IS THERE A CONCENTRATION PROBLEM IN AMERICA?

STIGLER CENTER FOR THE STUDY OF THE ECONOMY AND THE STATE
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TABLE OF CONTENTS

1| Panel 1
WHAT DO THE DATA TELL US? TRENDS IN CONCENTRATION AND COMPETITION

11| Panel 2
WHAT DOES HISTORY TELL US? THE DEVELOPMENT OF ANTITRUST IN AMERICA

19| Panel 3
CONCENTRATION, MARKET POWER, AND INEQUALITY

30| Panel 4
WINNER-TAKE-ALL DIGITAL PLATFORMS

40| Panel 5
BIG DATA AND COMPETITION

50| Keynote
JUDGE RICHARD A. POSNER IN CONVERSATION WITH LUIGI ZINGALES

55| Panel 6
CONSOLIDATION IN THE FINANCIAL INDUSTRY

61| Panel 7
INFORMATION IN THE AGE OF CONCENTRATION

70| Panel 8
IS THERE A ROLE FOR POLITICAL ANTITRUST?

78| INTERVIEW SERIES

EDITOR'S INTRODUCTION

by Guy Rolnik

Does America have a monopoly problem? Is there a growing trend of concentration in many markets? Is there evidence for correlation between concentration and inequality? Do monopoly and market power beget political power?

These are questions as old as the republic. From the founding fathers, through the progressive era, and perhaps climaxing during the New Deal, American politicians, pundits, public intellectuals, and reformers have been pondering and sometimes obsessing over the role monopoly power plays in economics and politics.

Yet in the last four decades this discussion has ebbed. One way to see the trend is to read the most recent platforms of the Democratic and Republican parties. The words *monopoly*, *concentration*, and *antitrust* have all but disappeared in the last decades.

Growing anecdotical evidence and some more rigorous studies have started to change the conversation. Questions of monopoly, market power, and concentration reemerged before the last election and rhymed with the visceral cries of inequality, stagnant median income, and the "rigged economy"—a phrase adopted by candidates across the political spectrum. From the digital monopolies, through airlines, cable TV, mobile communication, hospitals, finance—the list is long—we witness more concentration and market power in major industries in the US. Some argue market power has become the dominant phenomenon in modern, 21st-century capitalism.

The evidence of growing concentration in many industries and the dramatic growth and significant economic role of the digital giants are at the backdrop of our initiative to launch a special conference on the questions of concentration in the United States. We decided to bring together in this discussion not only the antitrust experts—the industrial organization economist and the lawyers—but also historians, political scientists, and scholars who study corruption and the role of money in politics. Among the issues we chose to put on the agenda were political antitrust, big data, horizontal shareholding, comparative outlook on antitrust enforcement in the United States and European Union and of course how much empirical evidence supports the notion of growing concentration and declining competition and dynamism.

The University of Chicago's special role and outsized influence on antitrust in the last 40 years has been intensively documented and debated, yet the older history and legacy of its intellectuals is less known. Henry Simons, described by Nobel Laureate and Chicago economist George Stigler as the "Prince of Chicago," in the early 1930s devoted immense intellectual energy and writing to questions of monopoly power. His famous pamphlet "A Positive Program for Laissez Faire" (1934) started as follows:

> *The main elements in a sound liberal program may be defined in terms of five proposals or objectives (in a descending scale of relative importance): I. Elimination of private monopoly in all its forms. 1. Through drastic measures for establishing and maintaining effectively competitive conditions in all industries where competition can function as a regulative agency (as a means for insuring effective utilization of resources and for preventing exploitation), and 2. Through gradual transition to direct government ownership and operation in the case of all industries where competition cannot be made to function effectively as an agency of control.*

Are Simon's ideas from the 1930s relevant today? Do questions of competiton, concentration, and political power of private monopolies have the same importance as Simon deemed 80 years ago? This is a conversation worthy of initiating or resuming—as we aimed to to do in this conference and in the following pages.

WHAT DO THE DATA TELL US?

WHAT DO THE DATA TELL US? TRENDS IN CONCENTRATION AND COMPETITION

- **John Kwoka,** *Neal F. Finnegan Distinguished Professor, Northeastern University*
- **Barry Lynn,** *Director, Open Markets, New America Foundation*[1]
- **Roni Michaely,** *Rudd Family Professor of Management, Professor of Finance, Cornell University*
- **Fiona M. Scott Morton,** *Theodore Nierenberg Professor of Economics, Yale University*
- **Carl Shapiro,** *Transamerica Professor of Business Strategy, Haas School of Business, University of California at Berkeley*

Moderated by: Patrick Foulis, The Economist

Concerns over rising concentration in the US economy have become increasingly prevalent among economists, policymakers, and investors over the past two years. Following a spate of articles that described diminishing competition as "one of the biggest problems facing America's economy," the issue has gained traction in the political discourse as well. But is the notion that America has a concentration problem supported by empirical evidence? This, agreed the participants of the opening panel of the Stigler Center's conference on concentration in America, appears to be the case.

"It's the totality of evidence, rather than any single study, that underscores the issue [of rising concentration]," said Northeastern University economist

[1] Barry Lynn has since left New America and now heads the Open Markets Institute

John Kwoka, one of the featured panelists. "There's really an absence of evidence to the contrary."

Other than Kwoka, the Neal F. Finnegan Distinguished Professor at Northeastern University, the panel also featured Roni Michaely, the Rudd Family Professor of Management and Professor of Finance at Cornell University; Fiona Scott Morton, the Theodore Nierenberg Professor of Economics at Yale University and former chief economist at the US Department of Justice Antitrust Division; Carl Shapiro, the Transamerica Professor of Business Strategy at the Haas School of Business at UC Berkeley, also former chief economist at the DOJ's antitrust division; and Barry Lynn, the director of New America's Open Markets program.

The panel was moderated by Patrick Foulis, New York Bureau Chief at *The Economist,* who opened the panel with an anecdote on the prevalence of concentration and the ambiguity surrounding the issue. "On the way here I took an Uber to the airport. On the way, I used an iPhone, which has a 40 percent market share of smartphones in the US. I took a United flight, which is part of four airlines that some have called a cartel in the US. On the flight, I watched DirecTV, which is a media company that was bought by AT&T a couple of years ago. I checked into an InterContinental hotel, which is part of an industry that's consolidating rapidly. But to get a sense of the ambiguity, one can think of the same set of incidences in a slightly different light: Uber got its market share by losing a couple of billion dollars a year, essentially subsidizing people like me. Apple is part of an industry where traditionally the leader—Nokia, Motorola, BlackBerry—only lasts a few years. United is part of [an] industry that investors worry is about to have a price war. DirecTV, investors worry, is an old technology that Netflix will blow apart. InterContinental is threatened by the likes of Airbnb and Internet travel aggregators. So it's not a simple question to answer," said Foulis, who writes *The Economist's* weekly Schumpeter column and was the author of a March 2016 cover story that examined rising corporate concentration and profits.

In recent years, a growing body of research has suggested that competition has weakened across US industries, and that this is having adverse effects on the economy, on workers and on consumers. In April 2016, President Obama's Council of Economic Advisers issued a report that claimed competition has declined in numerous sectors within the American economy. A 2017 paper by Gustavo Grullon, Yelena Larkin, and Roni Michaely found that more than 75 percent of U.S. industries experienced an increase in concentration in the last two decades. Numerous studies have argued that rising concentration among airlines, banks, wireless carriers, and hospitals (along with many other industries) has had anticompetitive effects.

Many economists, however, dispute the claims that America has a concentration problem. Some, like University of Chicago Booth School of Business professors Sam Peltzman and Dennis Carlton, argue that while the evidence points to a rise in concentration, there is not enough evidence that rising concentration leads to adverse economic effects, and that concentration does not necessarily mean lack of competition or decline in quality. Others dispute the data itself. . In a 2017 interview with *ProMarket*, Chicago Booth professor (and former chairman of President Obama's CEA) Austan Goolsbee said that the evidence that points to a rise in concentration "comes from court cases or non-representative samples and is filled with ambiguity and myth."

During the Stigler Center panel, most of the featured economists agreed that the claims that concentration has risen in America are supported by empirical evidence. Questions such as what this rise in concentration means for competition and for the US economy and how enforcers and policymakers should deal with it, however, were the subject of a lively debate that mirrored the debates held among antitrust economists and within the economy at large.

A "SUBSTANTIAL BODY OF EVIDENCE" SHOWS A RISE IN CONCENTRATION

I've yet to see a single study that shows a decline in concentration [over the last two decades]," said Kwoka, whose recent studies and 2015 book *Mergers, Merger Control, and Remedies in the United States: A Retrospective Analysis* (MIT Press) focused on the effectiveness of merger policy. In a 2012 paper, Kwoka studied 48 mergers that were approved by regulators and found that 36 of those were followed by price increases.

Arguing that "a substantial body of evidence" shows a rise in concentration in major sectors of the US economy, Kwoka cited the CEA brief and *The Economist's* March 2016 article that stated that "America needs a giant dose of competition." Kwoka also referenced a 2017 study by David Autor, David Dorn, Lawrence Katz, Christina Patterson, and John Van Reenen that linked concentrated winner-take-all markets with the fall in the labor share.

"The CEA issue brief reported market shares that were rising for the top 50 firms in 20 or 25 broad categories of the economy, far too broad for economists' liking but indicative, nonetheless, of a threshold concern," said Kwoka. "*The Economist* did a better job, having this aggregated down to 900 and some odd sectors of the US economy, and reported that in a large fraction of them concentration had risen over the past 15 or so years. *The Economist* and the CEA identified a number of sectors, but those of us who drink beer as well as fly airlines or rent cars or buy eyeglasses are all aware of the fact that consolidation has hit a lot of other sectors. Hospitals, pharmaceutical companies, agribusiness, meatpacking, car rentals, drugstores, and the rest are sectors that have seen substantial consolidation." In the face of multiple studies showing a rise in concentration across major sectors of the US economy, there's been an absence of evidence to the contrary, showing that concentration has in fact declined.

However, Kwoka argued, studies "do not find that concentration has risen everywhere," but only across sectors that represent a small part of the US economy. "I believe *The Economist* reported that the sectors where concentration had risen most dramatically represented perhaps 10 percent of the US economy, but it is an important 10 percent, and it's a 10 percent that in the past had not been nearly so concentrated."

What caused this rise in concentration? Concentration, Kwoka stressed, "is not the same thing as competition," and it is possible that rising concentration is partly the result of improvements in efficiency or service quality, or that innovation and consumer preferences have made certain sectors more concentrated, "and there are certainly sectors where that's true": "My good friend and colleague Barry [Lynn] will tell us more about Amazon from a different perspective, but the reality is that Amazon has been a brilliant innovator, by any stretch of the imagination, though its record may be different in some other areas. Google, Amazon, Apple, and others are surely the type of companies that we recognize for bringing new products of great value to consumers to the market, and in sectors where it's difficult to imagine a fragmented sector."

Another cause for rising concentration, he added, is entry issues. This does not necessarily imply decline of competition, he said, but in sectors where entry is robust or easier, concentration could be interpreted differently than in sectors that are protected from entry. "There's considerable evidence that the rates of new business formation have declined in this country. If new entries have diminished, but exit rates have remained more or less constant—and that appears to be the case—then we would expect a decline in companies in a variety of such industries, and I believe the evidence supports that as well." If the rise in concentration is not tied to improvements in service quality and not offset by robust entry into concentrated sectors, added Kwoka, "then indeed there is an issue to be concerned about. The effects have to do with aggregations of profit now that exceed historic levels in this country—a lot of it arguably due to rents, as opposed to the typical profit from innovation—and other economic considerations that

"It's the totality of evidence, rather than any single study, that underscores the issue [of rising concentration]. There's really an absence of evidence to the contrary."

— John Kwoka

follow as well from the political and social side that will be subjects of this conversation."

Kwoka offered three other economic reasons for the rise in concentration: First, there are "traditional" economic reasons such as network effects and winner-take-all-markets. "In each of those cases, once again, it's difficult to conceive of fragmented competition of the textbook sort. These forces have always existed, but they've become of greater importance in some of the emerging sectors."

Secondly, there are what Kwoka called "strategic reasons," such as exclusionary behavior by firms. "The ability of companies to build and enhance barriers to entry has grown, and there is evidence that companies have focused on this, as opposed to traditional price-raising opportunities, and [there is] considerable evidence that they are much more successful in doing this," he said. "There's a lot of data, now widely cited in occupational licensing, non-compete agreements, and the rest in labor markets. There also is evidence of the use of distribution and marketing practices that enhance the market power, or at least the exclusionary behavior of companies against new entry and the threat of growing competition."

The third potential reason for the increase in concentration, according to Kwoka, is America's "too permissive" merger policy—a subject which Kwoka has researched and written on extensively in recent years. "There has been a documented narrowing of focus among merger enforcement agencies—their own data show that for industries where there are five or more firms remaining after a merger, challenges at that level have virtually disappeared, which gives rise to broad increases in concentration. A number of studies I've compiled and synthesized show that even after review by the agencies, mergers have resulted in price increases."

When asked about the threshold at which economists and policymakers should be worried about consolidation, Kwoka said that "the search for magic numbers is a misguided effort."

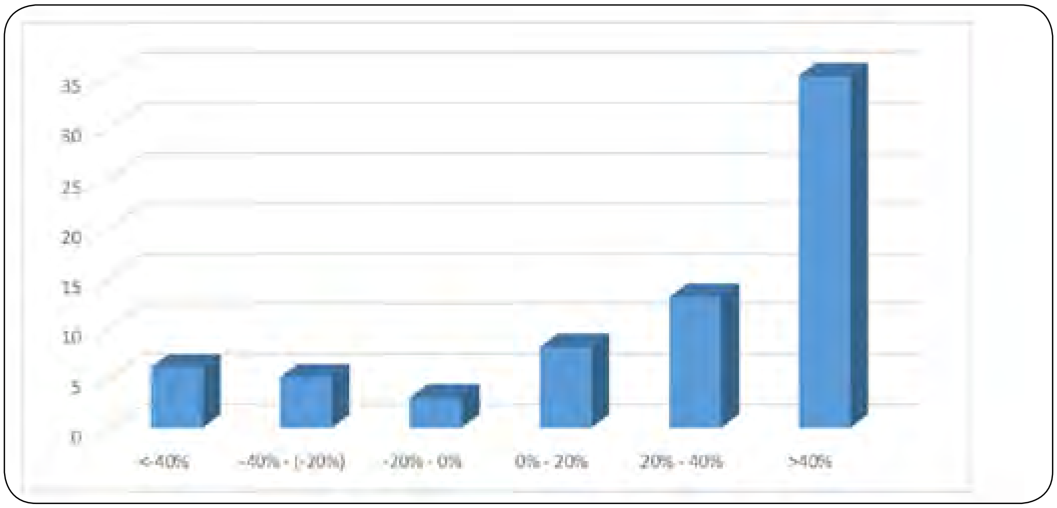
RISE IN CONCENTRATION MUCH MORE WIDESPREAD

Cornell professor Roni Michaely also pointed to a rise in concentration but disagreed with Kwoka's estimate regarding its scope. Rising concentration, said Michaely, "is much more widespread than the 10 percent figure that was mentioned before."

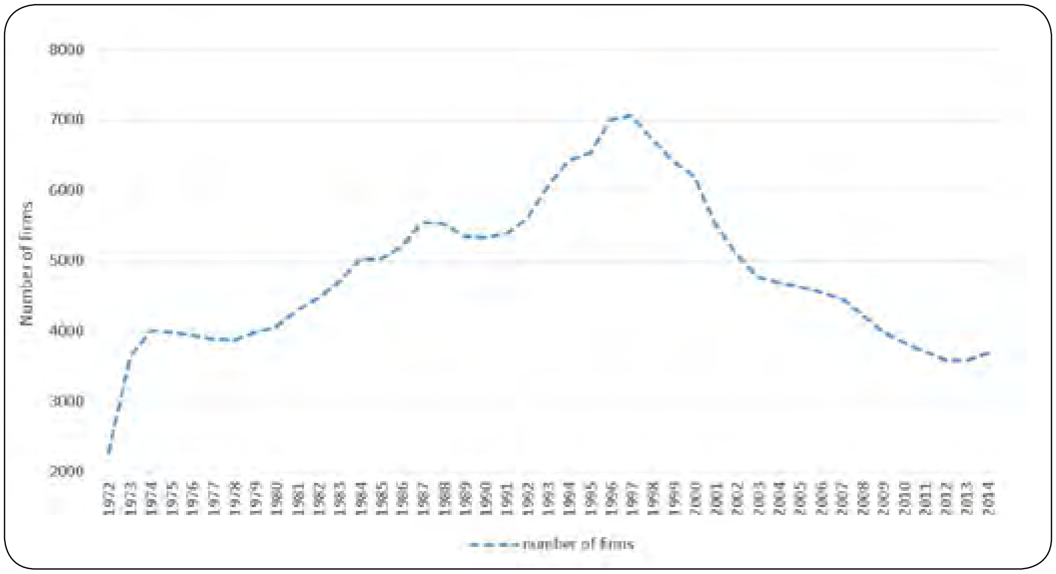
Michaely cited figures showing a dramatic rise in two of the leading measures of market concentration—the Herfindahl-Hirschman Index (HHI) and the four-firm concentration ratio (CR4)—over the past 20 years. Concentration, said Michaely, has increased significantly in most US industries over the past two decades. One consequence of this is an increase in profitability. Some of it, he said, might be due to increases in efficiency, but most of it stems from an increase in profit margins. Another is a decline in the number of publicly traded firms. "US markets lost over 50 percent of their public traded firms [since the mid-1990s]. We're now at the same level as what we've been at the beginning of the '70s," said Michaely, who added that "we see a three-fold increase in the average and median size of (publicly traded) firms in real terms."

In their paper, Michaely et al. rank US industries by the level of increased concentration they've experienced each year, dividing them into five buckets—the first being the highest increases in concentration, and the fifth representing the lowest increases in concentration. After measuring the change in the return on assets for these industries, they find that the highest change in ROA occurred after a year of increasing concentration. "Most of the increase in ROA and profitability is coming from an increase in profit margins, what's called the Lerner index, which is actually another measure. If markets are contestable, some argue, you should not see something like this. We find some increase in efficiency, but most of the increase in ROA is attributed to the increase in profit margin, not to the efficiency," said Michaely.

Michaely also cited the results of an exercise, included in his paper with Grullon and Larkin, in which they test a long-short investment strategy: going long on industries that experienced the highest increase in concentration in a given year and shorting



[Figure 1: Increased concentration in most industries in the US (Source: Grullon, Larkin, Michaely, 2017)]



[Figure 2: US markets lost over 50v percent of their publicly traded firms (Source: Michaely 2017)]

industries that experienced the lowest concentration increase. This strategy, said Michaely, would yield an alpha of nine percent a year over the last 20 years.

Like Kwoka, Michaely argued that the rise in concentration can be attributed to lax antitrust enforcement and corporate barriers to entry. "The number of cases filed by the DOJ under Section 2 of the Sherman Act, which really challenges anticompetitive action, have declined dramatically over the past 20 years. You look at another aspect of this proportion, of completed M&A deals, [which] increased dramatically, and you see that the number of mega-mergers more than doubled over the same time period."

Michaely disputed notions that the Internet democratizes the economy, especially as concentrated firms accumulate more patents: "The more concentrated the industry, the more the members of this industry are accumulating patents and value of patents."

These phenomena are not reserved for high-tech industries, said Michaely, who also remarked: "There is no low-tech industry anymore." As an example, Michaely referred to the pizza market, citing figures from the *Wall Street Journal* that showed mom-and-pop shops were being pushed out, unable to compete with mega-chains like Domino's and Pizza Hut.

WHAT COUNTS AS A MARKET?

UC Berkeley economist and former CEA member Carl Shapiro struck a skeptical note. Economists and policymakers, he said, should be careful when considering data and studies that show that concentration has increased and has adverse economic effects, as there isn't enough evidence to support that view.

"As far as I can see, sitting out there in the Bay Area, there is definitely a decline in business startups. There are fewer dry cleaners opening; we've got chains instead. We have problems following the Great Recession, because people don't have home equity, for example, to start as many small businesses. I'm not sure that's an economy-wide competition problem. It's an issue, but is that really a competition problem? I doubt it," said Shapiro. Like Kwoka before him, Shapiro criticized the Economic Census data, on which the CEA report largely relied, as too broad, saying: "I am picky about what counts as a market, since I do a lot of horizontal mergers and was involved in the merger guidelines."

"Almost all the data people talk about goes back to Economic Census," said Shapiro. "What did the Council of Economic Advisers do? Somewhat embarrassingly, they looked at the 50-firm concentration ratio in two-digit industries. I don't know any IO economist who thinks that's very informative regarding market power. At some broad level, larger firms are having a larger share of economic activity—I think that's true, but that doesn't directly tell us about competition or concentration in markets where market power can be exercised," said Shapiro.

Shapiro also criticized the four-digit data used by *The Economist* as too broad and added that looking at the four-digit data, concentration does not seem like "too much of an issue." Later, Shapiro remarked that the existing data, particularly when it comes to the efficiencies of horizontal mergers, is "very thin."

"What did the data actually show? If you look at [*The Economist's* data], you see a lot of these four-firm concentration ratios are in the 20-30 percent range... I have to say, as an IO person, what do I make of the four-firm concentration ratio going from 25 to 30 percent? If we could translate that into Herfindahl, we could look at the apparently extremely permissive, horizontal merger guidelines, and probably it's not going to be much of an issue. Herfindahls are going to be below 1,800 or 2,500, most of the time. If you think about a four-firm concentration ratio of 25 percent, what are you talking about?"

The rise in concentration, said Shapiro, does not seem concerning to antitrust economists. "The antitrust community is saying, 'Well, yeah, that's not something I worry about when the four-firm concentration ratio goes from 25 to 30 percent, or 40 percent,' but should we? Are we missing something? If there are a lot of industries, maybe we should worry about that. That's the question. I went back and looked, just as I was getting prepared for [the conference], and picked a few of these six-digit markets that had relatively high Herfindahls. If you look at the 2012 economic census, you'll see many of these Herfindahls at 400-600. I looked for some that were relatively high and I'm like, 'OK, so should I worry that the dog and cat food market, that's $21 billion, has a four-firm concentration ratio of 68 percent?' I don't have an answer to that. That's the sort of thing we're talking about."

"Antitrust economists are mistaken to shrug their shoulders at increases in CR4 if CR4<50 and in HHI if HHI<1500. On the other hand, the press, politicians and some policymakers are mistaken to claim the data show a worrisome increase in industrial concentration in America."

— Carl Shapiro

"Pockets of market power," said Shapiro, exist in multiple industries, among them things like beer breweries, oil and gas field machinery, and pharmaceutical drugs ("way too broad a category"). Retail, he noted, presents a problem for concentration measures because much of the consolidation in the industry is geographic in nature. "Whether it's Walmart, big box stores, Amazon, you're going to see increases in concentration at the national level. It's probably more competition at the local level, so you have to be very careful about that."

Shapiro summed up the debate as a disagreement between two opposing worldviews regarding concentration and its effects: "The antitrust economists, we shrug our shoulders. But maybe politicians, policymakers think that's a problem. Is it a problem because of market power or because of political power, or because these broad concentrations are going to lead to more market power? Who's right on this? Somebody is missing something. But the data everyone is looking at, the Economic Census data, you have to be very careful with that."

Despite his reservations about the data, Shapiro also said that "antitrust economists are mistaken to shrug their shoulders at increases in CR4 if CR4<50 and in HHI if HHI<1500. On the other hand, the press, politicians and some policymakers are mistaken to claim the data show a worrisome increase in industrial concentration in America."

The fact that over the past 30 years corporate profits before tax have gone up by 50 percent, from 7-8 percent of GDP up to 11-12 percent of GDP, is "more of a puzzle," said Shapiro. "How persistent are high profits at the firm and industry levels, and have entry and expansion become less effective at eliminating rents to incumbents?" he asked.

"That's a real thing," said Shapiro. "Not surprisingly, finance has gone up: from 13 percent to 18 percent, manufacturing has gone down a lot, as a share of all the profits. Information, which is pretty broad, has gone up a bit. Health care has more than doubled. This, to me, is the big puzzle. This is the question: Why have corporate profits gone up? Are they high and persistent? Are these rents? What's going on? How's entry and expansion? IO people are saying 'What's going on? You're going to earn profits for a while, but it should get eroded. Is something wrong with the process by which they're being eroded?' This is much more real, in terms of the data on the profit side, than the concentration stuff. While that's real, overall, it doesn't translate to the market."

THE ROLE OF REGULATORY CAPTURE

Yale University economist Fiona M. Scott Morton also struck a cautious note, agreeing with Shapiro that while some data point to an increase in concentration, it is still too early to determine whether this has adverse effects on the economy as a whole.

Morton also stressed the role of regulation and regulatory capture in the increase of US concentration. "Behind every rule we have a lot more dollars today than we had 30 years ago and we're not increasing the size, capability, or cleverness of the bureaucracy in proportion to that. The result is that it's worth spending on regulation, and you get regulatory capture, which is an appropriate topic for conversation here at the University of Chicago because it was invented by George Stigler. Firms lobby, and convince, and take people out to lunch, and hire them later in order to get regulations that protect them from competition."

At the Federal level, she said, "I'm thinking about the Department of Transportation, for example, and airline alliances that would protect an airline from competition from a foreign carrier. At the state level, we also might have regulatory capture. Think about retail auto dealers, for example, and the fact that states have forbidden anybody else to sell an automobile, except for a franchised auto dealer, including the manufacturers. Occupational licensing is done at the state level, and that's also a place where we see a big barrier to entry—occupational licenses for things like hair braiding and dog washing, and things that we think are probably not too dangerous to leave unlicensed."

Morton also mentioned cable companies, pharmaceuticals, and airlines as "industries where incumbents look to the government to protect them from competition." If major sectors of the US economy managed to capture regulators, she said, "then we can end up with the pattern that we see, of higher profits and less entry."

"Behind every rule we have a lot more dollars today than we had 30 years ago and we're not increasing the size, capability, or cleverness of the bureaucracy in proportion to that. The result is that it's worth spending on regulation, and you get regulatory capture. Firms lobby, and convince, and take people out to lunch and hire them later in order to get regulations that protect them from competition."

— Fiona Scott Morton

FROM A BRANDEISIAN VIEW TO A BORKIAN VIEW

Drawing from the rich history of antimonopoly in the US, Lynn defined concentration as a political and not just economic risk, arguing that "from the very first, from the Boston Tea Party onwards, antimonopoly was one of our key tools that we the people of the United States used to keep ourselves free. We used these antimonopoly laws to protect our democratic institutions. Except for a short while at the turn of the last century, when the plutocrats escaped our grasp, this tool of antimonopoly worked exceedingly well."

At the root of America's current concentration problem, argued Lynn, is an ideological and philosophical shift that began in the 1980s. With the overhaul of the merger guidelines in 1982, Lynn said, the US underwent a "philosophical revolution" that dramatically affected antitrust policies and moved it from a Brandeisian model of antitrust, named for the late Supreme Court justice and antitrust advocate Louis Brandeis, toward a Borkian model, after the late Yale Law School professor and judge Robert Bork. "Thirty-five years ago, we changed how we do antimonopoly. We embraced a radically new philosophy, one that was promoted right here at University of Chicago. For 200 years, we said that the main goal of antimonopoly should be to preserve our liberty and to protect our democratic institutions. We used our antimonopoly to protect ourselves as citizens, but 35 years ago, folks came along and they said, 'You know, let's use these laws to promote efficiency. Let's get economists in the room, and let them take over. Let's get it away from the politicians, because we can't trust the politicians, with their grubby hands, to get this right. We can't trust the people, with their grubby hands, to get this right.' Today, it is absolutely clear [to] anyone who's actually got eyes in their head, and walks around this world, that what we did 35 years ago was not working for the average citizen."

First, said Lynn, "we moved from a Brandeisian view to a Borkian view. Then we went through digitization, which created super dominant companies. The first shift created Walmart, and the second created Google and Facebook."

Concentration, he argued, harms both consumers, businesses, and democratic institutions. "Clearly, in our capacity as consumers, we're being ripped-off in sector after sector. Inequality is greater than it's been in a hundred years or more. We've heard about startups before—it's really hard to start a business in this country, and getting harder every day. At the Open Markets program, we've shown that the monopolists we unleashed a generation ago are also subverting our democracy by concentrating wealth and power. They are degrading our national security by concentrating risk and leverage in the hands of people we should not trust. They're warping our ability to communicate with one another—I'm talking about the platform monopolies, the big ones—interfering with our free speech, interfering with our ability to express our ideas and share them with one another. That is what the work of my team of reporters and researchers have made clear over the last seven or eight years: today's monopolists break the lives of individuals, they break families, they break communities. Today's monopolists kill people, sometimes. Today's monopolists push bad drugs and unneeded treatments on people. Today's monopolists cut off the supply of good drugs, good medical devices, and needed treatments for other people."

"Is there a monopoly problem in America? When you talk to the public, when you talk to policymakers, the answer is yes," said Lynn, who then surveyed the sea change American politics experienced over the past two years.

"When I started this work 15 years ago, this was not the case—no one was listening. We were banging our heads against two walls, the wall of the economics academy and the wall of the legal academy. Just in the last year we've seen radical change. We've heard about what happened with the Obama White House. We heard the Federal Reserve also, the Senate's antitrust subcommittee. They all recognize that we have a monopoly problem in America. Last year, we got a terrific speech from Senator Warren. Last summer, we got language in the Democratic Party platform for the first time in 32 years talking about America's monopoly problem. We got some really terrific promises from Candidate Hillary Clinton's campaign. We had a really important speech from Acting Assistant Attorney General Renata Hesse last September. Yes, the philosophy still remains and is still the dominant philosophy in most places. But the fact is that this is ending. The ideology is busted. The people of the United States know there's a problem. Policymakers know there's a problem. Our thought continues to run down this aqueduct but there are cracks in the aqueduct, and it will split soon. The problem is that even once we have escaped from the ideology, the power that has concentrated behind this ideology for that last 35 years remains. This power is greater. It gets greater by the moment."

WHAT SHOULD BE DONE?

As for the question on what should be done about rising concentration, all speakers supported strengthening antitrust enforcement, though they differed on the degree to which enforcement should be increased.

When asked about the threshold at which economists and policymakers should be worried about consolidation, Kwoka said that "the search for magic numbers" is a "misguided effort." Relying on his comprehensive work on merger policy, Kwoka detailed two main findings regarding the US's current merger review policy and its ramifications: "One finding is that Federal Trade Commission data on their own merger investigations show that between 1996 and 2012, they ceased challenging any merger that resulted in five or more remaining firms. They have narrowed, focused on the already high concentration sectors. In the last four years of that period, they had literally zero enforcement actions of any sort against mergers of six, five, or seven remaining firms. A second piece of evidence shows that mergers that have been studied in merger retrospectives—these careful, controlled studies that have been published in peer-reviewed journals so that they meet some standard of quality control—show that mergers that result in five, as well as four, three, and two remaining firms, on average resulted in a very high percentage level in price increases, which is to say four, three, and two remaining significant competitors. Those mergers result in higher prices. Below that, seven or six may arguably be OK, but it's about that margin. It's at the rising concentration level, somewhere around four, five, or six. Mergers that result in four, five, or six remaining competitors are the ones that the agencies are withdrawing."

When it comes to mergers, Shapiro agreed that the 1982 change in the merger guidelines was definitely a factor that contributed to the increase in concentration. In some areas of the economy, Shapiro said, antitrust should be "moderately tighter than it is now." However, he cautioned, the notion that mergers should be blocked due to the political power of the merger entity requires new legislation, since it's not about competition as such. Shapiro also suggested that lowering the burden of proof on the government's part might be effective: "if the government didn't have the burden of proof, and the companies had the burden of proof to show that a merger is pro-competitive, it would be a lot harder to do a merger."

Similar to most other panels during the conference, much of the debate portion of the panel revolved around the question of how antitrust enforcement agencies should deal with the growing power of digital platforms. Michaely cautioned that "solutions are not simple," but advocated strong antitrust enforcement—"not just for mergers." "Mega companies may have to share their data, or maybe even [be] broken up like AT&T," he said.

Morton and Shapiro took a much more conservative approach. When asked about big Silicon Valley firms routinely acquiring smaller firms as a way to spur R&D, Shapiro said: "The worry is that big tech firms could see the threats coming around the corner before the government, gobble them up, and eliminate the threat. That's a serious worry. But if you see the acquisitions Google has made, you'd be hard pressed to find which of those you want to stop. It's very hard to know how to do that type of enforcement effectively."

Morton also argued against aggressive action when it comes to tech mergers: "When you have a company with six employees and $100 in revenue, and you say 'we're worried about this merger because this is the next big thing that's going to overturn Facebook,' that case is very difficult to win in court. If we as a society decide these mergers are dangerous, we have to really change the laws."

"I think we need a little bit of a reset to make sure [we are] focusing enforcement on the problems that we have today and not the problems we had yesterday. It's much easier to litigate something that has precedent and that you understand. New technologies are more risky for the agency and for the development of economic theory," said Morton.

Morton added that "the economics profession doesn't have a good answer to whether large mergers reduce R&D."

Lynn, on the other hand, called for policymakers to challenge large tech mergers, citing historical precedent: "One hundred twenty years ago, we didn't talk about the dangers of railroad companies buying this grain elevator or that company. What we did is we prevented the network monopolies of that era from buying all companies. Google, Facebook, and Amazon are the railroads of today. They are utilities, and there is a simple way to deal with this: we prevent them from vertically integrating."

From the audience, Chicago Booth economist Dennis Carlton disputed the notion that rising concentration is significant, citing Sam Peltzman's 2014 paper on industrial concentration. "If you look overall," he said, "at least in manufacturing, concentration in the US economy is pretty low: around 40 percent in the four-firm concentration ratio. If you look over time, you'll see there has been an increase in concentration, but as Carl and John have pointed out, it's tiny. As Carl said, the median level of concentration over four-digit industries may not be an accurate way to measure markets—it ignores imports and a lot of things—but as a rough approximation, we're pretty unconcentrated."

Kwoka, however, countered that "*The Economist's* data shows that rising concentration has happened in the big sectors of the economy, so it may only be a small fraction of the total observations of 900 sectors, but it's the ones that matter. It's the ones that are big and are of growing importance. That's where policy should be focused."

Kwoka also highlighted the importance of rising corporate profits. "We used to worry about labor versus capital market shares, but profit is now the big, new entry into that contention, and it now is a matter of considerable concern, because the development of these forces has led, not just to a decline in labor share, but no increase in capital share, rather it appears to have gone into profits. That's a rather new phenomenon of considerable concern." The effect of rising concentration on innovation, he added, is a "very tricky" issue. "The economics is complicated, the policy is beyond challenging—it's an extraordinarily difficult thing to get right."

"ANTIMONOPOLY IS AS OLD AS THE REPUBLIC"

WHAT DOES HISTORY TELL US?

THE DEVELOPMENT OF ANTITRUST IN AMERICA

- **Gerald Berk,** *Professor, University of Oregon; Author of* Louis D. Brandeis and the Making of Regulated Competition *(Cambridge University Press, 2009)*
- **Richard John,** *Professor of History and Communications, Columbia Journalism School, Columbia University*
- **Sam Peltzman,** *Ralph and Dorothy Keller Distinguished Service Professor Emeritus of Economics, University of Chicago Booth School of Business*
- **F.M. Scherer,** *Professor of Public Policy and Corporate Management, Harvard Kennedy School*

Moderated by: Gary Reback, *Carr & Ferrell LLP*

In 1776, shortly before the United States made its Declaration of Independence, Adam Smith published his magnum opus, *The Wealth of Nations*, where he famously described the "invisible hand" of the free market, but also emphasized the "wretched spirit of monopolies." Inspired by Smith, the founders

[1]This chapter was co-written with Prateek Raj.

of the United States also considered monopolies to be detrimental to freedom. In a 1787 letter to James Madison, Thomas Jefferson famously protested the omission of a "restriction against monopolies" from the Bill of Rights. Madison, in reply, wrote that monopolies are "justly classed among the greatest nuisances in Government," but resisted an outright prohibition of them, arguing that monopolies should be allowed in limited cases in which they are beneficial. "Is it clear that as encouragements to literary works and ingenious discoveries, they are not too valuable to be wholly renounced?" he wrote Jefferson in 1788.

The correspondence between Jefferson and Madison encapsulates the long-standing public debate in the US on the issue of monopolies, between those who, like Jefferson, desire explicit restrictions on monopoly power, and others who, like Madison, resist prohibiting them outright. While antimonopoly has been an integral part of American society and political culture since its founding, informing the thinking of revolutionaries, policymakers, economists, and scholars alike, its long history has remained underexplored.

During the Stigler Center's conference on concentration, a panel of historians, economists, and political scientists discussed the history of antimonopoly and the development of antitrust law in America, examining the historical development of ideas related to market power and efficiency.

The panel featured Gerald Berk, a professor of political science at the University of Oregon, whose work deals with the history of regulation in the United States; Richard R. John, a professor of history and communications at the Columbia University School of Journalism, whose work focuses on institutional and business history and the political economy of communications in the United States; Sam Peltzman, the Ralph and Dorothy Keller Distinguished Service Professor Emeritus of Economics at the University of Chicago Booth School of Business, whose work focuses on issues related to the interface between the public sector and the private economy; and F.M. Scherer, the Aetna Professor Emeritus of Public Policy and Corporate Management in the John F. Kennedy School of Government at Harvard University, whose work focuses on industrial economics and the economics of technological change.

The panel was moderated by leading antitrust lawyer Gary Reback of the Silicon Valley firm Carr & Ferrell LLP, author of *Free the Market! Why Only Government Can Keep the Marketplace Competitive* (Portfolio Hardcover, 2009), who in the 1990s spearheaded the efforts that led to the US government's successful antitrust lawsuit against Microsoft.

A CHERISHED ECONOMIC IDEAL

John, who spent a considerable portion of his career studying the history of monopoly and antimonopoly in the US, began by quoting from Section 2 of the Sherman Antitrust Act of 1890:

> *Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony.*

While the Sherman Act has long since been considered the centerpiece of American antimonopoly, John argued that the historical bill has been misunderstood. For one, while the law is often associated with Ohio senator John Sherman, Sherman did not in fact author the law that bears his

"The country's most outspoken anti-monopolist was suddenly the largest shareholder in the country's dominant telegraph network provider."

— Richard R. John

name, but left it to fellow Republican Senator George F. Edmunds. The law's primary target "was not primarily trusts, but rather monopoly, which is a much older and more pervasive problem," said John, who added that the act lacked an enforcement mechanism: the only remedies it specifies are imprisonment or a financial penalty. "Nowhere did it hint that the Justice Department might one day find itself in the business of restructuring economic institutions, or for that matter, deciding which economic combinations were reasonable and which were not. That would come in 1911," said John.

Antimonopoly, said John, has been "a cherished economic ideal" in the US since its founding. In the early 1780s, John Adams envisioned "an antimonopoly global international order, in which the United States would compete with the great powers of Europe on equal terms." Jefferson worried about the dangers of monopoly power, and Madison "warned about conniving British bankers buying up newspaper advertisements to shape public opinion on international finance." Antimonopoly principles shaped a great deal of legislation during nineteenth-century America, such as the New York Banking Act of 1838, the New York Telegraph Act of 1848, and the National Telegraph Act of 1866, which regulated monopolies like Western Union. Sherman, who was largely responsible for the enactment of the Telegraph Act of 1866, championed the principles of antimonopoly throughout his career.

Contrary to the conviction of modern antitrust scholars like Robert Bork, who interpreted the intent behind the Sherman Act as maximizing consumer welfare, John argued that this was far from the case. "Sherman's personal papers, for example, make it plain that he found deeply troubling the employment of tank cars to transport oil, a cost reduction measure that disadvantaged small oil drillers and refiners who were unable to match the high-volume discounts that Standard Oil negotiated with the railroads."

Sherman's view of antimonopoly, argued John, had little to do with consumer welfare and was much more concerned with political freedom and economic power. "Sherman's position, built on the critique of out-of-state businesses that lay behind a raft of state-level antimonopoly laws that were enacted between 1888 and 1890, would find expression in the avowedly anti-consumerist declaration of Supreme Court Justice Rufus Peckham in 1897 that the antitrust law had been enacted to 'protect the interests of small dealers and worthy men.' Small dealers and worthy men. That's first. Consumer welfare is not what the Antitrust Act was about."

Another misconception concerning the Antitrust Act concerns its relationship to other legislation: "Historians have long observed that the act is best understood not by itself but as part of a grand legislative bargain that included a major tariff increase," said John. Most legal scholars, he argued, "treat the law in splendid isolation. In other words, you study the law by itself and not in [relation] to what went on around it. In so doing, they have obscured a major rationale for its enactment. Most of the Republicans who backed the law—both the House and the Senate had Republican majorities at the time—favored high tariffs, which critics derided, not implausibly, as not only anticompetitive but anti-consumerist."

Another misconception, explained John, has to do with what Harvard business historian Alfred Chandler called the managerial corporation. "It's sometimes assumed, following Chandler, that the limited liability corporation was the nation's dominant institution in 1890, as opposed, say, to the unlimited liability proprietorship. This claim is hard to sustain. The managerial corporation would not emerge as the dominant American economic institution until after 1900. Its legitimacy would remain in question until the First World War," said John.

The significance of this, said John, lies in the understanding that "antimonopolists did not necessarily want to atomize the corporation. They did not necessarily want to take it apart. Rather, they wanted to regulate it, or perhaps even make it bigger, but under tighter control as [San Francisco State University professor] Charles Postel demonstrated in his history of populism."

Viewed in this manner, the major antitrust rulings of 1911—the break-ups of Standard Oil and American Tobacco—should be seen as "not the logical extension of the 1890 act, but a transformation in its meaning. That is to say the rule of reason was not anticipated in 1890. Yet, it's the rule of reason under which twentieth century jurisprudence has proceeded."

"The political agenda of the [Sherman] Act was obvious, not only to contemporaries but also to historians. Only legal scholars and economists, it seems, remain intent on inventing a past to contain the future."

— Richard R. John

The National Telegraph Act of 1866, which preceded the Sherman Act by nearly 30 years, better illustrates "the dominant nineteenth century public policy response to economic concentration," argued John. "The political economy in which the telegraph emerged in the 1840s and 1850s presupposed the existence of rivals that would keep rates down and performance standards high." By the time the National Telegraph Act came along, that assumption was thwarted as Western Union emerged as the dominant network provider, leading Sherman—then a congressman—to sponsor the bill.

"We lose a lot of nineteenth century antimonopoly if we get the telegraph story wrong," claimed John. One of the little known aspects of the act led telegraph companies to agree to being bought out by the federal government. "The National Telegraph Act had a number of specific features that I don't want to go into for time, but here's the gist of it: If you were a telegraph company, you signed onto its provisions. If you signed onto its provisions, you got benefits. If you don't, you don't. Western Union briefly decided not to sign on; then it changed its mind. By signing on, Western Union agreed to permit Congress to buy it out at a mutually agreed upon price and to convey information of certain rights." By 1867, he said, every telegraph company agreed to be bought out by the federal government, and the clause had far-reaching consequences for the telegraph business. "Congress never enacted, never exercised the buy-out option. Even so, the fact that every company had agreed to it transformed the debate over the regulation of this platform, the most important electoral platform of the nineteenth century."

"The debate was not about capitalism, socialism, democracy. Very few thought that a government buy-out of the telegraph network was un-American or unconstitutional as they would have after the First World War," said John. Investors, meanwhile, "understood that if Congress bought them out, they'd make money."

During this time, he argued, railroad magnate Jay Gould "improbably emerges as the leading antimonopolist of the age. He discovers that you can manipulate the price of Western Union securities by controlling the newspapers." More than 100 years before George Stigler popularized the term regulatory capture, said John, capture was "well known to Jay Gould": "You buy up the newspapers, you float stories, and you establish rival telegraph companies."

"For a couple of years in the mid-1870s, a full-scale bidding war would erupt between Gould and Western Union president William Orton over patent rights to inventions that could be useful in this political economic struggle shaped by financial markets. The resulting entrepreneurial hothouse generated in short order two of the greatest inventors in American history—Thomas Edison, [and] Alexander Graham Bell, both of whom invented for the telegraph market exclusively at this time—and four of the most notable inventions of the century: the broadband telegraph, the telephone, the phonograph (which is a recording telephone), and [the] electric power station. Patent rights provided Edison, Bell, and their rivals with an incentive to obtain legal protections for new contrivances that they hoped rival telegraph network providers would oblige themselves to buy. In fact, they were extorting."

When Gould took over Western Union in 1881—"an astonishing coup"—it transformed the competitive landscape. "The country's most outspoken anti-monopolist was suddenly the largest shareholder in the country's dominant telegraph network provider. This was very unsettling to big-city merchants, bankers, and wholesalers, especially in New York City. They joined together to form the National Antimonopoly League, a business lobby whose leadership as we've known for some time would exert an outsized influence over the enactment of the Interstate Commerce Act, 1887."

The many state antitrust laws that predated the Sherman Antitrust Act of 1890, explained John, sprang from more varied origins. Yet, these laws also had been shaped by the antimonopoly orthodoxy in state houses and Congress. "The great Merger Movement of the 1890s, a development that owed much of its impetus paradoxically to the legal prohibition on horizontal combinations in the Antitrust Act, would transform the competitive environment. Henceforth, cartels were illegal in the United States but not in Europe"—a fact that had far-reaching consequences for the business strategy of many firms in the following years.

Only after 1900, said John, did it become obvious that "the specter of monopoly was no longer confined to a small number of economic sectors, primarily transportation and communication. The channels of trade, as it were, by 1900 had silted up, leading the Justice Department to create the formidable administrative apparatus that has characterized antitrust jurisprudence ever since."

This antitrust apparatus, which had become "an indispensable feature of the political economy of the twentieth century," was not anticipated by Sherman or any of the members of the Senate Judiciary Committee who drafted the final version of the Sherman Act. "Their world remained dominated by proprietary capitalists, highly suspicious, not only of railroad and telegraph companies, but also of the managerial corporation."

It would be anachronistic to assume that the Sherman Act lacked a political agenda, said John. "The political agenda of the act was obvious, not only to contemporaries but also to historians. Only legal scholars and economists, it seems, remain intent on inventing a past to contain the future. The past is not only less familiar than they assume but more open ended in furnishing precedents for the regulation of today's digital successors to Western Union. Those digital successors, of course, would have been the bête noire of John Sherman today as they were in 1866."

BRANDEIS AND THE POLITICAL ROLE OF ANTITRUST

Berk, the author of *Louis D. Brandeis and the Making of Regulated Competition, 1900-1930* (Cambridge University Press, 2009), explored the question of whether antitrust has a political role through the legacy of the late Supreme Court justice.

Is there a political role for antitrust? The question, said Berk, would be considered "ludicrous" in the early years of antitrust and throughout much of the twentieth century, although it was also deeply contested at times throughout the same century. Brandeis, he said, "begins with a political motivation, with a deep commitment, not only to liberty but a deep commitment to a kind of civic republican tradition."

Brandeis, one of the most prominent and influential figures in the history of antitrust and antimonopoly, was also an advocate of scientific management, seeing no antithesis between efficiency and antitrust. "He brought in the scientific managers, in fact, to show that the railroads were, indeed, falling short on questions of efficiency, and [that] they don't deserve advanced rates."

Brandeis, said Berk, was deeply committed to the civic republican tradition and to the notion that concentrated economic power undermines liberty by making power unassailable, but he also loved scientific management and was also "deeply concerned with questions of economic efficiency."

"It's not merely that he brings in the scientific managers into the advanced rate case hearings, but, in fact, he connects himself deeply with engineers," said Berk. "He calls upon engineers who look at monopolization concentration from an engineering perspective and see it as a blockage to innovation."

During the 1912 presidential election, which largely revolved around antitrust, Brandeis jumps into the political debate, then split between enforced competition and regulated monopoly, between populist Democrats like William Jennings Bryan and the Republican Party in which progressives wanted to embrace "modern forms of efficiency," i.e., concentration. Brandeis, explained Berk, "jumps into that debate concerned both about civic republican traditions, about concentrations of economic power, but also concerned about innovation." Brandeis developed a third alternative: regulated competition. "Brandeis says to both sides of this debate, 'Look, competition is neither God nor devil.' He says, 'Competition, in fact, is completely ambiguous.' Competition for him doesn't necessarily lead to the best outcome. Competition for Brandeis can just as easily turn predatory as it can turn towards improvements in products and production processes. For Brandeis, the policy question is how do you distinguish predatory versus productive competition? How do you go about making those distinctions? He doesn't think that's easy. He doesn't think that, in fact, you can do it by features. He doesn't think that structure is going to tell you that story. He thinks that, in fact, understanding historical process, understanding context, understanding the particular distribution of power in industry, and understanding how arrangements [work] in the industry—understanding the relationship between power, process, and performance—is what's critical to look at."

Upon his elevation to the Supreme Court in 1916, Brandeis finds a court that "mistrusts trade associations as cartels, sees price fixing, mistrusts all kinds of activities from trade associations." He spends much of the 1920s refining his idea of regulated competition, trying to teach his fellow justices how to distinguish "between not just productive and unproductive forms of competition, but also between productive and unproductive, predatory versus productive forms of restraints on trade." Where the court was mistrustful of things like information sharing by trade associations, Brandeis offered a nuanced idea.

Much of this has been mischaracterized by scholars who criticized Brandeis for being out of step with modernity, namely Robert Bork. "Bork's interpretation of the history of antitrust, it's not just wrong. It's completely ideological," said Berk, who characterized Brandeis as "a Jeffersonian in the world of modern corporate enterprise."

While some commentators believe that antitrust shifted in the 1950s away from the Brandeisian "small is beautiful" view, Berk offered another interpretation of that decade: "The way to understand antitrust in the '50s in that sense is that antitrust in the '50s, in a way, gives small business, gives fringe firms, gives contractors to large firms, sets out the relationships between large corporations and smaller corporations in ways in which management can no longer think of what they're doing without taking smaller firms into account. While Brandeis's exact set of ideas about how to balance the political and the economic in fact changed in some ways by the '50s, Brandeis would find the '50s in that sense very familiar because ultimately Brandeis thought not just normatively."

Brandeis, he added, "could not imagine" a world in which antitrust's political and economic ends were separated. "What Brandeis thought was, 'Economy and politics are inevitably entangled.' Either you deal with that by designing a law, or you play these crazy games in which you imagine somehow that we're going to get rid of capture by saying, 'We're going to get rid of politics and we'll have this utopian idea of the market.' Brandeis said, 'Harness politics to positive ends. Don't, in fact, imagine that indeed you could get rid of it.'"

THE HAWKISH AND DOVISH CHICAGO SCHOOLS

Peltzman, one of the leading lights of the Chicago school, discussed how it evolved, dividing its history into two chapters: the "hawkish" Chicago school, led by economist Henry Simons during the Great Depression and the Second World War, and the "dovish" Chicago school, led by the economist Aaron Director in the 1950s.

"Is there a political role for antitrust? That's a question that would be ludicrous in the early years of antitrust. It would be a ludicrous question, in some ways, through much of the 20th century, although deeply contested for much of the 20th century."

— Gerald Berk

The Hawkish Chicago school, whose principles were best elucidated in Simons's "A Positive Program for Laissez Faire," emphasized the importance of vigorous antitrust enforcement, viewing the alternative to competition as either socialism or some form of corporatism. "We're talking about textbook structuralist views of competition: large numbers, no dominant firms, or highly concentrated markets. Simons is no admirer of contestable markets and all of that foofaraw," said Peltzman.

The hawkish view remained dominant within the Chicago school throughout the 1950s and into the 1960s and culminated in the Neal Report of 1968, which recommended "a clear mandate to use established techniques of divestiture to reduce concentration in industries where monopoly power is shared by a few very large firms." George Stigler himself shared this view in 1956, when he wrote that "those of us who wish to see greater use made of what is often the only remedy, the only real remedy, are not reckless innovators. We are simply traditionalists who wish to regain the 1911 level of use of the remedy of dissolution." By the time the Neal Report was published, Stigler chaired a dissenting committee, "supposedly at the behest of the incoming Republican administration," which took a much more dovish position.

The dovish Chicago School, led by Aaron Director since the 1950s, took a different approach to market structure, preferring a "rule of reason" approach to an outright rejection of concentration. It eventually brought Stigler into its ranks. This view is best represented by Bork's *The Antitrust Paradox*, which was adopted into the merger guidelines, ultimately revolutionized antitrust, and has become one of the most influential policy texts of the past 40 years. "The view is that unless concentration is sufficiently high, competition is going to be a dominant strategy. You've got to worry about the implicitly few cases where concentration is high enough to imply that cooperation is the dominant strategy," said Peltzman, who advocated the dovish view: "Should we worry about the increased concentration as the Simons of the 1940s or the Stigler of the 1950s did? Again, to echo Director, it could be monopoly or it could also be efficiency."

BENIGN NEGLECT

Scherer, who was the chief economist at the Federal Trade Commission from 1974 to 1976, surveyed the history of antitrust policy regarding patents in the United States. "Initially, US patent policy was very mercantilist, following principles outlined by Alexander Hamilton in his Report on the Subject of Manufactures. We didn't allow foreigners to get US patents until 1836—so 45 years essentially without patents for foreigners. Then the fee structure was such that if US residents paid $30, Brits [would pay] $500, citizens of other countries $300. Very, very mercantilist. Then in 1890, of course, the Sherman Act was passed." The Sherman Act, said Scherer, led to three main periods of enforcement regarding patents: "benign neglect, tough enforcement, and then benign neglect again."

The "benign neglect" essentially prevailed into the 1930s, said Scherer, before ushering in a "period of very aggressive enforcement of the US antitrust laws against patent holdings, both abuse of patent holdings and simply the large scale of patent holdings. In the 1940s and 1950s, there were approximately a hundred companies subjected to compulsory patent licensing involving, my guess is, about 45,000 patents. *Hartford-Empire Co. v. United States* was a key case. Then came two big cases in 1956: AT&T, roughly 9,000 patents, and IBM, about a thousand patents."

"At that time, I was a student at Harvard Business School. A group of us had to write a subject report. We were horrified by the AT&T and IBM decisions. We thought this was going to put in real jeopardy US technological leadership. We fanned out, nine of us, throughout the country. We made 22 interviews. We conducted a mail survey, got 69 questionnaires in return, many of them from the victims of these compulsory licensing decrees. We were absolutely astonished because most, not all, but something like 90 percent of our respondents said, 'Oh, these compulsory licensing decrees have no adverse effect on our research-and-development efforts.' We found in our study that these compulsory licensing decrees had not had a negative effect on R&D expenditure. Indeed, in a statistical analysis, we showed that the guys who were subjected to compulsory licensing, all else equal, had actually raised their R&D efforts relative to their peers."

"Now that might have been a bunch of crazy Harvard Business School students, but then you had confirming evidence from some very prestigious people. Aubrey Silberston and C.T. Taylor, 1973, *Economic Impact of the Patent System*, found a system of widespread compulsory licensing of patents would reduce R&D expenditures by maybe 10 percent. In 1986, Ed Mansfield, probably the leading scholar on the economics of technological innovation, found mixed effects: adverse effects in pharmaceuticals but in every other industry hardly any effect at all. Rick Levin, recently President of Yale University, did a very extensive study that showed that patents were relatively unimportant in R&D decisions. Wesley Cohen, then at Carnegie Mellon, found the same thing. By and large, the evidence was that patents are not all that key in R&D decisions and that the intensive compulsory licensing efforts of the '40s and '50s had really not had a negative impact."

In the late 1960s and early 1970s, said Scherer, the US went into a third phase of antitrust enforcement towards patents, following a halt in productivity growth and then a slow pace, a decline in patenting, and a slowing of the growth of industrial R&D. "In 1967, corporate real price-adjusted basic research went into a decline and never got back again until the late 1980s. People were very worried about the productivity slump. A whole lot of other things happened that led to essentially the third phase of US antitrust policy towards patents. President Carter sent a message to Congress worrying about the threat to industrial innovation. A number of acts were passed. As a result, new antitrust guidelines, which are very favorable to the exercise of the monopoly power conferred by patents, have been issued and pretty much followed ever since then. What outrages me is that all of these more-recent liberal policies toward patent abuses just totally fly in the face of and indeed ignore the substantial evidence accumulated by economists about the effects of patents."

IS THERE A CONNECTION BETWEEN MARKET CONCENTRATION AND THE RISE IN INEQUALITY?

CONCENTRATION, MARKET POWER, AND INEQUALITY

- **Simcha Barkai,** *PhD Candidate, University of Chicago Booth School of Business*[1]
- **German Gutierrez,** *PhD Candidate, NYU Stern School of Business*
- **Lina Khan,** *Fellow, Open Markets Program, New America*[2]
- **Peter Orszag,** *Vice Chairman and Managing Director, Lazard Freres & Co LLC*
- **Justin Pierce,** *Senior Economist, Board of Governors of the Federal Reserve*
- **Sabeel Rahman,** *Assistant Professor of Law, Brooklyn Law School*

Moderated by: Matt Stoller *New America*

[1]Simcha Barkai is now an Assistant Professor of Finance at London Business School
[2]Lina Khan has since left New America and is now the Director of Legal Policy at the Open Markets Institute
[3]Matt Stoller has since left New America and is now a Fellow at the Open Markets Institute

The rise in wealth and income inequality has been at the forefront of the political debate in the US in the last few years. At the same time, issues like market power and concentration, bigness, and antitrust have also come back into prominence, propelled by a growing body of research that points to diminishing competition across multiple American industries.

The possible connection between inequality and market concentration, however, has been relatively understudied for many years—until fairly recently, that is, when an abundance of new studies examining the interactions between concentration, market power, and inequality began to appear.

A 2015 paper by Jonathan Baker and Steven Salop, for instance, examined the connection between inequality and market power and argued that "because the creation and exercise of market power tend to raise the return to capital, market power contributes to the development and perpetuation of inequality." Harvard Law School's Einer Elhauge also found that horizontal shareholding likely leads to anticompetitive price raises and has regressive effects. Daniel Crane of the University of Michigan, however, contends that the connection between antitrust and wealth inequality has been grossly oversimplified by advocates of tougher antitrust enforcement.

Is rising inequality connected to monopolies, rent-seeking, and concentration, or is it a result of larger forces like globalization and technology? Is the redistribution of power within markets generating inequality, and can antitrust therefore be used effectively to mitigate it? Or is concentration a sign of greater efficiency? A panel of economists and legal scholars at the Stigler Center conference tried to answer these and other questions related to concentration, market power, and inequality.

The panel featured Peter Orszag, Vice Chairman and Managing Director of the financial advisory and asset management firm Lazard Freres; Justin Pierce, a senior economist at the Board of Governors of the Federal Reserve; Lina Khan, then a fellow in the Open Markets program at New America and currently Director of Legal Policy, Open Markets Institute; Sabeel Rahman, an assistant professor of law at Brooklyn Law School; Simcha Barkai, a PhD candidate at the University of Chicago Booth School of Business; and German Gutierrez, a PhD candidate at the New York University Stern School of Business. The panel was moderated by Matt Stoller, then a fellow in the Open Markets program at New America and currently a fellow at the Open Markets Institute, who opened by observing that "a new kind of Brandeis School of antitrust is emerging, in terms of thinking about political economy."

"Oftentimes, our antitrust laws don't always seem to correspond to or speak to the realities of how these markets and how market power within these sectors actually operate."

— Lina Khan

Asked if there was a connection between concentration and inequality, Chicago Booth professors Austan Goolsbee, Steven Kaplan, and Sam Peltzman pointed to data being inconclusive. Goolsbee said: "Probably [there is a connection]. But we don't really know more than correlations at this point." Kaplan said his own research "suggests that winner-take-all markets (driven by technology and scale) play a role in inequality. However, they may not play the most important role." And Peltzman said that "The timing suggests so, but there are a lot of unconnected dots in this question."

"The distinction that has existed for a really long time in politics between business questions, banking, corporations, and politics has collapsed, and you saw monopoly rear its head on both sides of the political aisle in 2016. It showed up in the hearings recently over [Neil] Gorsuch. Increasing attention to monopoly in the political sphere is also linked to increasing attention to inequality as a political question," said Stoller.

THE CONNECTION BETWEEN EXCESSIVE MARKET CONCENTRATION AND INEQUALITY HAS BEEN UNDERSTUDIED

Khan, who in a paper with Sandeep Vaheesan explored the role of monopoly and oligopoly power in perpetuating inequality, argued that the way to understand the connection between market concentration and inequality is to take a more holistic approach.

"I'm being trained as a lawyer, but I really got into this work as a journalist, both documenting the fact that there had been significant consolidation and also identifying what the effects of consolidation were in particular sectors. I did a lot of work on agriculture markets and seeds and poultry, interviewing farmers to understand what are the effects of, say, Monsanto buying out certain lines of seeds and traits. I also did reporting on airlines, on book publishing, on commodities more generally, on entrepreneurship trends, and have recently started focusing on tech platforms, particularly Amazon and the political dynamics within the Amazon ecosystem.

"While doing this work, I think one recurring fact that I observed is that oftentimes our antitrust laws don't always seem to correspond to or speak to the realities of how these markets and how market power within these sectors actually operate. One thing that's really interesting about the present moment is that we're living in a world that really reflects 30 years of doing antitrust in a very particular way. No doubt there have been a host of other changes and trends, but I think at a very basic level, our current political economy reflects a particular way of doing antitrust. I think understanding consolidation through that prism seems pretty important."

The connection between excessive market concentration and inequality, Khan said, has been understudied for a long time. Khan and her co-author Vaheesan, she recalled, "were really surprised to see that at the time, in 2014, there really wasn't much research on this connection at all. The most comprehensive paper that we found was from 1975 by William Comanor and Robert Smiley, which found that monopoly power did in fact transfer wealth to the most affluent members of society and suggested that a more competitive economy would have more progressive redistributive effects."

"One way to understand why this connection between market concentration and inequality has been understudied is that the law decided that it wasn't really important. Once we shifted from an antitrust approach that took a more holistic and multidimensional view of the effect of market power to an approach that privilege means prices, the research on these effects also took a hit. Once we stopped believing that the connection is important, we also seemed to have forgotten that there is a connection at all."

In their paper, Khan and Vaheesan argue that inequality not only harms efficiency, but also that firms use their market power to raise prices "above competitive levels to consumers and push prices below competitive levels for small producers." The paper makes a case for more rigorous enforcement of antitrust laws, arguing that reinvigorating antitrust could be one possible remedy for the regressive redistributive effects of concentration and the political power of monopolies.

"We're living in a world that really reflects 30 years of doing antitrust in a very particular way."

— Lina Khan

"We just started doing some basic research and looking at various industries and how consolidation had played out." Khan went on to cite a number of recently-published studies that showed a decline in competition was leading to price hikes and degradation in service. "We all know the big industries where this has been happening. In the airline industry, we've seen how a flood of mergers has been followed by increases in prices, even as airlines then continue to degrade service, even as oil prices have plummeted. We've seen similar trends in the health care industry, where huge merger waves among hospitals have led to higher health care prices. One study found that we typically see increases in prices from 10 to 40 percent following a hospital merger. Another study found that the price of an average patient stay at a monopoly hospital is almost $2,000 more than when there are four or more competitors. There's significant evidence of similar things happening in the pharmaceutical industry where we've seen product hopping and pay-for-delay settlements, increased prices. There are similar trends in the telecom industry, where after mergers, AT&T and Verizon have introduced data caps and tiered pricing, which is pretty much an exercise of raw market power. You have Americans paying billions of dollars more for service while these companies are returning billions of dollars to their shareholders. The same is true in cable. The cable giants have degraded service and raised prices even as the price of operating cable networks has dropped. There's some evidence that these companies are no longer really competing. After merging with Charter, we saw Time Warner promptly stop upgrading broadband speeds.

"Across these sectors, we've seen rising concentration followed by price hikes, even by just focusing on consumers—but I think that's a pretty one-dimensional way of looking at this. We also tried to understand what are the potential effects of monopsony on workers, on producers, and on suppliers. We heard earlier about the way in which consolidation was leading to labor cartels. There was a case in Chicago where hospitals had agreed not to hire each other's nurses, which ended up having the effect of depressing their wages. We also looked at the effects on entrepreneurship rates. New business creation and growth have been on a secular decline. I think something like the number of new businesses created per capita has declined by about 50 percent since the 1970s. It seems worth recalling that in an earlier era, owning one's own business was a form of asset building for the middle class, a way of passing on wealth to one's children. This is especially still true in immigrant communities, where owning your own bodega or your own dry-cleaning service is a path of upward mobility. You can imagine how markets that shut out independent businesses are also effectively closing off that path of asset building."

Khan went on to discuss the political implications of excessive market power and how they can further entrench inequality. "Big firms and concentrated industries enjoy a level of political power that they can use to further entrench their economic dominance. Politics is another vessel by which we see this," she said.

There is a difference, however, between acknowledging that excessive concentration in market power could have regressive effects and arguing that antitrust should therefore be used as a redistributive tool, said Khan.

"I think because we used to understand market concentration and market power in an integrated way, antitrust used to be about political economy, about distribution of opportunity and power, and so it almost was more intuitive that extreme concentration of capital would have regressive effects. I think this also goes to a debate that we heard [about] on the first panel: What is the proper purview of competition? We heard someone say that the political power of companies, for example, is not a competition issue and is not in the antitrust statutes. I think this also underscores exactly what has shifted, because I think how we understand the purview of competition is effectively a line-drawing exercise. There is no a priori, neatly defined and contained sphere of competition. High concentration and low competition have a range of effects, and we get to decide which of those effects are worth considering, and which are not. This isn't to say that political power of companies or the distributive effects of monopoly should necessarily be a factor in analysis, but it is to say that choosing what counts in analysis is a political decision, and there are no naturally-defined parameters of what constitutes competition analysis."

On the question of new technologies, antitrust and inequality, Khan said: "This isn't the first time that we've confronted new technologies. Throughout history, we've been able to respond to these changes with legal responses. One of my favorite examples is set in Chicago, where in the nineteenth century, Chicago really emerged as a trading hub. One of the unsung technological heroes of that era was the steam-powered grain elevator, which basically replaced labor with engines to be able to transport grain from ships to grain elevators. One of the effects of this was that elevators were able to store far more grain, and so you saw grain supply become consolidated in a way that also consolidated information about how much grain was in the system. Information that previously had been public, about how much grain there was, was now essentially privatized. This caused huge disruptions in the economy, because it basically meant that the grain elevators that had this information were able to place huge speculative bets in a way that caused or had a redistributive effect, and as a result, Chicago ended up passing a law that said, 'This information has to be public.' They required the grain elevators to publish publicly what the statistics were, and also allowed public officials to go in and verify how much grain there was. This is an instance where we saw how you had a technology really transform the balance of power in an industry, but then had public officials respond and rectify those imbalances."

"Firms and concentrated industries enjoy a level of political power that they can use to further entrench their economic dominance. Politics is another vessel by which we see this"

— Lina Khan

DRAMATIC RISE IN DISPERSION AMONG FIRMS

Orszag, the former head of the Office of Management and Budget and former director of the Congressional Budget Office, co-authored a 2015 paper with former chair of President Obama's Council of Economic Advisers Jason Furman that explored the rise in "supernormal returns on capital" among firms that have limited competition. In the panel, he spoke about what he described as a "dramatic rise" in dispersion among firms in productivity and in wages as an understudied driver of inequality. This dispersion, he said, seems to be having "first order macro-economic effects."

"In general, if you look at most textbooks on economics and most discussions of public policy, firms are seen as this uninteresting thing that you have to deal with but don't want to really get into the innards of. Why do some firms behave differently than others? I will tell you, having now spent a bunch of time in the private sector, the culture in firms really is quite different. Firms do behave differently from one to another beyond just market structure. Within the same market in the same field, Firm A is not the same as Firm B, as people who work inside those firms know."

Orszag pointed to what he termed a "quite dramatic" rise in dispersion among firms. He pointed to OECD data that showed a deceleration in productivity. Top global firms, he noted, have been largely exempted from the decline in productivity that advanced economies experienced over the last 10-15 years.

"If there's a structural explanation for that, whether it's polarization or market structure or innovation, why is it affecting only the laggards in the industry and not those at the frontier? Secondly, why aren't there more spillovers from the frontier firms within each sector to others? What is happening to the flow of information or the flow of technique or what have you that's causing this broad, significant rise in productivity deltas across firms, even within the same sector?" he asked. "Secondly, there's been a huge increase in the variation, not the mean, but the variance of returns on capital."

Contrary to common narratives that present growing gaps between CEO wages and median workers within each firm as a prominent driver of inequality, Orszag argued that the bulk of the rise in wage gaps is happening between firms, and not within the firms themselves. Orszag cited studies such as Barth et al. (2016) which showed that inequality is "at the establishment level instead of the firm level, something like two-thirds or so of the rise in wage inequality is from the between, not within, establishment component."

A 2016 paper by Song et al. took a more comprehensive look at firm-related inequality, using Social Security Administration records linked to tax data at the corporate level. This paper, said Orszag, shows a "dramatic increase in between-firm wage inequality and very little movement except at the very, very largest firms in within-firm inequality, again directly contrary to most of the at least published media on this topic."

Orszag added: "We don't know exactly what's causing this. This may be a sorting of workers. It may be sharing of rents in the form of wages for the top firms. It may be a whole variety of different things. What I do suggest is the vast majority of the discussion on income and wage inequality seems to just glide over this whole thing as if it doesn't exist and again reflects that Econ 101 perspective that we're all our own island and all we have to worry about is tax, education, and what have you. It does appear, whether it's from sorting or other effects, that what firm you're at matters a lot."

Lastly, Orszag cited a newly-published paper by Abowd et al. that showed that low-skilled workers are disproportionately located at low-paying firms and high-skilled workers are disproportionately located at high-paying firms. "That's not surprising. There is a significant amount of sorting. The probability that you can move to the top-income bin as a middle-skilled worker is much higher at a top firm than at a medium or a low firm."

"The advice that Sheryl Sandberg received [from Eric Schmidt], that 'if you're offered a seat on a rocket ship—get on,' seems to be consistent with the data," he concluded. "Bottom line, most of economics and most of public policy has not tackled this rising dispersion at the firm level. I think at the heart of a lot of what we're discussing is: What exactly is causing this?"

IS RISING INEQUALITY DRIVEN BY THE RISE IN CORPORATE PROFITS?

Much of the panel focused on the dramatic rise in corporate profits. A recent, much-discussed Stigler Center working paper by Simcha Barkai found that over the past 30 years, as labor's share of output fell by 10 percent, the capital share declined even further. This finding goes against the argument that the labor share went down due to technological changes, or as Barkai put it: "We used to spend money on people, today we're spending money on robots." Barkai's findings were later bolstered by a separate study by Jan De Loecker and Jan Eeckhout that showed that the decline of both the labor and capital shares, as well as the decline in low-skilled wages and other economic trends, have been aided by a significant increase in markups and market power.

Barkai began by distinguishing between two forms of inequality: "The first is what Peter [Orszag] just alluded to—it's different workers have different income and why might that be the case. The second type of inequality, which I'm going to focus on, looks at all workers as a whole. We can think of labor income as earned income and ask, 'What fraction of all income in the economy comes from working, from providing your labor to the work force?'

"There's a typical story. First, you need to know that over time the labor share of income has been going down. It's been going down here in the United States, and it's been going down in most advanced countries in the world. It's also widespread. About 70 percent of industries that you can use census data for show that the labor share of income is going down. The question is why? What's happened over time? The typical explanation you'll hear can be summarized very simply by looking at General Motors. Once upon a time, there was a welder welding car parts together. That was a high-paying job. Today if you go to a General Motors manufacturing plant, there will be no welders. That task is performed exclusively by robots."

Barkai's paper, however, finds no evidence to support the technological argument. "I asked on an annual basis, 'How much are firms spending on the purchase, financing, and maintenance of all capital? This includes robots, structures, equipment, everything. I find a striking result: It is not only the case that what we're spending on workers as a share of output is going down. It is also the case that [what] we're spending on all capital as a share of output is going down. We're spending less on all inputs. If you think of this from the perspective of a firm, this is terrific. After accounting for all of my costs—material inputs, workers, capital—I am left with a large amount of money, much more so than in the past." What Barkai does find, however, is that profits have gone up significantly. From 1984 to 2014, the profit share increased from 2.5 percent of GDP to 15 percent.

"To give you a sense of how large these profits are, if you look over the past 30 years and you ask, 'How much have profits increased?,' you can give a number in dollars. A better way to think about that is, 'Per worker, how much have these dollars increased?' It's about $14,000 per worker. That's a really large number because, in 2014, personal median income was just over $28,000. It's about half of personal median income," said Barkai. "Many people have tried to explain the decline in labor. They've looked at technology, at globalization, competition with workforce in China and India where they can supply their labor for cheaper. It's easy to explain why the labor share has declined. Our models have very many explanations."

Barkai's own model, however, offers another explanation for why both labor and capitals of share of output were able to decline: a decline in competition. "There are industries that have been increasing in concentration and those which have been decreasing in concentration," said Barkai, whose paper looks at six-digit industries and compares industries that have seen an increase in concentration to other industries that saw a decline in concentration. "Those industries that have a large increase in concentration also have larger declines in the labor share."

"Those industries that have a large increase in concentration also have larger declines in the labor share."

— Simcha Barkai

Barkai's conclusions were echoed by a separate study that was recently published by David Autor, David Dorn, Lawrence Katz, Christina Patterson, and John Van Reenen, in which they found that higher concentration is connected to the fall in the labor share. What might be driving this? Barkai offered two possible explanations: One is that "antitrust dropped the ball." This hypothesis, he said, reflects a world in which there is a simple solution to the problem: breaking up the big firms. "I would describe this as a world in which firms have the ability to compete with one another but choose not to. If we can only get them to compete, if we can get more people in, we can break them up, consumer welfare would go up. We'd produce more and wages would go up over time as well."

A second hypothesis that is equally plausible, argued Barkai, is that one firm is simply better than its competitors. "Perhaps it is the case that an iPhone, which only costs about $250 to make, can sell at $750 because there's no pressure on Apple to reduce the prices. LG cannot produce such a product at $750 or lower, so Apple has no incentive to reduce their prices to consumers. What happens in this world if you break up Apple? We don't get superior products. We don't get a decline in price. There's no one that's going to come in and produce this superior product at a lower cost. So long as there's no one else with the ability to compete out there, breaking up firms is not necessarily a productive means of increasing output, reducing prices, or increasing wages."

More research is needed, Barkai concluded, before we are able to determine which of the two possibilities is true.

MANUFACTURING MERGERS LED TO MARKUPS, NOT GREATER EFFICIENCY

Pierce, whose research focuses primarily on plants and firms in the manufacturing sector, argued that one way to consider the question of concentration and inequality is to look at what happens to firms' efficiency and markups as a result of a merger.

In a recent paper with Bruce Blonigen, Pierce was able to utilize new techniques and plant-level data from the US Census Bureau data for every manufacturing plant in the US in order to isolate the effects of mergers in the manufacturing sector, showing what happens to firms' efficiency and their markups over marginal cost as the result of a merger. For example, if you see that a firm is acquired, does it increase its productivity as a result of that merger? Does it increase markups? Does it do both? Comparing data from factories that were acquired during mergers to similar factories that weren't, and to factories where an acquisition has been announced but not yet completed, Pierce and Blonigen found no evidence to support the standard argument that mergers benefit consumers by increasing efficiency, reducing production costs, and, in turn, lowering prices. Quite the opposite: they found evidence that mergers increase market power, allowing firms to generate higher profits by raising prices.

"What we do is compare these plants that are parts of firms that were merger targets. Then we compare them to plants in several different control groups that are designed to be similar to these merger targets in a variety of different dimensions but weren't merger targets themselves, to try to account for some of that potential selection bias that's going on. What we find when we do this is that mergers on average are associated with increases in markups in a magnitude of 15 to 50 percent," said Pierce. "When we look at the effect on productivity, we actually don't find a statistically significant effect on productivity associated with mergers."

Pierce and Blonigen reviewed a number of potential channels for productivity growth mentioned in previous literature, such as shutting down the least productive plants in the combined firm, or getting rid of duplicated non-manufacturing activities in the firm, but found no evidence to support either.

COMPETITION LEADS TO INVESTMENTS

Gutierrez, whose research interests lie at the intersection of macroeconomics and corporate finance, spoke about his 2016 paper with Thomas Philippon, in which the two found that concentrated industries with less entry and more concentration invest less.

Before 2000, he explained, firms funneled about 20 cents of every dollar of surplus into investments. Since 2000, however, investments dropped by half—to 10 cents on the dollar. Gutierrez and Philippon set about to explore the causes of this, and whether this is related to concentration. Their findings, he said, rule out the argument that the drop in investments is related to control by the stock market. The data also rule out other theories, such as financial constraints, safety premiums, or globalization.

When controlling for the stock market, Gutierrez argued, it is evident that the fixed effects were positive and relatively high up until 2000, but since 2000 they've grown substantially negative. "This tells us a couple of things. First is there's a wedge between what the stock market is telling firms to invest and what they're actually investing. This allows us to discard a lot of theories. Theories that suggest you should decrease investment because of low expected growth, because of low profits, or because of high uncertainty and risk, they're discarded by this. The stock market is telling them to invest."

Next, Gutierrez and Philippon focused on theories that "drive a wedge between investment and Tobin's Q" and found that "the investment gap is not explained by credit constraints, safety premium, globalization. Intangibles are a driver, but they're not the main story. What we're left with is competition or lack of competition and governance."

When attempting to discern whether this effect is causal and what's driving it, Gutierrez and Philippon looked at import competition from China. What they find is that indeed, top firms in industries that were more affected by China increased their investment, their capital, and their R&D. "Certainly you have an effect on laggards that are unable to compete on exit. On aggregate, the effect is somewhat negative, but you can see here how an increase in competition is driving investment by leaders. It's kick-starting leaders. This is helpful, but it has a limited scope in manufacturing."

Next, the two looked across all industries, particularly at ones that experienced excess entry during the 1990s. "What we're able to do is we can predict the amount of entry that is expected given profits, given the level of Q, sales, and so on during the 1990s. What you find is that there's a wide dispersion in entry across different industries over this period. We don't know why, but we can certainly tell stories. There's venture capital that affects particular industries more than others. There's particular industry characteristics that may allow entry to be faster when there's a boom, that differ across industries."

"What we find is that most industries have become more concentrated. That leads to a decrease in investment," concluded Gutierrez. "It means less investment by leaders in particular, and at the industry as a whole. Some manufacturing industries have seen increased competition from China. For the US in particular, we see that leaders invest more. They try and hold onto their position, but the overall effect is somewhat negative on aggregate investment in the US"

How is this drop in investments connected to an increase in concentration? Gutierrez offered two hypotheses: one, that superstar firms, such as digital platforms, are more productive and are therefore capturing more market share. The second, he said, is increased regulation: "In particular, if you look at the cross section of industries, industries where regulation has increased have also tended to become more concentrated and have invested less."

CONCENTRATION WARPS THE STRUCTURE OF OPPORTUNITY

Rahman, the author of the book Democracy Against Domination (Oxford University Press, 2016), also advocated for a wider view of economic concentration. "When we're worried about the problem of concentration, I think it goes much broader than the specific areas of mergers and firm size, although that's a big part of it," said Rahman, whose research deals with questions of democratic and participatory governance, public law, and economic policy.

Concentration, argued Rahman, "warps the structure of opportunity" in the US economy. "When we think about the good things that we want from the economy, we want it to be dynamic, we want it to be innovative, we want it to enable mobility. These things are not natural products. They are a property of the underlying structure of firms, of labor markets, of financial markets, and of policies, including antitrust. What I think we're seeing, and it's already come up in a bunch of the different comments today, is increasingly a bifurcation of the economy into a high opportunity, high mobility, high wage stratum and a low opportunity, low mobility, low wage stratum."

Part of the story, said Rahman, is "that there is something off about the underlying legal structure that is enabling that bifurcation." This underlying legal structure, said Rahman, can construct and enable new forms of concentrated economic influence and power, which skews the channels of commerce, the flows of investments, wages, and the economy.

As an example, he cited the changing nature of the firm. "If we think about the classic idea of the mid-century or late twentieth century managerial firm where you enter into the firm, you have then upward mobility within the firm as a worker. The firm itself then can be expected to invest, for a lot of reasons, in the larger economy. That model of the firm is increasingly an anachronism."

Rahman went on to discuss two aspects of the rise in concentration. The first was the rise of digital platforms and the "Uber-ization" of more and more economic sectors. "What you actually have now is a shift to firms and sectors that are platformized, Uber-ized in a sense. You have diffusion upstream, in terms of the owners of the firm with the changing nature of finance, and decentralization downstream with things like franchising, outsourcing, and digital platforms. That's having impacts on inequality, on wages, on opportunity, on mobility. The underlying legal structure that's at play there has to do with everything from antitrust tackling concentrations in the new platform models but also corporate law, corporate governance, labor law, labor organizing in that landscape." Another aspect of the rise in concentration is what Rahman described as a "growing geographic concentration of wealth, income, and opportunity between rural and urban."

"One of the many hats I wear is working on housing policy in New York City. You can't do that work without seeing the link between law, concentration, and inequality through the lens of urban planning, which in many ways is analogous to some of the market concentration concerns that we have in classical antitrust," said Rahman.

This broader view of concentration and inequality, said Rahman, points to broader solutions than just antitrust, such as public utility regulation for digital platforms. "Even for the Brandeisians of a century ago, antitrust was one of several key tools that were seen as complements to producing an equitable opportunity structure. You had antitrust to deal with firms that you wanted to break up and that you could break up, but there would be firms that you either couldn't or shouldn't break up because that would destroy what that firm brings in terms of social value. For those firms, folks like Brandeis and Walton Hamilton sought to complement antitrust with public utility regulation. To the extent that we're worried about new platform companies, whether it's Uber or Amazon or Apple, we have to think about not just our antitrust tools but also public utility regulation tools of the kind that we've seen applied in areas like net neutrality and common carriage debate."

Other tools include corporate governance and labor law. "Antitrust, public utility law, corporate governance, and labor law are three parts of the larger ecosystem of law and regulation that, coming out of that Progressive Era debate about power, were the three complements that together, it was hoped, would produce a high-opportunity, a high-mobility economy that was open to all. As we think about where we are today with inequality and concentration, what I want to suggest is we broaden antitrust to cover these other tools as well."

SHOULD DIGITAL PLATFORMS BE REGULATED AS PUBLIC UTILITIES?

A significant portion of the Q&A section of the panel revolved around whether digital platforms such as Google, Facebook, and Amazon should be regulated as public utilities. "When we're thinking about something like Facebook or Google or Amazon, these new tech firms, I'm not sure which way I want to go. Is it Amazon as a retailer that is the utility that we're talking about, the infrastructure that we want to have some kind of common carriage equivalent, or is it the data that Amazon collects? It could be both, but it could be one or the other, and there are different implications which way you go in terms of what types of innovation or market activity you unlock by making one of these a common carriage type idea versus the other," said Rahman.

"With Amazon specifically, there are at least three different aspects of the business that are developing into an infrastructure-like service. One is its retail platform, but the other is its cloud services. The third is its actual physical logistics and delivery capabilities. Across all three of these, you're seeing that a host of other businesses have now come to depend on the company in the way that really does start looking infrastructure-like. It's able to glean so much information that it's able to cross-utilize the information in a way that could be defined as potentially abusive, or at least something that we should think about more carefully," said Khan.

From the audience, University of Oregon's Gerald Berk noted that in order to think about platforms as public utilities, first economists have to clarify not only who gets to extract value, but also what kind of economy and geographic distribution of markets is going to be created by public utility regulations. As an example, Berk cited the debates that preceded the turning of railroads into public utilities, particularly those that concerned price discrimination, as relevant to present day debates regarding platforms.

"For me, the idea of a public utility is helpful because not all kinds of concentration are equally threatening from the standpoint of inequality or from the standpoint of a larger, more dynamic economy. The railroad analogy is a good one, because it's infrastructural, so it's concentration in something that, if we're not careful, can really stifle all kinds of downstream economic activity. That's one partial answer. The other is, I think with the net neutrality case that Matt alluded to in the beginning, that's something that I've been following pretty closely as a possible model for something that's not quite nineteenth century-rate regulation but that is very much in the common carriage kind of idea," said Rachman.

Khan added: "I think the price discrimination question is especially salient. One of the ways in which these platforms are not just analogous to the railroads of 100 years ago is the access that they have to information and data, and the forms of price discrimination that they are now capable of that have historically only ever been thought experiments."

From the audience, MIT professor Nancy Rose—head of MIT's economics department and former Deputy Assistant Attorney General for Economic Analysis in the Antitrust Division of the US Department of Justice, challenged Rahman on the public utility regulation model. "When you're thinking about the public utility regulation model, are you thinking 'let's regulate these companies' because we liked the AT&T [model]: We held down prices, we had a nice high quality system—as long as you liked black rotary dial telephones and as long as you didn't care that the US was so late to mobile. Is that the model? Or is it the railroad model, where we basically drove the railroads into the ground, leading many of them to bankruptcy but moreover, where we had delayed the rollout of technology like containers on flat cars? Which of those two regulatory models?" Rose asked Rahman.

"Frankly, none of those examples," Rahman replied. "I think the fact that previous modes of public utility regulation had downsides that have been documented does not mean you throw out the idea of public utility regulation, which is one of the reasons why I'm so fascinated by the net neutrality example. I think what you see in net neutrality is an attempt to update what was the idea of public utility which has relevance as a missing piece. There are limits to what antitrust can do for what we want in a vibrant economy. We need more tools. The question is, how do we update those tools in a way that makes sense."

CAN GOVERNMENT PROTECT COMPETITION WITHOUT HARMING INNOVATION?

WINNER-TAKE-ALL DIGITAL PLATFORMS

- **Dennis Carlton,** *David McDaniel Keller Professor of Economics, University of Chicago Booth School of Business*
- **Austan Goolsbee,** *Robert P. Gwinn Professor of Economics, University of Chicago Booth School of Business*
- **Jonathan Kanter,** *Partner, Antitrust Group, Paul, Weiss, Rifkind, Wharton & Garrison LLP*
- **Kevin Murphy,** *George J. Stigler Distinguished Service Professor of Economics, University of Chicago Booth School of Business*
- **Randal Picker,** *James Parker Hall Distinguished Service Professor of Law, University of Chicago Law School*
- **Gary Reback,** *Counsel, Carr & Ferrell LLP*

Moderated by: Teddy Downey, *The Capitol Forum*

The rapid rise of digital platforms over the past decade, particularly Google, Facebook, and Amazon, has increasingly turned Silicon Valley, once the cradle of innovation and dynamism, into a winner-take-all ecosystem dominated by a handful of "superstar" companies, each commanding a specific corner of the tech industry. In the digital economy of today, markets are typically dominated by a single monopolistic winner able to cement its position and undermine new entrants through reliance on network effects. Start-ups, already in decline, are either squashed before they can become proper rivals, or more likely, compete over which get purchased by dominant firms. As Jonathan Taplin remarked in an interview with ProMarket, the notion that a firm could compete with Google over search is laughed at by the venture capital community, and Facebook is currently winning its war with Snapchat, though essentially it simply cloned Snapchat's core features.

A growing body of research in recent years has pointed to the adverse effects of the rise of winner-take-all economy, particularly in tech, as dominant firms use their bargaining power to shift costs onto workers and producers. Earlier this year, David Autor, David Dorn, Lawrence Katz, Christina Patterson, and John Van Reenen published two companion papers presenting their "superstar firm" model, in which markets are increasingly dominated by winner-take-all firms. They found that industries in which concentration increased the most also experienced the largest decline in the labor share.

The rise of winner-take-all digital platforms presents competition authorities with a unique challenge, as they attempt to reconcile the promise of innovation represented by Internet firms with the need to defend against potentially unprecedented market and political power. This dilemma was at the heart of a panel that matched top University of Chicago economists with leading antitrust lawyers to discuss the potential tradeoff between the need to protect innovation and the threat of concentrated economic and political power.

The panel featured Dennis Carlton, the David McDaniel Keller Professor of Economics at the Booth School of Business at the University of Chicago; Austan Goolsbee, the Robert P. Gwinn Professor of Economics at Chicago Booth; Jonathan Kanter, an antitrust lawyer and partner at Paul, Weiss, Rifkind, Wharton & Garrison; Kevin Murphy, the George J. Stigler Distinguished Service Professor of Economics at Chicago Booth; Randal Picker, the James Parker Hall Distinguished Service Professor of Law at the University of Chicago Law School; and antitrust lawyer Gary Reback of the Silicon Valley firm Carr & Ferrell. The panel was moderated by Teddy Downey of The Capitol Forum and largely revolved around whether government is able to effectively intervene in technology markets.

AMERICA'S LOVE/HATE RELATIONSHIP WITH MONOPOLY AND INNOVATION

Goolsbee, who previously served as the chairman of President Obama's Council of Economic Advisers and a member of the President's cabinet, opened by acknowledging the dual concerns represented in the

"The thought of the government getting involved and telling tech companies, 'Here's how you need to innovate,' or seeing the European Union come down and say, 'Open up the source code. We want to go through Google's source code and decide which ads is appropriate to place or not,' seems crazy. I think it also seems crazy, in an environment where we've had a big rise of things with network externalities, to say, 'Let's just leave it all alone and I'm sure it will work out.' Both of those are not very tenable."

— Austan Goolsbee

panel's title. "The title of the panel is one of those questions where the answer is basically yes. You're afraid of messing up the speed of innovation, and you're afraid that because of network externalities, because of the ease of introducing switching costs or scaling really rapidly, that you could get into, if not permanent, a long-lived environment in which there was massive market power and it was hard for anybody to come in."

The US, said Goolsbee, has had a long-standing "love/hate relationship with monopoly and innovation." The patent system, he said, "is based largely on the observation that the places where the demand curve is really steep are going to be those places where people would really want to get a monopoly. They're also the cases where the consumer surplus from coming up with something is the biggest. We grant patents knowing that they're going to be wanting to go precisely to those industries where monopoly power is in a sense the most dangerous, because we made peace with that."

In the platform space, he said, competition authorities have to be more alert to behavior, and not just mergers. "This issue of switching costs and, let's call it being more aggressive on Section 2 type of cases about behavior, becomes much more important. In platform industries, it's going to be the case that you're not going to see that many mergers. They're going to fight at the beginning over who's going to get established, and then somebody develops network externalities, or various things, and they go about stomping around, getting a big lead. They don't have to merge with anyone. They would be engaged in behaviors that you would want at least some style of, let's call it 'behavior modification.' The most extreme version is filing a Section 2 case or try to break up a monopoly. I think that's really hard, but the notion that we should be more alert to behaviors, not just mergers, is going to become a more serious issue in the platform space."

The debate, said Goolsbee, ties into an older debate over the question of where innovation comes from. "One group says innovation comes from forcing competition, and everybody's out trying to kill each other, and they have to keep up. The other says, 'No, you have to give people the ability to build a market and get the prices up above marginal cost, otherwise they'll never improve the quality. They won't innovate.' We've played that out multiple times in the mobile phone market, where they said, 'The last thing you want is to have eight national carriers, each one trying to build out a national network, no one having sufficient scale. We should allow massive mergers so that there are only two of them, or three of them. That will lead to higher quality, and that's what consumers want.' The others say, 'No, no, it's a disaster. There's only two carriers and the prices are going to go up.' That style of fight is going to become much more frequent, as well. I guess I'm left with the 'woe is us' view, that the second Microsoft trial and the fight about Netscape is going to be played out again and again."

The speculative nature of platform markets, he added, makes governments and regulators nervous about the prospect of harming innovation. "What you want are some general principles, like 'You should agree never to do this again in some other market,' but that's precisely what's difficult to write down about platform markets. I think the thought of the government getting involved and telling tech companies, 'Here's how you need to innovate,' or seeing the European Union come down and say 'Open up the source code. We want to go through Google's source code and decide which ads it is appropriate to place or not,' seems crazy. I think it also seems crazy, in an environment where we've had a big rise of things with network externalities, to say, 'Let's just leave it all alone and I'm sure it will work out.' Both of those are not very tenable."

AT&T AND THE COMMONS

Picker, co-author of *Game Theory and the Law* (Harvard University Press, 1994), focused on the history of platforms and antitrust, examining three antitrust cases, among them the landmark 1956 AT&T case.

On the AT&T case, Picker said: "The government brings the complaint in 1949. That complaint focuses on a couple of different things. It certainly focuses on patents with regard of the telephone system. It also focuses on the relationship between the regulated AT&T entities and the unregulated Western Union—

concerns about whether profits are getting shuffled around there. What the government clearly didn't understand in 1949 was that AT&T had discovered the future. I don't think they knew that. The future was obviously the invention of the transistor, which occurred in December of 1947, and then another version of the transistor in January of 1948."

While the transistor was public since at least 1948, said Picker, patents weren't granted until 1950 and 1951, long after the government's complaint against AT&T was filed. "The case is being litigated, and AT&T is in the midst of that, already going into licensing. I think it shows how hard it is to understand causality," said Picker. In previous panels during the Stigler conference, participants lauded the AT&T case and the 1956 decision to force the company to license its patents, crediting the decision with the creation of semiconductors and much of the present day technology industry. Picker, however, was more reluctant to credit the case for this success.

"I think it's the commons it created with regard to this fundamental technology which turned out to be so critical. Part of that is the ability of people to exit AT&T, exit Bell Labs, and go off into new businesses, confident that they're going to be able to use this fundamental technology. Gordon Teal leaves AT&T. He was very involved in material science at AT&T with regard to pulling a germanium in silicon. He leaves and goes to Texas Instruments. Texas Instruments becomes a successful player in this space because of his presence, but also because of TI's vision. William Shockley goes to what will—because of his presence—become Silicon Valley. Shockley Semiconductor is a complete bust, but 'the gang of eight' who exit from that form Fairchild, this legendary firm, and Intel grows out of that. All of that in some sense is traceable to antitrust and antitrust policy. This commons get created, but we give the government credit for bringing this law suit in 1949. I guess I just don't know the answer to that," said Picker.

Next, Picker focused on two other historical examples. One was the widely touted 1969 US v. IBM case. Though the case is often credited with having caused IBM to unbundle its pricing of hardware, software, and services, Picker was skeptical about its success. The other was the EU case against Microsoft over its Windows Media Player, in which the EU ordered Microsoft in 2003 to offer versions of Windows without Windows Media Player. "With regards to Windows Media Player, the remedy they put in place there was what I call a subtraction remedy, where they said to Microsoft, 'You need to offer OEMs versions of Windows with and without the Media Player. Make it possible for OEMs to make three choices there. You can charge the same price for those.' How did that play out in the market place? Here's the answer: 0.005 percent of sales were versions without the Media Player. This was all in Europe, obviously. They sold 35.5 million copies of XP with the Media Player. They sold 1,787 copies without. A very elaborate antitrust remedy. I think it was a complete fiasco. Having learned from that, the subtraction didn't work."

Picker added, "Given that story, you would have believed that we would all be carrying around Microsoft Zune Players for your music, because obviously the vision of the EU case was that Microsoft was going to ride its dominance over the desktop into the adjacent space in music. It turns out it didn't quite play out that way."

IS CURRENT ANTITRUST LAW UP TO THE TASK OF DEALING WITH DIGITAL PLATFORMS?

Carlton, who served as the deputy assistant attorney general for economic analysis at the US Department of Justice between 2003 and 2008, offered what he called an "unbiased view" of digital platforms—relying on his experience working for and against such companies—and of the markets in which they operate.

"Some of these industries, at least, are the result of tremendous technological innovation. New products are produced that you probably couldn't have imagined 15 years ago," he said. "Often, there's a lot of R&D associated with low marginal cost of distribution. There are typically two-sided markets with how a firm monetizes. At least when the product starts, it may not be clear how the firm's going to get paid. How you get paid in these two-sided markets—we call them two-sided, they're really multi-sided—differs a lot from a simple model on which there's just one price. A lot of these markets are winner-take-all markets, in which you have lots of complementarities and network externalities. It could be a first mover advantage. Because of that, some people say these markets, to the extent they get concentrated, create durable market power. Blackberry might disagree with that, but at least that claim could have some merit sometimes.

"These are rapidly changing markets. The products in these markets are often rapidly evolving. And they go quick, if you look at the adoption of new technologies. There have been many studies of this, how quickly new technologies get adopted, really quickly now, compared to the past. You have a good idea, you can spread it around the world quickly. Another characteristic of many of these companies is they have a tremendous amount of data about individuals," said Carlton.

Given these characteristics, argued Carlton, people shouldn't conflate competition with concentration. "In this industry, it isn't the simple case of having one product and charging a price. You can have multiple prices. You can have a low price, you can have a zero price, you can have a negative price—a rebate in credit cards would be an example. Those aren't necessarily predatory. In many of these cases, you don't charge directly for the use of the product. You charge based on the use of some sort of complimentary product. A good example would be, suppose you have an iPhone, suppose you're playing a game. You download an app to play a game; it doesn't cost you anything. You play the game, that may be free for you to do. While you're playing the game, maybe you want to buy something in the game, say a vitamin that extends your life. If you buy a vitamin that extends your life, you have to buy it on the Apple phone, and you have to go through the Apple payment mechanism. Apple's going to take a cut of that. Is that bundling? Is that a tie-in sale? Under our antitrust law, I'm pretty sure there have been some cases along those lines."

Carlton went on to describe a number of potential concerns surrounding the operations of digital platforms. "Vertical issues come up in these cases. Imagine I start an Italian restaurant right near here, the business school. Let's suppose a search engine that everybody uses also goes into the restaurant business and has a restaurant right near us. Someone types in 'University of Chicago Italian restaurant nearby location,' and we don't come up, but the search engine's restaurant comes up, or in the advertising we don't come up, or we have to pay more. Those raise competition issues. On a lot of these platforms, there can be exclusivity requirements. 'You want to be on my platform? You want to sell on my platform? I don't want you selling on anyone else's platform.' Also—this is finally getting much more attention—parity clauses: 'You want to sell on my platform? You can't charge a different price if you sell on a different platform.'"

That, said Carlton, raises the question: Is current antitrust law up to the task of dealing with these issues? Carlton, who served as a member of the Antitrust Monetization Commission, a bipartisan congressional commission, offered a succinct response: "The short answer is yes. The antitrust laws can deal with all these complications I've mentioned. They have to modify how they're applied in a two-sided market or in the environment, but yes, it seems like they're up to the task."

Carlton dismissed the calls of other speakers at the conference, who suggested that antitrust policies should be radically tightened. "Each presidential election, the ABA [American Bar Association] appoints a commission, a group, sometimes including economists but mostly lawyers, and it's bipartisan. It's precisely trying to advise the next administration. By and large, the answer is yes, you can always improve things, but nowhere does anyone suggest, as was suggested, perhaps, yesterday, that we go back to the antitrust enforcement or policies of the 1950s," said Carlton. Calls to regulate tech industries, he said, made him "nervous."

"Regulation of industries, especially rapidly changing industries, really can be a nightmare. That's one lesson we learned, I hope, in the 1970s and 1980s, when we started deregulating. It's not so easy to regulate. It's easy to think you can regulate, but you can't. It's really hard. It leads to inefficiencies, and if you're worried about democracy, you should be worried about things like this. This doesn't mean all regulations are bad, but to say you're going to have industry regulation for some of these large firms, I think, is very misguided."

Carlton did, however, raise some questions regarding privacy and the control of data. "Whose property is the information of my purchase history? Whose property is it that I speak to Kevin, that I speak to Randy, what I said to him, what I emailed Kevin? Do you really think someone else should have a property right in that, or should that be my property right?"

On privacy, Carlton said that "the ability of private firms or the government to gather and use personal information without permission strikes me as something we should worry about. It's not an antitrust problem, but it is a problem that arises because of the accumulation of data. We heard [during the first day of the conference] about the need for democracy and what we need for a democracy to function. I'm less worried about antitrust needing to be altered in order to protect democracy. I do have concerns that we should pay special attention to the use or misuse of data on individuals. I think it does deserve a lot more thought in the economics literature, how you combine information acquisition and ownership with a well-functioning democracy."

SHOULD REGULATORS BE "HUMBLE" WHEN DISCUSSING WINNER-TAKE-ALL MARKETS?

Murphy, a MacArthur Fellow and a John Bates Clark medalist, began by emphasizing the importance of being "humble" in trying to regulate areas that present tremendous enforcement challenges, like digital platforms and winner-take-all-markets. Murphy also argued that the emphasis on concentration is "misplaced," and emphasized the difficulty of predicting when dominant firms become lasting monopolies. "I'm not sure we're so good at predicting when that's going to happen. I remember the [claim] 'AOL-Yahoo would never be displaced from the search marketplace.' That was a time at which Google was an upstart firm in that marketplace, had less than 10 percent, and people said 'Well, they'll never be able to make it.'" Back then, he said, people were raising antitrust concerns regarding the then prominent Internet firms. "Obviously, that didn't pan out quite the way people had thought."

Murphy characterized emerging industries as suffering from "the kind of collinearity between the kinds of things you can do to keep people out of your market, and the kinds of things that naturally arise and are pro-competitive. In a world in which people are competing very healthily and very aggressively, things like non-linear pricing and bundling are going to show up in markets where you have low marginal costs, and in particular, markets where it really pays for you to expand output. That's a force leading to lower prices, and in many cases, a force leading me to open up rather than close my platform."

Murphy echoed Carlton's concerns regarding regulation of technological industries. "Just think about the railroad industry and how great we did regulating the railroad industry, which was one of the great natural monopolies of a past period."

Concentration, he said, is not necessarily "the bottom line, or even the starting point of things. You can have a higher concentration because people compete more aggressively, not less aggressively." The fact that we see more concentrated markets, said Murphy, "is not a sign of a problem. I don't think you can sign the direction of whether things are good or bad based on the concentration that occurs in the output market. You could tell stories that it's good, you can tell stories that it's bad. Concentration in and of itself should not be the objective, nor is it even a good proxy for what's going on."

Murphy also extolled the benefits of competition between different market structures, arguing that a lot of competition can come from outside of platforms, or between the platforms themselves. To illustrate this point, Murphy offered an analogy involving two hypothetical cities: one city has a single restaurant that is a monopoly, and the other city has multiple competing restaurants. "A structuralist would look at those two cities and go, 'Wow, I can tell you the outcomes are better in the city with lots of restaurants and not good in this one with one restaurant.' Somebody else says, 'No, really, it's a great restaurant, and it drove everybody else out. It won, and people love this great big restaurant.' How do you answer the question? You look at the guys who live between the two cities and ask which city did they eat in. If they're all going over to the city that has the one restaurant, it's pretty clear that

that's actually a better model, not a worse model. You can apply that kind of principle."

Antitrust still has a role to play, Murphy asserted, but enforcers should be "humble." "I think one thing that I learned as a young economist that I think we've lost some sight for, and I hope we never do forget, is that when you analyze competition, you can't focus on a very narrow aspect of competition." History, he opined, shows that "we're just not that good at predicting where competition's going to show up. Our remedies run this collinearity problem, where many times, the kinds of things we attack are the kind of things that help people expand their output."

THE MYTHS SURROUNDING TECHNOLOGY PLATFORMS

Kanter, a prominent antitrust lawyer representing firms like Microsoft in its acquisition of LinkedIn, and Cigna in its failed $54 billion merger with Anthem, began his portion of the panel by addressing what he called "myths" regarding technology platforms having to do with barriers to entry, switching costs, and innovation. These myths, he said, "are based on anecdotes that don't necessarily reflect the underlying structure of these markets."

One myth is that anyone can start a big technology business in their garage, "and boom, it can come at any time, and entry's really easy. I think we know more than that today, or we should, because the fact of the matter is, entry is not as simple as coming up with an idea in a garage when it comes to these markets. It's extremely complicated and extremely expensive. You have to develop massive amounts of technology. You have to develop massive amounts of server infrastructure, and then you have to break into a market, often at multiple levels and in multiple stages. This is becoming one of the moats around a lot of these technology companies: not that they're in one market but that they have scale at so many markets across the vertical stack. Often, they're cross-subsidizing one for the other. If you can look at Amazon in terms of its vertical stack, it offers extremely low prices. If I want to compete against Amazon, I have to compete on price at the retail level, while at the same time building up the entire e-commerce infrastructure stack, and often taking a loss on that, too."

The second myth, said Kanter, is that switching is easy. "If I don't see a barrier to switching, then it must be really easy, and a user in some of these markets or a customer can just put down one website and go to another website or put down one piece of software and go to another piece of software. That also doesn't work. It's just not true." Behavior, he said, "is highly manipulated, highly influenced by data, and highly targeted by these companies. One of the important aspects of data is real-time testing on your platform, the ability to develop it in a way that manipulates at the user level. You can put up small little barriers to each user that may not be detectable but have a massive effect on where users go or how customers behave."

The third myth, he said, is that digital platforms "have a monopoly over innovation." Often, he said, the assumption is that "these are the innovative guys and the other markets are not innovative enough, and they're old and they're stodgy. That's true sometimes, but it's not true all the time, and innovation isn't limited to one portion of the stack. Think about news, for example: innovation doesn't just take place in how news is displayed on a screen. Innovation also takes place in the newsroom, in how you report news, in how you invest in reporting, in how your reporters communicate to each other, in how you look at a problem. That's extremely valuable innovation, and regardless of which side of the political spectrum you live on, you could look at this past election and say that the lack of innovative news, the lack of innovative polling, the lack of innovative distribution of news, has a massive effect on democracy in our country. To say that that kind of innovation doesn't matter is overlooking a substantial problem. To say that it's innovative for a big platform to copy someone else's product and advantage it while disadvantaging someone else, that's not innovation. That's exclusion."

Kanter agreed with previous speakers in the conference who argued that enforcement is far more beneficial than regulation. However, he cautioned, "if we fail in law enforcement, we will end up with regulation. The consequence of no enforcement is regulation. That is the direction we're heading in. Whether it happens in 4 years, 8 years, or 10 years, that's where we are going to end up unless somebody starts to think about these problems and starts to think about antitrust and law enforcement in a new way."

Part of the problem, he said, is the "static view of the world" ascribed by law and economics, which "doesn't necessarily reflect the markets in which companies compete today."

The US, he said, is currently failing in antitrust enforcement. "Often, antitrust lawyers like to say, 'Our laws are great. They can do anything.' Maybe they can or maybe they can't, but the fact of the matter is we're not trying. If you look at the cases, there aren't a lot of Section 2 cases being brought at the agencies. There aren't a lot of Section 2 cases even being brought in civil litigation. Why? Because the law has shifted so far into one direction and the cases aren't being brought to move that law somewhere else."

Another problem, he said, is what he described as "over-dependence" on economics and the reluctance of economists to identify antitrust problems. "Economics plays an important role in antitrust, empirical evidence plays an extremely important role in antitrust, but it can't be a substitute for common sense. Sometimes what happens is, if we don't have the tools to address something, if the data is too rich and too noisy, we just ignore it." This, he said, sends a problematic message to businesspeople. "I represent businesspeople from companies big and small who are suffering in the marketplace and are looking down the barrel of these issues and saying, 'How is this not an antitrust problem? If this is not an antitrust problem then what is an antitrust problem? Isn't this what the antitrust laws were created to deal with?' What they're faced with are folks who say, 'Well, the empirical evidence is ambiguous,' or 'Well, this isn't really an antitrust problem because it's not so much about competition, it's about something else. It's about policy.' That just doesn't fly to people in business. They see antitrust enforcement as enforcing fair rules of the road so that competition can take place on the merits. And they don't see that happening today."

"The consequence of no enforcement is regulation. That is the direction we're heading in. Whether it happens in 4 years, 8 years, or 10 years, that's where we are going to end up unless somebody starts to think about these problems and starts to think about antitrust and law enforcement in a new way."

— Jonathan Kanter

THE LESSONS OF THE MICROSOFT CASE

Reback, who was once described as "Bill Gates' worst nightmare" on the cover of *Wired* and is currently involved in the European antitrust effort against Google, disputed Picker's characterization of the IBM case, saying that IBM's decision to unbundle was a direct result of the five antitrust lawsuits filed against the company by competitors and by the government, as well as a period in which the possibility of breaking up big companies was "on everybody's mind." Its decision to unbundle is largely seen today as the catalyst for the creation of the American software industry, even by present day IBM executives.

For his portion of the panel, Reback shared insights on the importance of antitrust enforcement from his own experience as an antitrust lawyer working in winner-take-all markets.

"In my experience, as the economists predict, these markets are very susceptible to anticompetitive behavior, particularly anticompetitive exclusion, if that kind of conduct is applied at the right time for the monopolist, meaning just at the time the market is mushrooming," said Reback. Not all markets, he stressed, are winner-take-all markets. Some, for instance, are shared network markets.

"To say that it's innovative for a big platform to copy someone else's product and advantage it while disadvantaging someone else, that's not innovation. That's exclusion."

— Jonathan Kanter

Why aren't all markets winner-take-all, given the fact that anticompetitive conduct is very successful in these markets? One reason, said Reback, is market structure. "There just may not be anybody who has enough power in that market or an adjacent market to apply anticompetitive exclusionary conduct." Frequently in the past, antitrust enforcement prevented anticompetitive conduct, but as Kanter and many other speakers mentioned, antitrust enforcement has declined.

A little-understood fact about winner-take-all markets, said Reback, is that "the way these markets work, the monopoly platform today is the most effective method of distribution of the next generation of technology that will supplant that monopoly platform. If the monopoly platform doesn't have to carry that technology, we'll never get progress."

"If this kind of conduct goes un-remedied for 10 years, with the concompetent loss of investment of billions of dollars, not to mention the harm to consumers, you are going to see the Internet Commerce Commission. I'll be the first chair. If you don't want that, then we should all join together and get the kind of enforcement we need to maintain the integrity of the antitrust laws."

— Gary Reback

Reback offered a few examples of this, among them the Microsoft/Netscape case. "At that time, the browser sat on top of the operating system. You really couldn't get to the browser except through the operating system. What is it that Microsoft did? They basically used license restrictions and unilateral conduct to exclude Netscape from what the court said were cost-efficient distribution mechanisms, like the pre-installation of the browser on the PC. Not excluding all distribution, [but only] excluding cost-efficient distribution. The result is that Microsoft excluded Netscape and the competitors. They took over the browser market and they prevented competition to their OS monopoly. The government did step in too late to save Netscape but not too late to save Google."

At the time, he noted, Microsoft had a 98 percent share in the browser market, making it the chief source of Google's traffic. "If you went on the Internet Explorer and you typed www.google.com, Microsoft didn't have to take you to Google. There's no technical reason why they had to do that, and as a matter of fact, they could have brought up one of their normal warning screens"—Reback then showed a standard Microsoft warning against unsafe websites, superimposed onto Google.com.

"This is something they could have done, but they didn't do it. Why didn't they do it? I'll tell you what they've told me, which is they'd already been fined a billion euros by the EU and they were about to be fined another billion euros. Doing something this flagrant might have even reopened the United States case. They could have killed Google in the cradle, and whatever search you would be using these days would be brought to you by Bing—you can decide whether that's something you would want or not. But the world wouldn't look like what it looks like today and you wouldn't have the robustness of a powerful search engine. Google has even brought competition to the browser market, so you know what? Antitrust enforcement does work. It doesn't have to be granular. It doesn't have to go to the media player. It has to have credible threat, and a monopolist will figure that out."

American competition authorities, said Reback, did not learn the lesson from the Microsoft case—but Google did. Despite the antitrust charges against Google in the EU (one of which yielded a record fine of €2.4 billion in July 2017), in the US the FTC chose to close its investigation of Google for the very same activities. "The general notion is that they [Google] used their dominant position in general search to favor their own specialty search, in this case comparison shopping, over the comparison shopping results of the competitors. They put their stuff first. They demote competitors beyond what their own scorers say that competitors should be listed at. What is the result of this conduct? According to the FTC Bureau of Competition—remember, half of their report was inadvertently leaked a couple of years ago—this conduct is exclusionary. That's their words, not mine, and it has resulted in anticompetitive effects. Yet no enforcement. The conduct started in 2007. It's now 10 years later. For a high-tech market that's like 200 years. Yet there's no enforcement."

Similar to Kanter and others, Reback dismissed the idea of regulating Internet firms, saying, "It's a good idea to engage in antitrust enforcement before we try something like public utility regulation." However, he said, "If this kind of conduct goes unremedied for 10 years, with the concomitant loss of investment of billions of dollars, not to mention the harm to consumers, you are going to see the Internet Commerce Commission. I'll be the first chair. If you don't want that, then we should all join together and get the kind of enforcement we need to maintain the integrity of the antitrust laws."

"MARKETS TODAY ARE RADICALLY DIFFERENT THAN WHAT WE BELIEVE – WE HAVE THE FAÇADE OF COMPETITION"

BIG DATA AND COMPETITION

- **Ariel Ezrachi,** *Slaughter and May Professor of Competition Law, University of Oxford*
- **Michele Polo,** *Professor in Economics, Bocconi University*
- **Frank Pasquale** *Professor of Law, University of Maryland Francis King Carey School of Law*
- **Jonathan Taplin,** *Director Emeritus, USC Annenberg Innovation Lab and Author,* Move Fast and Break Things: How Facebook, Google, and Amazon Cornered Culture and Undermined Democracy
- **Tommaso Valletti,** *Chief Competition Economist, European Commission*

Moderated by: **David Dayen,** *The Intercept*

The business model at the heart of the digital economy is a simple one: Internet giants such as Google and Facebook provide consumers with "free" services—free email, free GPS, free instant messaging, free search—and in return consumers consent to handing over vast amounts of their own data, which the companies then use to target advertisers.

This exchange helped make data the "new" oil, creating "new infrastructure, new businesses, new monopolies, new politics, and—crucially—new economics," according to *The Economist*. To a large degree, it has also benefited consumers, though as antitrust lawyer Gary Reback noted during the Stigler Center's conference, the services provided by digital platforms are far from free: "You tell your search engine stuff you wouldn't tell your spouse. You want a really sobering experience? Log in to Google and they'll show you your last seven years of searches. How would you like it if I put that up on the screen? That's what you've sold to get the service."

It is not an absolute certainty that consumers will always benefit from this arrangement. In their 2016 book *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy* (Harvard University Press), Ariel Ezrachi and Maurice Stucke explore the economic power of digital platforms, and its implications on welfare, the economy, and society in general. Big data, algorithms, and artificial intelligence, they argue, can all be used to potentially harm competition and consumers. Big data and analytics could lead to "near perfect" price discrimination. They could also lead to behavioral discrimination: Firms that harvest users' personal data could tailor their advertising and marketing to target them at critical moments, "with the right price and emotional pitch." Super-platforms, like Google, can potentially exclude or hinder independent apps and favor their own rival services. A prominent search engine could even, conceivably, have the incentive and ability to degrade the quality of its search results.

In the past decade, monopoly has become the preferred business model of more and more Silicon Valley firms. In 2014, billionaire venture capitalist Peter Thiel famously proclaimed that "competition is for losers" in an essay published in t*he Wall Street Journal* and in his book (also published in 2014) *Zero to One*. "If you want to create and capture lasting value, look to build a monopoly." His dictum has since been seen as emblematic of the underlying philosophy behind the rise of digital platforms like Google, Facebook, and Amazon.

As users increasingly rely on super-platforms, and as new forms of extracting, analyzing, and monetizing data develop, the question remains: Will the collection of consumer data by digital platforms ultimately expand choice and empower consumers, or will it be used to diminish consumer surplus?

This question was at the heart of the conference's panel on big data and competition. Ezrachi, one of the featured panelists, compared the new market environment to the 1998 film *The Truman Show*: a controlled environment that may appear normal and even make its subjects happy, but it is nothing more than a façade whose main beneficiaries are the people who control the ecosystem.

"The invisible hand of competition," Ezrachi argued, has been replaced by a "digitized hand," controlled and "easily manipulated" by corporations. "It looks very much like what you will see when you go to a market, and yet it can be changed by a few clicks. It can be manipulated. In essence, it brings us to The Truman Show: a reality where everything looks wonderful, [where] you will have the opportunity to live a quite comfortable life, but the one that actually generates the value, the one that benefits from it, is whomever controls the little bubble that was created for you."

In addition to Ezrachi, the Slaughter and May Professor of Competition Law at the University of Oxford, the panel featured Tommaso Valletti, the European Commission's chief competition economist; Michele Polo, an economics professor at Bocconi University; Frank Pasquale, professor of law at the University of Maryland Francis King Carey School of Law and author of *The Black Box Society: The Secret Algorithms That Control Money and Information* (Harvard University Press, 2015), and Jonathan Taplin, director emeritus of the Annenberg Innovation Lab at the University of Southern California, author of *Move Fast and Break Things: How Facebook, Google, and Amazon Cornered Culture and Undermined Democracy* (Little, Brown, 2017). The panel, moderated by journalist David Dayen, focused on the implications of big data for competition policy and consumer welfare but also touched on issues of privacy, surveillance, and copyright.

DOES BIG DATA BENEFIT OR ENTRAP CONSUMERS?

Ezrachi, whose recent work with Stucke explores the changing nature of competition and the increasing concentration among digital platforms, surveyed the limits of competition law in the age of big data and algorithmic pricing tools. "In my mind, what we have is such a distinct change in the dynamics of competition that the markets that we have today, the markets where we see competition, are radically different than what we believe. We have the façade of competition," he said.

The digitized hand, said Ezrachi, appears to have all the characteristics that are typically associated with competitive markets, yet this is false. "What we have is literally a market where everything tilts in favor of the dominant."

Much of the panel revolved around the question of whether the collection of consumer data by online platforms empowers consumers. Ezrachi cited discriminatory pricing and behavioral discrimination as two ways in which big data can potentially be used to harm consumers. "Today almost all the prices that you see online are actually designed for you. Dynamic pricing is the art of squeezing every dollar out of your pocket."

He added: "This is not science fiction; this is something that already happens today. You have companies that offer these services—building a profile, understanding what are your outside options, what is your willingness to pay once I captured you. I invest in you to capture and acquire you as a customer. Everything that follows will be me charging you more. If I get it wrong, I can always push a coupon in order to basically draw you back to me."

Despite the promise of online competition, Ezrachi said, "many of us, in many markets, [are] actually being lured to purchase things that we don't necessarily need at prices that are higher." The new dynamic of competition, he said, has created "gatekeepers we willingly accept." Those gatekeepers, he added, "once they feel comfortable using advanced data and technology, trying to approximate our reservation price, our willingness to pay, [are] actually starting to increase the price. In fact, in most of these markets there is no market price. There is just the base price, and you go to these dynamic pricing companies and you just tell them what you want. Do you want to maximize profitability, market share? Whatever you tell them is usually derived from whatever is the remuneration package for the directors. Whatever the directors are being measured on is whatever the directors will ask those companies to do. That machine is based on data. Data transparency, which was so important for us and marketed to us as the greatest benefit, is starting to backfire. It is usually now used to create this littler Truman Show for each and every one of us."

To illustrate the point, Ezrachi suggested a small exercise: "If you want, run an experiment this evening. Instead of using your MacBook, use a PC, you will get a cheaper price. Leave your house, go to a different house, book the same holiday or buy the same product, you will get a cheaper price. Never go directly to your favorite site. Always go through Google. Even the simplest dynamic pricing will give you a discount if you came from a marketplace."

Ezrachi then discussed what he called the "next phase" of the digitized hand: the fledgling area of personal digital assistants, such as Apple's Siri, Amazon's Alexa, or Facebook's M. In 2016, in a paper he co-wrote with Stucke, the two argued that reliance on super-platforms through the growing use of personal digital "butlers" could, in the future, potentially intellectually capture users, as consumers increasingly distance themselves from "the junctions of decision-making" and put their trust in platforms.

"Your personal butler will anticipate your needs. It will actually be empowered by AI and able to communicate with you in a manner which is just exactly what you need, with just enough humor in order for you to feel comfortable with it, just enough information to really help you through the day. That's the promise, that from ordering our cab in the morning to ordering Chinese in the evening, or asking for some articles, this will be the interface," Ezrachi said. The danger, he argued, is that the digital butler will become an instrument of willful capture: "you are basically willingly capturing yourself and willing to be part of this ecosystem that is controlled by one single gatekeeper."

This possible future, said Ezrachi, creates a "universe where switching costs are immense because you have a butler that already has all the information about you. It is very expensive to train your new butler. It is actually impossible to transfer information, the majority of it, due to IP issues and some technical issues."

This, he maintained, leads to "fierce competition" between the leading platforms over who can achieve first-mover advantage. "The first one to enter your living room is the one to control you."

This change in competitive dynamics, said Ezrachi, reflects a market in which data is the commodity. "Data is the currency that we're using in order to increase profitability, and in order to engage in big analytics that enable us actually to reach conclusions that go way beyond the single elements of data, actually combining data to such an extent that we can learn about you so much. What are the implications for competition? First, we have the implication at a platform level. We just have very few winners, and we heard that already. We have this situation where we have winner-take-all. You hear people say, 'But what about disruptive innovation?' We should not underestimate destructive innovation. I should just maybe point to Peter Thiel, who said 'Competition is for losers.' I think that's a really, really interesting comment because it just tells you something. In data markets, in markets with network effects, what you have is that the winner looks down, sees the competition, and the winner of that competition will at best be number two. You can distance yourself in the way that you create really much greater barriers to entry. Data plays a great role here because it is not just about having the algorithm. With Facebook M, you can find the algorithm as open source because it's not necessarily the algorithm, it's the fact that the algorithm can play with 1.8 billion users, learn through experience."

"What we have is such a distinct change in the dynamics of competition that the markets that we have today, the markets where we see competition, are radically different than what we believe. We have the façade of competition"

— Ariel Ezrachi

There is a lot that can be done to change the incentives in the market, said Ezrachi. "Dealing with privacy, dealing with data mobility, dealing, for example, with the simplest thing: telling you what is the average price for the product that you just purchased. Empowering you, telling you, 'This price that you're paying was individually tailored. The average price was X.' Trust me, if your price is X plus something, you will think twice before you buy. Such simple methods and yet, how difficult it is for us to move into making any change on the market. It's not about intervention on the market, but just incentives, and yet almost impossible to move them."

Ezrachi also remarked on the differences between the US and Europe when it comes to dealing with the regulatory challenges that big data represents. "I know we're in Chicago and there is the sense that the US is leading the debate. I'm afraid that when it comes to these issues, the US has probably lost the leadership. If you're thinking about these issues, you will discover that the discussion in the EU, the actual scrutiny of what is the true effect of these gatekeepers, their powers, is a few steps ahead of what the US authorities are thinking of."

DIGITAL PLATFORMS' REGULATORY CAPTURE

In his book, Taplin explores the way in which the Internet came to be dominated by a handful of digital giants, and the subsequent capture of regulators that has since all but ensured their dominance would not be challenged in court. During the panel, Taplin gave an overview of the current competitive landscape in the digital economy: "Google has about 88 percent market share in search advertising. Amazon has at least 75 percent market share in online book sales. Morgan Stanley reported that last year, 85 cents of every new dollar spent in online advertising went to either Google or a Facebook company. If that's not market power, I don't know what is."

Prior to becoming an academic, Taplin worked as tour manager for Bob Dylan and The Band and was a film producer who worked with Martin Scorsese and Gus Van Sant. As such, he has seen first-hand the damage that the Internet economy has wrought on working artists and other creators of content. Since Google was launched, said Taplin, newspaper advertising fell by 74 percent. The number of journalists fell by almost 50 percent within the last 10 years. The music industry has experienced a 76 percent drop in revenue. At the same time, Google, Amazon, and Facebook, along with Apple and Microsoft, have become the most valuable companies (in terms of market capitalization) in the world.

""Here's the problem. In the year 2000, if you had a single tune digital that you sold on iTunes and you could get 500,000 downloads, you'd make about $360,000. Today, if you get 500,000 streams on YouTube, you make $3,000. YouTube has almost 60 percent market share in streaming audio. That's not video, that's pure audio streams. As your child will tell you, every single tune in the history of the world is on YouTube for free. There's no way you can compete against that in any way. Spotify, which has a much smaller market share, had promised the market that 80 percent of their users would be on the premium, that is its subscription tier, by now. It's about 18 percent of their users. One cannot compete with free. YouTube represents about 11 percent of the revenue [of content creators and owners] from the streaming audio business, even though it has almost 60 percent market share. If that's not free-riding, I don't know what it is."

The domination of digital platforms, argued Taplin, was made possible due to regulatory capture. "Certainly, as Peter Thiel pointed out, 'Google had more power under Obama than Exxon had under [George W.] Bush.'"

Taplin went on to discuss the rise of "fake news" during the recent US presidential election, characterizing it as a concentration problem, as 62 percent of Americans now get their news from social media. "In the spring of 2016, Fox News, Breitbart, and a lot of people pushed very hard against Facebook, saying that the humans involved in the Trending Topics part of Facebook were skewing the content towards liberals and towards liberal views," said Taplin. "Under all this pressure, Facebook said, 'OK, we'll take the humans out of it and just let the algorithm decide what the trending topics are.'" This, he argued, allowed the fake news business to flourish and potentially influence the election.

Proliferators of fake news "were able to game the system, using Russian bots and other things, to bomb the algorithm in such a way that the fake news business took off and the real news business declined," said Taplin. "The combination of Facebook and a Google AdSense account was capable of making a kid in Macedonia $5,000 to $10,000 a week putting out fake news. That is something that could've never existed without this big data, platform-agnostic situation that we find ourselves in."

Google, said Taplin, "is as close to a natural monopoly as I have seen in my lifetime. I would ask you, if someone came to any of you and said, 'I want you to invest in a startup that will compete with Google in search and search advertising,' would you give anybody that money? My guess is you would not."

One possible remedy, he argued, is freeing up the patents of dominant platforms, similar to what happened to AT&T in 1956. "The AT&T '56 decision not only freed the semiconductor patents, which then led [William] Shockley to start companies, led to the explosion of Fairchild, Texas Instruments, and eventually Intel. It seems to me that much of the basis of the digital revolution in, I would say, lasers, satellites, cellular, solar cells, all came out of Bell Labs. All had to be licensed for free to any American company. That led to an explosion of innovation in the '50s, '60s, and '70s. That may be the only solution we have for Google. They have patents in search algorithms. They have patents in advertising. They have patents in self-driving cars. They have patents in thermostats. They have millions of dollars' worth of patents which need to be freed up."

THE BENEFITS OF BIG DATA

In contrast with Ezrachi and the other speakers, Polo—who began by referencing George Stigler's famous 1961 paper "The Economics of Information"—emphasized the benefits of big data for consumers, such as reducing search costs and increasing participation in markets.

Polo's lecture revolved around two themes: search goods—that is, goods whose attributes can be fairly assessed through cost research before purchasing—and experienced goods, which are goods that require usage in order to understand their utility, and in which the action of both buyers and sellers may contribute to determining what the utility is.

The Internet, said Polo, has taken activities that for decades took place offline and were once quite expensive—for instance, searching for a plane ticket—and drastically reduced their costs, thus increasing participation in the market. Another feature of online search is that it tends to follow a certain order: either price or search results, in contrast with the random search that according to Polo was often the case in traditional models. Firms, said Polo, have realized that "being sampled first, what is called in jargon 'being prominent,' pays in terms of profits and larger sales. That is, there is a premium for dominance. In the online environment, the key question is 'Does competition for prominence among sellers or advertisers generate an ordering that enhances consumers' surplus?' That is, do I indeed find good advice in terms of my preferences?"

Reduced search costs, argued Polo, lead to more search activity but also lower prices due to "the ability to arbitrage among offers and exert pressure on firms." The literature, he added, also shows that better matching is taking place, meaning top search results are more aligned with consumer tastes. It also leads to price dispersion, but on price discrimination Polo opined that "as economists, we are cautious to have a negative view of price discrimination in general. A case by case analysis is needed."

"So far, in a sense, my arguments are quite distant from the concerns that the previous speakers described in terms of the life of consumers in the Internet world. The results that I just mentioned are suggesting that things are not that wrong. There is more participation, cheaper activity of search, and possibly effects on prices and good matchings," said Polo, who also cautioned that the literature still lacks general robust results.

When it comes to market power and concerns that market power limits consumers' ability to exploit the benefits of search, Polo argued, "We have to consider both market power on the seller side and on the platform side." On the seller side, "firms may indeed have incentives to limit the transparency of their offers, in particular on prices, adopting complex pricing schemes, in order to limit the ability of searching and to obtain higher prices."

On the platform side, network externalities often tend toward market tipping, said Polo. At the same time, the differences between platforms (search engines, social networks, etc.) may reduce the tendency toward concentration, though ultimately all

"Google is as close to a natural monopoly as I have seen in my lifetime. I would ask you, if someone came to any of you and said, 'I want you to invest in a startup that will compete with Google in search and search advertising,' would you give anybody that money? My guess is you would not."

— Jonathan Taplin

platforms are in the business of collecting data. On the question of whether dominant firms have a tendency to slow down their rate of innovation once they reach a dominant position, Polo said that "a dominant position means giving a high value to consumers, but the value in network services is a combination of intrinsic, standalone value and what is brought to network effects. When I'm very powerful on the second, I might reduce the incentives to be excellent also on the intrinsic quality. Examples include not paying much attention to privacy."

When it comes to experience goods—for instance, renting an apartment on Airbnb— competition may weaken the incentive mechanisms, argued Polo. "Suppose that there are many Airbnbs, each one with a smaller pool of agents. A smaller pool means [fewer] opportunities and less frequent interaction."

Recognizing the benefits to consumers, concluded Polo, does not mean ignoring other threats that go beyond consumer surplus. "If we just look at consumer surplus in a very narrow, traditional way," he remarked later, "we are missing something of the big picture."

US ANTITRUST POLICY HAS BECOME "PRO-TRUST"

Pasquale, whose book explores the effects of "black box" algorithms on privacy, regulation, and society, expressed reservations about the economic discourse around the nature of data and competition among platforms, arguing that the analysis is "altogether too general."

"We have an established record of literature by people like Nathan Newman who look at direct consumer harms due to the aggregation of data about individual consumers. We have an algorithmic accountability literature that points to example: to people being routed into subprime loans, routed into subprime predatory for-profit colleges. We have literature on women being shown jobs that are lower paying than the jobs that men are shown. We have many examples in very cutting edge work by Patterson, Ezrachi, Grunes, Stucke, etc. where the vaunted benefits of a platform that knows everything about you to be your ideal digital assistant can be turned against you," he said.

According to classic economic theory, he acknowledged, the ideal response to all this is "'When they start acting against your interests, choose another service.' The first response to that is, of course, the 'who knows' black box problem that I talked about in my book: We do not all have the time, energy, ability, skills, etc. to be continually running different computer programs in the background and various searches to see if we got the best results that we should have."

The second problem, he said, "is that even if I were to switch, we have to understand that the consequences of the switch could quite easily be service degradation. I have, in a way, created a partnership with Google over 10 years of searches. They have literally tens of thousands of emails from me, thousands of points of search data. If I were to suddenly switch to Yahoo or to Bing, that is a massive loss for me because Yahoo and Bing don't have that data. I can't easily export that data. That, to me, shows a fundamental flaw in so much of the economics literature, in that it tries to model a unitary consumer switching. People are in very different circumstances if, for example, they used Google for five years intensively, or if they have cultivated a, say, diverse array of search engines that they use."

"Another classic economic response is 'You should have negotiated better. Why didn't you write a letter to Facebook and say, 'Dear Facebook, I would like to pay you $5 a month so you don't keep a profile of my health information. I'd really like to be able to talk to my friends on Facebook and tell them that I have cancer and not be afraid that the data is going to be sold to some company that's going to sell it to my employer and say, "Don't hire this person because you've got a self-funded health plan and he may be a huge cost to you in the future."' I'd like to be able to do that. I can't do that. If I sent that letter to Facebook, they'd laugh in my face."

Pasquale went on to criticize US antitrust enforcement agencies, arguing that "US antitrust policy is rapidly becoming a pro-trust policy." As an example, Pasquale cited the FTC's lawsuit against online contact lens retailer 1-800 Contacts. 1-800

Contacts was sued by the FTC in 2016 for having reached agreements with 14 other online contact lens sellers that they would not advertise to customers who had searched for 1-800 Contacts online. “You would imagine that given the power of these online intermediaries, and given the activity in Europe and many other nations, our enforcers would be extremely concerned about these platforms. They are—they’re concerned about little companies hurting the platforms,” he said.

The FTC, added Pasquale, had pursued the 1-800 Contacts case aggressively. “I’m not here to comment on the merits of this case, but I think that the choice of this enforcement target speaks volumes. What does it say? It says that if small firms are being exploited or hurt by a big digital behemoth, or think [they] are, don’t try in any way to coordinate or maintain your independence. What you should do is all combine and merge and become a giant, say, contacts firm. In the media, [companies] should all combine and merge and maybe all be bought by Comcast, so that then they can negotiate with Google in a way that they are relatively of the same size and power. That’s the pro-trust message we’re getting under current non-enforcement of US antitrust policy. It’s saying, ‘We’re not going to help you little companies. You should just all merge together, so that you are as behemoth as the digital behemoths that you’re dealing with.’”

“US antitrust policy is rapidly becoming a pro-trust policy.”

— Frank Pasquale

US antitrust policy, Pasquale said, is a rare example of bipartisanship. “What we’ve seen in panel after panel at this conference is what I like to call the American technocrat two-step. You raise some of the concerns that I’ve raised. You raise the concerns raised by C. Edwin Baker about media concentration, cultural concerns, the gender discrimination concerns, racial concerns, other concerns, and the antitrust technocrats of America say, ‘That’s not an antitrust question. You really are thinking about regulation.’ You come back, you gather your wits, you propose regulation, as I have for over a decade. Virtually every regulation you propose, it’s a slightly different response. It’s, ‘You know, regulation in the past failed. You don’t understand history. You’re just in your 30s.’ The level of condescension is really something to remark upon, even if it does lead to a certain technocratic consensus among the enforcement elites.” This, he said, might lead to a new bipartisanship: “the bipartisanship of the Freedom Caucus and Occupy to defund federal antitrust and simply move it to the states.”

THE IMPORTANCE OF INDIVIDUAL-LEVEL DATA

Valletti devoted most of his lecture to discussing targeting in the advertising market. “The key question, from an economy perspective, is to what extent being on a single social network, or using a single search engine, creates a bottleneck that then involves some market power every time an advertiser wants to contact [that user]. That’s something that we understood a little bit from the economics literature, but we have to be more precise,” said Valletti. “Take a firm that wants to run a commercial campaign. There are two ways of thinking about it: one is the traditional way, which is that these guys probably will have an advertising budget, and they will try to get these advertising budgets in an effective way across different media outlets. It can be an online platform, it can be a traditional printed media, it can be the radio. If that is the case, most likely we still don’t have an antitrust concern, because there’s plenty of such outlets. The guy who wants to run the advertising campaign will find different possibilities.”

When it comes to traditional advertising, Valletti remained cautious regarding the issue of market power. "Even if, say, Google really has market power over me when I search, that doesn't imply there is market power over there at the advertising site. What strikes me—this has not much to do with big data. You just need eyeballs, and an eyeball is just enough to know that there is a middle-aged Italian in Chicago, that's it. That is not really about some personal information about myself."

When it comes to big data markets, however, the situation is different. "Big data means they know a lot about me, about my past behavior, my 10 years of emails with Google, my friends on Facebook, something which is really personal, if the advertiser wants to have that kind of information. They won't want to have just an eyeball, they want *my* eyeballs. If they want my eyeballs, then there is market power there. But that's not the end of the story: We cannot yet jump to a conclusion that that is an abuse of market power, potentially. As a policy maker, I need to understand how the user reacts. Do I spend all my time on Facebook? Is Facebook grabbing my attention? If that is the case, because my time is limited, I spend online a few hours a day, which is already too much, then, if that is the case only Facebook has my attention, indeed there is a problem there. If instead, I'm a guy who's sometimes on Facebook, sometimes on the website of the *New York Times*, I still read the printed media, listen to the radio, etc., if that is the case, the ability of any media outlet to grab my attention is limited. There's still competition for that, and again the potential for abuse would be limited."

Valletti went on to discuss the attempts to measure market shares across media markets, arguing that individual-level data is needed when discussing issues like competition at the advertising market, instead of simply looking at market shares. "Just to have aggregates, like Google's 80 percent market share, is useful information if you're looking at competition in the search market, but that's not going to have the right information if I'm looking at competition in the advertising market. I need individual level data, otherwise, I cannot go very far."

SHOULD THE TOP DIGITAL GIANTS BE ALLOWED TO PURCHASE OTHER FIRMS?

In May, almost two months before it slapped Google with a record fine of €2.4 billion for antitrust violations, the European Commission handed Facebook a €110 million fine for providing it with "incorrect or misleading information" regarding the social media giant's acquisition of WhatsApp. When Facebook purchased WhatsApp in 2014, the EC alleged, it told the commission that it would not be able to match users' accounts between its platform and WhatsApp's. The merger was cleared, and Facebook and WhatsApp proceeded to do just that. EC officials later found out that Facebook knew that this matching was technically possible back in 2014.

In part, the fine reflected the growing concerns of European regulators over privacy and the competitive implications of the digital platforms' collection of consumer data. It also reflected the difficulties competition authorities face in adapting to the dynamics of the "digitized hand." In an interview with the *Financial Times* in May, shortly after the announcement of the Facebook fine, the EU's Competition Commissioner Margrethe Vestager acknowledged that "the competition rules weren't written with big data in mind. But the issues that concern us haven't changed." In a speech in September 2016, Vestager said "The future of big data is not just about technology. It's about things like data protection, consumer rights, and competition."

Valletti, who is also a professor of economics at the Imperial College Business School and the University of Rome Tor Vergata, discussed the EC's investigation into the Facebook-WhatsApp merger during the panel. Facebook, he said, had "lied" to European regulators about its ability to absorb WhatsApp's user data, but the larger issue was market definition.

"Would the decision on the merger have changed had the Commission known that information at the time?" asked Valletti, who joined the EC in 2016. "At the time, the Commission defined the relevant market as non-search advertising. This is a huge market. In that ocean, even Facebook doesn't have a lot of market power. If instead the market definition had been, for instance, advertising on social networks, [it's] likely

"That's the pro-trust message we're getting under current non-enforcement US antitrust policy. It's saying, 'We're not going to help you little companies. You should just all merge together, so that you are as behemoth as the digital behemoths that you're dealing with."

— Frank Pasquale

they would have concluded that Facebook would have been dominant in that particular market, and that integrating that useful information from [WhatsApp] could have enhanced its market power."

One point raised during the debate portion of the panel concerned the issue of purchases made by dominant firms. "I think we've entered into a new age, which some people are calling surveillance capitalism. There's a fairly large war for who's going to dominate that market," said Taplin. "If you really look at it, and *The Economist* article from last year really raised this point, we have three or four [firms] that have gigantic data sets, and then there's all the rest. I don't think anybody else is a player in that market at that point. Then the question becomes: Are they going to be allowed to buy more firms? You used the question of, 'Is Facebook allowed to buy WhatsApp?'" For his part, Taplin asserted that in his opinion, "none of those five dominant firms should be allowed to buy another firm."

When it comes to merger reviews in Europe, said Valletti, "we have thresholds based on turnover. There is a proposal now to change our thresholds and make them based on the value of the transaction. I would agree that in the price of the transaction, the purchaser's price, there is a lot of information about the future possibility of that business."

Taplin, meanwhile, raised the point that accumulation of data enables the creation of monopsony. "For the advertisers, scale means everything. The fact that Facebook has 1.8 billion customers and Google has 1.7 billion customers, for an advertiser that's critical. I was at Snapchat last week. Even [though they are] relatively large, with 200 million-users, they cannot compete with Facebook for advertisers in a real, serious way. For advertisers, basically the question's over. Facebook is the place you go to buy. I haven't heard the term 'monopsony' used once this whole conference. When you have a single platform, which everybody has to use to get out to an audience, like Amazon in the books business, they have market power. They have market power to push the person—whether it's the producer of movies, the producer of music, whoever—push his prices lower because the content is just a commodity. What they're marketing is the data. The data is what matters. All of this content is nothing but a commodity for Google or Facebook."

Ezrachi, meanwhile, countered that data itself has a diminishing value. "Of course, data is an asset, but the value of data diminished over time. We have to understand what exactly we mean when we speak about data. When it comes to pricing, for instance, you need astonishingly little in order to be able to engage in dynamic pricing. If you have a lot of data, sometimes also the cost of you developing an algorithm that can use all that data might actually undermine your incentive to do that. We have almost two opposing elements here. On [the] one hand, we need to appreciate that in this new world you can actually do a lot of harm or achieve a lot with relatively little data. That's one thing. That, in some way, runs against our argument that data is such a significant asset. Where does it become really significant? When I need to know that you're standing now outside Starbucks. I need to know exactly. There are elements when it comes to timing and the depth of data, where whoever owns that is actually the winner. What we have here is a very clear link between the main platforms, the super platforms. Basically, anyone here is linked to one of the two main platforms. You either have iOS or you have Android. There are two giants, they're in your pockets, and they are the ones that actually control this harvesting exercise. On [the] one hand, you don't need that much, but to be the winner of this process, you have to be one of them. Maybe in the future we'll have a third one. So far, it seems that we're stuck with two."

"THE REAL CORRUPTION IS THE OWNERSHIP OF CONGRESS BY THE RICH": JUDGE RICHARD A. POSNER IN CONVERSATION WITH LUIGI ZINGALES

Judge Richard A. Posner, who retired in September 2017 from the United States Court of Appeals for the Seventh Circuit in Chicago, has been known to make provocative statements on occasion. Yet Posner's candor in his conversation with Professor Luigi Zingales still took many in the audience by surprise.

"The real corruption is the ownership of Congress by the rich," said Posner, one of the most influential antitrust scholars of the last 50 years, and one of America's most prominent legal minds, during a conversation in which he harshly criticized the Supreme Court's 2010 Citizens United ruling, declared antitrust "dead," and described the American judicial system as "very crappy" and "not well-designed to get good people."

The interview began with a review of Posner's vast experience in government and antitrust. "Between 1961, when I was a second year student at Harvard Law School, and 2001, antitrust was really the focus of my intellectual life," said Posner, who clerked for Supreme Court Justice William J. Brennan in 1962. "I was interested in antitrust. He asked me to write—he was assigned the Philadelphia National Bank merger case. He asked me to write the opinion, which I did. That was fun," said Posner.

United States v. Philadelphia National Bank (1963), which involved the proposed merger between the then second- and third-largest banks in Philadelphia, ended with the Supreme Court ruling that mergers that produce a company controlling an undue share of the market and lead to increase in concentration are illegal, absent a clear showing that the merger is not likely to have anticompetitive effects. Though it is considered a landmark antitrust case, Posner, who wrote the opinion while clerking for

Justice Brennan, criticized it in retrospect. "Not having thought about it for the last 58 years or so, I reread and I was surprised by it, actually. What it said was that Philadelphia National Bank had acquired another bank in Philadelphia and the claim was that, as a result of this acquisition, these two banks would now control, I don't know, 38 percent or something of banking in Philadelphia. This was bad, according to the opinion, which I wrote. As I looked at it this morning, at the case again, I said, What exactly was the problem? Were people being overcharged for their checks or something? There wasn't any suggestion of that in the opinion. The opinion had been satisfied with the proposition that if two companies merge and they have a significant percentage of the business in their trade in their particular locale, that violates the Sherman Act."

Posner elaborated on the changes antitrust in the US has gone through in the past three decades: "When I became a judge in 1981, I thought I had a lot of interesting antitrust cases, and I did—for about three years. And then they started to dry up. By the 2000s, there were virtually no antitrust cases left."

Posner then spoke about the legal battle between Apple and Motorola that took place between 2010 and 2012, in which Apple claimed that Android phones were a "rip-off" of the iPhone and Motorola claimed Apple had infringed on its patents. Posner dismissed the case "with prejudice." "That was my last antitrust case, probably forever," said Posner, before he shocked some in the audience by remarking, "Antitrust is dead, isn't it? That was my impression."

Discussing antitrust criticisms against digital platforms like Google, Posner said: "I was surprised to read that there are criticisms being made against Amazon, Microsoft, and Google. That's blasphemy. Those are the three best companies in the world. Who's concerned about whether they had monopolies?"

The Stigler conference brought together dozens of economists and legal scholars, along with academics from other disciplines, journalists, and public intellectuals to discuss the rise in concentration in the US. Posner did not share the concerns expressed by many of the conference's participants. "I spend a lot of time Googling, so I don't want to hear criticism of Google, my principal source of knowledge. I'm very comfortable with the modern American giant companies," he said. "Maybe there are real, lurking, serious antitrust problems, but they don't come to my court."

If there's a concern about concentration in a certain industry, said Posner, "the Justice Department will have a conversation with the companies and persuade them to modify their actions slightly, and that's the end of it."

"There's a reason they don't come to your court," said Zingales, who noted that the reasons might be the lack of antitrust enforcement and regulatory capture. In response, Posner said that "there certainly is a problem with capture of regulatory agencies. I think the best example of that is not the Justice Department, but the Securities and Exchange Commission. There's a particular career pattern: you go to work for a financial firm in Wall Street, and you do well, and then you go to work for the SEC, you get a good job there, and then you go back to Wall Street, where you get a better job. The fear is that in order to have a sure path to returning to Wall Street, you better not be too ferocious as a regulator."

"There are other situations where working for regulatory agencies is just a stage in your career, but you have to be careful to not be too aggressive as a regulator,"

"When I became a judge in 1981, I thought I had a lot of interesting antitrust cases, and I did—for about three years. And then they started to dry up. By the 2000s, there were virtually no antitrust cases left."

— Richard Posner

"Antitrust is dead, isn't it? That was my impression."

— Richard Posner

he added. "I don't have a sense that this happens with the Justice Department. I think prosecutors are expected to be aggressive. Aggressiveness is valued by the private sector, and when they're tired of being prosecutors they're hired to be tigers for the other side."

Zingales asked if the FTC's choice not to pursue an antitrust case against Google in 2013, despite the conclusion of its staff that Google had used anticompetitive tactics, can't be explained as regulatory capture. "At the end of the day, they decided not to do anything, at least not in the United States—in the European Commission they arrived at a different conclusion. Is it just because it's easier to enforce antitrust on somebody else's company, or is it because Google has captured the US environment, and not the European one?" Zingales asked.

"What was the worst thing Google had done?" asked Posner.

"They diverted searches toward a business they owned directly," replied Zingales.

"I guess that's bad," said Posner.

Zingales then mentioned the close relationship between Google and the Obama administration—the well-documented revolving door between the two and the rare access provided by the Obama White House to Google executives. "If you are concerned about regulatory capture, this seems to be a source of concern," said Zingales. "Even if it's not necessarily a present danger to consumers, it could be a future danger," he added.

"Google gives access to two billion websites. That, seems to me, swamps the concern that they are playing games with a few of them. It's extraordinary what you find on Google," Posner replied. "Maybe they are playing fast and loose, but I don't feel it is a serious problem."

Posner harshly criticized the Supreme Court's 2010 Citizens United decision, saying that "If you become a member of Congress, you'll get a card from the head of your party that you will spend five hours [each] afternoon talking to donors. That's not the only time you spend with donors—they'll take you to dinner, cocktails—but these five hours are important. The message is clear: You are a slave to the donors. They own you. That's [the] real corruption, the ownership of Congress by the rich."

Despite his concerns of Congress being captured by donors, Posner said that he sees this as "remote from antitrust concerns."

"Why?" asked Zingales. "Gary Becker developed a model of lobbying that was based on competition in lobbying. I agree with you that the system is very corrupt. It is also true that if there is some industrial fragmentation, at least there is some competition between the people who own you, and competition is better than monopoly—even in that case. If you have just one big player, and you talk for five hours with only one person, you are going to have only one view of the world. To me, that seems much more problematic."

"You're not going to have people competing with the Koch Brothers. They have too much money. They own a great many Republican officials," replied Posner. "The Koch brothers greatly overshadow their competitors if they're much more scattered, if they're individually less wealthy, or if they simply are not that interested in politics. If they don't see their particular business as benefited, as likely to receive significant benefits from Congress, then they're not going to spend their money on buying legislators."

At this point, Zingales pressed: "Informally, these days, every business is affected by government decisions, so it's very hard for a business to be completely out. In the old days, Microsoft was not lobbying, and they got a serious antitrust lawsuit. Google learned from the process and they started lobbying very early in the process. It seems to have paid off, because they've been off the radar screen of antitrust. My concern is that concentration, even if it leads to competitive prices for some miracles, is worrisome from a political point of view. Clearly, in the early days of antitrust there wasn't a good understanding of economics and too much intervention, but now my concern is, Has the pendulum swung too far in the opposite direction? Are we only concerned about seeing low prices, and not about other things like capture or having members of the House of Representatives owned by one large company?"

Posner disagreed, laying the blame on the Supreme Court and on what he described as America's "very bad" judicial system. "The Supreme Court made it complicated by saying political donations are a form of free speech, and you can pour your money into political campaigns. There isn't anything the government can do [about it] now."

Zingales then referenced a 2013 paper by Posner, Lee Epstein, and William M. Landes which examined the pro-business bias of the Supreme Court. Both among Democrats and Republicans, they found, there has been a dramatic trend of increasing the pro-business bias since World War II through today.

"You said nothing can be done, but in a sense, this is endogenous," said Zingales. "The reason why the Supreme Court decided on Citizens United the way it did is because there's been a dramatic ideological shift in the direction of whatever is good for business is good for America, including money is free speech."

In response, Posner replied: "No, I don't agree with that at all."

"We have a very crappy judicial system. That's the long and short of it. And that contaminates much of government," said Posner. "In England, judges up to the level of the Supreme Court are appointed by commissions which are composed of judges and professors, not politicians or Parliament. Our federal courts are instead appointed by politicians and the president and confirmed by the Senate. Those politicians do not care about quality, beyond a very low minimum. They care about other things: tokens, political and religious leanings. So you end up with mediocre courts that are highly politicized. And that's what we have now in the Supreme Court: extremely reactionary Supreme Court justices, appointed by Bush mainly."

When asked by Zingales if, in lieu of limiting donations, limiting concentration might be effective, Posner demurred. "If the Justice Department said, 'We're going to go after the Koch Brothers because they're having an undue influence on the political system with their billion dollar contributions,' the current Supreme Court would say you can't do that. They can spend all the money they want on support of political candidates, because we in the Supreme Court have interpreted the First Amendment to include money. There's nothing the government can do about that," said Posner.

"I understand that, but if we reduce their size, you might even reduce their profitability, you increase competition, so they will have less power," said Zingales.

"If you become a member of Congress, you'll get a card from the head of your party that you will spend five hours [each] afternoon talking to donors. That's not the only time you spend with donors—they'll take you to dinner, cocktails—but these five hours are important. The message is clear: You are a slave to the donors. They own you. That's [the] real corruption, the ownership of Congress by the rich."

— Richard Posner

"But everyone will see through that," said Posner. "They'll see the reason you want to reduce the size of the Koch brothers is that you think their influence in politics is excessive. But the Supreme Court says you can't, there's no such thing as spending too much money to support a political candidate, because money is actually speech—that's all nonsense. The First Amendment is about free speech, not about giving money away. The current Supreme Court is very committed to this extremely conservative view, which makes it very difficult for government to get its hands on these companies."

Near the end of the event, Posner was asked by a conference attendee if he had read anything that influenced his favorable opinion of Google. "No," Posner said, and added that he frequently uses Google searches in his judicial work. "I am often dissatisfied with the way in which the lawyers present a case to us," he said. "They often don't tell us the things that we really need to know. If it's a medical case, they don't tell us about the nature of the disease and the optimal treatments for it. If it's a business case, we've had cases about workers complaining about harassment by their supervisors where they didn't even tell us what the business is and what these workers do. So I very frequently Google cases, law firms, individuals in the litigation. I just find that an invaluable source."

This, said Posner, puts him at odds with fellow judges who feel that by using online search engines he is undermining the adversary system. "I am criticized by other judges for doing this, on the ground that it's inconsistent with the adversary system," he added. "The theory of our judicial system is that the lawyers pick all the witnesses and make all the arguments, and the judge is just an arbitrator, basically. I find that very unsatisfactory, because I don't trust the lawyers."

CONSOLIDATION IN THE FINANCIAL INDUSTRY

CONSOLIDATION IN THE FINANCIAL INDUSTRY

- **Steven Kaplan,** *Neubauer Family Distinguished Service Professor of Entrepreneurship and Finance, University of Chicago Booth School of Business*
- **Nancy Rose,** *Charles P. Kindleberger Professor in Applied Economics, MIT.*
- **Martin Schmalz,** *NBD Bancorp Assistant Professor of Business Administration, Assistant Professor of Finance, Ross School of Business, University of Michigan.*
- **Xavier Vives,** *IESE Business School, University of Navarra.*

Moderated by: Jesse Eisinger, *ProPublica*

The issue of horizontal shareholding has received much attention in literature and discussions regarding antitrust in recent years, as consolidation in the asset management industry allowed a handful of asset management giants with trillions of dollars in assets like Vanguard, BlackRock, State Street, and Fidelity to become the largest shareholders in numerous industries.

In 2016, Harvard Law School professor Einer Elhauge defined horizontal shareholding as something that exists "when a common set of investors own significant shares in corporations that are horizontal competitors in a product market." In recent years, scholars like Elhauge, Martin Schmalz, and José Azar have been studying the implications of asset managers' increasing power, arguing that it is a major contributor to several economic phenomena, including the rise in inequality and in concentration.

Can horizontal shareholding explain the diminishing level of competition seen in many industries today? This question, and the burgeoning area of research surrounding it, was at the center of one of the most fascinating (and spirited) panels at the Stigler Center conference.

The panel featured Steven Kaplan, the Neubauer Family Distinguished Service Professor of Entrepreneurship and Finance at the University of Chicago Booth School of Business; Nancy Rose, the Charles P. Kindleberger Professor in Applied Economics at MIT; Martin Schmalz, the NBD Bancorp Assistant Professor of Business Administration and Finance at the University of Michigan's Ross School of Business; and Xavier Vives, a professor at the IESE Business School, University of Navarra.

THE ANTICOMPETITIVE EFFECTS OF COMMON OWNERSHIP

Schmalz, who has studied the issue of common ownership extensively in recent years, most notably in the airline and banking industries, began by defining common ownership as causing "reduced incentives to compete that are very, very large."

America's six largest banks share five major shareholders, said Schmalz. "J.P. Morgan's largest shareholders are Vanguard, BlackRock, State Street, Capital Research, Fidelity. Bank of America starts with Berkshire Hathaway, followed by Vanguard, BlackRock, State Street, Fidelity. Citi is BlackRock, Vanguard, State Street, Fidelity. Wells Fargo is Berkshire Hathaway, Vanguard, BlackRock, State Street, Wellington. PNC is Wellington, Vanguard, BlackRock, State Street, and you get the point. It's repetitive."

Common ownership can be seen in many other industries. Bayer and Monsanto, said Schmalz, share five of six top shareholders. Among airlines, Delta's top seven shareholders are also the top shareholders in other major airlines. "If you ask yourself, 'Who votes for these mergers?' now you know where to look," said Schmalz. "Some people in this room might be reminded of the Morganization of US railroads a century ago." In a highly cited 2016 paper, Schmalz (with co-authors José Azar and Isabel Tecu) showed that common ownership among airlines has made average ticket prices three to ten percent higher than they otherwise would have been.

While some economists during the conference argued that national HHI indexes are relatively low, Schmalz showed that market-level concentration is much higher. Once common ownership is taken into account, he said, the HHI is twice as high, at nearly 5,000 points. Schmalz went on to quote CNBC reporter Becky Quick, who in an interview with Warren Buffett, asked, "If you're building up such a significant stake in all the major players, is that anything that's like monopolistic behavior?"

Buffett's response in that interview was that other firms were doing the same thing. "I agree. It's a pervasive thing: It's not one institution that monopolizes the entire industry. It's five or six of them who have very similar portfolios," said Schmalz.

"Passive" investors, said Schmalz, are less passive than some may consider them to be. "When you go on Vanguard's website, the CEO and chairman explains,

"You don't need to do anything for common ownership to cause higher prices, but to the extent that Warren Buffett might call up an airline and tell them his opinion about competitive strategy, or vote against the use of relative performance evaluation or vote against an activist hedge fund who sits on the board, that would exacerbate these concerns."

— Martin Schmalz

'We have a passive investment strategy in many of our funds, but that doesn't mean that we're passive in terms of corporate governance. We have hundreds of engagement meetings every year with our portfolio firms. We vote our shares.' They behave pretty much like any other owner as well."

Institutional investors, he said, often talk to their portfolio firms about issues related to competition. "If it's not explicitly about competition, they talk about payout strategy, investment strategy, capacity decisions, which of course sooner or later are going to be reflected in product market outcomes. There's also very little debate that institutional investors talk about managerial incentives. There's decades-long literature showing that you can use managerial incentives to soften competition in the product market." Mutual funds also vote their shares like any other shareholder, he added, which gives their action its "bite."

"Here's a fact: Berkshire Hathaway's co-CIO sits on the board of J.P. Morgan, which is a competitor of Wells Fargo, Bank of America, US Bancorp, Goldman Sachs, and American Express, all of which Berkshire Hathaway has major holdings in," said Schmalz.

Next, Schmalz discussed the possible mechanisms by which passive investors can influence firms. "Funds can speak to the portfolio firms, structuring incentives and using their vote, but they don't actually need to do any of this," said Schmalz. "Suppose, for a moment, that BlackRock and Vanguard don't ever do anything in corporate governance. The only thing they do is crowding out other investors that would have otherwise pushed for more competition. There is systematic evidence for that." A number of papers, he said, have showed that "if you have a concentrated owner, say a hedge fund activist at the top of an ownership structure of a firm, this has the effect of the firm competing more aggressively, increasing market share at the expense of its rivals. If BlackRock, Vanguard, or Fidelity crowd out this concentrated owner, then you should not expect to see the same outcome. I'm not aware of any evidence that diversified owners ask their portfolio firms to compete more aggressively against each other."

But often, he noted, owners don't have to do anything for common ownership to have anticompetitive effects. "You don't need to do anything for common ownership to cause higher prices, but to the extent that Warren Buffett might call up an airline and tell them his opinion about competitive strategy, or vote against the use of relative performance evaluation or vote against an activist hedge fund who sits on the board, that would exacerbate these concerns."

"The market power hypothesis now has been revised. Now, it says firms in markets with high-levels of common or overlapping ownership earn high price-cost margins and profits."

— Xavier Vives

AN ALTERNATIVE EFFICIENCY HYPOTHESIS ON COMMON OWNERSHIP

Vives, who has served as an advisor on competition and regulation issues for the World Bank, the Inter-American Development Bank, the European Commission, and the Federal Reserve Bank of New York, among others, offered insights from his own research on the subject of the panel, and offered what he called a theoretical "alternative efficiency hypothesis" on common ownership.

"The discussion that we are having here on common ownership and the effects of common ownership reminds me of the structure–conduct–performance paradigm," said Vives. The market power hypothesis, as formulated by Joe S. Bain, argued that firms in concentrated markets protected by barriers to entry earn high price-cost margins and profits. The paradigm was later criticized by Chicago economists, who argued that the concentration effect is usually small, leading them to formulate an alternative efficiency hypothesis, according to which concentration and industry profitability go together and large firms are more efficient.

"The market power hypothesis now has been revised. Now, it says firms in markets with high levels of common or overlapping ownership earn high price-cost margins and profits," said Vives, who argued that present-day oligopoly models have more basis, citing Schmalz's papers on airlines and banks.

Vives then described his own theoretical alternative efficiency hypothesis to the issue of common ownership, according to which a high level of common ownership and efficiency are associated because common ownership improves information sharing, firm collaboration, and corporate governance (due to economies of scale in information production and monitoring). This, theoretically, induces managers to reduce costs and improve performance. "Since large firms have more common ownership links, they will have also better corporate governance, will be more efficient, will command larger price-cost margins or higher profits, and therefore, we find that common ownership and high price-cost margins go together." Vives cited Appel et al. (2016), who found that passive investors have a voice and improve ROA, and He and Huang (2017), who argued that cross-held firms have higher market shares and profitability due to efficiency gains.

Vives then cited his own upcoming paper (with co-authors Albert Banal-Estanol and Jo Seldeslachts) on the impact the financial crisis has had on common ownership and competition. According to their findings, passive investors increased their holding relative to active shareholders following the crisis. Due to passive shareholders being more diversified and becoming more concentrated, this leads to more interconnected networks of common ownership and more internalization of rivals' profits. While this could have both market power and efficiency interpretations, he said, what their data show is that these phenomena go together with decreasing competition, as measured by the elasticity of profits to costs.

Vives offered another alternative efficiency explanation, this time relying on theoretical work he did with Ángel López on common ownership in R&D-intensive industries, where they hypothesize that under certain conditions, some degree of common ownership may be welfare-enhancing and, in industries that exhibit sufficiently large R&D spillovers, may even increase consumer surplus. What they found, he said, is that it depends on the objective of the competition authority. "If the competition authority just cares about consumer surplus, then you have to be much tougher with common ownership. If you also care about total surplus, then you can be more lenient."

UNANSWERED QUESTIONS

Rose, who served as Deputy Assistant Attorney General for Economic Analysis in the Antitrust Division of the US Department of Justice from September 2014 through the end of 2016, took a more skeptical approach than the previous panelists. Noting the empirical contributions of scholars like Schmalz and Vives to the literature on the subject, she was still "a little bit surprised by the rapid embrace of the potential implications of this," given the difficulty of establishing a causal relationship due to "coincident changes in the competitive landscape" that might "confound" the results.

Rose then raised several issues and unanswered questions that, she said, economists studying common ownership should resolve "before we consider policy responses with very far-reaching consequences."

The first question has to do with who has an incentive to do what, and how market institutions might interact with internal incentives within firms and organizations. In studies on common ownership, she said, "common ownership tends to be implemented empirically as a weighted average of a cross between market shares and the ownership shares of firms in institutional investors. But as I think back to a very longstanding literature in organizational economics and corporate finance, that literature is skeptical about whether managers even maximize just the value of the shareholders in their own firm and talks a lot about the frictions in that."

"Common ownership tends to be implemented empirically as a weighted average of a cross between market shares and the ownership shares of firms in institutional investors. But as I think back to a very longstanding literature in organizational economics and corporate finance, that literature is skeptical about whether managers even maximize just the value of the shareholders in their own firm and talks a lot about the frictions in that."

— Nancy Rose

Economists researching common ownership, said Rose, should focus on figuring out what the incentives are for passive owners to encourage managers to take other firms' profits into account, and what the incentives are for the managers themselves. "In particular, if this works so well, why do we take the market structure as given? Isn't it even more profitable for the airlines to withdraw from competing markets, have a single airline serving each market? That would lower costs. You'd implement the monopoly profits right away. We're sort of taking participation in markets as given, even though I think this theory would have implications for that." She added: "Why have mergers anymore? Mergers are expensive and risky." The second question, she said, is why some firms are commonly owned and others not so much.

Rose also emphasized that there's a difference between active and passive investors, arguing that passive investors "don't sell on the basis of outperforming an index. They compete on the basis of low fees, customer service, maybe some branding or marketing. It's less obvious to me why they would exert any effort to pop their airline holding stocks when most of the benefit of such a pop would go to others. Even the biggest guys are owning maybe four or five percent, at the most ten percent, of an airline. So if they succeed in getting that value up, it goes to somebody else, not them."

Another important question had to do with what she described as the endogeneity of commonly owned firms. Common ownership, she argued, is much more common among the very largest firms in the industry and much less common among the smaller firms. "I think you'd find that across the board. Why? Because the index funds are disproportionately pulling out the larger firms in a sector and the firms that are operating more broadly, perhaps across more markets." Competition among those firms, she suggested, might look different than the competition between the largest and smallest firms in the sector. Dramatic consolidation, she added, "almost mechanistically increases the common ownership," making it possible that the competitive effect is not coming from common ownership but from the "nature of competition between what now is a small handful of similar large firms."

EMPIRICAL EVIDENCE WEAK?

Kaplan, whose research focuses on issues in private equity, venture capital, entrepreneurial finance, corporate governance, and corporate finance, also took a skeptical approach to common ownership. Those who believe in common ownership, he said, must also believe that "governance in the United States is awesome, because it means these shareholders are making the executives do exactly what they should be doing: maximize shareholder value." Otherwise, he said, those that say governance in the US is bad or that companies are not managing for the long term or not maximizing shareholder value while believing that common ownership has anticompetitive effects are contradicting themselves.

Kaplan began by dismissing empirical studies supporting the view that common ownership has anticompetitive effects, arguing that the evidence is "pretty weak." Kaplan specifically criticized papers that tied common ownership with executive compensation, such as a 2017 paper by Schmalz, Miguel Anton, Florian Ederer, and Mireia Gine. In that paper, the authors find that executives are paid less for their own firm's performance and more for their rivals' performance if an industry's firms are more commonly owned, arguing that higher common ownership also leads to higher unconditional total pay. Other studies, said Kaplan, show that "common ownership of natural competitors is associated with more relative performance evaluation, rather than less." (Schmalz later disputed this, arguing that another paper confirmed the results, leading to a spirited debate over methodology and empirics between Kaplan and himself.)

Also, said Kaplan, "anyone who has ever served on the board of a public company or money manager, and I've done both, understands there is no plausible mechanism for this to ever occur." Board members, he said, have "no idea" who owns their competitors.

Lastly, he said, there are more plausible explanations for the increase in concentration and profitability. Concentration and profits have gone up, he said, but that is partly due to American business people being "smarter." Another reason is the rise of global consulting firms. "If you're looking for a mechanism why this may have happened, I would look to the consulting firms because it's more plausible. They talk to the CEOs and they probably tell them to do these things in a way that the shareholders don't."

"BUSINESS JOURNALISM FAILS SPECTACULARLY IN HOLDING THE POWERFUL TO ACCOUNT"

INFORMATION IN THE AGE OF CONCENTRATION

- **David Dayen,** *Journalist,* The Intercept.
- **Jesse Eisinger,** *Senior Reporter, ProPublica*
- **Patrick Foulis,** *New York Bureau Chief and US Business Editor,* The Economist.
- **Jonathan Sallet,** *Visiting Fellow, Brookings Institution*
- **Matt Stoller,** *Fellow, Open Markets Institute (formerly of the Open Markets Program at New America).*

Moderated by: Guy Rolnik, *University of Chicago Booth School of Business*

The election of Donald Trump has brought about an incredible resurgence of investigative journalism. Following a long period of allocating fewer and fewer resources to the costly and time-consuming work of investigating misdeeds by politicians, regulators, and corporate executives, in the months following the election, news outlets hired reporters and created new desks devoted to investigating the president's numerous potential conflicts of interest. A surge of public interest has resulted in a rise of advertising revenues, also known as the "Trump Bump." Trump's outward hostility toward the media has also led to an outpouring of support in the form of subscriptions and contributions. The stream of contributions, however, did not prevent a rash of mass layoffs.

In a January *Politico* piece titled "Trump Is Making Journalism Great Again," Jack Shafer wrote that Trump and his (then forthcoming) presidency "may be the greatest gift to Washington journalism since the invention of the expense account," allowing political reporters to venture beyond transactional relationships with Washington insiders for information. "In his own way, Trump has set us free," wrote Shafer.

Yet the question remains whether the media can be as free when it comes to powerful business groups. In an interview with *ProMarket* last year, investigative journalist and media critic Dean Starkman offered a thorough critique of business journalism in the runup to the 2008 financial crisis. Journalists, he argued, particularly business journalists, had become all too reliant on access reporting, which "tells readers what powerful actors say" rather than telling readers what they do, making journalists part of the establishment they were supposed to scrutinize and leaving them ill-equipped to investigate systemic frauds. Asked whether the media is now better positioned to recognize systemic risks, Starkman offered the following response:

"No, no, absolutely not . . . . Are we better set up to cast the net more widely? To find dissenting voices and listen to them? Are we more open to seek out convincing whistleblowers and protect them? Do we have resources to knock on doors and climb stairs of tenement apartments? The answer is 'no.' It's the opposite."

Starkman cited two then-recent media misses: the water crisis in Flint, Michigan, and the middle class and blue-collar rage that contributed to the ascendance of Donald Trump, then the leading candidate in the GOP primary. If the media continues to abdicate its accountability role, he warned, "we will always be living in a state of perpetual surprise." Eight months later Trump won the presidency, shocking the media and political elites.

The press plays a crucial role in the proper function of democracy and competitive markets. In a 2002 paper on the "Corporate Governance Role of Media," Alexander Dyck and Luigi Zingales argued that the media has the power to shape corporate policies and pressure managers into behaving within societal norms. In a 2008 paper, Dyck, Zingales, and David Moss argued that media can serve as a "counterbalance to special interests," thereby reducing the likelihood of regulatory capture.

Yet in an age when the business and media landscapes are increasingly concentrated, and with digital platforms like Google and Facebook siphoning advertising revenues and taking control of the infrastructure, the press—particularly the financial press—remains beleaguered. Despite a recent stand by the newspaper industry against the growing power of Google and Facebook, some believe it is too little, too late.

During a panel at the Stigler Center conference that focused on journalism at an age of rising concentration, Pulitzer Prize-winning journalist Jesse Eisinger offered an anecdote that spoke to the current state of business journalism.

"Normally on this weekend, I judge the premier business journalism award, the Loebs," said Eisinger, author of the recently released book *The Chickenshit Club: Why the Justice Department Fails to Prosecute Executives*. "This time I couldn't, so a colleague of mine, an editor, took my place. She was doing the features that all the business and regular news organizations had submitted. She came to me and she really was kind of confused. She said, 'This is supposed to be the best business news, the best business features of the year. And it seems like mainly what they are is [a] journalist gets access to a corporate executive and writes about what he or she is doing at the office or at home—they think that that's a good feature.'"

The story, suggested Eisinger, a senior reporter for *ProPublica*, was emblematic of the challenges facing business journalism: "Business journalism fails spectacularly in holding the powerful to account."

In addition to Eisinger, the panel featured David Dayen, author of ***Chain of Title: How Three Ordinary Americans Uncovered Wall Street's Great Foreclosure Fraud*** (The New Press, 2016) and a contributor to *The Intercept* and *The Nation*; Patrick Foulis, the New York bureau chief and US business editor of *The Economist*; Jonathan Sallet, former deputy assistant attorney general for litigation at the Department of Justice's Antitrust Division (2016-2017) and a visiting fellow in governance studies at the Brookings Institution; and Matt Stoller, currently a fellow at the Open Markets Institute and a former fellow at the Open Markets Program at New America. The panel was moderated by Guy Rolnik, a Clinical Associate Professor at Chicago Booth.

"Business journalism fails spectacularly in holding the powerful to account."

— Jesse Eisinger

Much of the panel focused on the role that the business media plays in either pushing for competition or helping incumbents and special interests cement the status quo, and it veered between optimism and pessimism. Eisinger, for his part, began with a grim diagnosis: "We're in deep trouble, and mainly I think it's because the business model's collapsing."

BUSINESS JOURNALISM FAILS SPECTACULARLY

At the root of the problem, said Eisinger, is a structural shift that saw the decline of major metropolitan newspapers that used to do some business reporting. "Twenty years ago or so we had major metropolitan newspapers all around the country, the *Chicago Tribune* had many more reporters, the *Miami Herald*, the *Portland Oregonian*, the *Philadelphia Enquirer*, etc. 20, 25 major metropolitan dailies. They had OK business sections, not great business sections, but those don't exist anymore, so there's really no business coverage that comes out of those newspapers.

"What arose in their stead are places like Bloomberg and Reuters which, of course, do cover business. The main consumers of those products are investors," he said. "And so business journalists approach their job mainly from the point of view of what investors want to know and hear about. That, of course, is often in 180 degrees to what the public wants to know."

The structure of business news, argued Eisinger, "is that the businesses control the news to a much greater degree than in any other area of the media. In politics, you have a built-in adversarial system. Of course, that excludes fringe views, and this is a deeply flawed process, but at least [journalists] understand that there are at least two views in a story. Business journalists rarely understand that, and so the structure of business news is that most of [it] is controlled by business. Businesses choose to report when they're going to develop a product. They choose to report when their earnings are coming out. They usually report changes in their executive structures. All of this initiates from their point of view, and the journalists are often reactive. We don't have to be, but the entire structure of business news wires is to react to press releases."

Moreover, he said, the rise of investor-oriented outlets has led to "a substitution of general interest publications that were interested in trying to answer questions about businesses, and whether they were good for the public, with whether business produces something that's good for investors or bad for investors," said Eisinger.

At the same time, other outlets moved away from investigative business reporting. "The *Wall Street Journal* [was] at one point the premier business news organization in the country. Rupert Murdoch took it over, and Murdoch is ideologically not interested in investigative news of corporations, but he also wanted to take on the *New York Times* as a competitor. You saw a huge swath of business news reporters from the *Wall Street Journal* refocused to covering other areas, mainly politics. You've seen this extraordinary decline in business news reporting, and the importance of investor-oriented news rise in its place, which has led us to a deeply problematic place."

While coverage of the financial sector has improved since the 2008 crisis, Eisinger noted, and tech media does have some investigative reporting amid "mostly adulatory coverage," vast sections of the economy have been "terribly neglected": "Retail, industrial, 'flyover country'—as we derisively say on the coasts—those are ripe for accountability journalism. We hardly do any of it."

RELATIVELY OK PICTURE

Foulis, who writes the *Economist*'s weekly "Schumpeter" column and was the author of a March 2016 cover story that examined rising corporate concentration and profits, countered with a more optimistic take on the current state of business journalism.

Foulis outlined three tests for determining the health of the media: 1. Is there a hard core of publications that have a "serious agenda," are reasonably well-resourced to find out facts, and have ethical procedures in place for dealing with conflicts of interest? 2. Is there a diversity of views? 3. Does the public, in general, care about the media and what it publishes?

When it comes to the first question, said Foulis, "there's still, in my opinion, a pretty rich set of [serious] publications. Weirdly, they're largely controlled by tycoons: the *New York Times*, Carlos Slim is a minority investor. The *Wall Street Journal* is controlled by Murdoch. The *Washington Post* is owned by [Jeff] Bezos. Bloomberg is controlled by Michael Bloomberg; Reuters, the Thomson family; the *New Yorker* by the Newhouse family. The European global publications, the *Financial Times*, the *Economist*, the BBC, have slightly different ownership models. I would say that's the cohort of traditional publications, which is still in reasonable condition.

"My general sense is you'd be quite impressed if you went inside one of these publications, as a reader, and saw how things work. There are still standards. There's a healthy culture. There's fact checking. A lot of the rigor that you'd hope exists is there, and the degree of corruption from advertising, and so on, is basically pretty low.

"The next stratum of the industry is TV, which is still probably dominant in terms of how Americans get their news. There it's a more corporate ownership structure, you've got NBC, owned by Comcast, Time Warner—probably being bought by AT&T[1]—and then the likes of FOX, owned by Murdoch. There's a cohort of TV stations. Then the final bit of the pie is the newest, which is social media. Statistics suggest roughly 60 percent of people get their news from Twitter and Facebook in the US—bear in mind, those figures are a bit hard to interpret. Some of what they

1 AT&T has since made an attempt to purchase TIme Warner, which the Trump adminsitration is, as of this writing, trying to block.

"Business journalists approach their job mainly from the point of view of what investors want to know and hear about. That, of course, is often in 180 degrees to what the public wants to know."

— Jesse Eisinger

get is actually the rehashed information of the serious publications.

"Then there are two more worrying things. There's fake news, which I would define as the Macedonian teenager making $10,000 a week producing complete rubbish. Then there is what you'd call networked propaganda, which is the state-sponsored news produced by Russia, Turkey, other autocratic countries. That's the landscape. To go back to the three tests, I'd say we're not yet in alarming territory. There is a core of responsible publications, with resources still there. There is a diversity of outlets. The population does, to some degree, at least, still care."

Overall, Foulis said, the picture is not as depressing as it might seem. "The financial crisis really was a renaissance, in many ways, for business journalism, with a whole astonishing amount of facts, the internal workings of the system and its corruption, exposed. More recently, to pick a couple of things, the *Wall Street Journal* broke the story of Goldman Sachs, essentially, it appears, colluding with the government of Malaysia in an illegal way on one of their investment funds. The *New York Times* had a big exposé on Amazon, and so on."

Foulis pointed out three reasons for concern that the "relatively OK picture is going to deteriorate." One was journalism's still-crumbling business model. Another was vertical mergers: "What you're getting is monopolists purchasing content companies. NBC-Comcast is one example. We will probably see Time Warner-AT&T go through, and that should concern you, because the unexpressed purpose of those mergers is to, in effect, create a sort of captive consumer for news outlets, and to lower the level of diversity that the end subscriber gets."

A third cause for concern is digital platforms. A lot of attention has been given in the past two years to the rise of fake news, particularly following the 2016 presidential election, leading to pressures on digital platforms like Facebook to curtail the phenomenon. Foulis believed that platforms will eventually be forced to act. "The platforms know exactly who these people are. They could, in a week, identify and knock out all of the Macedonian teenagers, and they could find out who all of the Russian propaganda bots are. They know how to do it, and I think the pressure and the backlash over fake news and network propaganda is going to force the platform companies to start intervening very heavily in what is published," he said.

This, Foulis cautioned, will be a "move from one evil, which is platform companies pretending that they're sort of neutral and uninvolved in the news cycle while publishing lots of nonsense, to another where those same monopolistic platform companies actually have a much more heavy involvement in what is published. You can pick your evil and decide which of the two is the lesser."

In conclusion, said Foulis, "I think there is still a core of responsible publications which are well-resourced. There is a diversity of outlets. Whether the population pays attention and wants to care about news, I think you can debate [that] a bit."

AN OPEN INTERNET IS CRUCIAL FOR THE MARKETPLACE OF IDEAS

Sallet, the only non-journalist in the panel and also the former general counsel at the Federal Communications Commission, raised concerns over the then-still-only-planned undoing of the FCC's Open Internet rules—which since the conference has indeed come to pass—and the potential impact this could have on the marketplace of ideas. "Like all markets, it's not just about the competitors or the reporters, it's about the consumers. In other words, the importance of diversity of speech is not only the ability to speak, but the ability of people to listen and learn and watch. That's fundamental to democracy," said Sallet. Open Internet, he argued, is crucial to ensuring that there is diversity of opinions and the market of ideas functions properly.

"When the FCC looked at this issue in 2014, 2015, it concentrated very specifically on the question of diversity of speech. It said so. I should note that I had the chance to argue the Open Internet case in 2015 in front of the DC circuit. The DC circuit ruled in favor of the rules which are in effect now. How long they are in effect is a question, because the current majority of the Federal Communications Commission did not agree with the adoption of this order. I don't think we should lose sight of the question of Open Internet

"The financial crisis really was a renaissance, in many ways, for business journalism, with a whole astonishing amount of facts, the internal workings of the system and its corruption exposed."

— Patrick Foulis

policies and how they serve media diversity, because I think there's still a big and important discussion to be had around that," said Sallet, who offered examples of what the absence of an Open Internet might mean.

"Should a broadband provider be able to block lawful content that a consumer wants to get to? That's very important, because media outlets from the left or the right that promote unpopular views may be unpopular with the companies that provide broadband service. In America today, the large companies tend to be companies that both provide broadband service and distribute news and other kinds of programming themselves. It may be a question of whether a consumer can get to a news outlet that's directly competitive with a news outlet that is owned by, or distributed by, the broadband provider."

Sallet continued: "Should a broadband provider be able to, in effect, subject some media outlets to higher costs of distribution than others, if that affected competition in the media industry and therefore disadvantaged consumers? This is not a hypothetical concern. People have referenced the Comcast-NBCU merger. Remember what that merger looked like: We had Comcast—call it a distribution company—buying a content company including news, and both the Justice Department and the FCC looked at it."

The concern, he said, is "the possibility that ownership of content could be used to deprive competitors of the distribution company of valuable programming, or alternatively, that the distribution company could close itself off to rival content, each in a way that could harm diversity and economic outcomes."

In order to avoid this scenario, Sallet contended, regulators should adhere to non-discrimination rules: "Non-discrimination requirements would, in effect, ensure that all media outlets, whether they are soft-spoken or shrill, whether they are left or right, whether they are polite or rude, would be able to find their way to a consumer over the conduit that is the broadband connection."

WALLED GARDENS AND JOURNALISTIC DESERTS

Dayen, whose book won the Studs and Ida Terkel Prize, also offered a more optimistic take of journalism today. "The truth is that we have this sort of paradox of abundance. There's actually more great journalism being done that's accessible to people in the abstract today than at any other time in history," he said. Dayen cited the *Los Angeles Times* investigation that uncovered the Wells Fargo scandal as an example of the great reporting that is still taking place. "The Los Angeles Times journalist conducted this piece from the perspective of these tellers and the pressures that they felt, and what they had to go through. It was very relatable. It was generally ignored at a large level for about a year, until the Consumer Financial Protection Bureau, because of this journalism, particularly because the LA City attorney looked into it, decided to fine Wells Fargo. Then the outrage built up."

Having said that, Dayen did bring up two causes for concern: One was "journalistic deserts": "California would be the Gobi desert in that regard. We are a state of 38 million people, and I can count on one hand [the number of] political reporters in Sacramento, the state capitol. It is appalling, the lack of transparency on state government, on city government."

Another was paywalls: "Whereas the theory is that information wants to be free, information is not free. It's not a marketplace of ideas, it's a walled garden of ideas, and if you have the funds, if you have the money to be able to pay for that insight and ability to extract journalism, you're going to be a much more informed citizen about what's happening in your politics [and] what's going to affect you and your neighbors and your friends."

This situation, Dayen warned, is potentially dangerous. "If you cannot access this very rich material unless you have a certain pedigree and a certain disposable income, what does that mean for society at large, and what does that mean for the freedom of information?"

JOURNALISM'S CRISIS OF LEGITIMACY

Stoller, who prior to joining New America spent six years on Capitol Hill, most recently as a senior policy advisor to the Senate Budget Committee, addressed what he termed "the crisis of legitimacy in journalism," which he noted isn't due to market structure.

"The American people don't trust the press, and they shouldn't," said Stoller, who cited flawed reporting during the lead-up to the Iraq War and the media's neglect of the foreclosure crisis as two examples of "bad journalism."

"I didn't think I would be in politics when I started my career. I came into politics because of the war in Iraq, and in particular, I believed the *New York Times* when the *New York Times* did a lot of stories about how there were weapons of mass destruction in Iraq. It was, as it turns out, pointless mass murder and very destructive all over this country, but much more destructive in Iraq. The *New York Times* didn't fire Judith Miller until 2005, and there has still not really been an accounting for the bad journalism that was done."

The foreclosure crisis, he said, was ignored for a number of reasons. "It was ignored because people didn't want to know about it. It was also ignored because we were in a crisis and journalists didn't want to write about it, didn't know how to write about it."

Another contributor to journalism's crisis of legitimacy, Stoller asserted, was the reverence with which journalists treated the Federal Reserve prior to the financial crisis. "In 2009 and 2010, I worked on Dodd-Frank and the Federal Reserve, and there is no institution in this country that was as worshiped as the Federal Reserve. They did a lot of bad, stupid things in the run-up to the crisis and after the crisis, but the key to their legitimacy was a combination of business journalists and the profession of economics, which is another one of these kind of network pieces of journalism that has contributed to this crisis of legitimacy."

However, Stoller asserted, journalism's crisis of legitimacy is "not just about journalism, but is through all of the associated cartel-like world of journalism, which includes all of the sourcing, all of the government agencies, all the Big Law, all the business tied to [it], are the sources for journalists, and the potential future employers of journalists, and so on and so forth."

Stoller also mentioned the aggressive efforts of government agencies to prevent government employees from talking to journalists. "You have the Insider Threat Program, which is designed to fire people who talk to journalists, fire people who talk to journalists and say things that people in power don't like." Government, said Stoller, used to do "a lot of journalism," but recent years have seen sustained attacks on "the public institutions that actually undergird a lot of journalism."

This crisis of legitimacy, he said, "is also being sort of fixed by the people themselves," as people increasingly share information online. "Complex information is getting out there to lots of people. People really do know what's going on. I wouldn't sell the American people short on that," said Stoller.

Another major force affecting journalism today is the growing power of digital platforms. "Advertising monopsony and power [are] affecting the innovation that would be coming out of lots of these places that are actually doing new journalism. The fundamental problem is that the revenue stream has been concentrated in the advertising market. The relationship has been changed from publisher and reader to essentially a financial market, where you have these weird intermediaries, be it the ad tech firms or the monopolists," said Stoller.

From a policy perspective, he said, "we need policy and regulators who are going to protect the relationship between people that produce and create content, and the readers of that content, and the advertisers who want to reach those readers. Right now, we're not doing that."

Ultimately, however, challenging the advertising power of digital monopolies would require "changing people's minds about what's important," said Stoller. "You have to break down that wall between business and politics. You have to reestablish a culture of integrity in government, in big law, in business, across society, because it's not just about journalism."

THE POWER OF DIGITAL PLATFORMS OVER JOURNALISM

The debate and the Q&A portions largely revolved around journalists' diminished role within the current power structure of media. "The data show that 20 years ago, the ratio between the market cap of companies like the *New York Times* or the *Washington Post* and the companies they covered was one to seven. Today, it's 1 to 70," said Rolnik.

"Any individual media outlet has less influence over these giant entities. The giant entities have less to fear from a story in the *Wall Street Journal* or the *New York Times*. We can all point to exceptions like the slow trickling out of the Wells Fargo story, which was an excellent story, or the Goldman Sachs investigation in Malaysia at the *Journal*. The occasional investigative project has some impact, although on the other hand sometimes investigative journalism doesn't have to impact that," said Eisinger. "I think gradually you've seen an increase in the power and impunity and titanic unassailability of these corporations and a diminishment of any one outlet."

The erosion of trust in journalism and the incessant attacks on its legitimacy, said Eisinger, have made it so that "the big companies have less to fear from any individual investigative project unless it hits the right spot at the right time and it's sustained, which are very rare and expensive kinds of projects to produce."

Dayen, meanwhile, discussed a March 2017 piece of his in the American Prospect about pharmacy benefit managers. "When I pitched that, they were immediately receptive. There is an interest in understanding these concepts of power that undergird everything that we've been talking about at this conference, this lack of dynamism. This seeming corporate dominance and how that is affecting people in their everyday lives. I think how most organizations and journalists go about it is in a way that does not respect the bottom line which is, How does this affect people? Not just who's benefiting, but who's harmed." Dayen contended that in the face of right-wing attacks on the legitimacy or reliability of media, there's been a rise in the number of "new left" publications interested in exploring issues related to concentration and monopoly power.

From the audience, Barry Lynn highlighted the power of platforms over media outlets. "Basically all news now pretty much crosses two platforms, Google and Facebook. We know that young folks get about 60 percent of their reading through Facebook. Facebook and Google are taking pretty much all of the advertising. They take it because they can. They take it because they exist in between the reader and the writer, the reader and the reporter. Just back in December, Will Lewis, the publisher of Dow Jones, the publisher of the *Wall Street Journal*, said 'Google and Facebook are killing the news, because they're taking the ad revenue.' Fifteen years ago, if you took out an advertisement online, 10 years ago, pretty much 100 pennies of that went to the publisher. Now, 60, 70, 80, 90 of those pennies go to Google and Facebook."

"The American people don't trust the press, and they shouldn't."

— Matt Stoller

Stoller concurred: "There is innovation, but there's no financing for it because all the money is being taken by the platforms. I talked to a very prominent publisher who told me that Facebook is the sun around which everything else revolves. It is a crisis of democracy that is really profound. It is the single biggest threat to the First Amendment that maybe we've ever seen in this country, having just a few companies control the flow of the news and the flow of the advertising that finances the news. To have one company that controls the book market. To potentially have one or two companies that control the TV market and the film market, if this consolidation trend happens, and if the Trump administration undoes some of the work that the Obama administration did. We have a real crisis of the First Amendment here. It is a real crisis of democracy."

IS THERE A CASE TO BE MADE FOR POLITICAL ANTITRUST?

IS THERE A ROLE FOR POLITICAL ANTITRUST?

- **Jonathan Baker,** *Professor of Law, American University Washington College of Law*
- **Diana Moss,** *Director, Antitrust Institute*
- **Maurice Stucke,** *Professor of Law, University of Tennessee College of Law*
- **Zephyr Teachout,** *Associate Professor of Law, Fordham University*
- **Luigi Zingales,** *Robert C. McCormack Distinguished Service Professor of Entrepreneurship and Finance, University of Chicago Booth School of Business*

Moderated by: Guy Rolnik, *University of Chicago Booth School of Business*

Should political considerations play a role in antitrust? In the last four decades, the predominant approach was that antitrust enforcement should only be guided by economic considerations such as efficiency and consumer welfare. Now, if the Stigler Center's panel on concentration in America is any indication, it seems that some economists are once again willing to take into account the political dimensions of antitrust.

In 1979, former FTC chairman Robert Pitofsky published a seminal paper on what he termed the "political content" of antitrust. Contrary to the view that antitrust should be concerned exclusively with economic questions, Pitofsky argued that "political values" should be incorporated into the enforcement of antitrust laws.

Among those values, Pitofsky listed "the fear that excessive concentration of economic power will foster anti-democratic political pressures, the desire to reduce the range of private discretion by a few in order to enhance individual freedom, and the fear that increased governmental intrusion will become necessary if the economy is dominated by the few." Ignoring those concerns, Pitofsky asserted, would be tantamount to ignoring "the bases of antitrust" and the "rough political consensus that has supported antitrust enforcement for almost a century."

As discussed in previous chapters, the notion that economic power engenders political power and that economic power can therefore be politically dangerous has played an integral part in American political culture since the founding of the republic. In the 1930s, University of Chicago economist Henry Simons discussed the anti-democratic nature of monopoly power. "Political liberty can survive only within an effectively competitive economic system," he wrote. "Thus, the great enemy of democracy is monopoly, in all its forms."By the 1980s, political antimonopoly concerns had largely been pushed aside. In recent years, however, as concentration has risen across multiple American industries, voices calling for a "re-politicization" of antitrust have increased—both in numbers and in volume.

In his book A Capitalism for the People (Basic Books, 2012), University of Chicago Booth School of Business professor Luigi Zingales [faculty director of the Stigler Center] favors a possible reframing of antitrust policy away from a purely economic analysis, noting that the original motivation for the Sherman Act was "a popular revolt against the political corruption perpetrated by large corporations" rather than an attempt to mitigate economic distortions. If antitrust analyses took into account the political influence businesses can acquire through market power, instead of just relying on a purely economic analysis of costs and benefits, he argued, "many mergers considered welfare-enhancing today would appear to be welfare-reducing instead. They would be stopped or subjected to restriction. For example, mergers that lead to excessively powerful political entities could be subject to limitations on the amount of lobbying they engage in. This would be a radical departure from the status quo."

During the Stigler Center panel on political antitrust, which concluded the three-day conference, Zingales argued that "there is a direct connection between economic power, bigness, and political power."

Apart from Zingales, the panel also featured Jonathan Baker, a professor of law at the American University Washington College of Law; Zephyr Teachout, an associate professor of law at Fordham University and a former Democratic congressional candidate; Maurice Stucke, professor of law at the University of Tennessee and co-founder of the law firm The Konkurrenz Group; and Diana Moss, president of the American Antitrust Institute. The panel was moderated by Guy Rolnik, a clinical associate professor at Chicago Booth and co-director of the Stigler Center.

BIGNESS GRANTS FIRMS ENORMOUS POWER

"The entire neoclassical economics agenda is to eliminate the word *power* from the discussion," said

"There is a direct connection between economic power, bigness, and political power"

— Luigi Zingales

Zingales. "The word *power*, however, was very much present in Adam Smith."

Contrary to Armen Alchian's and Harold Demsetz's famous dictum that firms have "no power of fiat, no authority, no disciplinary action any different in the slightest degree from ordinary market contracting between two people," Zingales argued that bigness grants firms enormous power. "In the US, my presumption is that bribes in cash are relatively rare, but there are many other ways for businesses to influence regulators and politicians, for instance by offering future jobs. The effectiveness in using these instruments is clearly related to how likely a firm is to be around in the future, how big its rents are. If you are a big corporation, allocating a little bit of those rents to somebody is worth the gain. But you can only have these rents to allocate if your firm is well entrenched."

Moving forward, Zingales suggested that reinstating Glass-Steagall might help alleviate some of these tensions. "There is a real sort of tension between having over-powerful banks and having a vibrant market," he said. "Not only is the banking sector much more concentrated but also much more homogenous. If you had an insurance firm fighting with a bank, the public at large would gain, because there is some dynamic. If I am a politician which isn't completely in the pocket of somebody, at least when there is a bit of tension I can occasionally sneak in the right thing to do. But if there is only one side, I am completely captured, even if I am the most independent person on the face of the earth."

"When I arrived here from Italy," he added, "the Italian equity market was completely under the control of banks, and as a result, it was very underdeveloped. I arrived here in the United States, and it was exactly the opposite. This wasn't a coincidence: The reforms of 1933 or 1934 really made it much more difficult for banks to control the equity market. What is the next big securities market that developed? The option market here in Chicago in the '70s—again, a period where there is separation between commercial banks and investment banks. Then, the next market that should have developed was the market for derivatives, but it did not develop as an organized market, rather as an over-the-counter market, opaque and controlled by banks. When did it develop? Immediately after Glass-Steagall was removed."

THE BET THAT GREATER EFFICIENCIES WOULD COMPENSATE FOR FIRMS' EXERCISING MARKET POWER HAD FAILED

Much of the debate was colored by concerns that under the Trump administration, antitrust would be used as a weapon to promote political and economic interests. Baker, who served as chief economist at the FCC (2009-2011) and as director of the Bureau of Economics at the FTC (1995-1998), as well as a senior economist at the President's Council of Economic Advisers and chief economist of the DOJ's antitrust division, opened with a note of caution.

"We do need political action to protect and reform antitrust, but we should still keep enforcement decisions out of the realm of day-to-day politics," said Baker, who devoted much of his time to discussing the decades-long political debate about the role of large firms in the economy that preceded America's current antitrust regime.

For more than half a century before the 1940s, said Baker, the role of large firms was a central political question in American life. Antitrust, he added, was one of several possible answers—but it was not the only one. Some supported large firms and wanted a non-interventionist, laissez-faire policy, or one that allowed business to self-regulate. Others saw large firms as threatening, and sought an interventionist government response, either via industrial planning, de-concentration, or regulation of industry. And then there were those that wanted an antitrust policy that would accept large firms as legitimate but intervene when necessary to prevent them from harming competition.

For decades, the political debate in the US largely revolved around the appropriate scope of antitrust enforcement. During the 1940s, explained Baker, the political system reached an "informal understanding" in favor of the antitrust approach to bigness. "On the whole, firms were allowed to grow large by capturing efficiencies, but they were scrutinized closely under antitrust laws to prevent the exercise of market power."

"Direct political influence on antitrust decisions would most likely result in under-enforcement, would exacerbate the trend towards the exercise of market power, and make it more difficult to restore competitive markets and preserve the antitrust approach to supervising large firms."

— Jonathan Baker

Prior to the 1970s, he said, antitrust was understood as advancing social and political goals, along with economic goals, the primary concern being that without antitrust enforcement, the market economy would lead to a concentration of economic power in the hands of a few corporate giants. But concerns regarding the political power of larger firms were addressed indirectly, through tougher merger enforcement and "rules of general applicability that were tough on dominant firms and tough on mergers increasing concentration, mergers among rivals particularly, but vertical mergers as well, even at the expense of lost efficiencies." Cases, however, were infrequent, and focused on economic harms, while merger enforcement did not prevent the creation of large conglomerates. Then, in the 1980s, policy changed and antitrust rules were relaxed and revised substantially, under the assumption that "greater efficiencies would more than compensate for firms exercising market power."

The bet "that greater business freedom to pursue efficiencies would lead to long-term consumer welfare gains without facilitating substantial and durable market power," Baker noted, had failed. "From today's vantage point, market power appears to have been widening for decades, while economic dynamism and the rate of economic productivity growth have been declining."

But Baker was wary of endorsing a political dimension of antitrust. "The norm against direct political influence on enforcement decisions is important, like the norms against direct political influence on the resolution of cases in court. It discourages enforcement decisions that would indulge special interest protectionism or reflect regulatory capture. Direct political influence on antitrust decisions would most likely result in under-enforcement, would exacerbate the trend towards the exercise of market power, and make it more difficult to restore competitive markets and preserve the antitrust approach to supervising large firms."

Instead, said Baker, "we now need to reform antitrust on economic grounds, to protect existing competition and create more competitive markets." Political support for increased scrutiny of large firms "is critical to making progress," he acknowledged. "Politics has an important role to play in generating the reforms and the resources that have allowed our antitrust institutions to address our market power problem, but those institutions cannot do so effectively unless politics continues to stay outside the room when enforcement decisions are made, and when cases are decided in court."

Nevertheless, Baker added that "a regime that focuses purely on economic competition is not going to fully solve the problems of oligarchy, political power, and privacy, all these issues that are coming up and demand policy responses."

THE CASE FOR POLITICAL ANTITRUST

Teachout, author of *Corruption in America: From Benjamin Franklin's Snuff Box to Citizens United* (Harvard University Press, 2014), advocated for a "re-politicized" version of antitrust that engages traditional antimonopoly values. "Should we, in general, consider that one of the key purposes of antitrust or antimonopoly laws is the preservation of a democratic self-governing society? The answer is yes," she said.

To illustrate what she called a "fundamental crisis of the rule of law vs. the rule of men," Teachout used a personal anecdote: "My first political experience was working for Howard Dean's campaign in 2003. I wrote his open-source policy. I took it to my policy director, and my policy director said, 'I have a friend who has a friend who's the public policy director of Microsoft, who we just met when we were out on a [fundraising] trip. Before we take this, we just need to check with them, see what they think about this.'"

"We're talking probably about 35 to 50 thousand dollars that could have been raised by Microsoft employees from one policy or another. There was no need for that. It was just that open-source policy was not [among] the top three policies of my candidate. This is the sort of routine social way in which policies are made, by reference to Microsoft's chief of public policy."

This sort of influence, said Teachout, has led to a crisis of democracy. "That crisis is very felt. People do not believe that Apple, Amazon, and Google get the same treatment when it comes to tax policy or criminal law. They are not wrong in that belief. The too-big-to-jail problem is as threatening, if not more, than the too-big-to-fail problem that we have."

The undermining of the rule of law due to monopolization, said Teachout, "is one of the reasons that actually led us to President Trump, who himself is threatening the rule of law in other ways. There's a very dangerous dynamic between the lawlessness that comes with that, when you have monopoly powers leading to other forms of lawlessness."

The capture of America's political system by special interests cannot be addressed, argued Teachout, without embracing antimonopoly principles. "Citizens United is not about to be overturned. Merely moaning that the correct response would be to overturn Citizens United is a profound abdication of responsibility on the part of all of us to protect our democracy."

Even prior to Citizens United, Teachout said, America's political system was already moving in the direction of "oligarchy." Congress, she said, has also abdicated "its own authority and power in this area." She added: "The existing antitrust rules, even filled up with more appropriate principles, are not actually up to the task of dealing with the threat of oligarchy that we have in our society now."

Teachout advocated for antitrust to go beyond the courts and for Congress to stop "abdicating" its responsibility. "The rulers or elected representatives are actually, I think, the heart of it. Congress needs tools. It needs us not just to be saying, 'Oh, well, look at the courts,' but to be saying, 'Here are tools from history.' I think it's an incredibly important point, that Congress should be the main field of battle."

MARKET POWER BEGETS POLITICAL POWER

Moss, a former Federal Energy Regulatory Commission (FERC) regulator who, since 2015, has headed the American Antitrust Institute, also defined antitrust as a political economy issue. "Market power begets political power, and political power influences policy outcomes," she explained.

The best example of antitrust's political economy nature, Moss said, is inequality.

"Growth in income and wealth inequality is fundamentally an antitrust problem, because of the growth of dominant firms from what is a relatively lax period of enforcement," said Moss. This rise in inequality has had major political repercussions, as white voters who felt disenfranchised after being affected by globalization and job losses overwhelmingly supported Donald Trump.

"The existing antitrust rules, even filled up with more appropriate principles, are not actually up to the task of dealing with the threat of oligarchy that we have in our society now."

— Zephyr Teachout

"If Donald Trump was going to be true to his base, he would actually support vigorous antitrust enforcement to prevent the growth of dominant firms that have significant buying power in labor markets," said Moss.

Moss emphasized the crucial need to update the tools of antitrust enforcement to better apply the founding principles of antitrust to today's globalized markets. "The antitrust laws were born over 100 years ago in reaction to the uses of the original trusts. The original trusts damaged or impaired the competitive process to the detriment of innovation, to the detriment of consumers, and even to the fabric of a democratic civil society. That economic or market power translated directly into political power and the ability to influence the process and the substantive outcomes of the political process. We're dealing with a very similar fact pattern today. We have some very large and powerful firms with significant market power that translates into political power. What is different is that our markets are different. We have new, better, different, more complex products. We have globalization, technological change. Does the toolkit of 100 years ago fit the problems that we address today?"

When discussing the debate over what remedies are needed in dealing with the problem of declining competition, Moss dismissed calls to increase regulation as a way to address competition problems and argued that antitrust would be far more effective as a tool in dealing with America's market power problem. "The call for more regulation to address declining competition raises a lot of sticky questions," she said. "For example, where is the market failure that would justify invasive, ex-ante intervention in the markets to address competition problems or declining competition? What form would regulation take? We've heard about public utility regulation—are we talking about regulating prices and profits, limits on entry, limits on the ability to integrate upstream and downstream, some form of open access? Who would be regulated? Digital platforms? How do we determine whether platforms would be regulated or not? What are the criteria?"

Antitrust, Moss added, "does not have the Achilles heel [of capture] as much as regulation does." But the use of antitrust as a primary policy tool raises questions as well, particularly regarding remedies.

"Coming up with remedies for the antitrust agencies is absolutely a test of political will. Saying no to negotiating on a bad remedy, an ineffective remedy, takes significant political will in dealing with companies that have significant market power and political power," said Moss.

POLITICAL ANTITRUST IS BECOMING MORE IMPORTANT IN THE AGE OF SUPER-PLATFORMS

Arguing in favor of incorporating political values into antitrust, Stucke (a former prosecutor at the US Department of Justice) asserted that "there is really no doubt that antitrust has political content." This political content of antitrust, Stucke argued, has become even more important with the rise of "super-platforms" like Google, Facebook, Amazon, and Apple.

"If our old tools aren't necessarily working in the old economy, will they necessarily work in the new economy? Can we afford an antitrust policy that only looks at efficiency?" asked Stucke.

"How is a data-driven economy different from the old economy? One difference would be with the super-platforms, because they get so much data that flows through them, they have this nowcasting radar. They can see necessarily what are the emerging trends. Google can anticipate a flu well before the government. They could see, for example, where consumers are downloading, what types of products they are getting, and then they can move into those markets. We're starting to see that with Amazon as well. They could see what their third-party vendors are selling, and then they can move into the markets as well. With this nowcasting radar, the data-driven monopoly today can be much more powerful than the monopolies of [the] past."

Stucke outlined four fundamental problems with an "efficiency-only" approach: "First, how do you define the economic goal? What would be the goal then of an economic approach? If you say efficiency, efficiency is not self-defining. It has various components—

"If our old tools aren't necessarily working in the old economy, will they necessarily work in the new economy? Can we afford an antitrust policy that only looks at efficiency?"

— Maurice Stucke

allocative, productive, dynamic efficiency. Promoting one component of efficiency won't necessarily promote the others. At times, there may be tradeoffs.

"That brings me to the second point, [which] is, how do you deal with the tradeoffs? Now, the economic tools can deal with tradeoffs at times. When we're going into this digital economy of multisided platforms, you may have instances where one side benefits and the other side is harmed. How do you then reconcile that? One example would be Facebook-WhatsApp. That merger could be really good for advertisers. It lowers their costs. It enables them to reach consumers more efficiently, but there could be a toll on the consumers in terms of their privacy protections.

"A third problem is that an economic approach will often be incomplete. Here, Hayek, when he won the Nobel Prize in Economics, put it really well: for many sciences, what's important is often what's measurable. With economics, what's important often isn't measurable. Over the past 30, 35 years, we really have an incomplete picture. We don't really have good tools on how mergers might affect innovation. We don't necessarily know how mergers might affect non-priced components of competition. This is going to be really important in a data-driven economy where many products and services are offered for free."

The fourth concern, Stucke said, "is what is it that we're after? It's not necessarily efficiency. We all agree that the ultimate goal is well-being. There's a diminishing marginal utility in income. As income increases, we may not get the same bang for that buck out of efficiency. We may then want something else. We may want to promote political and social values. As Pitofsky pointed out, a fundamental concern is that you could have concentrated economic power. It could breed anti-democratic political pressures."

A price-focused approach, he added, is unlikely to be effective in the data-driven economy. "Search engines are free. They're going to have a significant role in the news that we watch and the entertainment that we see. The ability to manipulate our emotions is going to be even more dramatic with the digital personal assistant. Where does that leave us? Political values are part of antitrust."

Stucke added a caveat. "You can't throw in political values and say, 'throw that in the hopper.' Because what's going to happen then is that our antitrust standards are going to deviate substantially from the ideals of the rule of law. I would agree that political values are important, but they have to be incorporated into our legal standards in ways that fulfill and further rule of law ideals."

WHAT CAN THE US LEARN FROM THE EU?

Like many of the debates that followed conference panels, the conversation soon turned to the growing power of digital platforms and the unique challenges that big data and the political power of Internet monopolies present to competition authorities.

Antitrust lawyer Gary Reback offered an example of the power of digital platforms. "When I do these large-scale tests to show distortion in search results, I have to do them behind firewalls in India. Why do I have to do that? Because the people I'm doing it about—the search engine people—know who I am, and they can distort the results. When I told that to a state attorney general, she didn't believe me. She went off and did the results. She came back and said, 'Oh my god, you're right.' We have to go outside our shop to actually check what's going on in the world. That's a measure of power I don't think anybody even appreciates. I don't think it's properly understood how devastating this power is."

Moss also referenced the unique problems that digital platforms present to antitrust authorities. "There's this idea that government is the only area where we could be regulated, but Google and Amazon are regulating us. They are our regulators in the deep, traditional understanding of regulation. They are telling us what are the ingredients that can be used in the key drugs that we are using. They are controlling and making non-democratic decisions outside of the democratic sphere."

European competition authorities, Moss and Stucke agreed, are miles ahead of the United States when it comes to dealing with platforms. "We are seeing the increasing collision, or intersection, of privacy and consumer protection and competition policy, and the US is way behind the eight ball on managing that," said Moss. "The Europeans are all over this. They put privacy in a very different bucket than we do in the United States. I would mention, really my horror in some cases, that in the FTC—and I'm not an insider at the FTC, but I do enough monitoring and following and conversations—the bureau of competition and the bureau of consumer protection don't do a lot of talking to one another."

"Generally, the perception is that the Europeans are very far ahead in their thinking on these issues than the US," said Stucke. "The Europeans right now are having hearings on how to promote a data-driven economy. They're looking at it from two perspectives: They're looking at 'How do we become more like the US in promoting the free flow of data so that we can get the benefit of a data-driven economy?' as well as 'How do you then minimize the risks of a data-driven economy?'"

"With the data-driven economy and with these network effects, you really can't afford to sit on the sidelines, because the stakes are too great," added Stucke. "I would say that antitrust and competition officials have an important voice in this debate, but they're not the only voice."

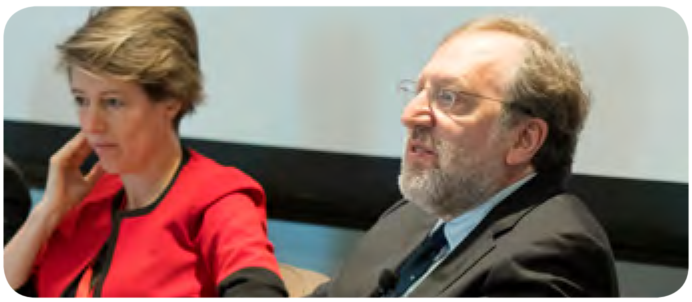
Antitrust, cautioned Stucke, has an important role to play in dealing with network effects, but it is not necessarily the best tool and can't be the only remedy: "The tools that we have under our old paradigm are not necessarily going to work in the new paradigm. If Google were to acquire Twitter, that's not necessarily a horizontal merger. It's not a conglomerate merger. It's not a vertical merger. Yet because of the data, there might be significant competitive consequences as a result. The first thing we need to identify is what are the potential risks in a data-driven economy? Where do our tools work and [not] work? Some of the areas where our tools don't work would be algorithmic collusion, where there's tacit collusion. That's problematic."

Commenting from the audience, former deputy governor of the Bank of England Paul Tucker expressed shock at the level of pessimism regarding the chances of getting Congress to pass reforms. "I am surprised at the almost implicit pessimism, fatalism, that no, we wouldn't be able to look to Congress to refine what the goals are," he said.

A point emphasized by many of the speakers was that the rules of the game for firms should be determined through democratic politics. The FTC and the Department of Justice should serve as "lobbies for more precise mandates from democratically elected people," said Tucker. "Society has to choose what it wants, what the goals in this policy area are. If you don't do that, then going back to the powerful points Jonathan [Baker] made, it is much harder to adjudicate whether there is political influence in individual enforcement cases, whether there is political influence in whether or not to enforce Section 2, because no one can quite remember what the objective was because actually, it was never clear."

CONCENTRATION INTERVIEW SERIES

Ahead of the Stigler Center's concentration conference, participants were asked to answer a set of prepared, identical questions on concentration, market power, bigness, and their potential effects on the US economy. Their replies, presented here, deal with the relationship between economic concentration and the rise in inequality, how antitrust enforcers should deal with the power of digital platforms, and what evidence can be brought to bear to show that America indeed suffers from a concentration problem.



Q: The discourse on concentration, market power, and bigness in many US industries has increased dramatically in the last year. Do you believe that we have enough empirical evidence to show that concentration is on the rise and having adverse effects on the economy?

Jonathan Baker (American University): We should worry about the exercise of market power in the US economy today for a number of reasons. One is that concentration has increased in some industries and possibly overall. Others are insufficient deterrence of anticompetitive conduct involving coordination, mergers, and exclusion; increased equity ownership of rival firms by diversified financial investors; the durability of market power; the rise of dominant information technology platforms; increased governmental restraints on competition; and the decline in economic dynamism. I discuss concentration trends and these additional reasons to think the US has a market power problem in a just released policy brief.

Gerald Berk (University of Oregon): Yes, especially in banking and retail. In banking, a long process of consolidation and intrasectoral integration since the crisis of the Savings and Loan industry in the 1980s and 1990s has produced a far more concentrated and inter-linked industry. This process was deepened and extended by state-sponsored mergers in the Long Term Capital and Subprime crises through state-sponsored mergers and bailouts. While bailouts were a temporary fix, they advanced concentration by giving the largest institutions advantages in borrowing and lending.

Tight linkages between far-flung parts of the industry decreases safety as formerly local crises tend to spread. And concentration tends to squeeze out small and local borrowers. In retail, studies of Wal-Mart demonstrate widespread monopsony power, which often drives down product quality and safety, while large on-line retailers, like Amazon, use predatory pricing, deferred profits, and unequal access to financial markets to drive specialized competitors to the wall. Like banking, concentration and predatory competition in retail tends to drive down product standards, safety, and the quality of service. It also drives down labor standards.

Dennis W. Carlton (University of Chicago Booth School of Business): There is some evidence of increased concentration. But the evidence I have seen in manufacturing (I thank Sam Peltzman for his data) suggests that these increases are unlikely to have large effects on the US economy. For example, using census data, with all its limitations such as ignoring imports, the evidence indicates that the US economy is still generally characterized by manufacturing industries with low concentration levels.

I am skeptical of claims and have seen no convincing evidence that increased concentration overall across all industries has been a major factor in explaining poor US economic performance.

David Dayen (The Intercept): I wrote a feature for The American Prospect about antitrust and I thought I was highlighting an under-covered feature of what some have called our New Gilded Age. It turns out I was only a few months ahead of the curve. The White House report emerged shortly thereafter and renewed Congressional and media interest. But everyone was thinking about this and preparing reports at the same time. I just think you look at just about every economic sector and the consolidation is plain, and the connection to the lack of dynamism in the economy, the lack of startup formation, the extreme regional inequality, and in-firm inequality, etc., is indisputable.

Ariel Ezrachi (University of Oxford) and Maurice Stucke (University of Tennessee): Our focus in recent years has been on the digital economy. In our book Virtual Competition we explore, in detail, the increased concentration and economic power of very few companies and the way it affects our welfare and society. When one focuses on online markets it is easy to identify the shift in power to a few super-platforms. We are in the midst of a process of migration to online interfaces, smartphones, and tablets and increased reliance on a handful of super-platforms, which in controlling our interfaces, can affect our access to information, goods, services. As we explored elsewhere, the power they possess enables them to engage in these strategies in stealth mode—while creating a mirage of choice and competition.

Austan Goolsbee (University of Chicago Booth School of Business): Definitely not. The only representative evidence we have comes from the Economic Census data every five years and is released with a lag. Everything else comes from court cases or non-representative samples and is filled with ambiguity and myth.

Richard R. John (Columbia University): The four largest national broadband Internet Service Providers (ISPs)—AT&T, Comcast, Verizon, and Time Warner Cable—controlled almost 70 percent of their market in 2013. In specific localities, concentration levels were even higher. Google alone had a comparable percentage of the search market in 2010. Percentages like these have led Eli Noam to scoff at the once-fashionable notion that the Internet will "solve the American media concentration issue." From my perch at the Columbia Journalism School, it is hard not to conclude that the large and growing percentage of online advertising revenue that flows to Google and Facebook—rather than to the press—has been harmful not only for journalism but also for the nation.

Steven Neil Kaplan (University of Chicago Booth School of Business): My understanding is that there is good evidence that concentration has increased. We do not have much evidence that it has adversely affected the economy where the economy is the world economy.

Globally, the world economy has flourished over the last 35 years as concentration has increased. Angus Deaton wrote in 2013: "Life is better now than at almost any time in history. More people are richer and fewer people live in dire poverty. Lives are longer and parents no longer routinely watch a quarter of their children die."

How could he say that? According to the World Bank, in 1980, the number of people living in extreme poverty globally was about 2 billion, some 44 percent of the world's population, which then numbered around 4.5 billion. By 2012, that figure had fallen to less than 900 million, or about 13 percent of the global population of 7 billion. Recently, the World Bank projected that for the first time, the number of people living in extreme poverty around the globe was expected to have fallen below 10 percent.

Average life expectancies also have increased markedly since 1980 in every region of the world, including the US.

While many factors have contributed to these results, three stand out: technology, globalization, and free markets. Billions of people are better off in India, China, Africa, and elsewhere because they moved to market economies that have benefited from technology and globalization.

The successes of free markets, technology, and globalization, however, have not been uniform. People in developed countries with less skill and less education have not benefited as much, and some have been harmed. And, in fact, we have seen life expectancies decline for some of those groups. That has contributed to some of the recent political turmoil here and in Europe.

John Kwoka (Northeastern University): There is convincing evidence that concentration has been rising and ample evidence for concern that the competitiveness of the US economy has diminished. Several recent studies have shown that measured concentration has risen in a large majority of industries and sectors over the past twenty years or so. A number of these and other studies also report that the number of new business start-ups has fallen, that entry into many markets and occupations is increasingly difficult, and that the number of companies in major markets has decreased substantially.

With rising entry barriers and reductions in firm numbers, this increase in concentration has been linked to ever-greater profits for the largest firms in each market, reductions in the labor share of GDP, greatly rising salaries of major firm executives, rising income inequality, and reduced business opportunities, as well as the hallmark of reduced competition, namely, rising prices.

While there are other causes for some of these, the overall picture is troubling.

Barry Lynn (Open Markets): The evidence is overwhelming. It has been in plain view since at least the early 1990s. The failure of economists to see the problem until the last few years is a good measure mainly of how effective the libertarians have been at indoctrinating economists into their pro-monopoly philosophy.

Roni Michaely (Cornell University): Yes. I think there is unambiguous evidence that concentration is on the rise. This rise in concentration is widespread over most industries.

What we find is a significant increase in return on assets and in profit margins of firms in industries that have become more concentrated. This means that those firms are able to charge higher prices (relative to cost of production) and have greater surplus. This is likely at the expense of consumers.

Sam Peltzman (University of Chicago Booth School of Business): There are two questions here. We have enough evidence that concentration has increased in recent years. The best data are for manufacturing. I've documented the trends in that sector in a 2014 article in the Journal of Law and Economics. Briefly, concentration began rising in this sector in the late 1980s and continued doing so for the next 20-25 years. This process may still be going on. While the data for other sectors is not so good, it is likely that concentration in sectors such as retailing and services has also increased over roughly the same period.

We do not have enough evidence that this process is having adverse effects on the economy. There are some retrospective merger studies that tilt in that direction. But they are focused on a few industries. And there are many ways beyond mergers that concentration increases. There is simply no broad base of evidence that the rise in concentration has had adverse—or beneficial—effects on the economy.

Gary Reback (Carr & Ferrell LLP): As a practitioner (as opposed to an academic), I have spent less time tracking industry trends. But a lot of people have been talking about concentration, and Elizabeth Warren's people and the New America group seem to have gathered impressive statistics.

F.M. Scherer (Harvard University): I have not worked on the data directly for 30 years, except for the banking industry, so I have to rely on published sources for an answer. Before 1990, I personally documented evidence that the shares of assets and value-added assets held by the largest 100 manufacturing firms was rising. But that's not the key criterion: leading firms' shares within individual, well-defined industries are key. I've seen second-hand reports from several sources documenting rising shares, and I find them persuasive. But you should query those who have been processing the source data (from the Census Bureau) directly.

Martin Schmalz (University of Michigan Ross School of Business): It is clear that various measures of concentration have increased over the past few decades. The debate is about whether those are economically meaningful measures—and if so, whether that increase in concentration is causally related to higher prices, more monopsony power and a lower labor share, less investment and growth, greater inequality, and so forth.

There is now an increasing number of empirical studies that indeed relate increased concentration to these outcomes (I am thinking of the work of

Simcha Barkai, Germán Gutiérrez and Thomas Philippon, Bruce Blonigen and Justin Pierce; some of our own papers also fall in that category. By contrast, I have seen little recent evidence showing a causal link from increased concentration to greater economic efficiency.

What is "enough" evidence is of course subjective, and is asking for an overly general answer.

Fiona M. Scott Morton (Yale University): Yes, concentration is on the rise. I am not sure about its adverse effects yet and would like to see more research.

Matt Stoller (Open Markets): Yes. On an elite practitioner level, John Kwoka's book has shown that even by its own standards, the Bork consumer welfare frame doesn't deliver. It's increasingly undeniable that we have a concentration problem. But more importantly, on a political and popular level, "too big to fail" is the first cultural phrase that is widely understood since "other peoples' money" in 1913. The burden of proof is now on the Chicago School adherents to show why bigness can be efficient, as opposed to what seems the far more obvious default that markets are far too concentrated.

Jonathan Taplin (USC Annenberg Innovation Lab): When Google has an 80 percent plus market share in search advertising, Amazon has a 70 percent plus market share in e-books, and Facebook controls (including Instagram, Messenger, and WhatsApp) 70 percent plus of mobile social media, what more empirical evidence does one need to prove concentration?

Zephyr Teachout (Fordham Law School): Yes. Of course there is a huge value in more empirical research, but the focus on what can be found under lamplights instead of where the keys were lost is also part of the problem.

Tommaso Valletti (European Commission): There is surprisingly little evidence on concentration trends in Europe. Moreover, concentration trends in markets are not straightforward to measure and some important caveats about the empirical evidence should be mentioned:

a. Concentration indicators are typically available at higher levels of aggregation than antitrust markets (for example, industrial concentration measures pool several markets or, in the case of Europe, concentration indicators are typically national, even when antitrust markets are Europe-wide);

b. In general, such aggregation of markets can either increase or decrease observed concentration measures compared to the actual concentration in antitrust markets. Observed concentration will be higher at the available aggregate levels (e.g., NACE/ISIC industries) compared to the antitrust markets due to conglomerate mergers of complementary products. Conversely, concentration indices measured at national level will be lower than the concentration in antitrust markets if the latter are sub-national;

c. Concentration indicators are often not based on the sales on the market. For example, it can be that only production data is available. Production might have different geographical patterns than sales. Hence, with production data only, it might not be possible to approximate sales concentration tendencies at very granular geographical levels (country-level data should be aggregated to the EEA level even if relevant markets are national).

We have some preliminary indications about concentration trends in Europe (based on production data): since the financial crisis, there is a subset of industries that show increasing concentration (although in some countries there are signs of significant de-concentration as well), but most of the national economies did not increase (or decrease) in concentration significantly.

Whether these trends are caused by market power is unclear. It follows that, at this stage, it is uncertain whether the observed increasing concentration in a subset of industries has adverse effects.

Xavier Vives (IESE Business School): Aggregate concentration has increased in a wide range of industries (for example in banking it has increased dramatically from the 1980s). This is particularly so since the end of the 1990s. However, evidence that concentration in properly defined relevant markets has increased is more scant, despite that it is available for several sectors (such as hospitals or wireless providers, for example). There is also some evidence that business dynamism has decreased since the early 1980s, in particular in terms of the rate of entry of new firms as well as evidence on increasing concentration in the returns on capital invested in non-financial firms since the 1990s. However, I think we do not understand well enough yet those trends and their interaction to conclude that adverse effects on the economy have materialized.

Q: In your opinion, what are the main reasons for the rise in concentration?

Gerald Berk: While the proximate causes of concentration are economic motives for monopoly rents and government deregulation (e.g., the suspension of antitrust), as an historical institutionalist political scientist and economic sociologist, I see the deeper causes as ideational, cognitive, and coalitional. In response to the economic crisis of the 1970s, a coalition of academic lawyers and economists, state officials, bankers, and managers rethought the relationship between finance, competition, and the state. Together, they produced a

loosely coordinated yet common institutional project, which subordinated production to trade and finance.

Concentration, in that project, has served diverse purposes for the members of this coalition. For government regulators, it provided a logic for American competitiveness. For retailers, it has provided an instrument to take transactional rents. And for bankers, it has expanded access to tradable assets, by creating what the sociologist Gerald Davis calls the "portfolio society."

Dennis Carlton: Technology explains the rise in concentration in some industries. Regulation, which tends to burden small firms disproportionately, explains it in others.

David Dayen: The easy answer is the lax enforcement on competition policy since the 1980s, after the legal revolution on antitrust. But I'd add a couple factors. We're seeing platform monopolies today that mirror the new technologies of the nineteenth century, like the railroads and the telegraph. Control over the flow of information is easier than ever, and that information can be leveraged to give powerful advantage to monopolists. I also think that venture capital has been trained to push money at monopolies or those businesses that seek monopoly. Peter Thiel has said this openly. Finally, M&A has become a larger and larger slice of the financial industry, which is a larger and larger slice of the overall economy. That creates strong incentives to concentrate.

Austan Goolsbee: Wow. Very hard to say so far. Actually, there's an important task to be done to convincingly even document that is an actual fact.

Richard John: The remarkable decrease in distribution costs has made it easier for information-intensive firms to expand their market share. Eli Noam put it this way: "Content media have become more technological, digital, and capital-intensive. Generally, the more electronic and 'digital' a media subsector is, the more highly it is concentrated."

Steven Kaplan: I suspect the major reason for the rise in concentration is technological change, particularly in information technology. The most visible examples are in the technology sector—Apple, Facebook, Google, etc. But technology likely has contributed to increased concentration elsewhere—retail (Amazon and Wal-Mart have made early and wide use of technology) and financial services (the large banks and the large asset managers have invested heavily in technology). The increase in concentration from technology has almost certainly been positive.

Two other reasons probably matter:

- The first is increased regulation. Regulations have increased markedly over the last 20 years, and particularly over the last 10 years, in the developed countries. Regulations can lead to increased concentration in two ways. First, regulations and the resources needed to deal with them have a major fixed component—hiring legal and compliance staff and implementing legal and compliance systems. This creates an advantage for larger companies. My suspicion is that the fixed costs are large and have gotten larger over time. Second, my guess is regulations—particularly those that affect hiring—tend to favor investments that reduce the need for local labor. Those investments are in technology and globalization. Both of those also favor scale.

- The second is increased rent seeking/crony capitalism, which likely interacts with technology and regulation. When the government becomes larger and when regulations increase, the benefit from influencing those regulations increases. And there are likely economies of scale in lobbying and rent seeking.

So, overall, the increases in concentration from technology and regulation are positive while the increase from rent seeking is a negative. At this point, I suspect the increase from technology has been the dominant factor.

John Kwoka: There is no single over-riding cause but rather several factors that have contributed to the reduction in competition. I would divide the list into factors that are "natural," "strategic," and "policy."

Natural factors include such fundamental economic forces as network sectors which do not favor fragmented industries and have taken on greater importance in the economy. Strategic forces are efforts by incumbents to insulate themselves against entry by creating barriers (controlling distribution systems, patents, etc.) and by using the regulatory process to handicap entrants (Tesla, Uber, the professions, etc.). Policy factors include the shift in antitrust enforcement away from challenges to "rising-concentration" mergers, the considerable deference being paid to dominant firms (Google, Amazon), weaknesses of remedy policy, and the inability to prevent the development of many strategic barriers.

Barry Lynn: The main reason for the rise in concentration is the overthrow of traditional American antimonopolism by libertarians working for people aiming to concentrate power, between the late 1970s and the mid-1990s. Traditional American antimonopolism, as espoused by Jefferson, Sherman, Brandeis, and Eisenhower, views monopoly as a political problem, and aims at protecting democracy and the liberty of the citizen from concentrated power. By contrast, libertarian competition policy, as framed by Robert Bork and others, aims to free the big man to concentrate wealth and power.

It was these changes in philosophy and policy that led to the first stage of concentration of massive power in retail, farming, banking, and services, what we can call the "Era of Wal-Mart."

The digital revolution, and the shift of commerce online, has unleashed a second stage of consolidation by a few super giants that have captured control over key intermediary positions. These "platform monopolists"—Google, Facebook, Amazon, Apple mainly—are taking advantage of the libertarian intellectual environment to concentrate and use power in ways that no previous utility type corporations were ever allowed to do. We can call this era, taking our cue from Eric Schmidt, the "Era of the Gang of Four."

Roni Michaely: We find two possible—and perhaps likely—reasons. The first is the decline in antitrust enforcement since the later 1990s. The second—which is very much related—is the higher barriers to entry created by technological changes and by the high fixed costs they impose, making it harder for new firms to enter the industry.

Sam Peltzman: Again, we don't really know. The timing of the upward trend (beginning in the 1980s) makes it tempting to implicate the relaxed antitrust policy toward mergers, which was formalized in the 1982 merger guidelines. Perhaps there is something to such a connection. But the trend is pervasive and not driven exclusively by mergers.

This raises the possibility that larger scale has just become a more efficient way of doing business. That possibility may, in turn, be related to evidence that the economy has become less dynamic, in the sense that job turnover has been historically higher for small firms than for large, so the reduced turnover seems to signify less innovation and risk-taking by small firms. That can be both a symptom and a cause of growing concentration.

Gary Reback: This is a good question. Over many years now, Chicago School people have argued that the economy can perform well at higher levels of concentration. During the Bush administration, they approved mergers with high levels of concentration and sometimes only expressed concerns if there was a merger to a monopoly situation. Bigger players in more concentrated industries saw the trends, and started proposing bigger and bigger acquisitions. Only in the waning days of the Obama administration was there some effort to roll that back. And even with the Democrats (as with the Republicans), there was no enforcement against big players that used market position unilaterally to stamp out competition. So, small wonder, lax enforcement produced greater concentration. (I have heard all about how global markets require bigger players to operate efficiently. But I don't see why global markets require greater concentration.)

F. M. Scherer: There appear to be several reasons. Merger activity, always cyclical, has been at peak levels in recent decades. It was predominantly conglomerate during the 1960s and 1970s, but those mergers proved to be efficiency reducing on average,

so it has shifted toward concentration-increasing horizontal mergers in more recent decades. Antitrust efforts to suppress those waves have been insufficient.

Also, technological changes have shifted consumer demand toward industries in which patent protection and other aspects of product differentiation sustain relatively high levels of monopoly power, sometimes but not always reflected in bare concentration statistics. Antitrust has also failed to deal with parallel pricing (i.e., conscious parallelism) in such industries. On the other hand (we need President Truman's one-armed economist!), increased international trade has been a force restraining monopolistic pricing, but not fully.

Martin Schmalz: In no particular order:

1. Increased prevalence of winner-take-all markets, among others due to advances in technology and data processing, as well as network effects and vertical integration, as Lina Khan has argued.

2. Antitrust enforcement is perceived as relatively restrained in some areas by various experts (here is Einer Elhauge on *ProMarket* with a historical comparison; John Kwoka's book is another great resource).

3. The rise of common ownership is potentially an equally potent reason for the rise in concentration. In the industries we studied most carefully, the increase in common ownership corresponds to an increase in concentration that several large mergers would create.

Fiona M. Scott Morton: The share of GDP in high technology industries is growing and these are businesses that often have high fixed costs and low variable costs. A competitive marketplace of such businesses must have high gross margins in equilibrium and, for the reasons outlined in Sutton, will often be concentrated. Some of those businesses have strong network effects, which typically lead to high concentration also. Other economies of scale in areas like distribution and marketing continue to grow and may be contributing to increased concentration. Lastly, I think there is growing evidence that some US regulators may value the profits of the incumbents they regulate over consumer welfare, and this would tend to reduce entry.

Matt Stoller: The key change was the revolution in antitrust enforcement by Bill Baxter in the early 1980s, which was part of an ideological shift to understand corporate and financial concentration as a useful way to efficiently deliver social goods. Over the course of the next 35 years, changes in telecommunications, transportation, and financial regulation, defense industrial base, and central bank management, and the rise of hedge funds/private equity foreclosed the commons, aka markets. More recently, the bailouts, Dodd-Frank, and the failure of the ACA to stop concentration in health care have allowed consolidation.

Jonathan Taplin: The main reasons can be blamed on the education Robert Bork received at the University of Chicago (just kidding). When Bork left the Justice Department, he published *The Antitrust Paradox: A Policy at War with Itself*, which has shaped antitrust law ever since, mostly by focusing the discipline on efficiency and articulating its goal as "consumer welfare." Bork argued that the sole matter that should concern regulators was whether prices to consumers were falling. From Bork's point of view, if Amazon ended up as the only online retailer in the country, as long as prices continued to fall, this would benefit consumer welfare. This totally ignores the predatory power of monopolies to shape politics and economies to their liking.

Zephyr Teachout: The systematic dismantling of the key foundational theories underpinning anti-monopoly laws. In the 1980s, Reagan gutted antitrust, redefining it in Borkian terms, and through training and funding law professors, the courts reinterpreted antitrust in Borkian terms.

Once the process began, it built on itself: for instance, decreased antitrust enforcement led to greater concentration, which decreased the power of small businesses in trade associations, which reshaped political power in DC, which led to more dismantling and to a set of practices that make it hard for small and medium-sized businesses.

Tommaso Valletti: There are many possible explanations for increasing concentration (e.g., better performance of large firms, market power, financial constraints of SMEs, etc.). Currently, there is no systematic assessment of these causes for Europe.

Disentangling market power and efficiency effects would probably require plant-level data. See, e.g., Blonigen and Pierce, 2016, "Evidence for the Effects of Mergers on Market Power and Efficiency," FRB Washington, mimeo. Blonigen and Pierce find that in recent US mergers the market power effect dominated, while efficiencies were not significant.

Another approach is ex-post studies. Here Kwoka's meta-study on US remedies can be of importance (finding a "too lax" US merger enforcement policy), as well as the criticism that this research received.

At a conceptually and methodologically simpler level perhaps, first the industry concentration trends should be complemented with trends in profitability. Unlike in the US case, there is still not a systematic description of these variables for Europe. (For the US, see, e.g., Grullon, Larkin, and Michaely, 2017, "Are US Industries Becoming More Concentrated," mimeo.)

Xavier Vives: Concentration is driven by technology generating economies of scale and scope, including network effects, which raise barriers to entry, and as a reaction to increased competition derived, apart from technological developments, from deregulation and market integration. Large scale consolidation in the twenty-first century of firms which are publicly traded seems to have contributed substantially to increased concentration.

Q: Which industries should we be concerned with when we look at questions of concentration? Do we have evidence of excessive market power, reduction in quality or investment, or growing political influence?

Jonathan Baker: Airlines, beer, and hospitals are visible examples of the major industries that have become substantially more concentrated over recent decades, creating concern about the exercise of market power.

Gerald Berk: Banking, retail, media, and high tech. I know less about the so-called "sharing economy" sectors, like Uber and Airbnb, but these sectors appear to be using similar predatory tactics to the ones that have resulted in concentration in other industries.

Dennis Carlton: Every industry with very high concentration deserves scrutiny from an antitrust viewpoint. Industries where data collection is important might raise privacy issues that need to be addressed, in addition to antitrust issues.

David Dayen: It's really hard for me to pick just one. But the health care industry, with its unusual markets and reliance on negotiation on behalf of larger and larger clients, has led to overlapping consolidation on all sides of the market. That's not just hospitals and insurers and drug companies, but the sides of the market you don't hear as much about, from pharmacy benefit managers to drug wholesalers. The concentration at every end of multi-sided markets has been fascinating to watch. I should add that the FTC has done a pretty good job challenging hospital mergers.

Ariel Ezrachi and Maurice Stucke: Our research focuses on competition and the digital economy. In this area, we certainly identify increased concentration. The existence of several leading online gatekeepers enables them to affect the dynamics of competition and possible entry. The power, which is supported by network effects, big data, and big analytics, may enable a handful of companies to manipulate the market for goods, services, and ideas. With respect to the latter, it is interesting to note our growing reliance on online outlets for news. As we explored recently, lack of online competition

between the leading platforms affects offline welfare and democracy.

Austan Goolsbee: We care about market power, not concentration. Industries where market power can harm consumers the most are the ones we should care the most about. If it slows the rate of innovation, those are probably the worst ones.

Richard John: Search (e.g. Google); ISPs (AT&T, Comcast, Verizon, and Time Warner Cable); social media (e.g. Facebook); on-line retailers (e.g. Amazon).

Steven Kaplan: Those where rent seeking is relatively more important.

John Kwoka: The list of industries raising concern with competition is suggested by the three types of factors noted as contributing to the rise of concentration. From online search to teeth whitening to hospitals and airlines, there are major concerns with the functioning of markets.

Other examples would include pharmacies, hotels, rental cars, ticketing services, cable TV, dog food, baby food, pharmaceuticals, beer, eyeglasses, real estate, and many more. These sectors have undergone major consolidation and in addition no longer exhibit significant entry.

The best documented examples of specific adverse effects probably come from so-called merger retrospective—careful economic studies of performance before and after a merger, controlling for other possible influences. My compilation of such studies finds that more than three-quarters of the mergers resulted in price increases. Few showed improvements in quality, cost, or other non-price measures. Collectively, these results cast doubt on the view that mergers are efficiency enhancing and raise questions about merger enforcement.

Barry Lynn: About the only industry where we have seen a real increase in diversity over the last generation is beer, thanks to the "three-tier," state-centric market structure put into place in 1933. Concentration has increased pretty much everywhere else.

The most dangerous concentration of power is by the platform monopolists.

Roni Michaely: Industries where (expensive) technologies are a significant factor. In fact, in my honest opinion, this is relevant to many industries, as technology affects inventory management, deliveries, quality control, predictive maintenance, etc.

Sam Peltzman: The traditional answer, embedded in the merger guidelines, is "be concerned if concentration increases in an already concentrated industry." The evidentiary basis for this is thin. A much older literature struggled vainly for years to find a broad pattern whereby adverse effects of concentration could be localized to highly concentrated industries. I am unaware that the state of knowledge on where we should be concerned—or indeed if we should be concerned—has improved much. Basically, antitrust policy relies more heavily on beliefs rather than a strong consensus about facts.

Gary Reback: Some have gotten more press than others. Health care, media, search, financial. (If we enforced our monopolization law, we could eliminate some of the concentration issues in high tech through market entry.) People with expertise can talk about specific industries. I think our concern comes from the importance of these industries.

Martin Schmalz: It's a difficult question to answer, because you want to trade off precision with relevance. The industries our "common ownership" papers have studied at the market level are airlines and banks. To get a sense of the level of common ownership in those sectors, note that the top 10 owners of an airline often control more than 50 percent of voting shares and also own large blocks in competitors. The evidence that consumer prices are higher due to common ownership is fairly precisely estimated at the market level in these industries.

When you broaden the scope of the question to the general economy, the negative effect of concentration on investment is only feasible to estimate at the firm level (as Gutierrez and Philippon have done). Moreover, much of the evidence that concentration has increased is at the (national) industry level. I think the broader scope in some studies and perhaps "cleaner" market-level estimates in others makes for a powerful combination.

I also wonder whether various macroeconomic trends should count as evidence of excessive market power or not. For example, Larry Summers believes that “only the monopoly-power story can convincingly [jointly] account” for the combination of high profits, low investment, and low real interest rates, but I haven’t seen a formal model that proves that point.

F. M. Scherer: There are so many, it’s hard to single out particular industries. If I had to, I would emphasize banking, pharmaceuticals, broadband information transmission, and several of the so-called information technology industries.

Fiona M. Scott Morton: The recent election has everyone thinking about the extent to which a consolidated social media sector influences the political debate of course. But overall, I think what is interesting about the data is that the trends appear to be widespread across many sectors of the economy.

Matt Stoller: I would say that the more data dependent the industry, the more you should be concerned. At the top of the food chain are institutions like Alphabet, Amazon, and Facebook.

Jonathan Taplin: Online search, social networks, airlines, pharmacies, online retail.

Zephyr Teachout: One of the most important features of the new monopoly awareness is seeing patterns across industries, as opposed to isolated problems of concentration. But we should have a default expectation of a distributed, open, decentralized market in all industries, and the burden of proof (I don’t mean this in a legal sense) should be on those who prefer concentration to show substantial reasons why we should have an exception because of the demands of a particular industry.

Tommaso Valletti: Though there are some efforts to conduct more systematic investigations into the topic of concentration trends, it is too early to say or indicate specific industries or markets.

Xavier Vives: We should be concerned with any industry in which concentration in the relevant product and geographic markets rises substantially. This is particularly so in industries protected by natural or artificial (strategic or regulatory) barriers to entry.

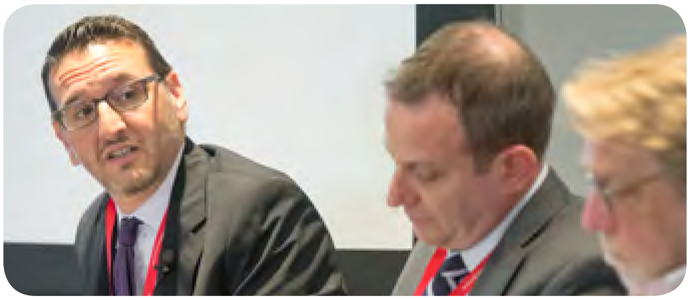
Q: HAS CONSOLIDATION IN THE FINANCIAL INDUSTRY PLAYED A ROLE IN CONCENTRATION OR ANTITRUST ISSUES IN THE US?

Jonathan Baker: Large institutional investors now collectively own roughly two-thirds of the shares of publicly traded US firms overall, so it has become common for rival firms to have common financial investor ownership. This is cause for concern because recent studies of the airline and banking industries by José Azar, Martin Schmalz, and their colleagues suggest that when competing firms have the same large shareholders, the rivals may refrain from competing aggressively against each other, leading to higher prices.

Gerald Berk: My answers to [questions] one and two begin to address this question, where I indicate that the financialization of the US economy has produced mechanisms that lead toward concentration in finance and other sectors. However, financialization has had multiple and often contradictory effects on concentration.

By shifting the logic of corporate management from production to finance, which is documented so well by the work of H. Thomas Johnson, it made it possible to see all corporate property as tradable assets. This meant both concentration and de-concentration of American industry, as success was measured by the revenues generated by asset transactions rather than sales of products, and industrial firms turned their attention to financial transactions and mergers and acquisitions instead of research and development.

Dennis Carlton: Concentration in the financial industry can raise antitrust concerns. The recent ABA advisory report on antitrust for the next administration raises this issue and suggests that the Federal Reserve should not adopt different merger standards than the Department of Justice.



But if the question is suggesting that bank concentration is responsible for increased concentration in other industries, I have seen no evidence of that.

David Dayen: Well yes, just by virtue of the fact that the financial industry is one of the largest in the entire US economy. They also financially benefit from consolidation through advisory fees on M&A. There was a *New York Times* story about the merger deal between beer company giants AB InBev and SABMiller, and the last two paragraphs named nineteen different financial institutions and their law firms who advised on the deal. That tells you everything about the drivers here. There's a lot of money riding on market concentration. And then just the way Wall Street advises and influences other sectors, and creates expectations for short-term firm growth, and how the path of least resistance to achieve that becomes consolidation.

Austan Goolsbee: As a factual matter, yes, it has played a role.

Richard John: The recent expansion in the size of individual firms in the financial sector has made it harder for lawmakers to ignore their market power.

Steven Kaplan: I do not believe so for two reasons:

Anyone who has ever served on the board of a public company or money manager understands that there is no plausible mechanism for this to have occurred.

The empirical evidence here is extremely weak. There are correlations that are not convincing.

John Kwoka: It certainly was the case that the financial crisis resulted in consolidation among firms in the finance sector itself, perversely increasing concern about systemic risk and "too big to fail." While the urgency of events at the time made it difficult to pause and consider the antitrust implications, it was unfortunate that antitrust had no seat at the table.

Subsequent events have strengthened the linkage between the financial sector and competition in the real economy. Recent studies have documented the extent of cross-ownership of competing firms in the same market by a very few large financial institutions. This cross-ownership appears related to reduced strength of competition among the actual sellers of some product or service, that is, a higher price reflecting the subtle influence of these large common owners in reducing market competition. We are just beginning to understand how widespread and effective this indirect coordination may be.

Barry Lynn: Concentration of power on Wall Street goes hand in hand with corporate concentration. But those who believe the problem is mainly financial in nature are mistaken. Freedom to concentrate corporate power is more dangerous to American liberty and democracy than freedom to concentrate capital. Antimonopolism in the corporate realm is one of the key ways to neutralize the power inherent in concentrated capital.

Roni Michaely: Possibly. First the financial service industry has gone through significant consolidation itself, giving it more direct market power. Second, this market power has likely enhanced their lobbying power even more, allowing them to make a case of yet lesser regulations—not only for the financial service industry but overall. They surely benefit from M&A activity and with the additional borrowing associated with many of the mergers.

Sam Peltzman: I don't know, but my guess would be no. The question suggests that perhaps smaller firms have had increased difficulty in raising capital. That remains to be demonstrated. There is, to be sure, a regulatory issue in that Dodd-Frank rules make it

harder to grant "character" (unsecured) loans and to avoid writing them down when they stop performing. This can't help someone with little more than a good idea and a willing banker.

Gary Reback: Other people know more about financial services than I do. But if you only have a few players in a key financial market, you can't let any of them fail without massive damage to the economy. We certainly need regulation in the financial markets. But the decision by the Obama administration early on to rely on regulation to the exclusion of antitrust has left the economy very vulnerable, particularly as Republicans now roll back regulation. Seems like something to talk about.

F. M. Scherer: Absolutely. Let me provide an anecdote for my answer. Back in 2012, I obtained data on the concentration of activity in narrowly defined segments of the banking industry. I opined in reviewing the statistics that many fields were ripe for outright collusion. Sure enough, since then, important conspiracies have been detected in several fields, e.g., LIBOR rate setting, currency exchange rate setting, crude oil futures, aluminum futures, and bidding on new private equity acquisition deals.

Martin Schmalz: Let me limit my answer to consolidation in the asset management industry. The rise of common ownership is driven in part by mergers between very large asset managers but also by the organic growth of particular forms of investment vehicles. These increases in common ownership concentration seem to be linked to increases in market power. (Our airline paper shows evidence that BlackRock's acquisition of Barclays Global Investors increased airline ticket prices; our paper on bank competition links the growth of index funds to higher prices for deposit products.) So yes, it seems that consolidation and concentration in the asset management industry indeed raises antitrust issues.

To give you some more background, Vanguard now manages $4 trillion worth of assets; BlackRock is at $5 trillion assets under management. Five thousand billion dollars is enough to buy a 10 percent stake of General Motors, 900 times in a row. When control over assets is so concentrated, it becomes difficult to prevent for the large asset managers to be the most powerful shareholder of a large number of firms, including many natural competitors. And their holdings come on top of targeted acquisitions of shares in natural competitors by investment vehicles that are an order of magnitude smaller, such as ValueAct or Berkshire Hathaway.

The potential antitrust problem posed by such common ownership links is fairly obvious: the value of a shareholder's portfolio goes down when the portfolio firms compete more aggressively against each other. In the words of CNBC reporter Becky Quick: "You know, Warren [Buffett], it does occur to me, though, if you're building up such a significant stake in all the major players, is that anything that's, like, monopolistic behavior?" The existing empirical evidence indicates that she has the right intuition here.

Matt Stoller: Yes. Wall Street's consolidation has significantly changed corporate governance across the board. Prior to the 1980s, banks and investment banks were utilities that helped corporations manage capital structures and payments. Increasingly, financial services firms, from private equity to venture capital to hedge funds, are driving corporate strategy towards roll-ups, collusion, and monopolization.

Zephyr Teachout: Yes. The financial sector has been both a victim of consolidation and a driver of consolidation.

Xavier Vives: Most likely yes, but we do not understand well enough yet the relationship between financial market structure and product market structure. There are some preliminary indications that the important rise in institutional investment and common ownership in the last decades may be behind a relaxation of competition in several industries. We need to substantiate the connections with a better understanding of the effects of institutional investment in corporate governance and more empirical work.

Q: The five largest Internet and tech companies—Apple, Google, Amazon, Facebook, and Microsoft—have outstanding market share in their markets. Are current antitrust policies and theories able to deal with the potential problems that arise from the dominant positions of these companies and the vast data they collect on users?

Jonathan Baker: In some of their major markets, large information technology firms are likely insulated from competition for reasons that may include network effects (combined with some customer captivity), intellectual property protections, endogenous sunk costs, and the absence of divided technical leadership. Where that is the case, consumers and the economy would likely benefit from greater competition notwithstanding the substantial consumer benefits these platforms have delivered.

Yet in markets in which these firms are insulated from competition, they may have achieved that position, and maintained it, through conduct that does not necessarily violate the antitrust laws. With respect to data, one challenge for antitrust enforcers is to identify when firms have limited competition through acquisitions or exclusionary conduct that gives them better access to user data than their rivals and potential entrants.

Gerald Berk: No. I believe that current policies overemphasize monopolization in single markets and do little to get at the sorts of predatory tactics that firms can deploy by their simultaneous presence in multiple markets.

Dennis Carlton: The report of the Antitrust Modernization Commission explicitly addressed the question of the adequacy of antitrust laws in light of new technologies in great detail, and the bipartisan panel concluded that the current antitrust laws were indeed adequate. However, special concerns regarding privacy protection can arise.

David Dayen: I think it's less the actual policies as written as much as the mindset of antitrust officials. The digital monopolies have lots of money to throw at academics and lobbyists and political donations to make sure the view of their industry gets grounded in the progress and promise of their technology rather than the danger of their cornering markets. Antitrust authorities need to fight a lot of elite opinion to see these companies the way they would other potential monopolists. If they break through that, I do believe that the laws on the books can handle the types of market power imposed by platform technologies.

Ariel Ezrachi and Maurice Stucke: Yes and no. Big Data and Competition Policy explores several challenges. One challenge is the "nowcasting radar." Before the Big Data era, dominant tech firms were less aware of what their customers and rivals were doing (or planning to do). As Big Data and Competition Policy discusses, some platforms have a relative advantage in accessing and analyzing data to discern consumer trends well before others. Companies can nowcast, i.e., "predict the present," by using search inquiries, social network postings, tweets, etc.

Nowcasting can yield a competitive advantage (and, at times, increase overall welfare). In monitoring search queries, Google can predict flu outbreaks well before the government health agencies can. Twitter's data can help companies identify emerging trends. Google and Apple, in controlling the mobile phone app stores, immediately know when users download rivals' apps.

Nowcasting also represents a potent data-based weapon, not previously available for monopolies, to monitor new business models in real time. The nowcasting radar can help some dominant firm identify nascent competitive threats. The data-opoly can use its relative advantage in accessing and processing personal data (such as watching for trends in its proprietary data from posts on a social network, search queries, emails, etc.) to quickly identify (and squelch) nascent competitive threats. The dominant firm can acquire entrants before they become significant competitive threats or blunt the entrant's growth (such as manipulating its search engine results to make it harder to find the company). For example, Facebook warns its investors that its platform partners may use information shared by its users through the Facebook Platform to develop products or features that compete with Facebook.

Thus, it is as if the monopoly invented a radar system to monitor in real time the competitive portals. It can track nascent competitive threats shortly after they take off, and intercept or shoot them down long before they become visible to regulators and others.

Austan Goolsbee: There are lots of particulars to the industries of those five different cases.

Richard John: Existing antitrust policies are based, wrongly, on the assumption that the framers of the Sherman Act (1890) regarded consumer welfare to be the only legitimate rationale for federal intervention. This assumption has had pernicious consequences for public policy. If, for example, a particular service is ostensibly free (e.g., Google or Facebook) or cheap (e.g., Amazon) it is hard to justify legal action to limit its market power.

Steven Kaplan: It is not clear there is an antitrust problem with Amazon, Apple, Facebook, and Google. Their businesses benefit from network effects, meaning that they become more efficient the more people use them. All four have been spectacularly successful. It also is not at all clear that some other companies will be able to compete with them in the future.

Microsoft came under a similar antitrust attack in the late 1990s. Microsoft was, in fact, more vulnerable than most IO economists believed at the time. I'd guess that will be true of today's tech giants as well.

John Kwoka: Antitrust theories in principle can deal adequately with competition problems raised by these firms and their market dominance. It is the application of those theories and the precision of their predictions that may be more complicated. Some cases might involve as their central issues the harm to competition from exclusionary practices or from diminished innovation. Others may involve network effects, tipping, or two-sided markets. Our economic models with respect to these factors are generally not as well developed as those that address, say, price effects.

Models will continue to tell us what to look for in order to assess competitive effects under these circumstances, but clear predictions are often more difficult in practice. To take a simple example, does a pharmaceutical merger enhance or detract from innovation? To begin, we lack reliable metrics for innovation; it is surely not the same as R&D. Then, too, the effect of changes in concentration on innovation (however measured) may depend on whether an innovation is product or process, or whether there is good IP protection or not, or other considerations. This is unlike measuring and interpreting a price rise.

Barry Lynn: Americans have, in our antimonopoly tradition, all the tools we need to deal with the threats posed by Apple, Google, Amazon, Facebook, and Microsoft. Key is to treat these corporations as the utilities that they have become, as the railroads of the twenty-first century. The goal should therefore be a) to prevent these corporations from engaging in any first degree discrimination in the prices/services they deliver to producers and buyers, and b) to prevent these corporations from any vertical integration that creates a conflict of interest with suppliers who must ride their rails to get to market (for instance, Amazon should not be allowed to go into the business of publishing books, hence making it a direct rival of the publishers that depend on Amazon to reach their readers). Put another way, we should apply the lessons of the Net Neutrality decision and Microsoft case to these corporations.

Roni Michaely: This is not directly related to my research, but my reading is that US antitrust policy is less concerned with the creation of giant firms, relative to Europe. I do not see any serious proposal to break up Google, for example.

As these giants gather more and more data on users (consumers, producers, etc.) and have more sophisticated analytical techniques, and as they have a greater consumer base as captive audience, most of them are likely to grow even further and become even more dominant. It will become even harder to compete with them, or for newcomers to penetrate those industries.

Gary Reback: People asked the same questions when we were working to get the government to take action against Microsoft—and before that, against AT&T. No reason not to ask the question again, I guess.

But after Microsoft, it seems like this issue would have gone away. There is no problem with the antitrust laws, they just need to be enforced.

Sam Peltzman: See my answer to question three above. It is hubris to believe that economists and antitrust officials can predict the future, which is what you need to do in this sector. Who remembers that free web browsers were once thought to be a dangerous threat to competition?

F. M. Scherer: Our efforts to deal with the problems in the United States have been an abject failure. I refer in particular to the failed efforts against Microsoft and Intel, in both of which I played some active role.

The European Commission antitrust agency has been more successful, at least in the largely completed Microsoft and Intel cases. The success of its efforts with respect to Google remains to be seen. I believe the Commission has also acted against Amazon's use of low-tax nations as billing addresses for shipments in Europe to higher-tax jurisdictions, although I'm not sure how successful.

I might note that Facebook's dominant position in the market is due in part to its role as an innovator and partly to "network externalities"—that is, the service is more valuable to potential customer I if customers J and K are connected. I know of no antitrust actions with respect to Facebook. I might note that Microsoft's dominant position is also attributable in part to network externalities—i.e., once its operating system was accepted as a standard, applications program writers had an incentive to tailor their applications to the Microsoft standard.

But the antitrust agencies have not taken sufficient measures to remedy abuses of this advantage.

Fiona M. Scott Morton: Antitrust enforcement must continue to evolve with the products consumers buy and the behaviors consumers exhibit, and sometimes it can be slow to do that. However, American laws are very general—for example prohibiting mergers that lessen competition—which I think is sufficient to cover any setting. However, identifying and articulating a new harm to competition can be challenging for an enforcer. Natural competitive forces that disrupt the status quo may be mistaken for harm to competition, or harms

to competition may be hard to prove. Assembling the right economic evidence to prove a novel theory of harm can be challenging also. But working hard to get this right is very important for economic growth and consumer welfare.

Matt Stoller: No. The irony is that the laws themselves were written to deal with trusts that had a lot in common with those five, but these laws have not been enforced consistent with their original intent to preserve democracy in the commercial sphere.

Jonathan Taplin: I do not believe that Apple and Microsoft are monopolies, as they are competing in markets with many players. Google, Facebook, and Amazon are clearly monopolies, and I estimate that the reallocation of revenue from creators of content (journalists, musicians, photographers, authors, and filmmakers) to those monopoly platforms could be in the range of $50 billion. Clearly antitrust regulators have allowed this predatory conduct and have allowed these firms to grow by acquisition.

Zephyr Teachout: No.

Tommaso Valletti: Though there are some past antitrust decisions related to technology firms (see, e.g., the EC's Microsoft case), the antitrust implications of "big data" are still not fully understood. But the interest is very real and the thinking is progressing around several factors:

1. There is no definite view on why and how big data might lead to competition policy issues. Moreover, it is also often acknowledged that big data can have positive and pro-competitive effects.

2. Personal data vs. big data:

    - With regard to personal data, the question has been raised by some whether a degradation of data protection could lead to exploitative concerns or could be seen as consumer harm in other cases. This raises the issue of the interaction of competition policy with other areas of law (data protection and privacy in this instance).

    - With regard to big data, the question is whether an accumulation of data in the hands of a company can constitute an insurmountable advantage and give rise to a competition case (whether a refusal to supply case under article 102 or a merger case prohibiting or remedying such an accumulation of data).

3. Of course, the interaction of personal data, big data, and competition policy is the subject of intense debate at the moment. Different stakeholders entered with different propositions and views into the debate.

    - Privacy advocates, for example, were turning to competition policy to promote privacy issues (though the new EU General Data Protection Directive of 2016 addresses much of the issues).

    - Tech firms, such as Microsoft, argued at some point that access to rival firms' big data might be needed for certain business to "take off."

    - Telecom operators argued that swiftly and effectively accessing customer data might be beneficial to opening up or entering into some new markets.

4. Though there is no clear consensus on the antitrust debate, some points seem to emerge.

    - First, competition authorities should invest in better understanding data markets.

    - Second, competition law remains "fit for purpose" and has the tools and notions needed to tackle data markets.

    - Third, it can potentially be useful to explore the "value of transaction" test for merger thresholds.

Xavier Vives: Theories and policies always lag behind in technologically dynamic industries. The examples provided are no exception. Competition policy is bound to look clumsy when dealing with such companies and industries.

Q: Is there a connection between the growing inequality in the US and concentration, dominant firms, and winner-take-all markets?

Jonathan Baker: The exercise of market power probably contributes to economy-wide inequality because increases in producer surplus from the exercise of market power accrue primarily to shareholders and top executives, who are wealthier on average than the median consumer. Steve Salop and I wrote an article that examined the connection between inequality and market power, and described possible competition policy responses.

Gerald Berk: Yes. There is a direct relationship between monopsony power in some labor markets and low wages, underemployment, sporadic hours, poor working conditions, and anti-union activity. Wal-Mart is the most obvious case, which has been documented by a number of studies. But there is also an indirect mechanism between financialization, concentration, and inequality that is currently being documented and analyzed by sociologists and political scientists.

Studies have begun to show that high income earners in concentrated sectors, like finance, high tech, and retail, are far less likely to support transfer payments through government than the rest of us. Increasingly, they work longer hours in lucrative, though precarious, jobs, which lead them to perceive the underemployed and working poor as fundamentally different from themselves and less deserving.

Dennis Carlton: Technology influences market structure. Technology is the major factor explaining earnings inequality. But it would be misleading to say that an exogenous increase in concentration is the significant cause of increased earning inequality. The changing role of jobs because of technological change is the major reason for increased inequality.

David Dayen: Without question. The work that the Council on Economic Advisers did on in-firm inequality speaks volumes. Monopsony power on suppliers conveys more of the economy's gains into fewer companies, and inevitably this flows to executives, and to a lesser degree wealthy shareholders. Post-merger price increases are equivalent to declines in real wages. The efficiencies mergers claim fall upon workers, who have [fewer] outlets for their talents and a weakened labor market in which to play their trade. There's also an under-the-radar wage suppression that is easier to manage within concentrated markets. Senator Sherman in the 1890s warned of the "inequality of condition, of wealth, and of opportunity that has grown within a single generation out of the concentration of capital."

Ariel Ezrachi and Maurice Stucke: Peter Thiel, the successful venture capitalist, famously noted that "competition is for losers." That useful phrase captures the essence of many technology markets. Markets in which the winner of the competitive process is able to cement its position and protect it. Using data-driven network effects, it can undermine new entry attempts. Using deep pockets and the nowcasting radar, the dominant firm can purchase disruptive innovators.

Our new economy enables the winners to capture much more of the welfare. They are able to affect

downstream competition as well as upstream providers. Often, they can do so with limited resistance from governmental agencies, as power in the online economy is not always easily captured using traditional competition analysis. Digital personal assistants, as we explore, have the potential to strengthen the winner's gatekeeper power.

Austan Goolsbee: Probably. But we don't really know more than correlations at this point.

Richard John: This connection presumably exists though it is not easy to document.

Steven Kaplan: Maybe. Josh Rauh and I argued in "It's the Market: The Broad-Based Rise in the Return to Top Talent" in the *Journal of Economic Perspectives* in 2013. We concluded that "the US evidence on income and wealth shares for the top 1 percent is most consistent with a 'superstar'-style explanation rooted in the importance of scale and skill-biased technological change."

This suggests that winner-take-all markets (driven by technology and scale) play a role in inequality.

However, they may not play the most important role. A new paper by Smith, Yagan, Zidar, and Zwick finds that the business income growth accounts for nearly all of the rise in top income inequality in the twenty-first century. Second, business income growth is broad-based across sectors and not concentrated among a few top firms. This suggests a lot of winners earning a lot by becoming very efficient rather than winner-take-all.

John Kwoka: Some studies have found such a connection. Perhaps most notably, Autor and co-authors have developed and tested a "superstar" model in which markets are increasingly dominated by heterogeneous firms and a winner-take-all competitive process that favors those using lower labor. The result is that market concentration rises while labor's overall share falls.

Using a different model and data, independent work by Grullon and co-authors corroborates this. A study by Barkai has reported that lower labor share does not mean higher share to capital but rather firm margins and profits and a reduction in consumer welfare. Separately, compensation literature finds that an increase in profits contributes directly to higher corporate salaries and greater income inequality.

Barry Lynn: Of course, and there always has been. That's why Senator Sherman, in his speech defending what we now know as the Sherman Antitrust Act, said the purpose of the bill was precisely to promote equality.

Roni Michaely: I think so. This is my next project.

Sam Peltzman: The timing suggests so, but there are a lot of unconnected dots in this question. We do know that wage inequality across firms has increased. Larger firms have always paid more. That premium has increased. That may be symptomatic of the "larger firms are more productive" view raised above in question two.

F. M. Scherer: I believe there is. The evidence of rising wealth inequality, especially through the work of Piketty and co-authors, is compelling. Less well known is evidence compiled at MIT of strongly rising inequality of compensation, especially at the top executive levels. The nexus has not to my knowledge been fully articulated.

Here's my hypothesis: In recent decades, most publicly traded corporations, at least in the United States, have embraced executive compensation consultants to advise the board of directors on executive compensation levels. Those consultants provide data on compensation averages and distributions for companies in peer industries. But then the Lake Wobegon effect goes to work. The boards say, "Surely, our guy isn't below average," [so] the average reported by the compensation consultants becomes the minimum standard for compensation. If each top executive receives at least the minimum reported pay and often more, the average rises steadily.

Indeed, and here I tread on weaker ground, those compensation costs are built into the costs considered by companies in their product-pricing decisions (in a kind of rent-seeking model), and so price levels rise to accommodate rising compensation. I might note that this dynamic applies not only for chief executives but trickles down to embrace most of companies' management personnel.

Martin Schmalz: The potential link from concentration to economic inequality is mostly clear, if just because of the redistributive effect less competitive product markets can have. Jonathan Baker and Steven Salop and Einer Elhauge have written about it. A reverse link from economic inequality to concentration seems not unlikely, either: There is empirical evidence for the idea that economic inequality leads to unequal representation and political power and Mara Faccio and Luigi Zingales's latest work argues political power can translate into more market power. Increased monopsony power in the labor market could also contribute to greater inequality, and [is] subject to ongoing research.

Fiona M. Scott Morton: This is a great question. We need to learn more about whether the winner-take-all firms earn disproportionate profit, whether there is a pattern to who owns those firms, which assets generate inequality, whether inequality among the already wealthy has increased, and whether other measures of concentration are related to these patterns. This should be an exciting area for future research.

Matt Stoller: Yes, of course. Concentrated actors use increased bargaining power to shift costs onto workers, suppliers, and communities. The net worth of the richest people in the world is basically all tied up in the capitalization of strategically placed toll booths on the economy.

Jonathan Taplin: Two senior former Obama economic advisors, Peter Orszag and Jason Furman, published a paper entitled "A Firm-Level Perspective on the Role of Rents in the Rise in Inequality," which makes the argument that the rise in "super-normal returns on capital" at firms with limited competition is leading to a rise in economic inequality. They describe these firms as "rent seeking" and have specifically noted Google and Facebook in this regard.

Zephyr Teachout: Yes. One of the features of concentrated markets is decreased power for the producer. Take food for instance—the farmer makes far less on every dollar of wealth s/he produces than s/he did a few decades ago, and the distributors and financiers make more. Inequality also flows from the lower wages that companies can pay workers in concentrated industries.

Tommaso Valletti: The increase in income inequality, at least in the US, started much earlier than the rise of the large digital service provider companies; therefore it is not clear whether the current inequality would purely be the result of the increasing importance of these companies.

It is an open question, however, whether the shift of the economy in the last decade towards the digital sectors has contributed to strengthening the inequality tendencies.

One might even also consider whether concentration trends in general are just one of the many factors in the increasing income inequality. Economic trends in trade and labor markets, the changing industrial structure of national economies, as well as income redistribution can also be equally or maybe even more likely candidates to explain the increasing income inequality.

It is true, however, that some authors do attempt to link certain labor market tendencies and inequality trends to changes in industry structure and concentration. For example, Furman and Orszag ("A Firm-Level Perspective on the Role of Rents in the Rise in Inequality," 2015) find that increases in income equality are associated with increases in dispersion of earnings across firms. According to them, (i) a rising share of firms are earning super-normal returns on capital; (ii) workers at those firms are both producing and sharing in those super-normal returns, driving up wage inequality; and (iii) the high returns to labor and capital at those firms reduce labor mobility by discouraging workers from leaving firms that earn higher rents.

Xavier Vives: Possibly. A basic mechanism may be that the rents generated by market power benefit mostly shareholders and wealthy people. The decline of trade unions implies that organized labor has difficulties in appropriating those rents. In any case market power will tend to generate inequality both in capital and labor income with the help of technological change and globalization that favor winner-take-all markets. The proposed connection should be investigated both theoretically and empirically.

Q: President Trump has signaled before and after the election that he may block mergers and go after certain dominant companies. What kind of antitrust policies should we expect from him? Pro-business, pro-competition, or political antitrust?

Jonathan Baker: We will have a better idea of the antitrust policies that the Trump administration will pursue when we see the permanent leadership teams chosen for the federal antitrust enforcement agencies.

Gerald Berk: Early signs show that antitrust policy under Trump will be more of the same—mostly hands off of large scale mergers and acquisitions and little in the way of investigating or prosecuting structural power and predatory practices. Although this perspective has been cast as pro-competitive, in my view, it's anything but.

That said, Trump's style would predict political antitrust. That is, backroom threats of antitrust prosecution will be one among many of the carrots and sticks the Trump administration will use to negotiate highly visible business investments, which will be used to augment the Trump "political brand." It may be that a few highly visible antitrust cases will be necessary in order to augment the power of the presidency in these negotiations by making threats credible. This is not unlike the way Teddy Roosevelt used "trust-busting."

Dennis Carlton: See my short essay from the Antitrust Source (Feb 2017).

David Dayen: We now know that President Trump's choice to head the Antitrust Division of the Justice Department is Makan Delrahim, a longtime lobbyist on behalf of large corporations, including Anthem, whose merger with Cigna is still before DOJ. Anthem's lawyers said in open court during their appeal of the initial opposition to the merger that their fate would be determined by the new administration. So I don't have a lot of faith in the landscape of the next four years. You might see political antitrust on discrete issues; the president has signaled that. He's also intervened to an uncomfortable degree in merger issues, meeting with CEOs from the likes of Anthem and Softbank and AT&T, and even dictating terms on the Bayer-Monsanto merger.

Ariel Ezrachi and Maurice Stucke: That will depend on several factors, including the intellectual leadership brought to the DOJ and FTC, their willingness to reexamine the "antitrust light" policies of the past, and the courts' willingness to listen.

Austan Goolsbee: I don't expect antitrust enforcement from his administration, basically, at all. I guess in your schema that would be a combination of pro-business and political.

Richard John: It is hard to know what President Trump will do. Judging from his own personal background as a real-estate developer, one might guess that he will be pro-business but not necessarily pro-competition.

Steven Kaplan: I think those who say they have a clear idea what the Trump administration will try to do, let alone what they will be able to implement, are fooling themselves.

That said, I would hope to see tougher antitrust policy where there is an opportunity for increased rent-seeking and more lenient antitrust policy where there are economies of scale from technology.

John Kwoka: This president does not seem to have so much a policy as a series of ad hoc reactions to events. So while some of his reactions have seemingly opposed major mergers and dominant firms, just as often he has shown little regard for competitive principles. What seems entirely possible, and unfortunate, is the emergence of an antitrust process compromised by parochial interests, non-economic objectives, and ad hoc decision-making. By that I mean that companies and executives may plead their cases directly to the president by invoking job creation or some other personal preference, after which the president injects himself into the antitrust law enforcement process whose independence, with few exceptions, has historically been respected by all administrations.

Barry Lynn: It is clear from his actions thus far that President Trump tends to view antitrust mainly as a tool that can serve his personal interests, a way to reward friends and punish enemies. Will President Trump ultimately allow his enforcers to establish a clear set of principles for the application of these laws, and then generally to abide by these principles? That is still a possibility, but not one I'd bet much money on.

Roni Michaely: He may try to block a merger or two for PR, but I expect him to be very pro-big business. What I have seen so far (including cabinet picks, lower taxes, etc.) suggests to me that his administration is likely to exacerbate the situation even further. In other words, in four years we will see big firms becoming even bigger and industries becoming more concentrated.

Sam Peltzman: See question five above. I prefer humility to hubris.

F.M. Scherer: I have no idea what President Trump will do. What he has said during the campaign has proved to be an inadequate guide to what he actually does. My guess is that he will weaken the antitrust agencies but engage in more price "jawboning" than other recent presidents have.

Fiona M. Scott Morton: I am concerned that there will not be one philosophy toward competition enforcement but instead political antitrust: pro-competitive mergers are delayed or blocked if the parties do not offer jobs or favorable coverage of the president, and anticompetitive mergers are permitted because the parties do offer jobs or other support. This kind of antitrust enforcement would be bad for efficiency and bad for consumers. Such a policy would also generate a predictable pattern of transactions: that is, a wave of anticompetitive mergers that parties realize they can get approved in the current administration and discouragement and delay of pro-competitive mergers.

Matt Stoller: I don't know. He's appointed Ajit Pai at the FCC, which is a clear signal he'll be lax on telecom mergers. But he's not predictable and he hasn't appointed other key officials. If I had to guess, I'd probably put my money on a traditional libertarian approach, since the Wall Street wing of the Republican Party seems to be ascendant.

Jonathan Taplin: Given that Peter Thiel, who has said "competition is for losers" and that "if you want to create and capture lasting value, you should look to build a monopoly," is now a senior advisor to President Trump, I am highly skeptical that any serious antitrust regulation will come out of the White House.

Zephyr Teachout: We really don't know yet.

Xavier Vives: This is the hardest question of all. President Trump has declared both pro-business and protectionist positions as well as attacking the proposed merger between AT&T and Time Warner because it concentrates power too much. I would dare

to say that this combination of statements does not bode well for competition.

Q: HAS THERE BEEN A SIGNIFICANT DIFFERENCE IN ANTITRUST POLICY IN THE EU COMPARED TO THE US?

Tommaso Valletti: We are not aware of any systematic comparisons. Of course, one has to first make the caveat that it is difficult to make a comparison because of the different institutional setups. There seems to be less visibility of the full scale of the US enforcement activity, while for example all EC merger decisions are public. Having said that, there is a more or less clear perception that the EC is more active in antitrust (conduct) than the US agencies.