whether below cost pricing makes the firm a stronger competitor by increasing its accumulation of data, or whether it is profitable only because it weakens rivals' ability to accumulate data. These are difficult questions to answer in practice.

Katz discusses the role of big data in merger analysis; he argues that there may be procompetitive or anticompetitive motives connected with data. A merger may be motivated by the desire to achieve big data efficiencies or, on the other hand, to preempt rivals in adjacent markets from accumulating enough data to enter the market. Facebook's 2012 acquisition of Instagram and 2014 acquisition of WhatsApp are sometimes cited as examples of the latter type of merger. Katz suggests that blocking a merger on these (potential competition) grounds would be a departure from current practice.

In discussing a potential merger remedy, Katz points out that data are in some respects like intellectual property in that they can simultaneously be used by rivals. However, the remedy sometimes used for intellectual property—granting a license—would be problematic in the case of data sets, which would have to be updated continuously. The terms of transferring and maintaining the data could be contentious.

Katz discusses the effects on privacy of policies to promote competition and the effect on competition of policies to promote privacy. He suggests that both are complex and context specific. He goes through a number of examples of privacy policies that increase or decrease competition.

4 Markets and Multi-Sided Platforms

Joshua Wright and John Yun (WY) and David Evans approach multisided platforms in different, but complementary ways. Douglas Melamed and Nicolas Petit (MP) also touch on issues that are raised by WY.

WY discuss market definition and competitive effects analysis as they apply to multi-sided platforms in the context of the recent *Ohio* et al. *v. American Express* case. One school of thought argues that each side of the platform should be considered separately, and that an increase in price on one side of the market would indicate antitrust harm. The WY paper reflects the opposing school of thought, which argues that the two (or more) sides of the platform are inherently

interrelated and must be considered together. The Supreme Court adopted this view in its recent decision in the *American Express* case.

WY analyze the implications of four approaches to assessing the antitrust harms that are associated with multisided platforms: separate markets; separate competitive effects; integrated markets; and integrated competitive effects.

They argue that it is critical to distinguish harm to one group in a multisided market from harm to competition, because many activities in competitive markets harm one group of consumers without being anticompetitive. For example, an increase in price on one side of a platform by itself is consistent with procompetitive conduct for the platform as a whole. Therefore, they argue, "any *prima facie* antitrust assessment of competitive harm must incorporate the impact to consumers on all sides of a platform regardless of market definition."

The paper discusses the distinction between transaction platforms and non-transaction platforms. Payment platforms—the subject of the *American Express* case—are transaction platforms where there is direct interaction between the two sides. These platforms supply one product—the transaction—which is jointly consumed by the cardholder and the merchant. This makes it easier to define an integrated relevant product market.

Market definition is more difficult for non-transaction platforms, such as advertising platforms. It is difficult to define a single net price for such markets, and there are different market shares on the different sides.

WY argue, however, that defining separate markets does not preclude the use of integrated effects analysis, which is the proper economics approach. Since price is difficult to measure for non-transaction markets, WY argue that the focus should be on output, and whether there is evidence that output is being restricted. For example, for advertising platforms, the focus should be on the number of hours on the air, or the number of searches. These would be highly correlated with the quantity of advertising.

MP also discuss the *American Express* case in the context of their discussion of the consumer welfare standard. They argue that the Supreme Court was incorrect as both a matter of prior law and economics in holding that defining a relevant market is necessary to show that a vertical restraint is anticompetitive. MP present the following hypothetical example: Suppose that a number of states had adopted provisions that prohibit "no-steering rules" by credit card companies vis-à-vis the retailers that accept their cards (the issue in the *Amex* case) and that a properly done study showed that in those states there were more credit card transactions with higher value to merchants and/or lower cost to consumers. In this case, there would be no need to define a market to conclude that no-steering rules were anticompetitive.

David Evans focuses on "attention platforms", which are a significant part of the platform economy. Attention platforms supply content to consumers who spend time on them. They solve a transaction cost problem between marketers that want to reach consumers and consumers who want content and spend time on the platform and see the ads. Evans presents estimates that indicate that the value of ad-supported content to consumers in the U.S. is in excess of $1 trillion annually (using conservative measures of the opportunity cost of time).

Antitrust inquiries of mergers that involve attention platforms or other potential anticompetitive practices should focus on content, since consumer surplus occurs mainly through content and content often has a zero price. Similar to the WY analysis of non-transaction platforms, Evans indicates that for many attention platforms, consumer surplus will be correlated with the amount of time that is spent on them. This may not always be the case, however. For example, search engines economize on the time that is spent discovering information. Improvements in search engines—perhaps as a result of practices that generate increased advertising revenues—may result in quicker retrieval of information and therefore less time spent on the platform.

5 The Consumer Welfare Standard

Both MN and MP address the claim that the consumer welfare standard, which has guided antitrust in recent decades, should be abandoned in favor of a different, perhaps broader, set of objectives.

MP begin by focusing on critics' argument "that antitrust law is fundamentally flawed and that the *"consumer welfare"* ("CW") standard on which contemporary antitrust is based prevents antitrust law from effectively addressing the new problems of industry concentration and corporate power." MP describe the CW standard as "shorthand for economic efficiency—that antitrust enforcement should avoid proscribing activities that are or might plausibly be efficiency enhancing," and its use in antitrust is "intended to protect economic agents from the predictable harms caused by improperly obtained market power."

The MP paper focuses on whether the CW standard can deal effectively with the challenges of the platform economy. They conclude "that both the general and platform-specific assaults on the CW standard are misguided, that the CW standard is capable of addressing the economic concerns critics have raised, and that the proposed alternatives would make things worse, not better."

MN echo this theme. Both papers argue that critics of CW overstate the Chicago School legacy and that subsequent post-Chicago scholarship has had a big impact on antitrust doctrine and scholarship. MN observe that "[a]ntitrust is a big tent," with disagreement on many details, but agreement on one big issue: "the value of applying rigorous economic analysis to advance the interests of consumers across the range of highly dynamic markets that make up today's economy." The chief legacy of the Chicago School, they argue, "is empirical and methodological, not ideological."

MP argue against the view that the CW standard, with its focus on economics, leads to less antitrust enforcement. They argue that "economics can also be used to imagine all sorts of anticompetitive strategies, private market failures, and remedies for them."

Both MN and MP disagree with the critics' argument that CW-driven antitrust leads decision-makers to focus on short-term price or output effects to the exclusion of other adverse effects: for example, on innovation, and on harms in zero-price markets. MP argue that, to the extent that the criticisms are valid, "the problems are

practical, not legal or conceptual." For example, data to support innovation cases are more difficult to obtain than are data on price and output.

Both papers discuss the *Microsoft* case as an example of a case that involved practices that were unrelated to price that were potentially harmful to innovation. MP also point to the FTC's decision to terminate its Google investigation on the grounds that Google's practice of displaying its own content arguably improved the search product for consumers.

Both papers discuss the criticism that antitrust does not pursue a "mixed set of social-political and economic values contemplated by Congress in passing the Sherman Act."[6] Both conclude that such an approach would enable antitrust authorities to make largely unconstrained value choices and widen the opportunity for private rent-seeking and political corruption.

Some critics have argued that antitrust agencies should be more vigilant in blocking acquisitions by large platforms of nascent competitors. MP argue that such "shootout mergers" provide a major exit opportunity for early investors in new technologies and thus are likely to be pro-innovation. In addition to these incentive effects, it is difficult to distinguish between acquisitions that may extinguish a nascent competitor and those that may expand the reach of the acquired firm's product. This is a practical problem of assessing the relative risks of Type 1 and Type 2 errors.

Finally, MP discuss proposals by critics of CW that would in effect remove "one of the three elements of a violation of antitrust law—bad conduct, market power, and a causal link between the two." Such proposals include "no-fault" antitrust that, for example, would assign special responsibilities to "dominant" firms—regardless of whether they had engaged in bad conduct; or, alternatively, would establish conduct rules for firms—regardless of whether they have market power. The authors do not believe that these proposals would be welfare-enhancing.

6 Conclusion

Large multi-sided technology platforms that depend on large amounts of consumer data have in a relatively short period become an integral part of the economy. These platforms have raised important antitrust policy issues that will occupy economists, legal scholars, and policy makers for the foreseeable future.

The papers in this special issue of the *RIO* address many of these antitrust policy issues, and hopefully will become a useful reference and a basis for further research.

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