Market power in the U.S. economy today

By Jonathan B. Baker  March 2017

Overview

The U.S. economy has a “market power” problem, notwithstanding our strong and extensive antitrust institutions. The surprising conjunction of the exercise of market power with well-established antitrust norms, precedents, and enforcement institutions is the central paradox of U.S. competition policy today.

As this policy brief explains, the harms from the exercise of firms’ market power may extend beyond individual markets affected to include slower overall economic growth and increased economic inequality. The implications for future economic productivity and welfare are troubling, but before detailing these consequences, it is necessary to understand why market power is a major issue despite well-established antitrust enforcement institutions and legal precedents.

Market power in an era of antitrust

We live in an era of antitrust. The United States has well-established norms against anticompetitive conduct, experienced enforcement institutions, a rich body of judicial precedents, and an active and knowledgeable community of antitrust lawyers and economists. These norms, precedents, and institutions are remarkable in their scope and depth. They have undoubtedly discouraged a great deal of anticompetitive conduct by businesses.¹

Most antitrust cases are noticed by the affected industry and the antitrust community only, but some achieve wider public attention. In recent years, for example, antitrust enforcers famously stepped in to prosecute Archer Daniels Midland Co. for agreeing with its major global competitors to boost the price of lysine;² to stop Microsoft Corp. from monopolizing the operating systems for Intel-compatible personal computers by limiting, among other things, the growth of Netscape Communications’ Internet browser;³ and to prevent AT&T Inc. from acquiring Deutsche Telekom AG’s T-Mobile USA Inc. affiliate, one of AT&T’s rivals in providing retail mobile wireless communications.⁴
Yet there are a number of reasons for concern about the exercise of what economists refer to as market power. Firms exercise market power in their output markets as sellers either by raising prices relative to what they would charge in a competitive market or by reducing quality or convenience or otherwise altering terms of trade adversely with their customers. Firms can also exercise market power as buyers by lowering prices or altering terms of trade adversely to sellers.

While seller market power has been more extensively studied, many of the reasons for concern about its exercise in the U.S. economy today are also reasons for concern about the exercise of market power by buyers. Some of those reasons suggest that sellers exercise substantial market power, and others suggest that the exercise of market power has been widening for decades—extending to more markets, increasing in importance within markets, or both. None is decisive individually, but collectively they make a compelling case that market power has become a serious problem in the U.S. economy.

Among those reasons are:

- Insufficient deterrence of anticompetitive coordinated conduct
- Insufficient deterrence of anticompetitive mergers between rivals
- Insufficient deterrence of anticompetitive exclusion
- Market power is durable
- Increased equity ownership of rival firms by diversified financial investors
- The rise of dominant information technology platforms
- Oligopolies are common and concentration is increasing in many industries
- Increased governmental restraints on competition
- The decline in economic dynamism

Let’s examine each in turn.

**Insufficient deterrence of anticompetitive coordinated conduct**

The steady rate at which the U.S. Department of Justice uncovers criminal price-fixing and market-division cartels, year after year, combined with evidence that that penalties for collusion and treble damage awards to victims are systematically too low—along with the absence of evidence that criminal enforcement systematically chills procompetitive conduct or induces excessive expenditures on antitrust compliance—indicates that
the antitrust laws do not sufficiently deter collusive conduct. Some cartels are purely domestic, and others are global, with harm to buyers in the United States and elsewhere. This form of anticompetitive business behavior has little or no procompetitive justification. It likely allows sellers to overcharge U.S. buyers by billions of dollars annually.⁷

Even more troubling, cartel prosecutions by the Justice Department are probably only the tip of a large market-power iceberg arising from coordinated conduct among oligopolists. It is probably substantially easier to deter express price-fixing and market division, which is what is usually involved in criminal cases, than it is to deter tacit collusion that leads to higher prices.

That’s why it is reasonable to infer from the cartel statistics that the exercise of market power arising from anticompetitive coordinated conduct is common in oligopoly markets. One case in point: A recent study found that coordination between brewing behemoths—the MillerCoors joint venture (now owned by Molson Coors Brewing Co.) and Anheuser-Busch InBev SA/NV (owner of the Budweiser brand)—raised beer prices by at least 6 percent after the joint venture was consummated in 2008.⁸

Insufficient deterrence of anticompetitive mergers between rivals

Nor are anticompetitive mergers adequately deterred. A recent study of mergers between rival manufacturing firms between 1998 and 2006 finds that those deals systematically increased profit margins at acquired plants without reducing costs, suggesting that the lost competition from mergers generally resulted in higher prices.⁹

On average, moreover, so-called horizontal mergers (between two firms in the same market) that were close calls at the two federal antitrust enforcement agencies—the Justice Department and the Federal Trade Commission—turned out to harm competition.¹⁰ Systematic over-optimism among acquiring firms about the efficiencies they can achieve through acquisitions may help explain why too many harmful mergers between rivals are proposed.¹¹ A book-length business strategy analysis points to bad acquisitions as “the single most important reason for underperformance by media companies,” for example.¹²

Insufficient deterrence of anticompetitive exclusion

The antitrust rules today insufficiently deter harmful exclusionary practices that raise rivals’ costs or limit rivals’ access to customers,¹³ including those implemented through so-called vertical agreements (also termed vertical restraints), which are between a firm and its suppliers, distributors, or customers.¹⁴ That conclusion is consistent with the evidence that more than one-quarter of international cartels used vertical restraints to support collusion,¹⁵ and with the evidence that prices were higher and output lower in U.S. states in which one vertical practice—resale price maintenance—was subject to
rule-of-reason review (which evaluates its actual or likely competitive effects) than in states that kept the per se ban (which looks only to its nature).  

While some interpret the economic evidence on the competitive consequences of vertical agreements as counseling against enforcement, that interpretation is based heavily on studies of markets other than the oligopoly settings in which antitrust enforcement is concentrated and on studies that do not account for the possibility that the anticompetitive uses of vertical agreements were deterred by past antitrust rules. It is not surprising that anticompetitive exclusionary conduct is insufficiently deterred, given that the U.S. Supreme Court’s antitrust decisions from the late 1970s through early 1990s (which are largely still followed) targeted for relaxation rules governing exclusionary conduct.

**Market power is durable**

Market power is a concern not only because it is common, but also because it is durable. Among cartels cut short by antitrust enforcement, the average cartel has been found to last more than eight years and a number have survived for at least 40 years. To similar effect, even when monopolies or near-monopolies have eroded over time, they have often persisted for decades. Think General Motors Co. (automobiles), International Business Machines Corp. (computers), Eastman Kodak Co. (photographic film), RCA Corp. (television sets), United States Steel Corp. (steel), and Xerox Corp. (copiers) over much of the 20th century.

In many cases, moreover, dominant firms and colluding firms have erected entry barriers to exclude new rivals. This evidence shows that anticompetitive conduct can often be sustained for long periods of time, overcoming the incentive of firms to cheat on cartels and the incentive of fringe rivals and entrants to expand and compete away monopoly profits.

**Increased equity ownership of rival firms by diversified financial investors**

Large institutional investors such as BlackRock Inc., FMR LLC’s Fidelity Investments, State Street Corp., and The Vanguard Group Inc. now collectively own roughly two-thirds of the shares of publicly traded U.S. firms overall, up from about one-third in 1980. As a result, it has become common for rival firms to have common financial investor ownership.

Recent studies of the airline and banking industries suggest that when competing firms have the same large shareholders, they may refrain from competing aggressively against each other, leading to higher prices. This evidence, combined with the growth and widespread nature of the practice, raises the possibility that financial investor ownership of rival firms has become a pervasive and increasing source of market power throughout U.S. industry.
The rise of dominant information technology platforms

Many information technology firms that have become large during the recent past—such as Apple Inc., Bloomberg L.P., Facebook Inc., Alphabet Inc.’s Google Inc. subsidiary, Microsoft Corp., and Oracle Corp.—have likely achieved those positions, at least in part, through varying combinations of network effects, intellectual property protections, endogenous sunk costs, and the absence of divided technical leadership. As a result, their platforms are probably insulated from competition in some of their major markets.

These platforms have delivered substantial consumer benefits, and their conduct does not necessarily violate antitrust laws. Yet consumers and the U.S. economy as a whole would likely benefit even more if they faced greater competition.

Oligopolies are common and concentration is increasing in many industries

Many markets are oligopolies, in which a small number of firms account for most sales. A number of major industries, including airlines, brewing, and hospitals, have become substantially more concentrated over recent decades. The number of major U.S. airlines, for example, including regional and low-cost carriers, has declined after multiple mergers, from nine in 2005 to four today. Similarly, in brewing, Anheuser-Busch InBev SA/NV and Molson Coors Brewing Co. account for nearly three-fourths of the beer sold in the United States and likely exercise market power notwithstanding competition from the many craft brewers that have entered in recent years. Likewise, a number of studies show that hospital industry consolidation has led to higher prices.

Some evidence suggests that concentration has risen generally in U.S. manufacturing, and perhaps also in other sectors. Other evidence involving broad national aggregates also is consistent with rising concentration, but it may instead reflect that large firms increasingly compete with the same large rivals across multiple product lines or regions.

Coordinated conduct is a serious threat in oligopolies for several reasons. First, oligopolists, acting in their individual interest, may have an incentive not to compete aggressively. Second, businesses are taught to exploit gaps in antitrust rules to engage in coordinated conduct without running afoul of those rules. Third, the empirical economics literature finds that greater market concentration is associated with an increased risk of anticompetitive conduct.

Increased governmental restraints on competition

Governmental restraints on competition appear to have grown in past decades. These include more extensive occupational licensing. They also include growth in the scope of what may be patented, along with an excessive number of patents improperly granted...
as a result of inadequate review of patent applications.\textsuperscript{36} To similar effect, competitive harm from “pay-for-delay” settlements—high drug prices that arise when the settlement of patent disputes under an industry-specific regulatory framework delays the entry of generic pharmaceuticals—has increased over time,\textsuperscript{37} though it is possible that the trend changed in 2013, when the Supreme Court made antitrust challenges easier.\textsuperscript{38}

Lobbying and other political rent-seeking activity by firms to limit competition and boost supra-competitive profits—a precursor to governmental restraints—may also be increasing.\textsuperscript{39} For instance, one form of lobbying that may lead to competitive harm—citizen petitions from drug companies before the U.S. Food and Drug Administration seeking to delay entry by rivals—has “essentially doubled” since 2003.\textsuperscript{40}

The decline in economic dynamism

The troubling decline in dynamism of the U.S. economy over the past few decades is consistent with a concern about widening market power, though the jury is still out about the contribution of market power relative to other plausible causal factors. The most productive firms and plants in the economy are expanding less rapidly now than they did before 2000,\textsuperscript{41} and the rate of startups has been declining for nearly four decades.\textsuperscript{42}

Moreover, economic growth increasingly comes from improvements to existing products by incumbent firms rather than the displacement of existing products by better ones or the creation of new product varieties. Incumbent firms are increasingly accounting for productivity improvements relative to entrants and other rivals.\textsuperscript{43}

Widening market power of productive firms offers one plausible interpretation for these macroeconomic trends: If productive firms are often insulated from competition, that insulation would limit their incentive to expand and innovate and would discourage expansion, entry, and innovation by rivals. Widening market power also plausibly contributes to the growing gap in accounting profitability between the most and least profitable firms,\textsuperscript{44} the rising profit share of U.S. gross domestic product,\textsuperscript{45} and a secular slowdown in business investment.\textsuperscript{46}

Harms from market power

Firms exercise market power in their output markets (as sellers) when they raise prices relative to what they would charge in a competitive market or when they alter analogous terms of trade adversely to buyers (their customers).\textsuperscript{47} As the reference to analogous terms of trade indicates, firms exercising market power may do so on a range of competitive dimensions—most obviously by raising prices, but also by reducing quality or convenience, modifying product features, reducing discounts to customers, or altering the geographic locations or product niches they serve.
The definition of buyer market power is analogous: Firms exercise market power in their input markets (as buyers) when they lower prices or alter terms of trade adversely to sellers. When seller market power is exercised by a dominant firm, it is termed monopoly power; when buyer market power is exercised by a dominant firm, it is termed monopsony power.

As market power has widened in the U.S. economy, its adverse effects have grown. Some of those adverse effects appear primarily in the specific markets affected by the exercise of market power, while others may be experienced economy-wide.

Harms within the affected markets

For the most part, antitrust analysis adopts what economists refer to as a partial equilibrium framework, looking at competitive harms within the markets potentially affected by the exercise of market power. From that perspective, the exercise of market power by sellers (in output markets) is harmful in several ways, among them:

- Wealth transfer and allocative efficiency loss
- Wasteful rent-seeking
- Slowed productivity improvements and innovation in affected markets

Each of these harmful outcomes in affected markets is complex and, for that reason, important to understand.

Wealth transfer and allocative efficiency loss

The exercise of market power in output markets leads to a wealth transfer from buyers to sellers—buyers are overcharged, conferring monopoly profits on sellers. Market power also creates what’s known as an allocative efficiency loss, or deadweight loss, which arises because some transactions that would occur in a competitive market are not made—even though buyers value the product or service more than it costs sellers to make or provide it. Hence the economy sacrifices wealth (gains from trade) potentially available to be shared between buyers and sellers.

The wealth transfer (lost surplus to buyers) and the allocative efficiency loss (lost aggregate surplus) are both considered harms from the exercise of market power. These harms are most easily described in a market for a homogenous product sold at a single price—perhaps grains, crude oil, raw metals, or industrial gases—though similar harms arise when products or services are differentiated or not always sold at identical prices, or when competition is primarily in quality, convenience, or features rather than price, as with branded consumer products, professional services, or transportation.
Wasteful rent-seeking

An efficiency loss from wasteful rent-seeking arises when firms compete for the opportunity to profit from exercising market power. That may happen when sellers spend resources lobbying to secure or protect a government-granted privilege to sell to buyers free from competition, as might be conferred, for example, through certificate-of-need laws for hospitals—which can enable hospitals to serve a community free of competition—or patents, which are awarded by the U.S. Patent and Trademark Office.

Moreover, when sellers spend resources to erect barriers to entry and exclude rivals through means not involving the government, those expenditures also may be wasteful.

Slowed productivity improvements and innovation in affected markets

The exercise of market power also may have adverse dynamic consequences for productivity and innovation. First, the exercise of market power slows the rate at which firms improve products and production processes, and lower costs. The loss of competition reduces firms’ incentives to expand markets and take business from their rivals, which they might do by cutting costs and prices, improving quality and features, developing new and better products and production processes, or enhancing the value they offer customers by providing increased variety and better services.

The loss of competition also inhibits productivity-enhancing selection—the tendency of the best products and most-efficient producers to win out, as products, technologies, business models, plants, and firms that are unable to price competitively or attract sufficient customers to remain profitable are forced from the marketplace. Not surprisingly, modern economic and business literatures consistently and convincingly demonstrate that enhanced competition in an industry leads to greater productivity and that the exercise of market power reduces it.

Second, firms may seek to innovate in order to escape competitive pressures, which means they tend to innovate less when they have durable market power protecting them from the entry of other firms into their markets. There is a theoretical qualification: The exercise of market power could instead enhance innovation incentives if a firm’s pre-existing market power reduces the likelihood that its rivals will quickly copy its new products or processes, then compete so aggressively as to prevent the firm from earning a profit sufficient to justify its investments in research and development. That qualification is unlikely to be important in most markets where antitrust issues arise, however, because firms making major R&D investments usually have many reasons other than pre-existing market power for expecting to appropriate sufficient returns, even with some imitation.

Moreover, even if the prospect of greater post-innovation competition means a dominant firm would expect to earn less by innovating, the firm may still be led to keep
investing in R&D for fear of losing out to its rivals—many of which may themselves have a strong incentive to pursue new products and production processes in order to steal business from the dominant firm.\textsuperscript{56} For all these reasons, greater competition— not greater market power—generally enhances the prospects for innovation,\textsuperscript{57} and the exercise of market power tends to slow innovation and productivity improvements in the affected markets.\textsuperscript{58}

The exercise of market power by buyers (in input markets, including labor markets) leads to static and dynamic harms within affected markets analogous to the three types of harms arising from seller market power.\textsuperscript{59} When buyers exercise market power, suppliers (the sellers) are paid too little, so wealth is transferred to buyers. In addition, allocative efficiency losses can arise because resources (the inputs) may not be employed in the markets where they are most valued. If the hospitals in a city collude to depress the wages paid to nurses below competitive levels—as hospitals in cities across the nation have allegedly done\textsuperscript{60}—then they will pay nurses too little, hire fewer nurses than they would otherwise, and lead some nurses to take non-nursing jobs.

Moreover, if lessened input purchases restrict downstream production, then the reduction in downstream output could generate additional allocative efficiency losses. If hospitals exercising market power as buyers hire fewer nurses, patient care may suffer.

The exercise of market power by buyers also can also lead to insufficient supplier investment in improving production processes and developing product and service improvements, creating dynamic harms analogous to the way innovation and productivity are discouraged by the exercise of market power by sellers. If cable providers are able to depress the prices they pay for video programming through the exercise of market power in purchasing content, for example, content providers may invest less in developing new programs.

Competition can be wasteful at times. Competing firms typically make duplicative fixed expenditures,\textsuperscript{61} and competition can lead to excessive entry into existing or new markets.\textsuperscript{62} Notwithstanding these qualifications, the economics literature taken as a whole strongly supports the view that market competition is beneficial and market power is harmful within the affected markets, accounting for both static and dynamic effects.
Economy-wide harms

Looking beyond the individual markets affected by market power, the exercise of market power is harmful to the U.S. economy as a whole. Although competition operates market-by-market and industry-by-industry, the scope of market power can affect the overall economy. The resulting harms are not limited to the participants in the particular markets in which competition has declined. Instead, the exercise of market power may result in slowed economic growth and increasing economic inequality.

Slowed economic growth

The cross-national and cross-industry studies undertaken by the McKinsey Global Institute, summarized by William W. Lewis in 2004 for a popular business audience in “The Power of Productivity: Wealth, Poverty, and the Threat to Global Stability,” demonstrate that differences in competition in product markets across nations are likely as important as cross-national differences in macroeconomic policies and more important than cross-national differences in labor and capital markets in explaining variation in productivity and economic performance. National economies do better, Lewis concluded, when competition is both “intense” and “fair” (not distorted by governmental subsidies to less productive firms). Another leading expert on business strategy, Harvard Business School’s Michael Porter, reached a similar conclusion from a large cross-national study. Porter found that “vigorous domestic rivalry” in an industry helps make that national industry successful.

To similar effect, economists seeking to understand why some nations have grown wealthy consistently find that impediments to competition—which are frequently imposed at the behest of private interests with a stake in protecting existing economic and social arrangements—impede innovation, growth, and prosperity. These studies reinforce the plausibility of the connection between the systematic widening of market power by firms and the decline in dynamism in the U.S. economy over the past few decades.

When firms and industries can secure long-lasting political power through their size and lobbying influence, their economic and political power can reinforce each other in a vicious circle. Market power may give firms the resources to create and exploit political power, which they may use to protect or extend their economic advantages—and then invest some of the resulting rents to extend their political power.

Increased inequality

The exercise of market power also probably contributes to economy-wide inequality because the returns from market power go disproportionately to the wealthy. Increases in producer surplus from the exercise of market power (the wealth transfer) accrue pri-
The resulting harms may extend beyond the individual markets affected to the economy as a whole—in the form of slowed productivity and economic growth, and increased inequality. The surprising conjunction of widening market power with well-developed judicial norms against anticompetitive conduct and well-established antitrust enforcement institutions presents a challenge for academic researchers and policymakers alike: to determine where competition has been harmed, establish whether and how anticompetitive conduct undermines broad-based and equitable U.S. economic growth, and identify ways that courts, antitrust enforcers, and policymakers can do better to deter anticompetitive conduct.

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Endnotes

1. Several informal historical experiments demonstrate that when antitrust enforcement is lax, the substantial and long-lasting exercise of market power follows. See Jonathan B. Baker, The Case for Antitrust Enforcement, 17 J. Econ. PersP 27, 36-38 (2003).


6 John M. Connor & Robert H. Lande, Cartels as Rational Business Strategy: Crime Pays, 34 CARDOZO L. REV. 427, 427 (2012). Connor and Lande may overstate the extent to which private damages deter collusive behavior if, in some cases, cartels anticipate that they will be required to pay antitrust damages in the future, leading the firms to pass through the expected damages payment to buyers in advance in the form of even higher prices.

7 A recent survey concludes that the total overcharge to U.S. buyers from 75 cartel cases sanctioned between 1990 and 2010 was $182 billion, for an annual overcharge of $8.7 billion. See John M. Connor & Robert H. Lande, Cartels as Rational Business Strategy: Crime Pays, 34 CARDOZO L. REV. 427, 468, 471 n.250 (2012). Because cartel cases last 8.7 years on average, Margaret C. Levenstein & Valerie Y. Sislow, Breaking Up Is Hard to Do: Determinants of Cartel Duration, 54 J.L. & ECON. 453, 463 (2011), these figures imply that if a key sample is representative of the population of cartel cases, cartel cases are formed at a stable rate, and the annual probability of cartel detection is stable, then 28.9 cartels are active at any one time; the average cartel overcharges U.S. buyers by about $300 million annually; and the $8.7 billion annual overcharge will continue as existing cartels are sanctioned and new cartels are formed. (The roughly 3.5 cartel cases (75/21) detected annually are slightly less than one-eighth of the total cartel cases, so, on average, 28.9 (1.875/21) are active at any one time, and the average cartel overcharges buyers by about $300 million annually (8.7/28.9).) This calculation assumes no net effect from sample censoring on overcharges from before the sample period that were included, and overcharges from cartel cases that were sanctioned after the sample period that were excluded. The calculation is conservative because the sample excluded some cartels for which data was not available.


9 Bruce A. Blonigen & Justin R. Pierce, Evidence for the Effects of Mergers on Market Power and Efficiency (NBER Working Paper No. 22270, 2016). This study does not control for the possibility that higher prices reflect improved product quality.

10 A study of five consummated consumer-product mergers between rivals not challenged by antitrust enforcers but likely close to the enforcement margin found that four led to higher consumer prices. See Orley Ashenfelter & Daniel Hoeksema, The Effect of Mergers on Consumer Prices: Evidence from Five Selected Case Studies, 53 J. L. & ECON. 417 (2010). A meta-analysis of 47 published retrospective studies evaluating 60 horizontal mergers also concluded that mergers that were close calls tended to raise prices. See John Kwoka, Merger, Merger Control, and Remedies: A Retrospective Analysis of U.S. Policy (2013). A critique suggested that the statistical precision of Kwoka’s conclusions was overstated because the methodology did not account adequately for differences in reliability across the studies in the sample, but the critique did not question that the underlying studies frequently found higher prices following horizontal mergers. Michael V. F. & David Olsinski, John Kwoka’s Mergers, Merger Control, and Remedies: A Critical Review (Dec. 2016) (unpublished manuscript), https://ssrn.com/abstract=2888445. The critique also observed that the studies were not distributed randomly over the population of agency-reviewed mergers, but Kwoka had suggested that the studies were more likely representative of the population of mergers that are competitive close calls. Kwoka, MERGERS, MERGER CONTROL, and REMEDIES 158.

11 See Louis Kaplow & Carl Shapiro, Antitrust, in 2 HANDBOOK OF LAW AND ECONOMICS 1073, 1154 (A. Mitchell Polinsky & Steven Shavell eds., 2007) (summarizing event study evidence showing that acquiring firms do not benefit from mergers on average). Some accounting evidence on merger profitability similarly suggests “excessive managerial zeal” but that evidence is mixed. Id. at 1155. See also Lars-Hendrik Röller, John Stenner, and Frank Verboven, Efficiency Gains from Mergers, in EUROPEAN MERGER CONTROL: DO WE NEED AN EFFICIENCY DEFENSE? ch. 3 §2.1.3 (Fabienne Izkovitz & Roderick Meiklejohn eds., 2006) (concluding from a review of economic studies that “mergers have but modest average effects on the profitability of the merging firms” and “a large proportion of mergers reduces profitability”); but cf. id. (observing from a review of event studies that investors expect short-run increases in profits on average, while cautioning that event study evidence is not strongly probative as to the average effect of mergers on profitability or the contribution of efficiencies to that effect).

12 Jonathan A. Krier, Bruce C. Greenwald & Avia Segal, THE CURSE of the Moguls: WHAT’S WRONG WITH THE WORLD’S LEADING MEDIA COMPANIES 201 (2009). Moguls “relentlessly undertake inherently foolish deals or overpay for ones that might have made sense at a different price.” Id. The deals reviewed included both horizontal and nonhorizontal acquisitions.

13 A wide range of exclusionary practices may harm competition, potentially including, for example, destroying a rival firm through fraudulently acquiring a patent, redesigning an upstream product to create an incompatibility for downstream rivals, engaging in sham litigation or manipulation of a regulatory scheme, refusing to sell a key input to downstream rivals or to distribute a rival’s product, contracting with sellers of a key input or key distributors not to deal with rivals, refusing to deal with firms that supply rivals or distribute rivals’ products, acquiring a supplier or distributor to foreclose rivals from access to inputs or distribution, tying complementary products together when rivals are unintegrated, contracting with suppliers to give a firm the benefit of any discount the suppliers offer a rival, or responding aggressively to entry in one market to deter entry in other markets. See generally Jonathan B. Baker, Exclusion as a Core Competition Concern, 78 ANTITRUST L.J. 527, 539-43 (2013).

14 Antitrust cases alleging anticompetitive exclusion are most commonly framed as challenges to vertical agreements or monopolization. Although vertical conduct can also facilitate anticompetitive collusion (and horizontal conduct can harm competition through exclusion), it is reasonable to treat the stringency of antitrust rules governing vertical practices as related to the extent to which antitrust rules deter anticompetitive exclusion.

15 Margaret C. Levenstein & Valerie Y. Sislow, How Do Cartels Use Vertical Restraints? Reflections on Bork’s The Antitrust Paradox, 57 J.L. & ECON. 533 (2014). The vertical restraints allowed the colluding firms to discourage cheating or entry while keeping their horizontal collusive agreement secret.


18 U.S. Supreme Court decisions from the late 1970s through the early 1990s, among other things, related the rule governing nonprice vertical restraints, raised barriers to plaintiffs seeking to prove predatory pricing, made it more difficult to challenge resale price maintenance, and made it more difficult for rivals to challenge harmful conduct. See generally, Jonathan B. Baker, A Preface to Post-Chicago Antitrust, in POST CHICAGO DEVELOPMENTS IN ANTITRUST LAW 46-67 (Roger van den Bergh, Roberto Pardolesi & Antonio Cucinotta eds., 2002). In addition, taking their cue from decisions like these, the lower courts modified the rule governing exclusive dealing. Id. at 67. Looking to the outcome, reasoning, and tone of judicial decisions since that time, the Supreme Court and the appellate courts have applied the more relaxed approach to address exclusionary conduct without consistently favoring either defendants or plaintiffs. See Jonathan B. Baker, Exclusion as a Core Competition Concern, 78 ANTITRUST L.J. 527, 536-37 (2013).
Network effects may discourage entry when the incumbent
In brewing, the owners of Budweiser and Miller account
26  The market definitions used in this study and Peltzman's
study may be broader than those that would typically be
employed in antitrust analysis. Cf. Gregory J. Werden, The
Divergence of SIC Industries from Antitrust Markets: Some
Evidence from Price Fixing Cases, 28 ECON. LETTERS 193 (1998)
(explaining that industries defined for government statisti-
cal purposes are often far broader in product or geographic
scope than antitrust markets).

30 Theo Francis & Ryan Knutson, Wave of Megadeals Tests
that many large publicly traded firms face less competition
on average over time using data that defines industries
broadly based upon firm revenues and the lines of business
in which firms report they participate); cf. GustavoGrullon,
YelenaLarkin & RishiMehai, Are U.S. Industries Becoming
More Concentrated? Fig 2-B, 2-C & 2-D (Working Paper,
files/grullon_11.4.16.pdf (concentration in broadly defined
industries in the United States generally rose from 1997
through 2014) (analysis based on both Compustat and
Census data); but cf. Jan Keil, The Trouble with Approximat-
ing Industry Concentration from Compustat (Dept. of Econ.,
srm.com/abstract/2798653, (questioning the reliability of
concentration measures based on Compustat data and
reporting Herfindahl-Hirschman Index measures for broadly
defined industries based on U.S. Census Bureau
data that are low relative to the concentration standards
in the merger guidelines). Concentration may also be
growing among the top 50 firms in many sectors, Council
of Economic Advisers Issue Brief, Benefits of Competition
and Indicators of Market Power 4 (fig. 1) (Apr. 2016), https://
obama-whitehouse.archives.gov/sites/default/files/page/
files/20160414_cea_competition_issue_brief.pdf, but that
aspect of market structure seems unlikely to be related to
the extent to which firms exercise market power unless it is
correlated with other measures of concentration.

31 As with increased concentration, growing multimarket con-
tact could facilitate coordination among firms. B. Douglas
Bernheim & Michael D. Whinston, Multimarket Contact and

32 Repeated interaction may help firms reach consensus on
the terms of a coordinated arrangement, and discourage
firms from cheating by exacerbating the punishment that
coordinating rivals can inflict. Even if firms do not secure
higher-than-competitive prices by identifying consensus terms and committing to punish rival cheating, they may achieve a similar anticompetitive outcome through parallel accommodating conduct not pursuant to a priori understanding. Absent repeated interaction, for example, competition may be dampened when firms find it costly or time-consuming to change their output levels under quantity competition or price competition when production capacity is fixed. David M. Kreps & Jose A. Scheinkman, Quantitative Research and Behavioral Competition: Why Cournot Outcomes, 14 B.J. ECON. 326 (1983). Competition is also dampened without repeated interaction in the Markov perfect equilibrium of a model with adjustment costs. See Eric Maskin & Jean Tirole, A Theory of Dynamic Oligopoly III: Cournot Competition, 31 J. ECON. 947, 956 (1987).

E.g., Bruce Greenwald & Josh Kaul, Competition Defeated: A RADICALLY SIMPLIFIED APPROACH TO BUSINESS STRATEGY 293-321 (2005). Id. at 293-321 (ways to coordinate); id. at 230-32 (ways to deter entry); R. Preston McAfee, COMPETITIVE SOLUTIONS: THE STRATEGIST’S TOOLS 138-46 (2002) (ways to coordinate); id. at 11-16, 69-70, 342-44, & 379-80 (ways to deter entry); Michael E. Porter, Competition in High-Growth Markets 93-95, 106 (1988) (ways to coordinate and deter cheating).

34 This literature relates concentration to prices (not profits, the concern of an older and more controversial literature). See generally, Richard Schmalensee, Inter-Industry Studies of Structure and Performance, in 2 H. Hovenkamp, INDUSTRIAL ORGANIZATION 988 (Richard Schmalensee & Robert D. Willig eds., 1989) (Stylized Fact 5.1) (survey concluding that “[i]n cross-section comparisons involving markets in the same industry, seller concentration is positively related to the level of price”). See Timothy F. Bresnahan & Valerie Y. Suslow, Oligopoly Pricing with Capacity Constraints, 15/16 J. IND. ECON. 267 (1989) (relating price to concentration in the aluminum industry); see also William N. Evans, Luke M. Froeb & Gregory J. Werden, Endogeneity in the Concentration Price Relationship: Causes, Consequences, and Cures, 41 J. INDOL. ECON. 431 (1995) (relating price to concentration in the airline industry); see also Vishal Singh & Ting Zhu, Pricing and Market Concentration in Oligopoly Markets, 27 MARKETING SCI. 1020 (2008) (relating price to concentration in the auto-rental industry). Cf Sam Peltzman, The Gains and Losses from Industrial Concentration, 20 J. L. & ECON. 229 (1977) (finding that greater concentration in an industry is associated with lower average industry costs and higher average industry price-cost margins, and that higher margins are associated with reduced competition rather than derived from the incomplete pass through of lower costs in markets in which small firms are becoming more efficient and only slowly taking share from less efficient larger firms).


39 Thomas Groll and Christopher J. Ellis, Repeated Lobbying by Commercial Lobbies and Special Interests 1 (CESifo Working Paper No. 5809, 2016) (recent growth in total federal lobbying expenditures “is almost entirely accounted for by the increase in commercial lobbying activities”); See John M. de Figueiredo, The Timing, Intensity, and Composition of Interest Group Lobbying: An Analysis of Structural Policy Windows in the States (NBER Working Paper No. 10588, 2004) (finding that lobbying expenditures by corporations and trade associations represent approximately 85 percent of total interest group lobbying expenditures in the United States at both the federal and state level); see also James Bessen, Accounting for Rising Corporate Profits: Intangibles or Regulatory Rents? (B.U. Sch. L. & Econ., Working Paper No. 16-16, May 11, 2016) (lobbying and other rent seeking in industries such as chemicals, pharmaceuticals, petroleum refining, transportation equipment, electricity and gas, and communications has accounted for a substantial share in the growth of corporate profits since 2000).


42 See Ryan A. Decker, John Haltiwanger, Ron S. Jarmin & Javier Miranda, Where Has All the Skewness Gone? The Decline in High-Growth (Young) Firms in the U.S., 86 ECON. REV. 4 (2016) (finding a decline in the firm entry rate since 1979); see also Ian Hathaway & Robert E. Litan, Declining Business Dynamism in the United States: A Look at States and Metros 1, Fig. 1 (Brookings Econ. Stud., 2014) (finding a decline in the firm entry rate between 1978 and 2011).


47 If entry is easy and price discrimination is feasible, then firms can exercise market power with respect to some customers without elevating their average prices above competitive (free entry) levels, and thus without harming competition overall. See Jonathan B. Baker, Competitive Price Discrimination: The Exercise of Market Power Without Anticompetitive Effects, 70 ANTITRUST L.J. 643, 651 (2003).
48 The longstanding debate about whether antitrust should aim to prevent wealth transfers or allocative efficiency losses is surveyed critically in Jonathan B. Baker, Economics and Politics: Perspectives on the Goals and Future of Antitrust, 81 FORDHAM L. REV. 2175, 2176-80 (2013).


50 Slowed productivity growth and innovation are measured relative to what would be expected in a more competitive market. Thus, dominant firms with a strong record of innovation would likely have been more innovative had they faced greater competition. See, e.g., Jonathan B. Baker, Evaluating Appropriability Defenses for the Exclusionary Conduct of Dominant Firms in Innovative Industries, 80 Antitrust L.J. 431, 453-54 (2016) (an FTC remedy creating competition in plain paper copiers spurred innovation by Xerox, the former dominant firm, and its rivals).


54 Some economists suggest that this danger is greater for product innovation than for innovation process because new products can be more easily copied.

55 The reasons may include, for example, intellectual property rights, rapid market growth, scale economies, network effects, the sale of complementary products, and customer switching costs.


57 The modern Schumpetarian-growth literature concludes that greater product-market competition fosters R&D investment by all firms in sectors where the firms operate at the same technological level, and suggests that in the event that product markets were to grow more competitive, the innovation incentives of a dominant firm with a technological lead would remain high. This literature does not bear directly on the innovation consequences of greater antitrust enforcement against exclusionary conduct by dominant firms, however, because it models increased product market competition as arising from greater imitation (hence reduced appropriability for entrants) rather than arising from increased contestability (hence increased appropriability for entrants). Carl Shapiro, Competition and Innovation: Did Arrow Hit the Bull'S Eye?, in The Rate and Direction of Inventive Activity Revised 361, 372-74 (josh lerner & Scott Stern eds., 2012).

58 At one time, empirical economists who studied the question thought that some market power but not extensive market power would be best for innovation, based on cross-industry studies that found an "inverted-U" relation-

ship between market concentration. But those studies did not successfully control for differences in technological opportunity across industries. See Wesley M. Cohen, Fifty Years of Empirical Studies of Innovative Activity and Performance, 1 Handbook of the Economics of Innovation 129, 146-48, 154-55 (Bronwyn H. Hall & Nathan Rosenberg eds., 2010); Carl Shapiro, Competition and Innovation: Did Arrow Hit the Bull’S Eye?, in The Rate and Direction of Inventive Activity Revised 361, 380 (josh lerner & Scott Stern eds., 2012). In some studies, the technological opportunity problem is addressed by evaluating the innovation effects of competition within an industry over time. E.g., Eric W. Zitzewitz, Competition and Long-Run Productivity Growth in the U.S. and U.K. Tobacco Industries, 1879-1939, 51 J. POL. ECON. 1 (2003) (finding that competition spurred innovation).

59 Large buyers sometimes have the ability and incentive to undermine seller coordination, as by sponsoring entry, integrating upstream, or shifting purchases to sellers that discount. Large buyers that induce greater competition among sellers are not necessarily exercising buyer market power and do not necessarily prevent sellers from continuing to exercise market power against other buyers.

60 E.g., Final Order and Judgment as to VHS of Michigan, Inc., dba Detroit Medical Center, Cason-Merenda v. VHS of Michigan, Inc., No. 06-15601 (E.D. Mich. Jan. 27, 2016) (setting complaint alleging that eight hospitals in the Detroit area agreed to depress compensation to registered nurses); Final Judgment, United States v. Arizona Hospital & Healthcare Ass'Y, No. CV07-1030-PHX (Sept. 12, 2007) (settling complaint alleging that most hospitals in the Phoenix and Tucson areas agreed to depress the wages paid temporary nurses); Stephen Greenhouse, Settlement in Nurses’ Antitrust Suit, N.Y. Times (March 9, 2009), at A23 (settling complaint alleging that Albany area hospitals agreed to depress nurse wages).

61 To similar effect, competition in research and development often leads to duplication of effort.

62 Entry may be excessive in oligopoly markets from an aggregate welfare (efficiency) perspective when incumbents respond to entry by reducing their output, allowing the entrant to "steal business" from them. N. Gregory Mankiw & Michael D. Whinston, Free Entry and Social Inefficiency, 17 RAND J. ECOm. 48 (1986). Entry may also be excessive in financial markets subject to "advantageous" selection. See Neale Mahoney, Andrei Varga & E. Glenn Weyl, Competition Policy in Selection Markets, CPI Antitrust Chronicle (Aug. 21, 2014), https://ssrn.com/abstract=2484738. Furthermore, entry may be excessive in competitive markets with negative externalities. If industry output would exceed the efficient level in a competitive market for any of these reasons, then it is possible that the output reduction associated with the exercise of market power would mitigate the efficiency loss to some extent. But there is no reason to expect a perfect offset, and, after accounting for both effects, aggregate welfare may end up lower than it would absent the exercise of market power.

63 William W. Lewis, thE PoWeR oF PRoDUCtIVITY: WEAlTH, POvERTy, AND thE TRaGT To GLoBAl StaBILITy 231 (2004).

64 William W. Lewis, thE PoWeR oF PRoDUCtIVITY: WEAlTH, POvERTy, AND thE TRaGT To GLoBAl StaBILITy 252 (2004).


67 The disproportionate influence of the wealthiest on public policy has been well documented. E.g., Martin Gilens, Affluence & Influence: EcoNomic Inequality and PolitiCal Power in AmEriCa 85 (2012); Jeffries A. Winter, oligarchy 249 (2011); Larry M. Bartels, Unequal Democracy: thE PolitiCal EcoNomy oF thE nEW Gilded aGE 252–83 (2008); Thomas Byrne Edsall, thE nEW PolitiCals oF Inequality 241–42 (1984); Martin Gilens & Benjamin I. Page, Testing Theories of American Politics: Elites, Interest Groups, and Aver-
age Citizens, 12 Pers. on pol. 564, 576 (2014). To the extent large firms are owned by wealthy families, those families may
seek to influence the political system simultaneously to protect large firms from competition and to lower taxes on income and wealth.


69See Edward N. Wolff, Household Wealth Trends in the United States, 1962–2013: What Happened Over the Great Recession? 38 tbl.7 (Nat’l Bureau of Econ. Research, Working Paper No. 20733, Dec. 2014) (statistics for 2013). If indirect ownership through retirement plans and similar accounts is taken into account, the top 10 percent owned more than 80 percent of stock and mutual fund assets. Id. The top 10 percent also owned more than 90 percent of unincorporated business equity. Id.


71Antitrust enforcement is not costless, and some steps taken to prevent anticompetitive conduct risk chilling beneficial conduct, so it is unreasonable to expect even the best antitrust institutions to deter market power completely. But it is unlikely that the market power now exercised is socially efficient. See Jonathan B. Baker, The Case for Antitrust Enforcement, 17 J. ECON. PERSP. 27, 42-45 (2003) (explaining why the benefits of antitrust enforcement likely dwarf the costs).
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