DOES AMERICA HAVE AN ANTITRUST PROBLEM?

Markets are becoming more concentrated—and, arguably, less competitive

Plus:
A better way to calculate hospital rankings
How to manage a global team
In 2016, American voters’ anger was directed toward the Washington elite, with cries to “drain the swamp.” In 2020, the electorate’s frustrations seem likely to be channeled toward the technology behemoths of Silicon Valley, with calls to “break them up.”

“Today’s big tech companies have too much power—to too much power over our economy, our society, and our democracy,” Elizabeth Warren, the Democratic presidential hopeful, argued in March 2019.

Meanwhile President Donald Trump reckons that Amazon—a company headed by his bête noire Jeff Bezos, who also owns the Washington Post—has a “huge antitrust problem.” Trump has praised the European Union for dishing out multibillion-dollar fines to companies such as Google.

Our cover story on the revival of antitrust (page 28) notes that while it may make political sense to pledge to take on the tech giants, policy makers need to understand how these tech conglomerates are formed before deciding whether to confront them—and how to do so. The policy teams working for Trump, Warren, and other politicians should familiarize themselves with the related research of Chicago Booth’s Brent Neiman, Chad Syverson, Thomas Wollmann, and Luigi Zingales, to create informed proposals that might have the desired outcome.

Using data to improve health care and education
Hospital rankings are critical for medical facilities, health-care professionals, and patients. The rating a hospital receives affects its reputation, its negotiations with insurance companies, and, of course, public health. Yet Booth’s Dan Adelman has identified a significant flaw in the federal system used to rate hospitals: a hospital can improve in all areas and yet still see its rating drop. Adelman also proposes a solution to the ratings problem (page 24).

This issue is full of other research that points to ways to potentially improve public policy, such as restructuring vocational training in secondary school (page 15) and understanding who benefits the most from attending community colleges (page 28). There are also insights from findings that use historical data, illustrating why policies such as the Trump administration’s ban on visitors from some majority Muslim countries could adversely affect US companies (page 13).

With so much policy-relevant research, you might feel moved to clip articles from this issue and send them to your elected representatives. Even better, visit our website (just google “Chicago Booth Review”) and share the articles, videos, and interactive charts you find there.

We’d love to hear from you about anything you find in this issue or on our website. Do you think the big tech firms should be broken up? Add your voice to the conversation on this important debate.

Hal Weitzman
Executive director, Intellectual Capital
Editor-in-chief, Chicago Booth Review
Hal.Weitzman@ChicagoBooth.edu

Emily Lambert
Director, Intellectual Capital
Editor, Chicago Booth Review
Emily.Lambert@ChicagoBooth.edu
Demand for niche products is growing
No shareholder primacy, less accountability
Multinational companies help spread recessions
Executive surveys forecast business outcomes
The real cost of discrimination: A case study from Nazi Germany
To find an honest stockbroker, check out the auditor
Why do some companies ignore new technology?
Can employers change gender norms?
How Norway reduced the earnings gap
How (in)accurate is machine learning?
Whistle-blowers act out of a sense of morality

Chad Syverson on keeping markets competitive
When saying ‘I’m sorry’ and ‘thank you’ makes a big difference
How to nudge consumers to pay off credit-card debt
Are plastic straws a leading indicator?
Community college pays off for some students—not all
A manipulation index could prevent derivatives fraud
Why repeat experiences are underrated
Experts are often bad at predicting test results
A problem with hospital ratings—and how to fix it
What’s driving universities to use more adjunct faculty
When rich folks move downtown, inequality gets worse

28 DOES AMERICA HAVE AN ANTITRUST PROBLEM?
Markets are becoming more concentrated—and, arguably, less competitive

By Chad Syverson

If you have any questions or need further assistance, feel free to ask!
The premise that market-based solutions would work for guns

WOULD THIS WORK FOR GUNS?

East Coast Polytechnic Institute (ECPI University) and have been an educator for 35 years, and my skills-based learning model is predicated on the ability to share and improve quality. We have thrived in a turbulent market and outperformed our competitors in the public sector. The idea that tax-paying schools will be this explicit with their outcomes is a stretch.

—Matt Niswonger

Adults also find services and programs at public universities “targeted” to traditional students. By filling the need for faster programs, we can be this explicit with our capabilities, marketing, education . . . finding that it’s effective on any number of levels, but somehow we have not used this when it comes to gun violence. In fact, it’s the opposite. We continue to glorify it, use it for entertainment, and worse.

—John Gury

The lack of transparency and accountability in the for-profit sector perpetuates ever-increasing tuition, building sprees, and administrative bloat. The market needs to see this not only for all students at all colleges, but also for the subset of veterans.

—Daniel Weintraub

In [author and entrepreneur] Seth Godin’s latest talks, he uses the Zulu greeting sawubona and silimulo, which are loosely translated as “I see you,” and “I am here to be seen,” to reflect the humanity in our relationship—sawubona means that I see you as a whole person, all of you, with nothing to hide. I see your soul. Silimulo means that I am here to be seen, all of me, with nothing to hide: please look into my soul. Before one is a boss or a staff, she is a human being. Without that recognition, almost every single piece of advice on “how to become an effective xxxxx” is moot and useless.

—Joseph Lee

The premise that market-based solutions would work for guns

WE WELCOME LETTERS

Send email to Review@ChicagoBooth.edu or send letters addressed to Chicago Booth Review at any of the following addresses: 5807 S. Woodlawn Ave. Chicago, IL 60637 Woolgate Exchange 25 Basinghill Street London EC2V 5HA Level 6, Cyberport 2 100 Cyberport Road Hong Kong Comments may be edited for clarity and/or space.
Where will the incentive come from for universities to slow the growth of tuition and fees, if not through competition, and exposing colleges and programs that have poor outcomes?
—Mark Dreyfus
President, ECPI University

I was very disappointed to read the article on student-loan defaults by Howard R. Gold in the Summer 2019 edition of Chicago Booth Review. I found his argument was more akin to the ideological bashing that detractors of for-profit career colleges make rather than the free-market, rigorous thinking I expected from the University of Chicago. There was a great deal more research he could have done to balance his story to truly help readers understand the role we play in American society and the economy. While I cannot dispute the data that was presented in the article, or that a disproportionate number of students from for-profit colleges default on their loans, I take exception to the tone of the article, the incorrect information that was provided, and the lack of balance in presenting for-profit colleges. I particularly reject the notion, suggested in the article, that for-profit colleges have no motive to assist students with job placement; from both a regulatory and business perspective, students’ success in the job market is critical for career colleges. What is the right amount of regulation in our industry? That is the crux of a debate taking place among some educators and policymakers. At one end of the spectrum are those that believe that career colleges are inherently evil and that society needs to be protected through strict regulation, if not the downright prohibition of career colleges. On the other end of the spectrum, there are those that believe that beyond basic consumer protection against fraud and abuse, the regulation of career colleges should be limited. I think there is one thing we can all agree on: our society and economy are better off with more education, not less. Hence, the key questions we should be asking include:

- Who should be providing the capital to create education capacity in the United States—the private sector, the public sector, or both?
- If we want private, tax-paying capital to fund education, what is the appropriate level of safeguards that need to be put in place to protect the consumers?
- What is the appropriate level of safeguards that will still attract private capital through risk-adjusted rates of return?
- Is there a point at which we can provide an appropriate level of consumer protection and still attract private capital?

At the end of the day, private capital in the US is very flexible and has many options. We have relatively efficient capital markets. Regulators can effectively shut out private investment in career schools by making adequate profitability unobtainable. As it stands, investing in for-profit colleges is no guarantee of riskless, obscene profits. As the past few years have demonstrated, education is a risky business, and there is the potential to lose a lot of money investing in it. And as recent hearings on Capitol Hill demonstrate, the resistance to private capital’s investment in education has not abated. Despite Congress’s repeated assertions of only wanting to get rid of the “bad apples” in for-profit education, the regulations that are being discussed would drive out all of the apples, good and bad.

“‘It is difficult in today’s political environment to have thoughtful, dispassionate discussions about any topic.’”
—JIM TOLBERT
CEO, Vista College

It is difficult in today’s political environment to have thoughtful, dispassionate discussions about any topic. Ideology and rhetoric get in the way. If we can better frame the debate around career colleges in terms of what is objectively best for society, I think we can get to the “right” solution. Public funding for higher education, particularly community colleges, went into decline during the Great Recession—it has still not fully recovered—which has put a strain on demand for cheaper public postsecondary education. Are we better off not having sufficient capacity to meet the demand for education and thereby address one of the primary causes of income inequality in the country? There is a compelling argument as to why our country needs all of the education capacity we can get, in both the for-profit and the not-for-profit sectors.

—Jim Tolbert
CEO, Vista College
To study niche consumption trends from 2004 to 2016, the researchers used Nielsen Homescan Data from Booth’s Kilts Center for Marketing. They looked at weekly purchasing patterns from 170,000 households across the United States, representing nearly 700 million individual transactions and 118 product groups.

Their findings suggest that consumers generally benefit from a proliferation of niche items because they can more easily find products that match their unique tastes. Frito-Lay, for example, offers

Demand for niche products is growing

Marketers will have to cater to increasingly narrow tastes

In the old days—say, 1980—many consumers shopped for specific brands that offered a limited number of products in each category. For example, Frito-Lay’s Tostitos tortilla chips, first distributed nationally in 1980, offered one chip style and only two flavors.

Now, consumers have a vast range of options, as brands split categories of goods into ever smaller niches. Shoppers increasingly select these niche products, according to Chicago Booth’s Brent Neiman and Joseph S. Vavra.
Proliferation of niche products

As brands have increased their product varieties, consumers’ loyalties have accordingly split into segments.

Individually, households have concentrated their purchasing on fewer discrete products . . . but collectively, households have bought more discrete products as choices have proliferated

<table>
<thead>
<tr>
<th>Household average number of products per shopping category</th>
<th>Overall number of product varieties purchased per category</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>4,800</td>
</tr>
<tr>
<td>15.5</td>
<td>4,600</td>
</tr>
<tr>
<td>15</td>
<td>4,200</td>
</tr>
</tbody>
</table>

Brands that once marketed just a couple of general varieties now cater to an abundance of niche consumer tastes

Multinational companies help spread recessions

The Great Recession a decade ago was one example of how economic cycles around the world can move in parallel, a phenomenon that economists don’t fully understand. It could be that a country, such as a surge in oil prices, affects many economies at the same time—or perhaps linkages between countries’ macroeconomic shock waves from one country to the world economy.

One such linkage is multinational corporations, according to Marcus Biermann, a postdoctoral scholar at the Catholic University of Louvain, and Chicago Booth’s Kilian Huber, who explored the role of multinationals in spreading the global recession by analyzing the ripple effects of one German firm’s movements during the 2008-09 financial crisis.

Commerzbank was Germany’s second-biggest commercial lender, behind Deutsche Bank. Losses on trading and investments abroadhammered the bank, especially after Lehman Brothers collapsed in September 2008. Commerzbank’s capital fell by 68 percent between December 2007 and December 2009, which forced the bank to reduce its aggregate lending stock by 17 percent. Biermann and Huber find that this pullback in credit available to German parent companies affected subsidiaries in other countries, thus helping to transmit the economic contraction.

The researchers based their analysis on two sets of data: information from a credit-rating company on relationships between banks and corporations, and data on international units and corporate balance sheets from the German central bank. They used these data to compare the operations of foreign affiliates of companies hit by the Commerzbank credit crunch with the operations of those that weren’t. German companies tended to form close relationships with one or just a few banks, the researchers point out.

When Commerzbank cut lending, the bank debt of companies highly dependent on Commerzbank plunged and remained persistently low until 2015, the study finds. Biermann and Huber link this with sharply reduced sales by these companies’ foreign units, which didn’t fully recover for three years. The researchers find that because the parent companies couldn’t borrow from Commerzbank, they withdrew equity and borrowed money from their affiliates, which constrained the foreign units’ operations.

“The average affiliate in a country outside Germany experienced a decrease in sales of approximately 10 percent” as the parent companies tapped the units for cash, the researchers report. “Our calculations suggest that there were large effects on aggregate sales in countries where German affiliates play an important role in the aggregate economy.”

Specifically, Biermann and Huber calculate that if a financial shock of a similar size to the Commerzbank lending cut hit multinationals based outside the United States, it could reduce sales in the US by more than 1 percent, a result of the companies’ internal networks transmit the shock to their American units. A similar event affecting parent companies outside the European Union could lower sales in the EU by more than 2 percent.

“Taken together, our results document how multinationals transmit financial shocks from one country to the global economy,” the researchers write. “The results in our paper suggest that if global economic integration through multinational firms continues, global business cycles may become even more synchronized in the future.”—Bob Simison

International ripple effect

When a bank slashed corporate lending, companies sought help from their own foreign units, whose sales dropped.

Sales at foreign affiliate companies whose corporate parents were hit by Commerzbank’s lending cutbacks saw significant declines in 2008–09 before the 2008–09 financial crisis (log points)

NO SHAREHOLDER PRIVACY, LESS ACCOUNTABILITY

‘If you give managers free rein to do whatever they want, to benefit whatever stakeholder constituency they want, you lose the ability to police them in any meaningful way. We can say, ‘Managers lied, or distorted some numbers, and this hurt shareholders.’ But if we don’t really know whose objectives [companies are] maximizing, it becomes harder for regulators to step in and say, ‘This is something you did that hurts this constituency whom you’re supposed to be accountable to.’ I’m worried that this would just give them free rein to not be regulated at all.’—Bob Simson

International ripple effect

When a bank slashed corporate lending, companies sought help from their own foreign units, whose sales dropped.

Sales at foreign affiliate companies whose corporate parents were hit by Commerzbank’s lending cutbacks saw significant declines in 2008–09 before the 2008–09 financial crisis (log points)

NO SHAREHOLDER PRIVACY, LESS ACCOUNTABILITY

‘If you give managers free rein to do whatever they want, to benefit whatever stakeholder constituency they want, you lose the ability to police them in any meaningful way. We can say, ‘Managers lied, or distorted some numbers, and this hurt shareholders.’ But if we don’t really know whose objectives [companies are] maximizing, it becomes harder for regulators to step in and say, ‘This is something you did that hurts this constituency whom you’re supposed to be accountable to.’ I’m worried that this would just give them free rein to not be regulated at all.’—Bob Simson

International ripple effect

When a bank slashed corporate lending, companies sought help from their own foreign units, whose sales dropped.

Sales at foreign affiliate companies whose corporate parents were hit by Commerzbank’s lending cutbacks saw significant declines in 2008–09 before the 2008–09 financial crisis (log points)
The core survey questions let executives supply data for what is known in statistics as a five-point subjective probability distribution. For example, in forecasting how many employees their company will have 12 months hence, respondents assign values to a lowest, low, medium, high, and highest possible future outcome. Respondents then attach a percentage likelihood to each possible outcome. Using these probability distributions, the researchers calculated growth-rate forecasts for sales, employment, and investment for every business covered by the survey. They also calculated the subjective uncertainty levels of the executives making the forecasts. Because the SBU includes questions about past and current business outcomes, the researchers were able to compare forecasts with their realized outcomes. Respondents also regularly answer questions about the perceived effects of economic and policy shifts—the 2017 Tax Cuts and Jobs Act, for example—on their companies.

The researchers find that indices based on data from their Survey of Business Uncertainty track the Industrial Production Index and the CBOE Volatility Index. Business Expectations Index Business Uncertainty Index Higher = greater optimism

The researchers, is likely that the companies affected by the purge lost the beneficial characteristics of these senior managers. Jewish managers were twice as likely to hold the honorary title of kommerzenrat (court director of commerce) and two and a half times as likely to have held a supervisory position in another company. Huber, Lindenthal, and Waldinger find that the total number of executives with managerial experience fell, as did the total number of managers with university degrees. Some 65 percent of Jewish managers held university degrees, compared with 36 percent overall. The number of complaints against companies that had to companies, boards, and executives is persistently about 15 percent of senior management positions in these companies. After the Nazis took power in 1933, those managers who had remained still or were forced out of their positions. The share prices of those companies then declined relative to companies that had never had Jews in management. The share prices of companies that lost Jewish managers started falling in 1933 and remained persistently 10 percent lower than the share prices of peer companies that had never had Jews in senior positions.

Dividend payments and returns on assets also fell significantly after 1933 for companies affected by the purge. Companies that lost Jewish managers saw dividends fall by 7.5 percent, while Jewish managers who remained lost 12 percent of real losses in efficiency and profitability. The reasons, according to the researchers, is that the companies affected by the purge lost the beneficial characteristics of these senior managers. Jewish managers were twice as likely to hold the honorary title of kommerzenrat (court director of commerce) and two and a half times as likely to have held a supervisory position in another company. Huber, Lindenthal, and Waldinger find that the total number of executives with managerial experience fell, as did the total number of managers with university degrees. Some 65 percent of Jewish managers held university degrees, compared with 36 percent overall. The number of complaints against companies that had to companies, boards, and executives is persistently about 15 percent of senior management positions in these companies. After the Nazis took power in 1933, those managers who had remained still or were forced out of their positions. The share prices of those companies then declined relative to companies that had never had Jews in management. The share prices of companies that lost Jewish managers started falling in 1933 and remained persistently 10 percent lower than the share prices of peer companies that had never had Jews in senior positions.

Dividend payments and returns on assets also fell significantly after 1933 for companies affected by the purge. Companies that lost Jewish managers saw dividends fall by 7.5 percent, while Jewish managers who remained lost 12 percent of real losses in efficiency and profitability. The reasons, according to the researchers, is that the companies affected by the purge lost the beneficial characteristics of these senior managers. Jewish managers were twice as likely to hold the honorary title of kommerzenrat (court director of commerce) and two and a half times as likely to have held a supervisory position in another company. Huber, Lindenthal, and Waldinger find that the total number of executives with managerial experience fell, as did the total number of managers with university degrees. Some 65 percent of Jewish managers held university degrees, compared with 36 percent overall. The number of complaints against companies that had to companies, boards, and executives is persistently about 15 percent of senior management positions in these companies. After the Nazis took power in 1933, those managers who had remained still or were forced out of their positions. The share prices of those companies then declined relative to companies that had never had Jews in management. The share prices of companies that lost Jewish managers started falling in 1933 and remained persistently 10 percent lower than the share prices of peer companies that had never had Jews in senior positions.

Dividend payments and returns on assets also fell significantly after 1933 for companies affected by the purge. Companies that lost Jewish managers saw dividends fall by 7.5 percent, while Jewish managers who remained lost 12 percent of real losses in efficiency and profitability. The reasons, according to the researchers, is that the companies affected by the purge lost the beneficial characteristics of these senior managers. Jewish managers were twice as likely to hold the honorary title of kommerzenrat (court director of commerce) and two and a half times as likely to have held a supervisory position in another company. Huber, Lindenthal, and Waldinger find that the total number of executives with managerial experience fell, as did the total number of managers with university degrees. Some 65 percent of Jewish managers held university degrees, compared with 36 percent overall. The number of complaints against companies that had to companies, boards, and executives is persistently about 15 percent of senior management positions in these companies. After the Nazis took power in 1933, those managers who had remained still or were forced out of their positions. The share prices of those companies then declined relative to companies that had never had Jews in management. The share prices of companies that lost Jewish managers started falling in 1933 and remained persistently 10 percent lower than the share prices of peer companies that had never had Jews in senior positions.

Dividend payments and returns on assets also fell significantly after 1933 for companies affected by the purge. Companies that lost Jewish managers saw dividends fall by 7.5 percent, while Jewish managers who remained lost 12 percent of real losses in efficiency and profitability. The reasons, according to the researchers, is that the companies affected by the purge lost the beneficial characteristics of these senior managers. Jewish managers were twice as likely to hold the honorary title of kommerzenrat (court director of commerce) and two and a half times as likely to have held a supervisory position in another company. Huber, Lindenthal, and Waldinger find that the total number of executives with managerial experience fell, as did the total number of managers with university degrees. Some 65 percent of Jewish managers held university degrees, compared with 36 percent overall. The number of complaints against companies that had to companies, boards, and executives is persistently about 15 percent of senior management positions in these companies. After the Nazis took power in 1933, those managers who had remained still or were forced out of their positions. The share prices of those companies then declined relative to companies that had never had Jews in management. The share prices of companies that lost Jewish managers started falling in 1933 and remained persistently 10 percent lower than the share prices of peer companies that had never had Jews in senior positions.

Dividend payments and returns on assets also fell significantly after 1933 for companies affected by the purge. Companies that lost Jewish managers saw dividends fall by 7.5 percent, while Jewish managers who remained lost 12 percent of real losses in efficiency and profitability. The reasons, according to the researchers, is that the companies affected by the purge lost the beneficial characteristics of these senior managers. Jewish managers were twice as likely to hold the honorary title of kommerzenrat (court director of commerce) and two and a half times as likely to have held a supervisory position in another company. Huber, Lindenthal, and Waldinger find that the total number of executives with managerial experience fell, as did the total number of managers with university degrees. Some 65 percent of Jewish managers held university degrees, compared with 36 percent overall. The number of complaints against companies that had to companies, boards, and executives is persistently about 15 percent of senior management positions in these companies. After the Nazis took power in 1933, those managers who had remained still or were forced out of their positions. The share prices of those companies then declined relative to companies that had never had Jews in management. The share prices of companies that lost Jewish managers started falling in 1933 and remained persistently 10 percent lower than the share prices of peer companies that had never had Jews in senior positions.
The effects of the intervention differed significantly by gender. Among disadvantaged men, the reform increased earnings by 5 percent and reduced the likelihood of criminal charges during the teenage years. At the same time, the reform did not reduce the overall high-school dropout rate. "Men ‘simply swapped terminal academic high school degrees for terminal degrees from the newly reformed vocational track.’" The increase in the percentage of male students who gained a vocational degree was off set by a decline in the percentage of students who completed an academic degree—the reform did not reduce the earnings gender gap.

As a result, the reform had the perverse effect of worsening the earnings gender gap. "Overall, the reform reduced the gap in adult earnings between disadvantaged and less disadvantaged children by about 20 percent, and it was particularly effective at improving social mobility among men, with the gap in adult earnings between disadvantaged and less disadvantaged men decreasing by close to 30 percent," the researchers find.

The researchers find that Reform 94 increased initial enrollment in vocational-track high schools by more than 20 percent. While enrollment in academic-track programs decreased slightly, the reform raised overall high-school matriculation. Disadvantaged male students—those in the bottom third of the predicted grade-point-average distribution in their leading portfolios by 30–40 percent, the researchers argue.

Neither state ownership nor size explains the slow pace of change, the researchers say, basing their conclusion on the behavior of a third type of banking institution: old private banks. Public-sector banks, many of them nationalized in 1969 and 1980, accounted for around 70 percent of that credit. New-private-sector banks, which were authorized after 1991, had another 20 percent of the credit market. Mishra, Prabhala, and Rajan analyzed data on lenders’ credit inquiries from one of the country’s biggest credit bureaus, with most of the analysis using data between the years 2006 and 2015, and find that new private banks adopted credit checks faster than state-owned banks. In 2015, new private banks ran credit checks before making 80 percent of their loans, double the rate at state-owned banks.

The gap was driven by choices on the part of customers, too. Both types of banks were relatively quick to integrate credit checks into their business practices for new customers. Public-sector banks made credit inquiries for over 95 percent of loans to new customers, as did new private banks. But by 2015, new private banks had increased to about 90 percent of loans to existing borrowers, while state-owned banks did not start checking credit records until six months after an existing customer had a loan outstanding. The researchers do not find a statistical–insignificant effect on adult earnings for women, which they attribute to occupational choices. The bulk of the additional vocational degrees earned by women as a result of Reform 94 were in lower-paid service fields. Men, by contrast, were more likely to obtain occupational degrees in higher-wage fields. A similar finding holds for apprenticeships. While both men and women completed more apprenticeships as a result of Reform 94, women tended to focus on apprenticeships in lower-paying fields.

As a result, the reform had the perverse effect of worsening the earnings gender gap by about 8 percent. Nonetheless, Reform 94 noted some notable victories. “Overall, the reform reduced the gap in adult earnings between disadvantaged and less disadvan-

taged children by about 20 percent, and it was particularly effective at improving social mobility among men, with the gap in adult earnings between disadvantaged and less disadvantaged men decreasing by close to 30 percent,” the researchers find.

The researchers find that Reform 94 increased initial enrollment in vocational-track high schools by more than 20 percent. While enrollment in academic-track programs decreased slightly, the reform raised overall high-school matriculation. Disadvantaged male students—those in the bottom third of the predicted grade-point-average distribution in their leading portfolios by 30–40 percent, the researchers argue.

Neither state ownership nor size explains the slow pace of change, the researchers say, basing their conclusion on the behavior of a third type of banking institution: old private banks. Public-sector banks, many of them nationalized in 1969 and 1980, accounted for around 70 percent of that credit. New-private-sector banks, which were authorized after 1991, had another 20 percent of the credit market. Mishra, Prabhala, and Rajan analyzed data on lenders’ credit inquiries from one of the country’s biggest credit bureaus, with most of the analysis using data between the years 2006 and 2015, and find that new private banks adopted credit checks faster than state-owned banks. In 2015, new private banks ran credit checks before making 80 percent of their loans, double the rate at state-owned banks.

The gap was driven by choices on the part of customers, too. Both types of banks were relatively quick to integrate credit checks into their business practices for new customers. Public-sector banks made credit inquiries for over 95 percent of loans to new customers, as did new private banks. But by 2015, new private banks had increased to about 90 percent of loans to existing borrowers, while state-owned banks did not start checking credit records until six months after an existing customer had a loan outstanding. The researchers do not find a statistical–insignificant effect on adult earnings for women, which they attribute to occupational choices. The bulk of the additional vocational degrees earned by women as a result of Reform 94 were in lower-paid service fields. Men, by contrast, were more likely to obtain occupational degrees in higher-wage fields. A similar finding holds for apprenticeships. While both men and women completed more apprenticeships as a result of Reform 94, women tended to focus on apprenticeships in lower-paying fields.

As a result, the reform had the perverse effect of worsening the earnings gender gap by about 8 percent. Nonetheless, Reform 94 noted some notable victories. “Overall, the reform reduced the gap in adult earnings between disadvantaged and less disadvan-
taged children by about 20 percent, and it was particularly effective at improving social mobility among men, with the gap in adult earnings between disadvantaged and less disadvantaged men decreasing by close to 30 percent,” the researchers find.

The researchers find that Reform 94 increased initial enrollment in vocational-track high schools by more than 20 percent. While enrollment in academic-track programs decreased slightly, the reform raised overall high-school matriculation. Disadvantaged male students—those in the bottom third of the predicted grade-point-average distribution in their leading portfolios by 30–40 percent, the researchers argue.

Neither state ownership nor size explains the slow pace of change, the researchers say, basing their conclusion on the behavior of a third type of banking institution: old private banks. Public-sector banks, many of them nationalized in 1969 and 1980, accounted for around 70 percent of that credit. New-private-sector banks, which were authorized after 1991, had another 20 percent of the credit market. Mishra, Prabhala, and Rajan analyzed data on lenders’ credit inquiries from one of the country’s biggest credit bureaus, with most of the analysis using data between the years 2006 and 2015, and find that new private banks adopted credit checks faster than state-owned banks. In 2015, new private banks ran credit checks before making 80 percent of their loans, double the rate at state-owned banks.

The gap was driven by choices on the part of customers, too. Both types of banks were relatively quick to integrate credit checks into their business practices for new customers. Public-sector banks made credit inquiries for over 95 percent of loans to new customers, as did new private banks. But by 2015, new private banks had increased to about 90 percent of loans to existing borrowers, while state-owned banks did not start checking credit records until six months after an existing customer had a loan outstanding. The researchers do not find a statistical–insignificant effect on adult earnings for women, which they attribute to occupational choices. The bulk of the additional vocational degrees earned by women as a result of Reform 94 were in lower-paid service fields. Men, by contrast, were more likely to obtain occupational degrees in higher-wage fields. A similar finding holds for apprenticeships. While both men and women completed more apprenticeships as a result of Reform 94, women tended to focus on apprenticeships in lower-paying fields.

As a result, the reform had the perverse effect of worsening the earnings gender gap by about 8 percent. Nonetheless, Reform 94 noted some notable victories. “Overall, the reform reduced the gap in adult earnings between disadvantaged and less disadvan-
taged children by about 20 percent, and it was particularly effective at improving social mobility among men, with the gap in adult earnings between disadvantaged and less disadvantaged men decreasing by close to 30 percent,” the researchers find.

The researchers find that Reform 94 increased initial enrollment in vocational-track high schools by more than 20 percent. While enrollment in academic-track programs decreased slightly, the reform raised overall high-school matriculation. Disadvantaged male students—those in the bottom third of the predicted grade-point-average distribution in their leading portfolios by 30–40 percent, the researchers argue.

Neither state ownership nor size explains the slow pace of change, the researchers say, basing their conclusion on the behavior of a third type of banking institution: old private banks. Public-sector banks, many of them nationalized in 1969 and 1980, accounted for around 70 percent of that credit. New-private-sector banks, which were authorized after 1991, had another 20 percent of the credit market. Mishra, Prabhala, and Rajan analyzed data on lenders’ credit inquiries from one of the country’s biggest credit bureaus, with most of the analysis using data between the years 2006 and 2015, and find that new private banks adopted credit checks faster than state-owned banks. In 2015, new private banks ran credit checks before making 80 percent of their loans, double the rate at state-owned banks.

The gap was driven by choices on the part of customers, too. Both types of banks were relatively quick to integrate credit checks into their business practices for new customers. Public-sector banks made credit inquiries for over 95 percent of loans to new customers, as did new private banks. But by 2015, new private banks had increased to about 90 percent of loans to existing borrowers, while state-owned banks did not start checking credit records until six months after an existing customer had a loan outstanding. The researchers do not find a statistical–insignificant effect on adult earnings for women, which they attribute to occupational choices. The bulk of the additional vocational degrees earned by women as a result of Reform 94 were in lower-paid service fields. Men, by contrast, were more likely to obtain occupational degrees in higher-wage fields. A similar finding holds for apprenticeships. While both men and women completed more apprenticeships as a result of Reform 94, women tended to focus on apprenticeships in lower-paying fields.

As a result, the reform had the perverse effect of worsening the earnings gender gap by about 8 percent. Nonetheless, Reform 94 noted some notable victories. “Overall, the reform reduced the gap in adult earnings between disadvantaged and less disadvan-
taged children by about 20 percent, and it was particularly effective at improving social mobility among men, with the gap in adult earnings between disadvantaged and less disadvantaged men decreasing by close to 30 percent,” the researchers find.
The researchers studied the effectiveness of and uncertainty involved in deep-learning models theoretically and conceptually. When it comes to a simple prediction task, it’s easy enough to evaluate a model’s performance. For example, when training an algorithm to separate pictures of cats and dogs, people can simply look at the pictures and decide if the model is reliable. It’s trickier to determine how well a model performs in predicting consumers’ reactions to advertisements or discounts. A shopper may see an ad and make a purchase, but it’s hard to say the ad caused the purchase. Who knows what the shopper was thinking? In these cases, how accurate the model is, and how much data is required to get close to a trustworthy result, cannot be known for sure.

The researchers derived explicit bounds for the uncertainty, answering the question of how close deep-learning methods can get to the best-possible model given the data at hand.

Farrell, Liang, and Misra illustrated their findings empirically by describing an experiment conducted with a large US consumer products company. The company, which the researchers don’t name, sells its products directly to consumers and sends out catalogs to boost sales. The experiment involved data on about 300,000 customers, two-thirds of whom received a catalog.

The researchers compared the results (6 percent of people made a purchase within three months of the catalog campaign, spending an average of $118) with those of eight deep-learning predictive models, evaluating the success of each. They computed the level of uncertainty resulting from each deep-learning model, showing how this uncertainty would feature in decision-making. Their results suggest that deep learning can have excellent performance when properly used.

As people and businesses increasingly rely on data to guide decisions, these findings about deep learning can have broad applications. For example, say a doctor turns to similar data analysis when trying to assess whether to treat a patient with a particular drug. Knowing the level of uncertainty in the analysis could help the doctor make a decision, potentially saving or even costing a life. “The end goal,” says Misra, “is making robust decisions.”

Chicago Booth postdoctoral scholar James A. Dungan, Boston College’s Liane Young, and Northwestern’s Adam Waytz looked at what goes into the calculation people make when considering whether to report bad behavior. Morality concerns figure highly, they find, above employees’ feelings about their employers, fear of reprisal, and satisfaction with the recognition and rewards they receive at their job.

The researchers analyzed data from more than 42,000 participants in the ongoing Merit Principles Survey, which has polled US government employees since 1973. Respondents answer questions about their past experiences with unethical behavior, the approach they take in dealing with future unethical behavior, and their personal characteristics, including their concern for others and their feelings about their organizations.

Concern for others was the strongest predictor of whistle-blowing, the researchers found. This was true both of people who had already blown the whistle on bad behavior and of people who expected they might in the future. Loyalty to an immediate community was also linked to whistle-blowing, but in an inverse way. The greater people’s concern for loyalty, the less likely they were to blow the whistle.

“Much of the current advice within organizations focuses on structural changes—making people do the right thing by increasing the incentives for whistle-blowing,” Dungan says. “But by ignoring people’s moral concerns, their efforts may not be as effective as they could be. This mistake likely stems from seeing morality as black and white, rather than acknowledging the conflicting moral concerns that whistle-blowers must grapple with.”

How (in)accurate is machine learning?

Executives and others are increasingly using data when assessing business outcomes, comparing marketing strategies, and making other decisions. In particular, they use machine learning to analyze data—and use the results to make decisions.

But how much can an executive trust a recommendation generated by machine learning? Recognizing that uncertainty is involved, and could produce expensive mistakes, Chicago Booth’s Max Farrell, Tengyuan Liang, and Sanjog Misra have sought to quantify this uncertainty so that decision makers can take it into account.

In the past few years, machine-learning methods have come to dominate data analysis in academia and industry. One type of learning in particular—deep learning, where computers learn through iterations to recognize important features—has become a mainstay in modern business practice. It is at the base of many applications, from digital image recognition to language processing and virtual assistants such as Apple’s Siri and the Amazon Alexa.

Many people are treating deep-learning models as though they are able to learn unassailable truths, and Farrell, Liang, and Misra point out that the supposed truths are actually uncertain. Deep learning might produce the right answer to a question, or it might not: if a business is using a deep-learning model to guide decision-making, and some potentially large investments, that’s an important distinction. Therefore it’s crucial to understand how close deep-learning models can come to finding out truths, and how quickly they can do so.

Deep-learning structure

One widely used type of deep learning, known as a multilayer perceptron, is used in many applications.

Data Input

Layers of calculations

Final output

Each layer takes into account the calculations made by the nodes that precede it in the network.

Each node helps capture a simple aspect of the data, and collectively they extract complex features.

The greater people’s concern for loyalty, the less likely they were to blow the whistle.

The researchers’ findings suggest that moral concerns are a key driver for whistle-blowing. Companies— and regulators—wishing to encourage whistle-blowing may want to highlight the importance of personal ethics and moral courage, rather than technical variables such as rewards for whistle-blowing.

“Much of the current advice within organizations focuses on structural changes—making people do the right thing by increasing the incentives for whistle-blowing,” Dungan says. “But by ignoring people’s moral concerns, their efforts may not be as effective as they could be. This mistake likely stems from seeing morality as black and white, rather than acknowledging the conflicting moral concerns that whistle-blowers must grapple with.”

Chicago Booth postdoctoral scholar James A. Dungan, Boston College’s Liane Young, and Northwestern’s Adam Waytz looked at what goes into the calculation people make when considering whether to report bad behavior. Morality concerns figure highly, they find, above employees’ feelings about their employers, fear of reprisal, and satisfaction with the recognition and rewards they receive at their job.

The researchers analyzed data from more than 42,000 participants in the ongoing Merit Principles Survey, which has polled US government employees since 1973. Respondents answer questions about their past experiences with unethical behavior, the approach they take in dealing with future unethical behavior, and their personal characteristics, including their concern for others and their feelings about their organizations.

Concern for others was the strongest predictor of whistle-blowing, the researchers found. This was true both of people who had already blown the whistle on bad behavior and of people who expected they might in the future. Loyalty to an immediate community was also linked to whistle-blowing, but in an inverse way. The greater people’s concern for loyalty, the less likely they were to blow the whistle.

“Much of the current advice within organizations focuses on structural changes—making people do the right thing by increasing the incentives for whistle-blowing,” Dungan says. “But by ignoring people’s moral concerns, their efforts may not be as effective as they could be. This mistake likely stems from seeing morality as black and white, rather than acknowledging the conflicting moral concerns that whistle-blowers must grapple with.”

芝加哥大学校友杂志

Winter 2019/20

Winter 2019/20

Chicago Booth Review
A lot of research suggests corporate concentration is increasing. Is that bad for competition? We don’t know. There are cases where increasing concentration can imply a less competitive market. In other cases, it’s the sign of more competition in a market.

It’s not the concentration that’s the problem, per se, but a company’s use of its dominant position to do things to keep innovation and competitors out of the market. And when there are strong network effects (where the value of a good increases to the user when more people use the product), you can get really concentrated markets. You can ... even if you’re inferior. That’s an additional concern in tech or network markets in general, and that’s a valid worry.

What should policy makers or regulators do, if anything? There’s the general principle that you can’t unscramble eggs. So, first, scrutinize potential mergers carefully. Pay more attention to the mergers that are currently exempted from reporting. There were entire industries that were basically rolled up under the nose of antitrust regulators, simply because each individual merger was under the reporting threshold. But if you do too of those, you’ve had one giant merger.

It seems like that’s something they need to have a better handle on. They also need to think about the Facebook-WhatsApp issue of buying your competitor when it’s a startup. Yes, you can buy smaller companies because they have important skills or capital that’s easier to acquire than to try to build. But you can also do it so that you don’t face competition from them in the future. It’s hard to know which of these is going on, but regulators need to think more about these issues.

What about after the fact? That’s trickier. Some people say you have to leave the eggs, that they’re already scrambled. I don’t think that’s right, but it is a mess, generally, to break up companies. And it’s not the idea of historical examples where things have gone really well. AT&T went OK, and that was a giant breakup. But breaking up companies is the nuclear option. Chaudhry and Loewenstein argue that these four sentiments involve trade-offs between conveying warmth and competence.

For instance, thanking and apologizing both project warmth and thoughtfulness on the part of a speaker, but also hint at weakness or incompetence. Blaming and bragging make a speaker appear more competent, but at the risk of appearing less warm. These effects are different from the point of view of a receiver: receiving a thank you or an apology makes a receiver seem competent and warm.

The researchers’ theory describes how people will converse about credit and blame, predicting, for example, that both people in an exchange would prefer a thank you over a brag. And people engage in subtle coordination in conversations to help bring about thanking.

Chaudhry and Loewenstein had pairs of strangers complete an online math game in which the results of the higher scorer determined the earnings of both players. The researchers rigged the game so that one player’s version was much easier, leading to a higher score. After they were done, some of the pairs were given the opportunity to chat, and the researchers observed how they communicated. Most chats—almost 70 percent—involved thanking, while bragging showed up in less than 15 percent of the conversations. The researchers observed that when a thank you wasn’t immediately offered, the person who wanted to hear it would often subtly prompt the partner to offer one. This may be a method of keeping things pleasant, but still eliciting a thank you where one is due.

There were consequences to this: pairs that were allowed to chat, versus those that weren’t given the opportunity, were more likely to want to work together in a follow-up task—likely because thanks was expressed. For the low-performing partner, exhibiting warmth helped compensate for what they appeared to lack in competence. Chaudhry says that the findings imply workplaces would do well to encourage positive communication around credit and blame.

The theory also helps explain why women tend to apologize more than men, a finding of University of Pittsburgh’s Karina Schumann and University of Waterloo’s Michael Ross. It is generally understood, on the basis of societal expectations, that women should appear warmer, says Chaudhry. “Apologizing may include a cost to one’s competence, but apologizing makes you look warmer. So apologizing may have more benefit for women than men—but not apologizing may have more cost. The opposite is true for men.”—Alice G. Walton

Chad Syverson on keeping markets competitive

Eli B. and Harriet B. Williams Professor of Economics

Q. A lot of research suggests corporate concentration is increasing. Is that bad for competition? We don’t know. There are cases where increasing concentration can imply a less competitive market. In other cases, it’s the sign of more competition in a market.

It’s not the concentration that’s the problem, per se, but a company’s use of its dominant position to do things to keep innovation and competitors out of the market. And when there are strong network effects (where the value of a good increases to the user when more people use the product), you can get really concentrated markets.

You can get big, and stay big just because you’re big, even if you’re inferior. That’s an additional concern in tech or network markets in general, and that’s a valid worry.

Q. What about after the fact? That’s trickier. Some people say you have to leave the eggs, that they’re already scrambled. I don’t think that’s right, but it is a mess, generally, to break up companies.

And it’s not the idea of historical examples where things have gone really well. AT&T went OK, and that was a giant breakup. But breaking up companies is the nuclear option.

Q. Break up Facebook, yay or nay? I’m not sure. I don’t think so. This doesn’t mean you don’t try to terminate any competitive actions, because it could be engaging in noncompetitive behavior, and the law forbids that. But I’m not sure breaking it up is the solution.

Q. When saying ‘I’m sorry’ and ‘thank you’ makes a big difference

SMALL EXCHANGES between people matter a lot, suggests research by Chicago Booth’s Shereen Chaudhry and Carnegie Mellon’s George Loewenstein. They propose that thanking and apologizing involve costs and benefits, and working from this framework, they uncover a host of predictable patterns in conversation that people engage in to help maintain social cohesion.

In the study, the researchers connect four sentiments—thanking, apologizing, bragging, and blaming—that were previously considered distinct. Chaudhry and Loewenstein argue that these four sentiments involve trade-offs between conveying warmth and competence.

For instance, thanking and apologizing both project warmth and thoughtfulness on the part of a speaker, but also hint at weakness or incompetence. Blaming and bragging make a speaker appear more competent, but at the risk of appearing less warm. These effects are different from the point of view of a receiver: receiving a thank you or an apology makes a receiver seem competent and warm.

The researchers’ theory describes how people will converse about credit and blame, predicting, for example, that both people in an exchange would prefer a thank you over a brag. And people engage in subtle coordination in conversations to help bring about thanking.

Chaudhry and Loewenstein had pairs of strangers complete an online math game in which the results of the higher scorer determined the earnings of both players. The researchers rigged the game so that one player’s version was much easier, leading to a higher score. After they were done, some of the pairs were given the opportunity to chat, and the researchers observed how they communicated. Most chats—almost 70 percent—involved thanking, while bragging showed up in less than 15 percent of the conversations. The researchers observed that when a thank you wasn’t immediately offered, the person who wanted to hear it would often subtly prompt the partner to offer one. This may be a method of keeping things pleasant, but still eliciting a thank you where one is due.

There were consequences to this: pairs that were allowed to chat, versus those that weren’t given the opportunity, were more likely to want to work together in a follow-up task—likely because thanks was expressed. For the low-performing partner, exhibiting warmth helped compensate for what they appeared to lack in competence. Chaudhry says that the findings imply workplaces would do well to encourage positive communication around credit and blame.

The theory also helps explain why women tend to apologize more than men, a finding of University of Pittsburgh’s Karina Schumann and University of Waterloo’s Michael Ross. It is generally understood, on the basis of societal expectations, that women should appear warmer, says Chaudhry. “Apologizing may include a cost to one’s competence, but apologizing makes you look warmer. So apologizing may have more benefit for women than men—but not apologizing may have more cost. The opposite is true for men.”—Alice G. Walton

Go to Review.ChicagoBooth.edu to see citations for research mentioned in this article.
How to nudge consumers to pay off credit-card debt

By paying a car, piece of furniture, or big appliance? Chances are that you’ll be offered low- or no-interest credit—but only for so long. The catch is that the promotional rates usually disappear after some months and reset to a much higher level. If you aren’t paying attention, you could be surprised.

A different interest-rate offer could influence people’s bill-paying habits

0% rate: 1 month

Average payoff: 8.3 months

0% rate: 4 months

Average payoff: 6.5 months

Intended to deceive consumers, lenders can use explicit changes in rates to encourage timely repayment,” the researchers write.

Money-management apps could help fill this role by setting calendar reminders well in advance of rate increases. These apps could calculate the ideal timing of such a reminder on the basis of a consumer’s financial circumstances, the researchers write. Debt Manager is one of the few available financial apps that lets consumers see all of the statistics for their debts if an interest rate were to change, although it doesn’t yet have the built-in calendar functionality the researchers suggest. Most money-management apps help consumers repay loans by organizing debt from highest to lowest interest rate and incorporating payment due dates, but don’t have explicit reminders for imminent changes in rates. “Rather than leveraging changes in interest rates as a hidden complexity motivating people to pay up faster,” they write, “it was interesting to see what happened in London. We went in the span of two to three months from having plastic straws everywhere to having no plastic straws anywhere. I was shocked to see the speed by which this developed, and it all started with consumers. It got to a point where the politicians no longer had a choice and basically had to get involved. It became such a social outcry. I think this can happen on a lot of social issues. (CEOs) have to tackle it, and they are. They’re working very hard to make sure that their products are as environmentally friendly as possible. The moment the pressure starts building, people are going to want to be ahead of the game.”

In one experiment, participants received a statement for a credit card with a 0 percent introductory rate. The researchers told the participants to imagine they had paid the minimum amount for five months, and then randomly assigned people to one of three groups. One group heard that the 0 percent rate had expired at the end of the previous month. Members of another group were told it would expire the next month, and those in a third learned they had five months before a higher rate would apply. Participants were asked to choose two monthly payment ranges from $200 to $1,000 a month.

Members of the five-month group said they’d pay much more every month than those in groups with the earlier expirations. The researchers explained to all participants the overall cost of the loan across all conditions as they were making their choices. Zhang, Sussman, and Hoe label this systematic overestimation of the “expediting effect”—a rate increase in a more distant period expedited the decision to repay. Participants in the five-month group put themselves on faster payoff schedules even though their interest costs would still be the lowest.

“Rather than leveraging changes in interest rates as a hidden complexity motivating goal. However, the goal-setting process emerges only when consumers believe it’s possible to repay the debt in time and when they know the deadline for the rate reset, the researchers find. They conducted a series of experiments that mirrored real credit-card payment decisions and had consequential outcomes for the participants, who received both fixed and bonus compensation.

A different interest-rate offer could influence people’s bill-paying habits

Beating an upcoming rate increase can motivate people to pay off their debt, although only if they believe the deadline is reasonable.

How long study participants said they would take to pay off a credit card

Community college pays off for some students—not all

Higher education leads to greater lifetime income and overall graduates with the human capital they’ll need to succeed in a knowledge economy, according to a recent study of students conducted over the past two decades. This insight has shaped policy, with US state and local governments increasing access to community colleges to help students, especially those from disadvantaged communities, increase their earnings and enter the middle class. Such policies work better for some students than others, finds Chicago Booth’s Jack Mountjoy. This is in part because community colleges divert a substantial minority of high-school graduates from gaining a four-year college degree, which would likely result in even higher lifetime earnings. Mountjoy accessed a database covering the state of Texas that included 761,000 students in four-year colleges and undergraduate (public and private) and 732,000 in community colleges. He tracked students from high school on, and then looked at differences in outcomes with data from the Texas Workforce Commission, which measures quarterly earnings at every job for Texas employees covered by the state’s unemployment insurance system. Mountjoy developed and applied a new econometric methodology on this rich data to disentangle the impacts of community-college enrollment on the outcomes of students who

Community college pays off for some students—not all

Wouldn’t have otherwise matriculated

Two-year community-college enrollment paid off on average for two-thirds of the sample students, according to Mountjoy, whereas one-third would have done better had they gone directly to a four-year college. “Those who would not have otherwise attended college experienced equity benefits,” he writes. Women experienced larger effects compared with men.

LAMBERTUS J. ‘BART’ BECHT, Chairman and Senior Partner at Bansk Group, in October at Chicago Booth’s Distinguished Speaker Series


Financial boost

Community-college access helped those who otherwise would have dropped out.

Average annual earnings around ages 28–30

People who went to a two-year community college when they otherwise would have quit school

$29,912

$26,556

People who never went to college

Mountjoy estimates that by age 30, those who wouldn’t have otherwise attended any college would earn 22 percent more by enrolling in community college—an especially large benefit for students who would otherwise not attend college. But it doesn’t work for everyone, and it certainly no panacea.—Howard R. Gold
Experts are often bad at predicting test results

Companies such as Amazon, Google, and Uber run hundreds of online tests every month, with results guiding their business decisions and strategies. They also regularly make forecasts and predictions about what’s worth testing. But while test results are generally trustworthy, experts’ predictions are not, according to research by University of California at Berkeley’s Stefano DellaVigna and Chicago Booth’s Devin G. Pope.

“People are not as skilled at forecasting results and determining what can be generalized as they assume. And that should be serious food for thought for companies,” says Pope.

The researchers wanted to determine the extent to which test results can be trusted and generalized. Can a company have confidence in a test when its results suggest that a certain type of online banner ad leads to increased sales? Or would those results change depending on the demographics of people tested or the parameters of the test?

To find out, DellaVigna and Pope devised a simple A/B button-pushing task and made various alterations to test the robustness of the results. In some cases, they added a button-pushing to a coding exercise. Their test produced similar results despite the variations.

This has significant implications for academics, whose decisions about what to study and how to advise students are affected by the robustness of research findings. Moreover, if experts can’t be trusted to predict and interpret study results, businesses may want to rethink how much trust they put in their own research and the underlying assumptions that guided the tests might not be valid.

—Aline Doris

Winter 2019/20 23

Chicago Booth Review
A problem with hospital ratings—and how to fix it

Until recently, Chicago’s Rush University Medical Center boasted the maximum of 5 stars in the Centers for Medicare and Medicaid Services (CMS) hospital rating system. Data used to compute the July 2018 rating indicated that the hospital had improved in many areas, so it came as a shock when hospital administrators got a preview of the new ratings and Rush had dropped to 3 stars, according to Chicago Booth’s Dan Adelman.

Even a hospital that improves in every single metric can experience a rating drop, says Adelman. This indicates a problem with the current CMS system—and he suggests a way to address it.

The CMS rating system organizes hundreds of hospital metrics into seven categories: mortality, safety of care, readmission, patient experience, efficient use of medical imaging, and Adverse Events Composite, known as PSI-90, takes into account a number of factors including hospital mistakes, patient falls, and infection rates. Until recently, the PSI-90 had been given the most weight in performance measures, but thanks to stronger correlations in the data used to calculate the July 2018 ratings, a new factor was given more weight: complications from knee and hip surgeries.

The problem is that these surgeries affect far fewer patients and might not be applicable to all hospitals, yet the knee and hip surgeries became a big factor by which all hospitals were rated.

Hospitals view their individual rating before the CMS releases the information to the public, but hospital uproot over the new results caused the CMS to delay their publication until February. It also models the ratings so that PSI-90 now dominates again. Rush was bumped from 3 stars to 4.

Adelman argues that ratings shifts from small changes in correlations result in “knife-edge” instability that renders the evaluation system meaningless for patients who might rely on it when choosing a facility for their care. Hospitals, which use the ratings to negotiate with insurance companies for payments, cannot determine where to focus efforts toward improving. The ratings also affect a hospital’s reputation, which in turn affects patient volume and payor mix (an industry term that refers to the distribution of more-profitable patients, who use private insurance, and less-profitable ones, on public insurance). When patients are attracted to hospitals that rate higher but have worse outcomes, that hurts the overall health of people in an area.

“it’s like developing a grading scheme for school,” Adelman says. “The teacher gives the grading scale out at the beginning of the semester and tells everyone the weights for attendance, quizzes, papers, and tests. But this is like going through the semester and then telling everyone where the weight is at the end based on how the students perform. And every semester that might change.”

A benefit of the CMS rating model is that it doesn’t require anyone at the CMS or its affiliates to manually determine the weight of each metric, says Adelman, which could introduce bias and have inconsistencies. Rather, the model chooses how to weigh each metric, and additional weights are easily integrated.

Adelman argues that the same could be accomplished with a model he has created that relies not on correlations but on patient representation and the measurement of hospitals against best performers. In his model, each hospital gets its own unique weights. A measure that affects more people is given more weight.

To weigh particular measures for Hospital A, Adelman’s model compares it to other hospitals that are more efficient and better performing along key dimensions. These hospitals are combined to create a “virtual hospital” that sits between Hospital A and an ideal hospital that achieves the maximum performance along every measure. The virtual hospital thus dominates the real one. The idea is reminiscent of portfolio optimization in finance, in which investors seek to maximize a portfolio’s returns by combining investments on the efficient frontier, the point at which investments achieve the highest risk adjusted return. Rather than combine investments that are measured by risk and return, Adelman’s model identifies hospitals that perform most efficiently on the basis of factors such as mortality and readmissions. The model finds measure weights that score Hospital A as close as possible to the virtual hospital as measured under the new weights, and maximizes Hospital A’s score.

This model eliminates the possibility that a hospital would receive a lower rating even if it improves in all metrics, according to Adelman. “Measure weights obey the law of diminishing returns under reasonable conditions, including that scores improve when hospitals improve and that better-performing hospitals score higher,” he says.

Adelman warns that his model is designed to combat the problems with the latest variable model but does not address other concerns in hospital rankings— including a lack of transparency in the measures, steps in the methodology, or the ratings system itself. “Brian Wallheimer

It’s like a grading scheme for school except the scale changes and is revealed at the end of the semester.

WHAT’S DRIVING UNIVERSITIES TO USE MORE ADJUNCT FACULTY

Over the past several years, policy makers and economists have increasingly voiced concerns about apparent labor-market monopsonies—markets in which employers have the power to set wages—in certain industries and areas of the country. Some have further suggested that monopsony power may help explain the slow wage growth of recent decades.

One such market, according to Chicago Booth’s Austan G. Goolsbee and Chad Syverson, is higher education. They find that US institutions of higher education have meaningful monopsony power over tenure-track faculty, although not over nontenure-track faculty— which could help explain the rising use of adjunct instructors in recent years.

Researchers have long suggested that institutions of higher education may hold monopsony power stemming from both their labor market and the high switching costs that tenureured faculty face when changing institutions. Using data from the Integrated Postsecondary Education Data System (IPEDS), Goolsbee and Syverson tested this theory over the period from 2002 to 2015 across 1,650 institutions.

They find that the power appears greatest overall for the highest education-researching institutions. Consistent with this theory, they find that schools with more monopsony power attracted more outside students and that schools with more monopsony power over tenured-track faculty— especially doctoral schools, more-prestigious schools, especially doctoral universities with higher research output, had higher monopsony power over tenure-track faculty.

Schools whose incoming students had the highest SAT scores also held greater monopsony power over other schools, in fact, such power was concentrated among the 40 schools in the top quartile of student SAT scores. Schools with lower scores seemed to have no monopsony power over even tenure-track faculty.

Some observers of the higher-education industry have suggested that the monopsony power of academic institutions can explain their growing use of adjunct faculty. "The presence of market power over the tenure track forces universities to optimize their positions by offering adjunct faculty an incentive to shift to non-tenure track labor when it is in the best interests (in order to prevent driving up tenure track wages)," write Goolsbee and Syverson in The Economy. They conclude that "monopsony has likely played some role in the rise of adjunct faculty in recent years."—Brian Wallheimer

DataPoints

24 Chicago Booth Review Winter 2019/20

25 Chicago Booth Review Winter 2019/20
As the rich in the United States get richer, they have been moving from the suburbs to downtown, boosting the demand for luxury amenities. While this process of gentrification has long been decried for pushing out poor people, it also measurably worsens income inequality, according to University of California at Berkeley’s Victor Couture and Cecile Gaubert, University of Pennsylvania’s Jessie Handbury, and Chicago Booth’s Erik Hurst.

The researchers analyzed US Census data from 1970, 1990, and 2000, along with the Census Bureau’s American Community Survey from 2012 through 2016. They find not only that the income gap between the wealthiest 10 percent and the poorest 10 percent widened by 19 points over 1990–2014, but also that gentrification contributed another 1.7 points to that gap.

This additional welfare calculation addresses the economic fallout for poorer residents, who had to pay more for downtown housing as the influx of wealthy residents drove up prices at restaurants and bars, along with the cost of entertainment and personal services. “Poorer residents, who are mostly renters,” the researchers write, “have a choice between paying higher rents for a bundle of amenities that they do not value as much and moving out of downtown.”

DOES AMERICA HAVE AN ANTITRUST PROBLEM?

Markets are becoming more concentrated—and, arguably, less competitive

BY JEFF COCKRELL
ILLUSTRATION BY EDMON DE HARO
Concerns about concentration—of sales, profits, and even market power—are on the rise. Economists have long monitored concentration, a commonly used gauge of market concentration—within the 386 industries included in his analysis increased by 32 percent. If this trend toward more-concentrated industries has been accompanied by a small number of companies expanding their market power as a result of diminished competitive pressures, the effects could be momentous. In fact, some research suggests that market power could be responsible for everything from higher prices to reduced investment to the steadily diminishing share of the US economy that’s enjoyed by the labor force.

There are other potential explanations for increased concentration—in which a relatively small number of companies enjoy a large share of the entire market’s sales—and the presence of market power. Economists define market power as a company’s ability to set prices higher than it would set them under competitive conditions. Such a failure of competitive pressures could mean lower output, lower product quality, reduced pressure to innovate, and lower wages for workers, among other negative outcomes.

How to measure sales markups

A vocal concern for the power held by some of the United States’ most dominant companies—especially tech giants such as Facebook, Amazon, and Google—may be the only shared material among the talking points of President Donald Trump and the Democrats vying to run against him in 2020. Trump has asserted that the US should follow European Union’s lead in handing down large fines to big tech companies for antitrust violations, and during his presidential campaign, he charged that Amazon has a “huge antitrust problem.” A number of prominent Democrats, including Bernie Sanders and Elizabeth Warren, are on the same page, having suggested that many such companies may need to be broken up. In July, the Department of Justice (DOJ) announced that it was “reviewing whether and how market-leading online platforms have achieved market power and are engaging in practices that have reduced competition, stifled innovation, or otherwise harmed consumers.”

The same month, Facebook acknowledged it was the subject of a Federal Trade Commission (FTC) investigation, which reportedly probed questions such as whether Facebook strategically acquired nascent competitors before they could develop into greater threats. And in September, attorneys general for 50 US states and territories announced an investigation into whether Google’s dominance in online search and search advertising has created anticompetitive conditions—what Louisiana attorney general Jeff Landry, a Republican, called “an absolutely existential threat to our virtual marketplace.” Google took in nearly 75 percent of all US search-ad revenue in 2018, says data-research company eMarketer. On average, more than nine out of every 10 online searches are done through Google or its YouTube subsidiary, according to some estimates.

Concerns about concentration are not unique to the tech industry. Aggregate levels of US industrial concentration—or how market share is divided among manufacturing companies—began to increase in the early 1980s after decades of relatively little change, according to research by Chicago Booth’s Sam Peltzman. The trend continued into the 21st century. Between 1987 and 2007, average concentration—as measured by the Herfindahl-Hirschman index, a commonly used gauge of market concentration—within the 386 industries included in his analysis increased by 32 percent.

If this trend toward more-concentrated industries has been accompanied by a small number of companies expanding their market power as a result of diminished competitive pressures, the effects could be momentous. In fact, some research suggests the exercise of market power could be responsible for everything from higher prices to reduced investment to the steadily diminishing share of the US economy that’s enjoyed by the labor force.

But policy makers seeking to address this issue should first consider a few critical questions. Are prices higher because firms are becoming less competitive? If so, what are the best ways to address corporate giants? Would more-aggressive antitrust enforcement—or even breaking up, say, Facebook—a real cure for everything from lower prices to reduced innovation or increased competition? If so, the question of what the best way to address competitive pressures is likely to be the same as the question of whether the exercise of market power can be stopped.

Consider a market in which customers face high switching costs, or barriers from moving from one seller to another. The mobile-phone market prior to the advent of smartphone portability, or the right to take your phone number with you when switching carriers, was a good example: the inconvenience of transitioning to a new phone number imposed a high cost on those who wanted to leave their provider for a new one. If switching costs come down, the market becomes more competitive, but at the same time, many interior suppliers will lose market share or go out of business as their customers abandon them for better options, resulting in higher concentration.

Chicago Booth’s Luigi Zingales says that even in concentrated industries, incumbents may need to behave competitively if they fear that new entrants to the market could overtake them. A company’s share of the market may be large, but its ability to manipulate the market could remain small. So if market power grows along with concentration? One standard measure economists use to study this question is the markup of prices over marginal costs. Marginal cost refers to the cost a company faces for producing one additional unit of its product: if a company produces 500 shirts per week, the marginal cost is the added expense of producing the 501st shirt. That cost would presumably include money for more thread, buttons, and elastic, but also potentially for additional wages, equipment, or space if the company is already operating at capacity.

Even in concentrated industries, incumbents may need to behave competitively if they fear that new entrants to the market could overtake them.
Incomplete measure of profits

According to traditional economic theory, in a perfectly competitive market, the price of a good should equal its marginal cost. The gap between price and marginal cost is known as the markup; the higher the markup, the less competition is doing to keep prices at a more efficient level. Some research in recent years has found evidence that markups have indeed gone up over time. Jan De Loecker of IU Bloomington, Jan Eeckhout of Pompeu Fabra University, and Harvard’s Gabriel Unger looked at 60 years of data from publicly traded US companies and find that after decades of stability, markups have experienced two periods of pronounced growth since 1980. The researchers’ findings suggest that average markups hovered around 1.2-1.3 (that is, prices were 20-30 percent greater than marginal cost) from 1955 to 1980, but rose to 1.6 (prices were 61 percent greater than marginal cost) by 2016. Such growth could represent a substantial increase in market power.

De Loecker, Eeckhout, and Unger also find that this trend in markups isn’t visible across all companies—indeed, for the median company in their analysis, markups have stayed largely stable. Rather, the overall average has been pushed higher by companies in the top half of the markup distribution, and especially by those in the top 10 percent, which have seen steep increases in markup levels. About a quarter of the increase in markups the researchers document comes from overhead expenses—many of which are not factored into marginal cost—having grown over time, they say. They give the example of a tech company that spends heavily to develop a new piece of software, which can then be produced in large quantities at low marginal cost. In this case, the marginal cost doesn’t reflect the huge expense of creating the product in the first place. But “while overhead costs have increased, markups have increased even more and firms charge an excess markup that more than compensates for overhead,” they write. However, markups are difficult to observe. “There is an issue that price is kind of easy to measure, but marginal cost is a really hard thing to measure,” Syverson says.

De Loecker, Eeckhout, and Unger estimated markups in part by using an accounting measure, cost of goods sold (COGS), that includes all of a company’s costs that are directly traceable to a unit of output. However, University of Chicago PhD candidate James Traina argues that COGS doesn’t include important marketing and management expenses that have grown over time. Factoring those expenses into companies’ costs, “I find that public firm markups increased only modestly since the 1980s,” Traina wrote in a post for ProMarket, a blog published by Chicago Booth’s Stigler Center for the Study of the Economy and the State. “Moreover, this increase is within historical variation—measured markups have increased from 1980-2010 as much as they have decreased from 1950-1980.”

Markups are not the only way to measure market power, however. “Profits are a better indicator (of market power) than markups,” Zingales says, adding that it’s problematic if a market has highly profitable companies but few new entrants. “We know entry has been going down over time, by many measures, and profitability of the incumbents, especially the largest firms, has been going up. But if market power would rise, that the same methodology driving inference about rising profit shares since 1980 reveals that profit share levels in the 1960s and 1970s generally exceeded the levels reached today.”

In that case, is rising market power really pushing up profits, at the expense of workers and consumers? Or, once capital costs are calculated differently, are profits rising less than suggested by these recent studies? Karabarbounis and Neiman lean toward the latter conclusion.

Why would market power be expanding?

But let’s assume that market power is growing broadly. If that were true, what might be causing it? Research suggests a number of policies that may be helping it along—and not all of them fall within the traditional bounds of antitrust. For example, research from Princeton’s Ernest Liu and Atif Mian and Chicago Booth’s Amir Sufi finds that the low interest rates experienced in the US and many other developed economies since the 2008-09 financial crisis may have contributed to declining competition. Although low interest rates have traditionally been assumed to encourage business spending, the researchers argue that as rates fall, bigger companies can use them to make bigger investments in new equipment, for example—than their smaller competitors. These more-significant investments carry bigger productivity payoffs, increasing the competitive gap between the big companies and their rivals. If rates are low enough, eventually both big and small companies will lose the incentive to invest, as the small companies will fall hopelessly behind in market share, relieving some of the competitive pressure on their bigger rivals.

Policy around intellectual property (IP) may also be a contributor to declining competition. Research from Stanford’s Marci Rossel-Kurz suggests that rising monopoly power has accompanied the information-technology revolution, and has been protected by the US’s system of patents and other IP rights.

Kurz documents the growth of surplus wealth—the difference between a company’s total wealth and the capital it employs—generated by publicly traded US companies and finds that greater surplus wealth is associated with companies that have been most transformed by IT innovations. He also finds that the rate of surplus-wealth generation over the years corresponds that profits have not risen all that much, and would call into question whether companies are really profiting from a rise in market power, at the expense of consumers and workers. Karabarbounis and Neiman argue that the large growth in profits since the 1980s found by De Loecker, Eeckhout, and Unger is mostly explained by rising capital costs. Some research in recent years has found evidence that capital costs have increased, rather than simply holding Treasury bonds. Changes in risk premia may mean that the financing costs faced by companies do not move in lockstep with the interest rate on US Treasuries. If financing costs have not declined all that much, it would imply some economists, including Barkai, follows from the assumption that company borrowing costs fell along with US Treasury rates. This is a common assumption in economics research, but if applied to earlier decades, it also implies that profits fell dramatically between 1960 and 1980, when US Treasury rates were increasing.

Karabarbounis and Neiman write, “One must acknowledge that the same methodology driving inference about rising profit shares since 1980 reveals that profit share levels in the 1960s and 1970s generally exceeded the levels reached today.” In that case, is rising market power really pushing up profits, at the expense of workers and consumers? Or, once capital costs are calculated differently, are profits rising less than suggested by these recent studies? Karabarbounis and Neiman lean toward the latter conclusion. Why would market power be expanding? But let’s assume that market power is growing broadly. If that were true, what might be causing it? Research suggests a number of policies that may be helping it along—and not all of them fall within the traditional bounds of antitrust.

For example, research from Princeton’s Ernest Liu and Atif Mian and Chicago Booth’s Amir Sufi finds that the low interest rates experienced in the US and many other developed economies since the 2008-09 financial crisis may have contributed to declining competition. Though low interest rates have traditionally been assumed to encourage business spending, the researchers argue that as rates fall, bigger companies can use them to make bigger investments in new equipment, for example—than their smaller competitors. These more-significant investments carry bigger productivity payoffs, increasing the competitive gap between the big companies and their rivals. If rates are low enough, eventually both big and small companies will lose the incentive to invest, as the small companies will fall hopelessly behind in market share, relieving some of the competitive pressure on their bigger rivals.

Policy around intellectual property (IP) may also be a contributor to declining competition. Research from Stanford’s Marci Rossel-Kurz suggests that rising monopoly power has accompanied the information-technology revolution, and has been protected by the US’s system of patents and other IP rights.

Kurz documents the growth of surplus wealth—the difference between a company’s total wealth and the capital it employs—generated by publicly traded US companies and finds that greater surplus wealth is associated with companies that have been most transformed by IT innovations. He also finds that the rate of surplus-wealth generation over the years corresponds that profits have not risen all that much, and would call into question whether companies are really profiting from a rise in market power, at the expense of consumers and workers. Karabarbounis and Neiman argue that the large growth in profits since the 1980s found by De Loecker, Eeckhout, and Unger is mostly explained by rising capital costs. Some research in recent years has found evidence that capital costs have increased, rather than simply holding Treasury bonds. Changes in risk premia may mean that the financing costs faced by companies do not move in lockstep with the interest rate on US Treasuries. If financing costs have not declined all that much, it would imply some economists, including Barkai, follows from the assumption that company borrowing costs fell along with US Treasury rates. This is a common assumption in economics research, but if applied to earlier decades, it also implies that profits fell dramatically between 1960 and 1980, when US Treasury rates were increasing.

Karabarbounis and Neiman write, “One must acknowledge that the same methodology driving inference about rising profit shares since 1980 reveals that profit share levels in the 1960s and 1970s generally exceeded the levels reached today.” In that case, is rising market power really pushing up profits, at the expense of workers and consumers? Or, once capital costs are calculated differently, are profits rising less than suggested by these recent studies? Karabarbounis and Neiman lean toward the latter conclusion.
with various phases of the IT revolution, with more wealth generated during particularly innovative periods of the IT era. These findings, he writes, result from a public-policy regime oriented toward encouraging innovation with the promise of monopsony power.

"To encourage innovations, our laws protect patents and intellectual property rights, granting innovators monopsony power over the results of their innovations," Kurz writes. "But, once an initial monopoly is established, advantages of first mover together with a mix of updated patents, intellectual property rights and trade secrets, make it very hard for potential competi-
tors to enter the market."

Some explanations for growing market power do come down to matters of antitrust policy. Part of the evolution of US merger policy in the latter half of the 20th century was the introduction of the 1976 Hart-Scott-Rodino Antitrust Improvements Act, which set up requirements for premerger notifications. The act, writes Chicago Booth’s Thomas Wollmann, effectively meant that for any merger in which the target company was worth at least $10 million, the merging companies needed to notify the government of their plan to merge in advance, so that the US’s two antitrust authorities—the DOJ and the FTC—could consider its likely effects on competition. Deals with the potential to impinge upon competition could trigger an investigation; investigations that indicated some likelihood of competitive harm could lead to attempts to block the merger.

In 2001, the act was amended to bump the prenotification threshold to $50 million. Wollmann finds that following the amendment, premerger notifications dropped by 70 percent. Investigations of deals between the old $10 million threshold and the new $50 million mark dropped from about 180 per year to close to zero—now exempt from notification requirements, they are almost never investigated. But that doesn’t mean they don’t pose any competitive threat.

"Notably, 32 percent of all HSR-related investigations prior to the amendment were for deals worth less than $50 million, rejecting the notion that these newly- exempt deals are unlikely to be anticompetitive," Wollmann writes. Moreover, firms responded to decreased enforcement with even more horizontal mergers. Wollmann’s findings indicate that many firms—knowing that they were less likely to face antitrust scrutiny—were more willing to pursue deals that might more likely propose acquisitions of their competitors. The mergers may be relatively small, but they are large in aggregate: Wollmann finds that over about a 15-year period, transactions exempt from premerger notification reporting consolidated over $400 billion in US output. Over the 10-year period following its passage, “the threshold increase induced 3,240 competition-reducing business combinations,” a phenom-

enon he calls stealth consolidation.

Further evidence of growing concentration is not the same as growing market power, some research suggests that they do share an association. Rice University’s Gustavo Grullon, York University’s Yelena Larkin, and University of Geneva’s Roni Michaely find that companies in more-concentrated in-

dustries tend to enjoy greater profits—and that these are driven primarily by higher markups. They also find that horizontal mergers in more-concentrated industries elicit a stronger market reaction than those in less concentrated industries, and that shareholders of companies in industries that enjoy higher than-average returns. The researchers argue that both of these findings reflect the market’s recognition that companies in highly concentrated industries tend to wield profit-enhancing market power.

The trouble with big tech

Many antitrust discussions today quickly turn to the technology industry, and for good reason. The questions of whether market power is becoming more pervasive and, if so, how policy makers should confront it, are complicated by the growth of digital platforms, for which the economic context is different than that for traditional markets. Traditional policy levers might well be sufficient to fix competition in legacy industries, Zingales says, but digital platforms require “more targeted intervention.” That’s because in digital industries social media and online search are particularly prone to network external-

alities—that is, the more people use them, the more valuable they become. These externalities feed the winner-take-all (or winner-take-most) outcomes that contribute to industry concentration: the more people who use Google to search the web, the more data Google has to help it’s algorithm generate the most relevant search results, making its search services even more attractive to future customers. Similarly, when many of your friends post their life updates on Facebook, it becomes more appealing for you to do the same—and Facebook’s popularity is self-perpetuating.

"When there are strong network effects, you can get really

companies to exist in a network-goods market. Network-goods markets have a tendency to stay concentrated even if the market leader is inferior to alternatives out there," Zingales points out. But if monopoly power is expanding due to specific policy decisions, such as the threshold amendment to the Hart-Scott-Rodino Act, it may be necessary for policy makers to revisit, revise, or undo them. However, given that some policies relevant to competition, such as interest-rate levels, aren’t specifically antitrust issues, altering them in the service of healthier markets would have to be weighed against their effects on other areas of the economy.

Self-perpetuating market power

Perhaps market power is growing, and not

because of any single policy or set of policies. Perhaps it is growing because of a change in the nature of American commerce.

Naturally, the policy responses to these phenomena depend critically upon answers to some of the above questions. If concentration is growing but market power isn’t, the antitrust establishment may be doing exactly what it should. As Syverson points out, concentration itself is not an indicator of a problem. If market power is expanding due to specific policy decisions, such as the threshold amendment to the Hart-Scott-Rodino Act, it may be necessary for policy makers to revisit, revise, or undo them. However, given that some policies relevant to competition, such as interest-rate levels, aren’t specifically antitrust issues, altering them in the service of healthier markets would have to be weighed against their effects on other areas of the economy.

But perhaps market power is growing, and not because of any single policy or set of policies. Perhaps it is growing because of a change in the nature of American commerce—such as the superstar-firm dynamic described by MIT’s Autor and his co-coresearchers. Monopolies have traditionally been studied as a microeconomic phenomenon, and policy responses to them tend to be individualized: the blocking of specific mergers or, in more extreme cases, the breaking up of specific companies. But if monopoly power is growing economy-wide, does that call for coordinating more across industries—similar to how antitrust laws are designed to stop free riding?

"The issue is, what’s the criterion that you use to declare something as noncompetitive in a way that’s easily comparable across industries?" Syverson says. Some have suggested that size—measured by total asset value, for instance—could be such a criterion, but “I think that is just taking a hatchet to a birthday cake,” he says. “It’s ridiculously blunt.”

If market power is so pervasive that it’s become a macro-

economic issue, Syverson says, that would require regulators to systematically work their way through markets one at a time, rather than make a policy adjustment that would affect all markets simultaneously.

Such an approach would be daunting for policy makers, but it is potentially critical. If markets are indeed becoming less competitive, that could mean not only paying higher prices for worse products, but also enduring lower wages, fewer innovations, and less business investment, as well as a slower, smaller-growth economy. It’s no surprise, then, that competitive markets are a near concern to the heart of most economists—and, perhaps increasingly, a salient part of politicians’ message to voters.
As life moves faster, everyone’s patience is wearing thin. Who gets to the head of the line quickest?

BY CHANA R. SCHOENBERGER
ILLUSTRATIONS BY SAM PEET
stocks are processed in milliseconds. Chai-fueled cars can be summoned almost instantly. Yet people are still routinely mired to slow down and cool their heels. We wait in lines at the grocery store and the doctor’s office, on the phone with customer service, and virtually when buying concert tickets or waiting for a website to load.

But as consumers are coming to expect ever-faster service, companies are looking for ways to keep lines moving. Customers are, too, and have found some shortcuts. For example, if you’re stuck on hold with an automated phone system, it may fast-track you if you swear, according to the technology news site TNW.

Researchers specializing in queuing theory may have better solutions. For most of the past century, operations researchers developed systems to reduce lines, and they were largely successful at streamlining factories, telephone exchanges, and other tasks. But with the service sector now dominating the economy, some recognize that they need a new approach, one that takes into account human behavior. Many lines that form these days are affected by people’s quirks and biases—including their propensity to swear or hang up when frustrated by circuitous automated phone systems. Anticipating these reactions could help one person cut the line, but could also help many people more quickly get what they’re waiting for.

Queuing considerations

When establishing rules for how to route waiting customers, operations such as call centers have to decide whether to treat people more or less equally or to favor some over others.

A first-come-first-served approach is considered fair, but can be insufficient when designing queuing systems that balance business priorities with human behavior.

When designing queuing systems, researchers split waiting customers into different classes—for example, people whose needs are more urgent or people with VIP status whom businesses deem more valuable.

Overall 
averagewait time

Then they distribute wait times that may favor one group over another. If there must be, say, 10 minutes of waiting on average, should one customer group wait one minute while the other group waits nine minutes, or should the split be 50–50, or something else?

Customers who refuse to wait provide an example of how human behavior can short-circuit a traditional queuing model. People hang up when they’re frustrated. Waits do not. “We’re interested in more fully understanding choices of this, how to maximize revenue, minimize customer dissatisfaction, and maximize customers being happy with the service,” says Puha.

In one project, Puha and Ward set up a mathematical model that incorporates different types of customers, and use a probability model to distribute them, seeking to capture the behavior of frustrated humans hanging up when on hold. Then they analyzed how these systems work when the number of call-center agents is very large.

The researchers thought first about what happens when call-center agents can do anything, such as speak every language. “Because this phenomenon of how abandonment [when customers hang up, or abandon a transaction] affects the overall system performance is not particularly well understood, it’s interesting to understand it even when agents are fully cross-trained,” Puha says. After that, they could study what happens when an agent has a specialization, such as speaking only English, or only Spanish. Would people calling in still hang up at the same rate?

Inequality on the line

A model that seeks to optimize the queue reflects a company’s goals and priorities, which typically include fairness. When companies develop rules for how to route people, a company has to decide whether to treat customers more or less equally or to favor some over others. Will some groups of callers be forced to wait longer than others, on the basis of their frequent flyer tier, hotel loyalty points, or credit score? A company can design a credit card designed for big spenders, for which she pays a hefty annual fee. When she calls customer service and types in her credit-card number, should she be routed to a shorter queue for high-value customers? In many cases, companies have decided that yes, she should get this priority treatment.

Consequently, the conversation with the service representative who answers your call may be more pleasant and efficient when you are a member of a group the company wants to keep happy, and companies can use mathematical models to ensure this happens. “I can look at the solution to that optimization problem, rank the classes [by how valuable they are to me], and serve my highest priority customers first,” says Ward. “But that optimization problem is not capturing adverse consequences from treating customers unequally.”
Many of the problems Ward formulates focuses on averages. If a cashier’s average wait time is one minute, that could be because everyone waits for one minute—or it could be because 98 percent of customers have no wait at all, while 2 percent of them wait for an hour. Those tails can have an impact on a business, so it makes sense to design a problem that incorporates both average and variability, Ward says. The model Ward and Puha wrote can include fairness constraints. For example, given the number of agents staffed and the customer demand, there must be a certain amount of waiting, say 10 minutes on average. The question is: Should one customer group have one minute of waiting and the other group have nine minutes, or should the split be 50-50, or something else? In different situations, a company may need to be more or less worried about treating customers more or less equally, she says.

This ties in to the more general problem of social inequality, an issue that isn’t accounted for in call-center models but is very much a concern in real life. Routing a VIP customer to a shorter queue may make business sense, but it’s another reason people have disparate experiences that cause them to have differing views about, say, access to resources.

The business decision a company has to make involves where on the axis of fairness it wants to sit. Taking into consideration a company’s priorities, call center executives have to decide how many resources to allocate, such as the number of agents who answer the phones. In addition to where customers are placed in line, a model also determines how employees are routed to. Pairing customers with agents requires companies to decide how many employees to hire at different skill levels. A call center’s scheduling algorithm can take into account which employees can serve which types of customers. Of course, it’s more expensive to hire only agents with high-level skills. Moreover, if the 10 highest-skilled agents are routed to the most-pressing customer calls, there will likely be 10 other customers who are waiting on hold, the decision affects everyone’s wait times, and those of future customers.

The next stage for managers is to give people incentives to do the most efficient thing. “The first step in solving the scheduling problem is to assume the employees will do exactly what you want,” says Ward. “Then I can deliver the same quality of service to different customer classes as somebody else, but with fewer employees, so my model would allow you to be more efficient. But what if the employees do not behave consistent with my solution?”

Agents are people too

Fairness and efficiency are concerns with respect to the way queuing models treat not only customers but also the call-center agents who interact with them. These representatives offer another set of potential behavioral issues that can crop up when humans don’t do what the algorithm dictates. Agents can have bad days, or be tired, or need coffee, or feel berated. They may work quickly or slowly. They have their own preferences for the types of calls they want to answer, and in some cases even dictate whether they will see a variety of call types, for instance. “If I think of higher touch services where humans are providing the service, the human element kicks in both on the customer side and the server side,” says New York University’s Moty Armony. Armony has coauthored two papers with Ward, and has studied how to route calls to provide for agents to have time to take breaks. But here is the conundrum: Suppose you are the most-effective employee. Thanks to your efficiency, you tend to get more work routed your way, and you may take steps to protect yourself and your time if your manager fails to do so. An academic referee that produce fastness dictates reviews quickly will ask applicants to be reviewed more papers, so that person may decide to take longer to review returns in order to keep the workload in check.

Raja Gopalakrishnan of Queen’s University in Kingston, Ontario, and Ward are conducting research together, and their investigation is how to account for agent burnout, how to design systems so that more-efficient agents don’t feel as though they are being punished when they are assigned more work than others, and how such considerations interact with customer behavior (less work being done by the agents means higher wait times for the customers).

Gopalakrishnan and Ward are currently looking at the strategic behavior of both customers and agents. In their model, an agent will choose how quickly to work. While customers in a call center can’t necessarily see where they are in a queue, customers in a grocery store often can, and both customers and agents can have bad days, or be tired, or need coffee, or feel berated. They may work quickly or slowly. They have their own preferences for the types of calls they want to answer. They and the cashiers sometimes make decisions accordingly, leading to complex interactions. Say one checkout line is shorter than several others. More customers may join the shorter line, and the cashier, seeing a longer line, may speed up. “This is a general problem, which is a general problem that needs, simply to cut the wait time. He may feel forced to accept an apartment that is too far away, or that’s not near where they work or school, or family.

And a long commute can have consequences for a family, and others. Children who travel far to attend school suffer, and they may run into social difficulties if required to switch schools because their families have to move. Relocating can break community bonds. In short, this system can cause people to make decisions that hurt themselves and society.

Leshno used a dynamic model to determine how fluctuations in the length of time people expect to wait in line affect their welfare. Considering other systems, he lands on a “service in random order” queuing mechanism, in the place of a “first-come-first-serve” list with housing authorities. The question is: Should one group have nine minutes, or should the split be 50-50, or something else? In different situations, a company may need to be more or less worried about treating customers more or less equally, he says.

From search requests to hospital beds

In mathematical modeling in general, and queuing in particular, tools used in one context can be applied in another. This holds true in behavioral projects, where the same models used to optimize call centers can be used to solve other waiting-time and resource-allocation problems in areas from restaurants to retail. Armony is using queuing theory to study patients’ wait times in hospitals. Although this is a physical problem—patients are present, rather than waiting on the phone—it shares many characteristics with call-center issues.

People often think that emergency departments are busy because patients come in at random times, says Armony, but the distribution of patients by arrival time is actually fairly standard. In reality, while people don’t call a center or arrive at a hospital at a constant rate, there are patterns. Most people go to the ER at convenient times, say after dropping their children off at school. Emerging health trends, such as cancer survivors, means fewer people are getting sick on the weekend. Then these patients clog up the emergency department as they wait for a transfer to an equally overcrowded one. Hospitals need to know how to get patients to beds faster, in order to treat patients expeditiously and make the best use of hospital resources.

“We know health care costs are really high, and if people wait too long to get medical treatment, there could be severe effects. But (the problem) also translates into a mathematical theory that ends up being useful,” Armony says.

She observes that some hospitals have implement- ed tracking systems to winnow out the ER patients who arrive needing urgent care-type treatment, such as a prescription, rather than an inpatient bed. In the hospital she is studying, experienced triage

HOW TO ALLOCATE SUBSIDIZED HOUSING MORE EFFICIENTLY

Waiting lists can be used to allocate scarce goods, be they hard-to-get preschool slots or organs needed for transplants. But poorly designed lists can be inefficient and unfair, finds Chicago Booth’s Jacob Leshno, who suggests a better version.

To study this issue, Leshno looked at the system used to assign subsidized housing in the United States. Applicants who qualify for subsidized apartments can put their name on a first-come-first-serve list with housing authorities. Once an apartment’s name is called, they can accept it or decline the offered apartment. If she rejects it, her name might drop to the bottom of the list.

The amount of time an applicant waits for an apartment is random. Someone who puts his name in at an inopportune time may face a long wait. Moreover, if that wait time stretches into years, the applicant might accept an apartment other than the one he really needs, simply to cut the wait time. He may feel forced to accept an apartment that’s far from work, school, or family.

And a long commute can have consequences for a family, and others. Children who travel far to attend school suffer, and they may run into social difficulties if required to switch schools because their families have to move. Relocating can break community bonds. In short, this system can cause people to make decisions that hurt themselves and society.

Leshno says his suggested queue is more efficient because applicants are offered more similar opportunities. In the current system, people can be on a housing list for days, months, or even years, and two families vying for the same type of apartment might face very different wait times. But Leshno says to focus on the expected wait time at the point in time a person is called. At that point, in his version, the expected wait time is likely to be more stable over time and more equitable, regardless of when they’re called similar apartment options.


40 Chicago Booth Review Winter 2019/20

41 Chicago Booth Review Winter 2019/20
WHICH TYPE OF GROCERY QUEUE IS BETTER?

Waiting to pay for groceries offers plenty of time to ponder this question: Which is the best type of checkout line? Most grocery stores have multiple checkout stations, each with their own queue, while a few have single, snaking queues staffed by workers who assign shoppers to one of a handful of cashiers. (In some stores, an electronic board does this job.)

Research indicates this is something of a trick question, as the speediest option isn't necessarily the one shoppers prefer. The TV show MythBusters devoted a 2016 episode to testing both propositions. The show’s hosts herded volunteers through a stage set of a grocery store. When shoppers self-organized into multiple checkout lines, they waited 5 minutes and 35 seconds, on average, and gave the experience a satisfaction rating of 3.68 out of 5.

Then the show’s hosts organized the volunteers into a single checkout line, gave them the same instructions, and assigned the person at the front of the line to one of several registers. These shoppers ended up waiting longer, almost 7 minutes. However, they rated the experience a 3.8, presumably because this method was fairer.

The notion that one line is better is taught to many MBA students in operations-management classes. This idea can be validated mathematically, but the underlying assumption in the math is that the checkout clerks work at the same rate, regardless of the number of lines. However, the math doesn’t take into account worker behavior—and both shoppers and cashiers affect how queues move. University of Washington’s Masha Shunko, Syracuse’s Julie Niederhof, and Purdue’s Yaroslav Rosokha find, as MythBusters did, that the fastest way to move shoppers through a store is to let them choose a line alongside a register. But the researchers also find that the speed is due to the way checkout clerks work. With their own lines, clerks in an experiment worked faster, in part to compete with their peers on other registers. When there was a single line, by contrast, no individual cashier owned the results, leading to a loss of competitiveness—and checkout speed.

“The single-line workers didn’t work at the same speed as their counterparts doing the same task in the multiple-line system,” Niederhof says. Instead, the single-line cashiers slowed down by about 10 percent. When everyone was equally responsible for getting customers out the door faster, it seems, nobody felt they had to rush. This decrease in worker speed can negate the benefits that the single-line design is predicted to create.

From the customer’s perspective, a single-line setup is preferable because it negates customers’ anxiety about which line to pick, she says. Despite her research, Niederhof prefers, when possible, to stand in a single line when shopping.

“There’s no risk the person in front of you will sabotage the line by doing something slowly,” she says.

But what about a store that also has one or more express lines serving people with fewer items? In this case, the math suggests that it’s still probably best to have one regular line, in addition to the express line—although it depends on how much shorter the average checkout time is in the express line.


nurses assign incoming patients a score of 1 to 5 on the basis of how likely they are to need an overnight stay in the hospital. The urgent-care patients are then treated quickly in a separate area and released. Most who stay in the ER are those who score a 3, while those scoring 1 or 2 may need surgery or a trip to the intensive-care unit.

other research, including a recent paper armony coauthored, deals with queuing for operating rooms, which involves optimizing the schedule so that patients can receive surgery quickly and find a recovery-room bed waiting when they are finished.

when hospitals move patients into a nursing ward, they have to determine the order in which wards will take new patients, on the basis of the beds available and the patients’ medical problems. Hospitals can use queuing theory to make these assignments, but a real test is what happens within the hospital itself: do nurses and doctors follow computerized rules implemented by the hospital or do they make their own decisions? And which group, the humans or the machines, makes better decisions for patients? Hospital executives know their trained staff have deep expertise in treating patients, but they also know that these staff members might not recognize the patterns a computer can see.

“The question is how to design the algorithm to support the decision makers in a way that would be helpful to them rather than intrusive or something they would just ignore,” says armony.

A related issue is how hospitals route patients depending on the criteria that insurance companies and regulators use to judge the quality of care. Hospitals are penalized when patients who have been treated come back to the hospital too quickly, so some have an area for ER patients to wait under observation before they’re discharged, to make sure they are well enough to go home. This cuts down on readmission rates, thus presumably shortening future queues.

Health care queuing is “not a problem that I think will ever be solved completely, as the state of the art continues to improve,” says armony. Queuing problems can be solved mathematically, but researchers have much more to do in working toward better modeling human behavior. That way, when an airline call-center rep finally picks up your call, you may not feel quite so angry about the amount of time you’ve been waiting.  

since the inception of booth’s preeminent phd program 100 years ago, its faculty, alumni, and students have been driving the evolution of modern research in a wide range of disciplines, from accounting to behavioral science to finance.

join us for a two-day academic conference as we celebrate the program’s 100th anniversary. this engaging conference will include plenary sessions, small group sessions by discipline, and social events.
WHY CENTRAL BANKS NEED TO CHANGE THEIR MESSAGE

The US and European central banks thought they could manage their economies by bringing their secretive plans for interest-rate regulation into the light. But they didn’t account for an unreceptive public.

STORY BY DEE GILL
ILLUSTRATION BY MATT CHASE
A lot of people don’t have a clue what central banks do, much less how the institutions’ ever-changing interest-rate targets ought to affect their household financial decisions. Recent studies, including several by Chicago Booth researchers, find Americans and Europeans oblivious to or indifferent to the targets’ implications.

This is a serious problem for policy makers. For a decade, monetary policy in many developed economies has relied heavily on forward guidance, a policy of broadcasting interest-rate targets that works only if the public knows and cares what its central banks say.

“What the effects of monetary policy on the economy today depend importantly not only on current policy actions, but also on the public’s expectation of how policy will evolve,” said Ben Bernanke, then chairman of the US Federal Reserve, in a speech to the National Economists Club in 2013. At critical times since 2008, forward guidance has been the Fed’s and the European Central Bank’s go-to tool for revitalizing their ailing economies and holding off widespread depression.

Forward guidance usually involves central banks announcing their plans for interest rates, which traditionally were guarded as state secrets. The openness is intended to spur investors, businesses, and households to make spending and savings decisions that will bolster the economy; typically, to spend more money during economic slowdowns and to save more when the economy is expanding.

Policy makers have struggled to understand why many individuals make economic decisions against their own best interests. Chicago Booth’s Michael Weber and his research colleagues, in several studies, tested the basic assumption that households will respond to forward guidance, and find it flawed. Most people, the researchers conclude, generally do not make spending and savings choices on the basis of inflation expectations. In personal financial decisions—for example, whether to pay or borrow for a boat, refrigerator, or renovations, or to sock away funds for rainy days—words from central bankers hardly register.

Why don’t more people respond to interest-rate news? In two of the studies, Weber and his co-researchers blame a lack of cognitive ability. Men who score at or below the median on IQ tests appear less likely to process and act on central bank news in ways that would benefit their own household accounts and the overall economy, according to the studies, which Weber conducted with Boston College’s Francesco D’Acunto, Daniel Hoang of Karlsruhe Institute of Technology, and Maritta Paloviita of the Bank of Finland.

The researchers point out that low IQ is not the same as a low level of education, which they find, along with income, age, and other demographics, to be unrelated to interest-rate reactions.

Policy makers have struggled to understand why many individuals make economic decisions against their own best interests, such as ignoring potential tax breaks or unnecessarily costly repairs. This is a serious problem for policy makers.

For a decade, monetary policy in many developed economies has relied heavily on forward guidance, a policy of broadcasting interest-rate targets that works only if the public knows and cares what its central banks say. The openness is intended to spur investors, businesses, and households to make spending and savings decisions that will bolster the economy; typically, to spend more money during economic slowdowns and to save more when the economy is expanding.

The Fed does little to directly address consumers’ understanding of monetary policy. It publishes consumer guides about mortgages, foreclosures, and a few other topics, but it does not prioritize speaking to the general public. The Fed relies on the media to attract the public’s attention to these statements.

From proud incoherence to Fed-speak

For decades, the world’s central banks cloaked deliberations in secrecy. On the rare occasions they publicly mentioned interest rates or economic conditions, they spoke in purposely ambiguous terms, largely for fear of politicizing the decision-making process. Professional investors, a group obsessed with both topics, studied those words like tea leaves. But a quote from then Fed chairman Alan Greenspan in 1987 captured his pride in that impenetrable verbiage: “Since I’ve become a central banker, I’ve learned to mumble with great incoherence. If I seem unduly clear to you, you must have misunderstood what I said.”

Soon after, Greenspan, the Fed, and other central banks began talking baby steps toward transparency. But it took the 2008–09 financial crisis to really get them talking. Cutting critical short-term interest rates—the banks’ standard response to economic weakness—hadn’t stopped an alarming rise in layoffs, bankruptcies, and market mayhem. The economy needed a lot of spending right away to get businesses thriving and people working again.

To generate this consumption, the Fed promised on December 16, 2008, near the beginning of the financial crisis, to keep interest rates exceptionally low, near zero, “for some time.” The Fed repeated the message throughout the recession, and the ECB put out similar statements. The Fed also named the economic developments, such as employment rates, that would prompt changes to those targets. The specificity of these announcements was historic.

The most popular models used for predicting the effects of monetary and fiscal policies rely on a perhaps-naive assumption: people will spend more money today if they think inflation will rise, and less if they think it will fall. If a lot of people don’t adjust their spending according to central bank inflation announcements, as research suggests they don’t, some of the most respected economic forecasts in the world—used by the US Federal Reserve, the European Central Bank, and others—cannot be accurate.

The common models employ a central feature of the Euler equation, a mathematical formula that describes a trade-off between doing something now and doing it later. This “interemporat substitution” that the equation describes relates to consumption, and the controlling variable is household inflation expectations that the central bank influences through its inflation target. In the formula, as the inflation target rises, consumption increases. The size of the change helps determine predictions for a broad range of economic components, from real-estate prices to GDP growth.

Consumers do react with some predictability to increases and decreases in real interest rates. For example, mortgage rates are largely determined by the Fed’s short-term interest rates, when the rates drop, new mortgages usually rise.

Policy makers have struggled to understand why many individuals make economic decisions against their own best interests.
From this forward guidance, the public was supposed to understand that they should buy goods soon, rather than wait. Businesses should hire people, upgrade equipment, and invest in expansion. Consumers should buy cars, refrigerators, furniture, houses, and other big-ticket items.

Theoretically, households that followed the Fed’s lead would benefit financially, as well as advance policy makers’ goals for the broader economy. By making purchases then, while the banks were holding prices down, buyers would pay less than when inflation increased costs later. Spur cash would earn almost nothing socked away in bank accounts, so it would be a good time to invest in just about anything else. The cost of borrowing money could only get higher in the future.

Generally, investors took the hint, household and businesses did not. While the interest-rate promises effectively stabilized financial markets, it was years before businesses hired and consumers spent heavily enough to really help economic growth.

Today’s Fed and ECB leaders strive to make their policies and economic outlooks clear to both investment firms and average citizens. But the research suggests they have yet to put forward guidance into language that motivates the public to act.

Even simplified, interest rates still fail to motivate
Findings by D’Acunto, Hoang, Paloviita, and Weber suggest that only high IQ individuals follow and react to interest-rate news in the way that central bankers intend. Their two IQ studies take data from Finland, where homogenous demographics are useful for disentangling IQ effects from education, income, and other factors. Finland offers citizens free education through university and has one of the highest college graduation rates in the world. Typically, Finnish men take IQ tests with military conscription around the age of 19 or 20, and low- and high-IQ individuals are found across socioeconomic groups. (Finnish women can volunteer for military duty, but are not conscript-
ed.) The Finnish Defense Forces score the IQ test results on a 9-point standard scale, with a mean score of 5.

The researchers matched the young Finnish men’s IQ scores from 1982 to 2001 to their responses on monthly consumer confidence surveys conducted on behalf of the European Commission between 2001 and 2015. The surveys solicited household opinions about economic conditions generally and about what prices would do in the future. For example, they asked if it was a good time to make big purchases, such as furniture and electronics.

Central bankers have tried various unconventional tools in their bid to accomplish their monetary policy goals—and to get consumers and investors to pay attention. Forward guidance (statements intended to manage expectations about potential rate changes) and other strategies have had some success . . . but would they be more effective if the bankers’ words were lyrics backed by a beat?

If the Fed embraced this, it wouldn’t be the first bank to use music to transmit a message. Dyeztein Olsson, the governor of Norges Bank, Norway’s central bank, in 2017 appeared in a lively cod-themed parody video to promote new banknotes. A few months later, Elvira Nabiullina, governor of the Central Bank of Russia, sang in a video that the Russian bank issued to promote some of its new banknotes.

More recently, the Bank of Jamaica has moved into commissioning new music—it had pop stars record videos to educate the public about topics including the benefits of inflation targeting. Tony Morrison, the bank’s head of communications, told the Wall Street Journal that policies such as inflation targeting “are the type of things that everyone should know about, and the best way to reach the people of Jamaica is through reggae.”

This is a good one, says Chicago Booth’s Michael Weber. “The central bank of Jamaica has been pretty successful in anchoring inflation expectations, and reaching the broader population, and I think the Fed and European Central Bank can learn from them,” he says. However, he says that in the United States, monetary-policy plans should be set to rap. If basketball star—cum—rapper LaBron James were to record a song about price stability, he says, the message would reach a wide audience.—Emily Lambert

Even the most explicit warnings of higher future rates won’t induce spending if people don’t factor inflation into their financial decisions. But most people simply don’t.

Interest rates in Finland are ruled by the ECB, and the survey period covered at least two significant policy announcements that the researchers would have expected to guide survey respondents. But only participants scoring between 6 and 9 on the tests—which the researchers class as high IQ—accurately reported current interest-rate trends and made financial decisions accordingly.

High IQ men were twice as likely to take advantage of low-interest loans when rates fell. Their likelihood of borrowing remained constant while interest rates were steady, and dropped when interest rates rose. Using annual tax data, the researchers determined that these participants adjusted total outstanding debt balances to match interest-rate changes significantly more often than respondents ranked 5 or lower on the IQ scale.

High IQ men also said it was a good time to buy big-ticket items when inflation was rising, and a bad time for such purchases when rates were going down.

On the other hand, lower-IQ participants had little knowledge of current or forecasted interest rates. Their plans for spending, saving, and borrowing appeared unrelated to their inflation expectations, which were sometimes wildly inaccurate.

Unlike IQ, income and education did not appear to affect knowledge of interest-rate trends or the propensity to react accordingly.

The researchers considered that lower-IQ men may be less likely to qualify for loans, which might make them unable to borrow more when rates are advantageous. But they find individual leverage ratios—a key debt indicator that lenders consider—to be roughly the same between high- and lower-IQ respondents. They also suggest that lower-IQ men are unlikely to commit to long-term consumption plans as inflation expectations change even if they are not financially constrained. If financial constraint had been the meaningful variable, this difference could have explained why changes in inflation expectations did not affect their spending plans.

Avoiding policies for only smart people
Even the most explicit warnings of higher future rates won’t induce spending if people don’t factor inflation into their financial decisions. But most people simply don’t, according to several studies.

Two such studies—the first by University of Notre Dame’s Riediger Bachmann and others, the second by the Boston Fed’s Mary A. Burke and Ali K. Ozdagli—find no statistically significant differences in most households’ readiness to buy durable goods, or their actual purchases, on the basis of their inflation expectations.

Another study by researchers including Chicago Booth’s Devon G. Pope finds that 20 percent of mortgage holders fail to react when rate declines would allow them to save money. (Bachmann notes that studies from Japan and Europe do find a relationship between inflation expectations and economic behavior, making the evidence mixed.)

The work by D’Acunto, Hoang, Paloviita, and Weber sheds light on why the inflation factor tends to get left out of household financial decisions. After establishing that IQ plays a role, they examined what might have made the lower-IQ group less likely to respond as intended.

Although the lower IQ respondents sometimes lacked or misinterpreted interest-rate information, this was not the key reason for their inaction, the researchers find. Instead, the IQ scale.

To get the public’s attention, central banks may need policies that more obviously affect personal finances. Two studies by D’Acunto, Hoang, and Weber illustrate how Polish and German households significantly increased spending ahead of large, preannounced sales-tax increases. When facing a tax that would make every purchase evidently more expensive, consumers spent heavily enough to really help economic growth. The cost of borrowing money could only get higher in the future.

Generally, investors took the hint, household and businesses did not. While the interest-rate promises effectively stabilized financial markets, it was years before businesses hired and consumers spent heavily enough to really help economic growth.

The researchers note that a continuing disconnect between central banks and lower-IQ households threatens more than effective monetary policy. A consumer-friendly interest-rate policy becomes discriminatory if it enriches only a subset of the population. For judicious and effective monetary policy, central-bank messages cannot be for only the smartest people—on.
The study finds strong, but not more accurate, responses to other expectations with simpler messages, such as a single sentence or straightforward statements. When told the unemployment rate was lower than what they believed, participants slightly lowered their inflation expectations. In fact, reductions in unemployment are typically associated with higher inflation. Another group raised its inflation forecasts more dramatically when told gas prices had risen 11 percent in the past few months, although gas-price trends are not good indicators of overall inflation.

The researchers also find most Americans no longer read traditional newspaper articles and instead consider social media a credible source of news about the economy. The public, however, has not gotten the message. Many Americans still exhibit a profound lack of awareness about inflation and the policies meant to guide it, according to research by University of Texas at Austin’s Olivier Coibion, University of California at Berkeley’s Yuriy Gorodnichenko, and Chicago Booth’s Michael Weber.

The study relies on a survey of about 83,000 households, the Chicago Booth Expectations and Communication Survey, created in cooperation with Nielsen. Its design and participants mirror the closely watched University of Michigan Surveys of Consumers and the New York Fed Survey of Consumer Expectations.

Almost 40 percent of the respondents in the Chicago Booth survey estimated the Fed’s inflation target at 10 percent or more, a level high enough to call a crisis in most developed countries. (The Fed’s inflation target is 2 percent, and inflation has averaged around 2 percent over the past two decades.) Barely half of respondents gave a number between 0 and 5 percent. Why are so many people grossly misinterpreting the Fed’s intentions?

The researchers find that how the Fed distributes its messages plays a key role in how the public responds. They argue that the Fed could dramatically influence household inflation expectations with simpler messages, such as a single sentence stating its inflation forecast, delivered directly to consumers. But when Fed announcements are filtered through popular media—the way most Americans hear from the institution now—those messages do little to change minds, the study finds. Moreover, should the Fed move its messaging to Twitter? The researchers also find most Americans no longer read traditional newspaper articles and instead consider social media a credible source of news about the economy.

Fed speak beats USA Today

With each of the Federal Open Market Committee’s eight annual meetings, the Fed issues a wooly statement that includes its new, or unchanged, federal funds rate and its inflation target. The announcement explains the reasoning behind the numbers, often using standard industry phrases such as “risks to the economic outlook appear roughly balanced” and “the stance of monetary policy remains accommodative.”

While anyone can read FOMC announcements online, the US government traditionally relies on the popular press to turn this notorious Fed speak into digestible public-service messages. For example, USA Today’s translation of the Fed’s statement describing its “balanced” and “accommodative” monetary policy read: “Citing a brighter economic outlook, the Federal Reserve raised its key short-term interest rate Wednesday but maintained its forecast for a total of three hikes this year amid still-modest inflation.”

The article further explains that the federal funds rate rose to 1.75 percent from 1.5 percent, and that the change would increase interest rates for credit cards, mortgages, and other loans.

A simpliﬁed Fed announcement aimed directly at consumers also produced more-accurate inflation expectations than news articles, according to the ﬁndings. Two groups of participants were told only that “the inflation target of the Federal Reserve is 2 percent per year,” or that “the US Federal Open Market Committee (which sets short-term interest rates) forecasts [a] 1.9 percent inﬂation rate in 2018.” These participants adjusted inflation expectations about as much as those given the denser FOMC announcement.

The evolving language of forward guidance

After decades of purposely ambiguous public announcements, the US Federal Reserve began incorporating specifics into its forward guidance in response to the 2008–09 financial crisis.

<table>
<thead>
<tr>
<th>LANGUAGE SUBTLETIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having previously stated that people could expect an “exceptionally low” federal funds rate “for some time,” the Fed says it would likely stay exceptionally low “for an extended period.”</td>
</tr>
</tbody>
</table>

(March 2003)

<table>
<thead>
<tr>
<th>DATA THRESHOLDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Fed says the rate will stay below 0.25 percent “at least as long as the unemployment rate remains above 6½ percent” and inflation projections are no more than “a half percentage point above” the Fed’s longer-term goal of 2 percent.</td>
</tr>
</tbody>
</table>

(August 2011)

<table>
<thead>
<tr>
<th>SPECIFIC DATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Fed says the rate will stay exceptionally low “at least through mid-2013.”</td>
</tr>
</tbody>
</table>

(December 2011)

<table>
<thead>
<tr>
<th>EARLY WARNINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Fed says it “can be patient in beginning to normalize the stance of monetary policy.”</td>
</tr>
</tbody>
</table>

(December 2014)

<table>
<thead>
<tr>
<th>CALMING WORDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raising the target range for the first time since before the 2008–09 financial crisis, the Fed says it expects “only gradual increases in the federal funds rate.”</td>
</tr>
</tbody>
</table>

(December 2015)

<table>
<thead>
<tr>
<th>DELIBERATE OMISSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Although the Fed announces a further rate cut, its statement omits the part saying it would “act as appropriate to sustain the expansion.”</td>
</tr>
</tbody>
</table>

(October 2019)

The study finds strong, but not more accurate, responses to other straightforward statements. When told the unemployment rate was lower than what they believed, participants slightly lowered their inflation expectations. In fact, reductions in unemployment are typically associated with higher inflation. Another group raised its inflation forecasts more dramatically when told gas prices had risen 11 percent in the past few months, although gas-price trends are not good indicators of overall inflation.

Profound confusion about monetary policy

Before they received any new information, the lower-income and less-educated participants in the study reported inflation expectations that were more out of sync with reality than other participants. However, the researchers report a wide range of answers from all groups, including people with undergraduate degrees and higher. Race, access to credit, spending plans, and shopping habits did not appear to influence participants’ reactions to the information they received.

Rising inflation generally makes home renovations and new cars more expensive. Therefore in theory, participants who learned that the Fed’s inflation target was significantly lower than they had estimated could make more big-ticket purchases than they might have otherwise.

Did the study participants adjust their spending to match their adjusted inflation expectations? The researchers plan to find out with a study starting in January 2020, after Nielsen provides data on actual household spending. If consumption didn’t change, the Fed may need a different communication goal: convince the public that the spending, or savings, the Fed desires is really in households’ best interest. Did the study participants adjust their spending to match their adjusted inflation expectations? The researchers plan to find out with a study starting in January 2020, after Nielsen provides data on actual household spending. If consumption didn’t change, the Fed may need a different communication goal: convince the public that the spending, or savings, the Fed desires is really in households’ best interest.

The evolving language of forward guidance

After decades of purposely ambiguous public announcements, the US Federal Reserve began incorporating specifics into its forward guidance in response to the 2008–09 financial crisis.
The Junk-Food Monster

Me really should eat more veggies...

Oh, what me do, Letter B?
You me only friend!!

I think I can help you, Junk-Food Monster.

Just one question: How old are you?

Let me see . . . me a Leo, and it Wednesday, so me be 10 . . . 11 . . . 12 . . .

Chicago Booth's Christopher J. Bryan

13! Ah, ah, ah! He's 13!

If you're a teenager, my research might help you kick a junk-food habit.

You see, most education stresses the health benefits when teaching kids about junk food. In the school where we ran an experiment, we presented this health information to a control group...

... but we added our own tract for an experimental group. We told the middle schoolers in this group that junk-food companies use advertising to prey on young children who don't know any better.
We thought the experimental setup would be more effective because it plays off two teenager desires: first, the desire for autonomy, and second, the desire for social justice.

Even monster know the proletariat have nothing to lose but their chains.

To bolster the feelings of autonomy and social justice, we had students in the experimental group edit posters to make the slogans more honest.

We tracked what each student bought with their cafeteria cards and saw that our program increased healthy choices for the remaining three months of school. Most of the gains came from boys, who don’t usually respond to information about health and weight.

These large-scale improvements are important. A countrywide reduction of 20 kcal every day could reverse the obesity trend and prevent millions of new cases of diabetes.

Ah, ah! Millions! Ah, ah!

Thank you, Professor Bryan. Any more tricks for kicking a junk-food habit?

Ugh! Maybe try chewing your food!
This past summer, 181 CEOs who are part of the executives’ group the Business Roundtable drafted a new statement of purpose for corporations and, with a few words, made a radical shift. For more than two decades, the group of top executives had held that companies’ managers and directors had a primary duty to serve stockholders, but the updated statement included also customers, employees, suppliers, and supporting communities.

The executives are responding to a mounting sense that a company needs to do good while doing business, whether that means keeping carbon emissions low, waterways clear, or workers healthy and sustainable. Should sustainability disclosures be standardized? To save the world, some say to start with reporting requirements.

Join Chicago Booth’s Luigi Zingales and Georgetown’s Kate Waldock for Capitalism’s, a biweekly podcast exploring what’s working, and what isn’t, about capitalism today.

Subscribe through Apple Podcasts, or stream the latest episodes at Review.ChicagoBooth.edu/Capitalism or Capitalism.com.
Let’s assume standards are implemented effectively, with the ideal balance of specificity and flexibility. It will still be true that even at this level of ambient specification, there are risks involved in sharing information. Consumer groups and activists could gain power to set standards for an industry, and adverse publicity could lead to bad publicity, even when it is outside the control of do-gooding activities, but there’s no guarantee of that outcome.

With this in mind, how broadly or specifically should rules be written? Broadly drafted rules leave leeway for heterogeneity but can also make accurate reporting impossible as managers struggle to anticipate a company’s brands and products and become more devoted customers.

For investors, CSR disclosures could provide useful and additional information. First, investments in CSR, like other investments, are associated with future cash flows and risks. Standardized CSR disclosures could help the market gain a clearer picture of a company’s risks and value, making it possible to compare one company’s CSR activities with another’s, and helping investors monitor such activities (or lack thereof). Such disclosures, if they are informative, could increase the liquidity of secondary securities markets, just as the usual financial information does. Uncertainty about firm value can also lower the cost of capital.

Second, a manager can have goals other than maximizing shareholder value. Say a CEO uses corporate dollars to support a charity even though there is no real benefit to the company for doing so. Managers are unlikely to be forthcoming about such pet projects and any negative impacts unless required. And standardized CSR reporting could bring the activity into the open. Investors who are more informed would have more power to hold managers and companies accountable, and managers would have more incentive to keep shareholder priorities top of mind.

At the same time, CSR reporting could help shareholders and other stakeholders drive a company to act in more responsible and sustainable ways. CSR reporting could have more impact than any other measure for making companies more socially responsible and sustainable than their competitors.

Broad rules leave more room for managers to hide or bury bad news. . . But specificity can backfire by providing companies with an excuse to only disclose what is required by the letter of the law.

Economists weigh in What do economic experts say about reorienting companies to create value for a range of stakeholders, not just investors? See “In whose interests should business operate?” on page 86. And go to go to gmcichicago.org to read more.

There are limits to what a CSR-reporting mandate can achieve.
Financial auditors don’t necessarily know about carbon footprints, energy usage, or materials sourcing—and it could be far more complex and less straightforward to audit carbon footprints than revenues and expenses.

In terms of reporting specificity, metrics-based rules could help fend off meaningless disclosures. Meanwhile, it could make sense to give companies input into establishing the metrics and standards, so that the rules reflect and respect the diversity of industries. But then one would have to guard against regulatory capture and, of course, independent enforcement would be key.

There’s more to study and discuss before reporting requirements can become a reality. But there are good reasons to start this debate, or prepare for the possibility of a CSR-reporting mandate. There are costs associated with pollution, greenhouse-gas emissions, and the like, and those can be recorded. Moreover, as the Business Roundtable recognizes, companies have stakeholders beyond investors, and a large number of these stakeholders— including consumers, employees, and society more broadly—have a legitimate interest in companies’ CSR activities and could benefit from improved reporting. Because these stakeholders typically have a more arm’s-length, passive relationship with companies, it is harder for them to ask for this information, and hence standards could be particularly useful for them.

As interest in sustainable investment grows, so too will demand for reliable, comparable information on CSR activities. And although it is challenging to create a framework for CSR disclosures, it could be important to develop one. Investors are increasingly focused on sustainable investments, and CEOs are acknowledging the importance of various stakeholders. But without a reliable reporting framework, and without the accountability that would result, it’s unlikely that the good intentions expressed by CEOs and investors, and the ensuing benefits to society, will actually materialize.

Hans B. Christiansen is professor of accounting and the David G. Booth Faculty Fellow at Chicago Booth. Christian Leaz is the Joseph Soudheimer Professor of International Economics, Finance, and Accounting at Booth.

The Fed can’t fight a trade war

Should central banks offset trade wars? Given that the United States has started a trade war, and given that the Federal Reserve, the European Central Bank, and other central banks are easing monetary policy to offset trade headwinds, it’s a question that bears consideration.

Central banks, including the Fed and the ECB, seem to have taken for granted that any reduction in economic activity, including a trade-war-induced slowdown, demands offsetting monetary stimulus. But stimulus can only provide aggregate demand. What if the problem is aggregate supply? What if an economy can experience a no-trade full demand, and then someone throws a wrench in the works, be it a trade war, a bad tax code, or a regulatory oversight, and that supply shock causes a slowdown? Conventional wisdom says that central banks should not offset reductions in aggregate supply. The first job of a central bank should be to distinguish demand shocks from supply shocks. If a central bank can react to the former but not to the latter. This standard wisdom emanates from the 1970s, when central banks kept rates low to offset the effects of oil price shocks—supply shocks—and ended up producing worse recessions and inflation.

When I express this once-standard view at central banks these days, people stare at me with blank expressions. Distinctly apply from demand shocks? Why would we do that? Central bankers seem to assume that all fluctuations in output, employment, and prices come from demand. Yet this

The 1960s-era Keynesian view should have died a long time ago. Surely some shocks come from supply shocks.

The Fed—like the ECB—is pursuing a looser policy, and it is clearly fighting longer-term trade headwinds. On August 1, the Fed lowered its target for the federal funds rate by 25 basis points, the first such decline since 2008. It lowered the target by a further 25 basis points on September 19, “in light of the implications of global developments for the economic outlook,” as well as flagging inflation.

Now, according to the conventional view, central banks should not offset supply shocks because that would cause inflation, rather than stimulate output. But right now we have inflation once again drifting slightly lower. So perhaps the trade war is a demand shock after all?

Perhaps, but it’s hard to see how. Certainly the immediate impacts are on supply. Global supply chains are disrupted: people have to find new suppliers, who inevitably have worse products at higher prices than before. That’s all supply—reduction in the economy’s productive capacity. Perhaps the policy uncertainty about the trade war is causing a decline in demand. Why build a factory if any day now another tweet could render it unprofitable? Still, even if we are facing that kind of demand shock, it’s not obvious the Fed should try to counteract it with stimulus. Yes, the specter of a trade war—or the kind of serious political and trade turmoil that may follow the recent unrest in Hong Kong—is a “confidence” shock. But the demand, not supply uncertainty is genuine. A rise in risk premia in an uncertain environment is genuine. People should hold off building factories that depend on a Chinese supply chain until we know the full extent of the trade war.

Why should the Fed try to goose such
Soon after Brian Chesky graduated in 2007 with a degree in industrial design, he moved from Rhode Island to San Francisco. He was shocked by the cost of living, at one point owing $1,200 for his share of the rent for an apartment, but with only $1,000 in his bank account. Chesky saw an ad for an international design conference being held in the city, which mentioned that all the nearby hotels were completely booked up. He immediately saw an opportunity: designers needed a place to stay, and he needed rent money. So he set up a website and advertised that his room-mates had space to accommodate three visitors, if they would sleep on inflatable air beds. What would later become Airbnb was born.

The following year, Chesky was reading an article about the Democratic National Convention, which was due to be held in Denver, which mentioned that all the nearby hotels were completely booked up. He immediately saw an opportunity: designers needed a place to stay, and he needed rent money. So he set up a website and advertised that his room-mates had space to accommodate three visitors, if they would sleep on inflatable air beds. What would later become Airbnb was born.

As well as being a memorable origin story that explains their name (air mattresses were the air in Airbnb), this is an instructive lesson in entrepreneurship. Chesky and his cofounders identified a twofold problem—lack of affordable accommodations and sky-high rents—and thought creatively about how they might be able to solve it and make some money at the same time. In the startup world, it isn’t necessarily the best product that ultimately wins out. Rather, it’s the best way to solve the problem. Once you do that, you can figure out how to scale it.

Too many startups try to do things the other way around. They develop technology that they think will solve a problem, rather than first identifying and understanding the problem and then thinking creatively about how to solve it. Typically, it matters very little that the technology is proprietary, clever, cool, or new: without a problem to solve, it will struggle to find a market, and, therefore, to become a profitable venture.

Airbnb is far from alone in being among the Silicon Valley startups that we think of as technology companies but which began with very little technology, where they have used technology, it has been done to aid the solution to those problems, not the other way around.

Problem-solving startups find it easier to learn, and to adapt their offerings to the market. As early on, Airbnb noticed it had a smaller market than it had expected in New York City compared with other locations. The company realized that one problem was that the photos that went with the postings did not make the accommodations look welcoming. Again, the solution wasn’t based on technology. Airbnb simply hired photographers to take great pictures of these New York apartments. This in turn helped grow that and other markets, as people could see that better photos meant a better chance of getting bookings, and at better rates.

Another early challenge for Airbnb was its lack of inventory. It didn’t have a lot of listings in some of the markets where it was operating. The solution it came up with was relatively low tech. Like a taxi company, it had real people coordinating with the drivers about how to pick up all its orders.

Startups, forget about the technology

New ventures should focus all their efforts on problem-solving

Soon after Brian Chesky graduated in 2007 with a degree in industrial design, he moved from Rhode Island to San Francisco. He was shocked by the cost of living, at one point owing $1,200 for his share of the rent for an apartment, but with only $1,000 in his bank account. Chesky saw an ad for an international design conference being held in the city, which mentioned that all the nearby hotels were completely booked up. He immediately saw an opportunity: designers needed a place to stay, and he needed rent money. So he set up a website and advertised that his room-mates had space to accommodate three visitors, if they would sleep on inflatable air beds. What would later become Airbnb was born.

The following year, Chesky was reading an article about the Democratic National Convention, which was due to be held in Denver. How, the article wondered, would Denver, which had some 28,000 hotel rooms at the time, accommodate about 80,000 convention goers? The entrepreneur immediately recognized that this could be a big break for his fledgling startup. “Obama supporters could host other Obama supporters from all over the world,” Chesky recalled three years later. “All we did was become part of the story.”

As well as being a memorable origin story that explains their name (air mattresses were the air in Airbnb), this is an instructive lesson in entrepreneurship. Chesky and his cofounders identified a twofold problem—lack of affordable accommodations and sky-high rents—and thought creatively about how they might be able to solve it and make some money at the same time. In the startup world, it isn’t necessarily the best product that ultimately wins out. Rather, it’s the best way to solve the problem. Once you do that, you can figure out how to scale it.

Too many startups try to do things the other way around. They develop technology that they think will solve a problem, rather than first identifying and understanding the problem and then thinking creatively about how to solve it. Typically, it matters very little that the technology is proprietary, clever, cool, or new: without a problem to solve, it will struggle to find a market, and, therefore, to become a profitable venture.

Airbnb is far from alone in being among the Silicon Valley startups that we think of as technology companies but which began with very little technology, where they have used technology, it has been done to aid the solution to those problems, not the other way around.

Uber is another such example. Like Airbnb, it grew out of a problem that one of its cofounders had experienced directly. Not long before Uber’s founding, Garrett Camp and a few friends decided to hire a private driver for New Year’s Eve. The bill had come to $800, which struck Camp as too high. His solution was that sharing the cost could bring the price down. But Uber realized that the more immediate problem than cost was how difficult it was to hail a taxi cab at certain times. So in the first few years after it launched, in 2010, the company went after sporting events in New York City and San Francisco, where it was really hard to get a cab. At that time, all the cars it used were black luxury automobiles, and the price of a ride was more than a taxi. It had an app, but on the other end of the app, things were very low tech. Like a taxi company, it had real people coordinating with the drivers about how to pick up all its orders.

The danger of starting with technology, rather than a problem, is that startups can quickly overbuild, spending too much time and resources on perfecting the technology itself rather than focusing on problem-solving. By retaining a problem-solving lens, successful startups are able to adapt and troubleshoot as they go along, rather than continue to tinker with their technology or try to build further scale.

Early on, Airbnb noticed it had a smaller market than it had expected in New York City compared with other locations. The company realized that one problem was that the photos that went with the postings did not make the accommodations look welcoming. Again, the solution wasn’t based on technology. Airbnb simply hired photographers to take great pictures of these New York apartments. This in turn helped grow that and other markets, as people could see that better photos meant a better chance of getting bookings, and at better rates.

Another early challenge for Airbnb was its lack of inventory. It didn’t have a lot of listings in some of the markets where it was operating. The solution it came up with was relatively low tech. Like a taxi company, it had real people coordinating with the drivers about how to pick up all its orders.

Problem-solving startups find it easier to learn, and to adapt their offerings to the market.
up with was to limit how many options a search turned up. The website would offer just three places in order to get a visitor interested. Meanwhile, behind the scenes, employees were calling around trying to find more places to stay in that city to give visitors more options. Again, a tech company was employing a low-tech solution by keeping its attention on problem-solving.

Startups that aren’t focused on problem-solving often find they aren’t generating as much revenue as they would like. In many cases, they respond by trying to sell the same thing, but harder. ... leaves within a year, because the product still hasn’t yet found customers prepared to pay to have a problem solved.

Problem-solving startups find it easier to learn, and to adapt their offerings to the market. In the early days of a venture, entrepreneurs are trying to figure out what their product is really all about. Every early sales call has two parts: first, you’re trying to get the order; and second, you’re trying to learn what you need to do in the future to get the order. This is an important distinction. In ... in the reasons. This is a mistake. Asking good questions, listening, and learning are critical to long-term success.

A lot of entrepreneurs think about their startups on the revenue side, the same way they think about product development. If you think about developing software, it’s a linear process. You can figure out your requirements: you’ll develop a minimum viable product, tweak it, come out of beta testing, make your changes, and then go to general release. We can put a time frame on all of this. Unless we’re breaking brand new ground, such as making a carbon-fiber aircraft for the first time, most software development has two main inputs, time and money, so it can typically be well defined in a linear fashion. This is why entrepreneurs try to make their revenue models linear too. If an entrepreneur knows her product will be released six months from now, she knows it’ll be in beta in four months. She calculates that two months in, she will need to have a head of marketing so the company can start to define the leads and get the process going. A month later, she needs a head of sales, to bring on sales reps and train them, so that within the first 30 days of the product’s general release, her marketing team is generating leads, and she’s got 40 salespeople selling, and we all hit our numbers, and we’re a big success.

But in reality, generating revenue for a startup follows a process that resembles the Customer Development cycle, a model developed by Stanford’s Steve Blank. Blank identified that customer development is an iterative rather than a linear process. Very few businesses finish where they started, which means at some point, they were wrong about something. In order to get a good fit, the best startups end up in an iterative process involving what they are offering and to whom they are offering it. That means their first customers may not be the customers they really want. They might have to tweak their targets to get the right target and alter their value proposition a little bit, all to get a good fit. This needn’t be what we typically think of as a pivot, a big moment where we started out selling meals and ended up selling bikes. Instead, what make our product offering stronger are lots of small tweaks that shape the offering and the way we sell it.

None of this should be understood to mean that if you have an idea, develop some great technology, and ultimately fail, the idea is necessarily a bad one. Take Webvan, the online grocery business founded in 1996 by Louis Borders, the cofounder of Borders Group. Webvan raised hundreds of millions of dollars from investors such as Sequoia Capital and SoftBank, and through an initial public offering. It spent $1 billion building unbelievably efficient robotic distribution centers all around the United States, plus a fleet of delivery trucks, so it could deliver within 24 hours at low cost. But the business needed a ton of volume to stay alive, and ultimately, the market wasn’t ready to buy groceries online, because not enough shoppers had broadband internet at home, and because they weren’t comfortable transacting online or buying groceries on the web. So Webvan went bankrupt in 2001, not because the idea was terrible (companies such as Instacart are proving that it wasn’t), but because the market just wasn’t ready. They had put their faith in technology, scale, and disruption, and had failed to focus enough on problem-solving.

Technology is a tool, not a vessel. It is only useful to the extent that it can get you to where you want to go. Technology is a tool, not a vessel. It is only useful to the extent that it can get you to where you want to go. That destination must be meeting a need that customers will pay for. Better to start your venture with finding and serving that need...
In 2018, a consortium of 46 VC firms began participating in Chicago Blend, a joint initiative designed to foster diversity and inclusion in the Chicago entrepreneurial ecosystem. Its first project entailed collecting data to establish the demographics of both the VC firms and their portfolio companies. What they found about Chicago-based startups is somewhat unsurprising: while there is better than average gender diversity in their management and investors, they skew whiter than in the US startup scene overall, which is whiter and more male than the US population.

But with this baseline data, Chicago Blend and its 46 VC supporters hope to identify and support initiatives to change this mix—both in the portfolio companies and the VC firms. Diversity initiatives have sprung up all over the startup landscape to identify, encourage, support, and fund female, LGBTQ, and underrepresented minority founders—initiatives including BLCK VC, All Raise, Backstage Capital, SheSays, Backing Minds, and Yet VC, to name a few.

Diverse leaders and employees are a key to success.

Employees from companies with both inherent and acquired diversity reported that their colleagues are 72 percent more likely to challenge the status quo.

72%

Companies with above-average management diversity generated 73 percent more of their revenue from new products and services.

73%

Employees from companies with both inherent and acquired diversity reported that their colleagues are 90 percent more likely to take risks.

90%

Among founders, 72 percent said building a diverse employee base is either very important or extremely important.

72%

Among founders, 81 percent said a diverse employee base enhances creativity and innovation.

81%

Employees from companies with both inherent and acquired diversity reported that their colleagues are 90 percent more likely to take risks.

90%

But with this baseline data, Chicago Blend and its 46 VC supporters hope to identify and support initiatives to change this mix—both in the portfolio companies and the VC firms. Diversity initiatives have sprung up all over the startup landscape to identify, encourage, support, and fund female, LGBTQ, and underrepresented minority founders—initiatives including BLCK VC, All Raise, Backstage Capital, SheSays, Backing Minds, and Yet VC, to name a few.

Diverse leaders and employees are a key to success.

Employees from companies with both inherent and acquired diversity reported that their colleagues are 72 percent more likely to challenge the status quo.

72%

Companies with above-average management diversity generated 73 percent more of their revenue from new products and services.

73%

Employees from companies with both inherent and acquired diversity reported that their colleagues are 90 percent more likely to take risks.

90%

Among founders, 72 percent said building a diverse employee base is either very important or extremely important.

72%

Among founders, 81 percent said a diverse employee base enhances creativity and innovation.

81%

But with this baseline data, Chicago Blend and its 46 VC supporters hope to identify and support initiatives to change this mix—both in the portfolio companies and the VC firms. Diversity initiatives have sprung up all over the startup landscape to identify, encourage, support, and fund female, LGBTQ, and underrepresented minority founders—initiatives including BLCK VC, All Raise, Backstage Capital, SheSays, Backing Minds, and Yet VC, to name a few.

Diverse leaders and employees are a key to success.

Employees from companies with both inherent and acquired diversity reported that their colleagues are 72 percent more likely to challenge the status quo.

72%

Companies with above-average management diversity generated 73 percent more of their revenue from new products and services.

73%

Employees from companies with both inherent and acquired diversity reported that their colleagues are 90 percent more likely to take risks.

90%
Why try to increase diversity?
For decades, studies by consulting companies, nonprofit organizations, and academics have demonstrated a correlation between companies that have greater gender and racial diversity in management and on boards and improved business performance. However, correlation is not causality, and these studies have been criticized for failing to account for the myriad variables that affect company performance but are completely separate from diversity.

More recent research has begun to focus on the impact of diversity on innovation. In 2003, the Center for Talent Innovation, a nonprofit think tank, surveyed 800 employees at more than 40 companies to capture data about the kind of diversity found there and to analyze metrics including risk-taking, innovation, and market growth. The study defines two types of diversity: inherent and acquired. Inherent diversity includes traits such as gender, race, age, disability, sexual orientation, and religion and socio-economic background, while acquired diversity means having some combination of a global mind-set, military experience, language skills, gender norms, social media savvy, and cross-functional knowledge. The researchers find inherent diversity is instrumental in helping a company discover and meet the needs of a diverse customer base, while leadership teams with acquired diversity are significantly more likely than teams with non-diverse leaders to act on innovative ideas from diverse employees. In fact, the data suggest that homogeneity actually stifles innovation.

Employees from companies with both dimensions of diversity say that their colleagues are 90 percent more likely to take risks and 72 percent more likely to challenge the status quo. They are also 45 percent more likely to report that their company improved its market share in the previous 12 months and 70 percent more likely to report the company captured a new market in the same time period. A 2018 study by Boston Consulting Group correlated 1700 companies in eight countries, looking specifically at diversity on management teams, and finding innovation income as revenue derived from products and services launched within the previous three years. It finds that companies with above-average management diversity reported that 45 percent of annual revenue was innovation income compared with 26 percent for companies with below-average management diversity. The data also showed that small changes in team diversity related to national origin, industry background, gender, and career path had meaningful impacts on innovation income.

A survey by Techstars, a leading startup accelerator, of nearly 700 founders of technology-based startups also connects diversity to innovation. Seventy-two percent of the founders surveyed said that building a diverse employee base was either very important or extremely important to them. As a result, they asked what the benefits were to having a diverse staff, and the No. 1 answer, given by 81 percent of the respondents, was that it "enhances creativity and innovation." While 61 percent of respondents claimed to be very involved in promoting diversity at the company, only 12 percent had five or more women and/or minority on their tech teams. If diversity is so important, why have so few of these companies achieved even this level of it? No lack of talent or interest in entrepreneurship

When it comes to innovation entrepreneurship—defined as trying to bring new products and services to market, generate millions of dollars of revenue, and create dozens to thousands of jobs—founder companies need skilled people on management and technical teams, and most likely the candidates for these jobs have a higher-than-average level of education. In the United States, women receive half of all science and engineering bachelor’s degrees, 46 percent of science and engineering master’s degrees, and 42 percent of MBA’s—while nonwhite people receive roughly 40 percent of all these degrees. And, while 15 percent of MBA students not classified as underrepresented minorities (mainly white and Asian) say they may start a business after graduation, 21 percent of Hispanic students and 30 percent of African-American students say they are considering entrepreneurship.

The challenge facing the startup and VC world is to do more than simply say diversity is important. Fundamentally, it’s about implementing real changes.

Where’s the diversity?
A demographic study finds that while there is better than average gender diversity among management teams at Chicago startups, the city’s entrepreneurial ecosystem skews whiter than the nationwide startup scene overall.

US investment professionals

<table>
<thead>
<tr>
<th>White</th>
<th>Asian</th>
<th>Hispanic</th>
<th>Black</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>18%</td>
<td>26%</td>
<td>7%</td>
<td>3%</td>
<td>0%</td>
</tr>
</tbody>
</table>

US startup management teams

<table>
<thead>
<tr>
<th>White</th>
<th>Hispanic</th>
<th>Black</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>9%</td>
<td>8%</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

General US population

<table>
<thead>
<tr>
<th>White</th>
<th>Hispanic</th>
<th>Black</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>18%</td>
<td>6%</td>
<td>13%</td>
</tr>
</tbody>
</table>
Racial diversity in the higher-ed pipeline

The share of nonwhite students pursuing science, engineering, or MBA degrees suggests there’s no lack of diverse talent or interest in the startup scene.

Higher education among US population

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>62%</td>
</tr>
<tr>
<td>Asian</td>
<td>10%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>12%</td>
</tr>
<tr>
<td>Black</td>
<td>9%</td>
</tr>
<tr>
<td>Others</td>
<td>9%</td>
</tr>
</tbody>
</table>

Bachelor’s degrees in science and engineering

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>60%</td>
</tr>
<tr>
<td>Asian</td>
<td>9%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11%</td>
</tr>
<tr>
<td>Black</td>
<td>12%</td>
</tr>
</tbody>
</table>

MBA students

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>58%</td>
</tr>
<tr>
<td>Asian</td>
<td>9%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9%</td>
</tr>
<tr>
<td>Black</td>
<td>15%</td>
</tr>
</tbody>
</table>

For our portfolio companies, we are currently focused on gender diversity on our boards. This is not for a lack of other diversity problems to solve, but it is a focused start. We are focusing on the board level because it’s where we have the most direct influence and we also believe that it trickles down more accountability to diverse hiring. It’s much harder for a CEO to explain why the past six senior hires they made are all white men when the board is they are explaining it to NOT all white men.

—Kyle Swinsky, CEO/Co-founder of AMOpportunities

In one display of such core commitment, coupled with a large expected return on investment, several local VC firms actually invested in the Mom Project, a startup specifically focused on helping women remain in the workforce by matching them with employers committed to supporting working parents.

—Jennifer Fried, CEO/Co-founder of EsplOrer

We recently had the privilege of showing our support of ChikTech, a women-in-tech nonprofit that empowers women to stay in tech and encourages girls to join, as a sponsor of the career fair at its conference in Chicago.

—Brian Clark, CEO/Founder of Accent

In my conversations with Chicago venture capitalists and founders, it seems some of them are putting their money where their mouths are. Their comments to me illustrate how they are thoughtfully defining what they mean by diversity:

Diversity to us is diversity of perspective. There are some obvious types of diversity that are visible to anyone, race and gender being the most obvious. But there are lots of other forms of diversity too—religion, education, sexual orientation, economic, geographic, etc.

—Troy Henkoff, Managing Partner at MATHI Ventures Partners

I believe having as much variance of ideas, looks, beliefs, orientation, and backgrounds as possible in the room fosters best outcomes. Best outcomes come from seeing all perspectives, having all the right information, to make correct decisions that truly represent the community. It’s like an aspynote, where we never see the best decision made unless we continue to increase diversity.

—Kyle Swinsky, CEO/Co-founder of AMOpportunities

Their comments also illustrate how they are taking concrete actions:

Gender diversity is not something I have ever put energy into at our company; I think (because we have) a female CEO, more women gravitate to our applicant pool, and as a result, our company looks a lot like every other two-thirds women today. . . . The only measure I have specifically taken to add more diversity is the more traditional buckets is to engage a recruiting firm that specializes in black candidates when we have open roles.

—Jennifer Fried, CEO/Co-founder of EsplOrer

We have language in our term sheets that strongly encourages HR policies that are inclusive, something I think is not common.

—Jason Holter, Managing Partner at Origin Ventures

We recently had the privilege of showing our support of ChikTech, a women-in-tech nonprofit that empowers women to stay in tech and encourages girls to join, as a sponsor of the career fair at its conference in Chicago.

—Brian Clark, CEO/Founder of Accent

is an important one, but it tends to fade whenever one believes that free markets will solve most any problem: moral, social, and political as well as economic. If capitalism can do anything, so the thinking goes, then it should do everything.

Now, with the kind of intellectual prodding the question above intends, almost no one honestly believes that capitalism can, or should, do everything. Yet up until recently, it passed for conventional wisdom, in the United States and throughout most of the developed world, that capitalism could do most things, that the obvious solution to nearly any pressing problem of social organization was freer trade, fewer regulations, and far less government intervention.

With the benefit of hindsight, it is now plain that this was a central lesson many people took from the end of the Cold War and the fall of communism in the early 1990s. Rather than simply disqualify one extreme formulation, the failure of the Soviet system cast doubt on the very idea of a mixed economy, particularly in the US. The challenge was not to figure out what was wrong with capitalism, but to find an alternative that would be more compelling that the power of free markets, supported by restrained exercises in liberal democracy, would prove so.

In one display of such core commitment, coupled with a large expected return on investment, several local VC firms actually invested in the Mom Project, a startup specifically focused on helping women remain in the workforce by matching them with employers committed to supporting working parents.

—Guy Turner, Managing Director at Hyde Park Ventures

And they are putting diversity at the core of their cultures:

Hiring is just one piece. We align our culture and operations to attract the diversity we seek. We ensure our hiring includes variance of channels at all career levels. Different locations and different messaging increases the pool and the uniqueness of candidates. And getting more diversity in management is always a priority, so we develop all people within the company, giving equal opportunity to advance.

—Kyle Swinsky, CEO/Co-founder of AMOpportunities

The questions that will shape the future of capitalism

Advocates of free markets must engage in the public debate about them

What is the promise of capitalism? That may seem like a strange question, and when I ask it of my MBAs, I suspect they regard it as an exercise in the pedagogical pastime of creative thinking. But I think the answer to this question is one of the most important issues for the future of capitalism itself. If capitalism is equipped to solve as well as those that are beyond its compass.

This is hardly a matter of ideological speculation, especially for those who have good reason to believe that they will someday enjoy a disproportionate amount of the system’s spoils. Those fortunate individuals sometimes need to be reminded that free markets, however mighty, will not mend their marriage, relieve their cold, or stop their brother-in-law from bragging about his golf game. Indeed, there are plenty of things capitalism can’t do, and reflecting on them is a good way of distinguishing what it can do—and what it should.

Natural capitalism can and should do the same.

The first is a technical matter best left to economists; the second is more of an ideological affair, the province of moral and political philosophy. The distinction must engage in the public debate about them.

W
Like any muscle that has not been flexed, the capacity to assess the necessities of civic life atrophies, and one becomes a citizen in name only.

By Adam Smith in *The Wealth of Nations*:

> Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest and gain by industry and by entering into combinations with those of his fellow citizens.

Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest and gain by industry and by entering into combinations with those of his fellow citizens. This maxim is completely discharged from a duty, in the attempting to perform which he would be exposed to innumerable delusions, and for the proper performance of which he would need, not the guidance of any authority, but the self-interest of all. But the danger is, the mischiefs of this system entirely, considerable disparities of wealth, an essential condition of capitalist advancement, will remain, and... able to justify to others, and perhaps even to juries of conscience, that material success is a moral justification unto itself, that simply by doing the best for themselves, they have already done the best they might do for others. Unlike... and convenient, will no longer be available to them. Great wealth will not be its own justification. It will need to be vindicated by the power it confers.

Taken together, such matters should be of special importance to a business elite for three reasons. First, and most straightforward, public-policy decisions that affect how exactly our economic system works will directly shape the scope, practice, and viability of all business endeavors. Second, the new market space for boardroom negotiation, business professionals, and especially graduates of superior MBA programs, is not on the horizon, but is now. Finally, unless the pendulum of practicable economics swings in the direction of a different system entirely, considerable disparities of wealth, an essential condition of capitalist advancement, will remain, and... able to justify to others, and perhaps even to juries of conscience, that material success is a moral justification unto itself, that simply by doing the best for themselves, they have already done the best they might do for others. Unlike... and convenient, will no longer be available to them. Great wealth will not be its own justification. It will need to be vindicated by the power it confers.

John Paul Rollert is adjunct assistant professor of behavioral science at Chicago Booth.

---

**Great wealth will not be its own justification. It will need to be vindicated by the power it confers.**

**Taken together, such matters should be of special importance to a business elite for three reasons. First, and most straightforward, public-policy decisions that affect how exactly our economic system works will directly shape the scope, practice, and viability of all business endeavors. Second, the new market space for boardroom negotiation, business professionals, and especially graduates of superior MBA programs, is not on the horizon, but is now. Finally, unless the pendulum of practicable economics swings in the direction of a different system entirely, considerable disparities of wealth, an essential condition of capitalist advancement, will remain, and... able to justify to others, and perhaps even to juries of conscience, that material success is a moral justification unto itself, that simply by doing the best for themselves, they have already done the best they might do for others. Unlike... and convenient, will no longer be available to them. Great wealth will not be its own justification. It will need to be vindicated by the power it confers.**
The challenges of cleaning a bathroom are varied, unexpected, and fascinating. Before you skip to the next essay, give me a chance to explain. A few years ago, I was doing some research for a large manufacturer of household cleaning supplies, in order to create innovations in bathroom cleaning. First, we convened several focus groups and interviewed participants about bathroom cleaning. The more we listened, the more problems and frustrations we heard. Many people didn’t like the overpowering smell of the products used to clean washrooms. Many felt concerned about harsh chemicals, and that cleaning itself was difficult and time consuming. There were many other problems, not all of them appropriate for these pages. Suffice it to say that the focus groups generated a lot of issues.

After the focus groups wrapped up, we decided to do some field research and observed people cleaning their home bathrooms. We wanted to see and talk to people in that context. As expected, we saw some things that people had complained about in focus groups: the products were harsh, burned people’s hands, and were sometimes toxic in the air, plus the cleaning process could be long and challenging. But we also started to notice some unusual things that hadn’t come out in the group interviews, one of which was what you might call a home remedy or work-around. We saw people, on their own initiative, applying automobile wax to their bathtubs and shower tile. The label on the auto-wax product did not mention its applicability to bathroom cleaning, but when we asked people why they were using the wax, they mentioned several benefits. The wax made the tiles shine, as well as easier to wipe clean or rinse off.

The exercise was a healthy reminder of the power of design thinking, a term that is used and understood in different ways but that starts with people. They are the humans in human-centered design, the users in user-centered design, and the consumers in consumer-oriented design. Design thinking requires an in-depth understanding of people’s needs, wants, problems, frustrations, and lives. And this necessitates some fieldwork to understand the challenges people face. In the case of the bathroom-cleaner research, if we hadn’t gone into homes, observed people cleaning their bathrooms, and talked to them about the process, we might never have discovered their use of auto wax, or uncovered the unmet needs behind this behavior.

What I learned from watching people clean

Home remedies illustrate the power of design thinking

The challenges of cleaning a bathroom are varied, unexpected, and fascinating. Before you skip to the next essay, give me a chance to explain. A few years ago, I was doing some research for a large manufacturer of household cleaning supplies, in order to create innovations in bathroom cleaning. First, we convened several focus groups and interviewed participants about bathroom cleaning. The more we listened, the more problems and frustrations we heard. Many people didn’t like the overpowering smell of the products used to clean washrooms. Many felt concerned about harsh chemicals, and that cleaning itself was difficult and time consuming. There were many other problems, not all of them appropriate for these pages. Suffice it to say that the focus groups generated a lot of issues.

After the focus groups wrapped up, we decided to do some field research and observed people cleaning their home bathrooms. We wanted to see and talk to people in that context. As expected, we saw some things that people had complained about in focus groups: the products were harsh, burned people’s hands, and were sometimes toxic in the air, plus the cleaning process could be long and challenging. But we also started to notice some unusual things that hadn’t come out in the

The three pillars of design thinking

Although innovation begins with listening to customers, all too often, companies try to innovate backward: they first develop some new technology, and then try to turn it into a successful product. They start with a solution, and hope it might address a customer need. Ultimately, this process only succeeds if enough people will buy the product, and this “if you build it, they will come” approach is one reason so much technology goes uncommercialized.

Design thinking, as a way of innovating, rests on three pillars: desirability—focusing on the needs of people; feasibility—the possibilities of technology; and viability—the financial requirements for business success. It is a way of coming up with products and services that people actually want, are feasible from a technological standpoint, and are viable from a business perspective. The innovations at the intersection of these three pillars have the highest potential.
Because design thinking starts with empathy, it includes a step for problem-solving, it can be applied to a wide range of industries, products, and services. The steps are commonly used by Fortune 500 companies, small businesses, and organizations for physical products as well as services. The process is critical, and a core tenet is bringing together diverse teams to solve problems. In Gary R. Schirr’s research by Radford University’s Radford University’s, in-person group brainstorming tends to hinder both the quality and quantity of ideas. A third problem is conformity: when we hear others’ ideas, we’re influenced by them, tend to conform to them, and generate more ideas like them. A third problem is creativity: when we hear others’ ideas, we’re influenced by them, tend to conform to them, and generate more ideas like them. A different approach, modeled on research by Columbia’s Olivier Toubia, is to start generating ideas first as individuals, group brainstorming and generating a higher quantity and quality of ideas.

Step #1: Empathy

If the first phase of design thinking is about building empathy to inspire innovation, the second is about creating new ideas. Because you’ve been immersed in the end consumers and their needs, you’re able to come up with more effective solutions, and to do so efficiently. Take my bathroom-cleaner example. There was a clear need that wasn’t being met: people wanted a protective barrier on their shower tiles to reduce the cleaning effort. Because the market for bathroom-cleaning supplies didn’t fill that need, they instead turned to a work-around by using a product designed for cars. Through interviews, we realized people were willing to take an extra step to save time initially in applying a car wax to avoid a greater amount of time, energy, and effort later. They wanted to make future cleaning easier, therefore they were willing to take extra steps to prevent soap scum, mold, and mildew from sticking to the tile. When you clearly identify the problem, you know what you need to solve.

People needed a protective barrier on their shower tiles. Because the market for bathroom-cleaning supplies didn’t fill that need, they instead turned to a work-around.

Ultimately, the evaluation process should essentially lead us back into the bathroom, to ask the customers which of the solutions we’ve come up with meets their needs.

Step #2: Ideation

In terms of effective ideation, more than 50 years of research on the subject has shown that asking about cleaning products. Instead, we asked people about their lives and everyday cleaning routines, and to see what they actually did. The questions were less product specific and more journey specific. For example, we’d say, “Tell us about the last time you did this. What was the process you went through or any decision-making that led to that. What was worst?” We eventually drilled down to “Why did you do that?” and “Show us what you do.”

Another place that sparks ideas, the solutions we’ve come up with meet their needs.

Next, we turned to the solutions that meet the three tests of design thinking: it is desired by customers, technically feasible, and viable from a business standpoint. This may all sound very linear, as if the process simply moves from one stage to the next. But design thinking is iterative, as if the process is repeated and convergence: the empathy phase converges on a small set of potential solutions. Also, design thinking is flexible and agile, so teams move back and forth frequently in the design process. They might test a few prototypes and learn that some just don’t work, which will prompt you to go back and iterate. You’ll develop more prototypes, test those, and perhaps repeat the cycle. The result is an iterative approach to innovation.

Arthur Middlebrooks is clinical professor of marketing at Chicago Booth and executive director of Booth’s Kilts Center for Marketing. This essay is adapted from a presentation delivered at the Kilts Center’s Marketing Summit 2019.
What makes Shark Tank, the business-pitch TV show, so compelling? The drama of watching people advocate for their fledgling companies to potential investors can, of course, be quite entertaining. But many founders can also learn something from watching these mini pitch meetings. The questions the sharks most frequently ask center on the entrepreneurs’ plans to scale their startups:

• How low can you get your unit costs?
• How will you expand your customer base and what will it cost you to acquire new customers?
• How much capital are you looking to raise and what do you intend to do with the capital?

The responses help the sharks assess the advantages (if any) that accrue with size; the likelihood that the entrepreneurs have the skills, connections, and mental toughness to survive the hazardous journey of scaling up; and the risks and potential rewards of an investment in the company.

For every startup that scales up, thousands fail to do so. Some 65 percent of VC deals returned less than the capital invested between 2004 and 2013, according to a 2014 study by Correlation Ventures. In fact, the best-performing VC funds had more strikeouts than poorly performing funds did. For funds that generated returns greater than 500 percent, fewer than 20 percent of deals generated roughly 90 percent of the funds’ returns. The headline news was captured by the four out of every 1,000 deals that generated a 10,000 percent return or more. As Bill Gurley, one of Silicon Valley’s most successful venture capitalists, has noted, “venture capital is not even a home-run business; it’s a grand-slam business.”

This is why investors carefully evaluate every deal on its own terms, examining in particular the company’s potential to go big. Of special interest are a company’s projected sales revenues and customer acquisition costs, its projected unit costs as it scales up, and the projected capital burn rate. The faster the company can acquire customers and the lower the costs to acquire them, the faster the company can get to profitable growth. The lower the company can get its unit costs, the greater the potential to reduce prices and increase volumes as well as profits. And the smaller the capital burn rate, the longer the company can survive to go on to test its hypothesis.

The economics of scaling

Economies of scale, a concept discussed in every microeconomics textbook, refers to the capacity of a company to produce ever more units of a product at lower average (or unit) cost. The textbook depiction of economies of scale is a declining average cost curve, as production efficiencies enable the company to spread its fixed costs.

Entrepreneurs and investors want to know two things, neither of which can be determined with precision at the outset. The first is whether the average cost curve for a specific product or service will decline steeply or be relatively flat. The second is the magnitude of the minimum efficient scale, the smallest production volume at which the company achieves scale.
A company’s culture is like the plumbing system; if it isn’t maintained, it will deteriorate.

Let experience be your teacher: Learning is not an educational philosophy championed by philosopher John Dewey, points that learning is most substantive and enduring when the learner is forced to interact with the real world. Mark Cuban, an entrepreneur and Shark Tank shark, argues that his hard-earned knowledge and skill can only be obtained by practice. This is why the Nike slogan, Just Do It, is as simple as well as profound call to action.

Embrace experimentation: As Tim Harford, the Financial Times columnist, observes, “when a problem reaches a certain level of complexity, formal theory won’t get nearly as far as an incredibly rapid process of trial and error.” Successful scaling requires companies to conduct many experiments, observe processes and outcomes, and iterate. Chicago Booth’s Harry L. Davis has championed a portfolio approach to innovation: running lots of carefully chosen small-scale experiments. This requires asking (and answering) many questions: How many experiments should we run? When should we end an experiment? When should we continue with an experiment? What are the criteria that should we use to decide? Exploring with different processes led the engineers at Ford Motors to conclude in 1916 that producing a car effectively and cheaply required 84 steps, not 87 or 89.

Be ready to fail: Learning how to deal with failure is a vital organizational attribute that separates successful scales from unsuccessful ones. The key to avoiding any small failures is often big failure. Only a handful of the more than 200 companies that entered the automobile industry in the late 19th and early 20th centuries survived beyond 1920. As Reid Hoffman, the entrepreneur, notes, “if you tune it so that you have zero chance of failure, you also have zero chance of success. The key is to look for ways to fail greater in an even more complex world in which the manufacturing of smartphones, automobiles, software, and other products depends on global networks of competencies. Organizational structure enables cooperation, coordination, and accountability as companies grow. Some collaborations are easier to foster than others that make accountability and transparency more difficult. The skill is to know when to stop."

Learn faster than your rivals: Arie de Geus, former head of Shell Oil’s strategic planning group, observes that “the ability to learn faster than your competitors is the number one key to success.” In the late 1890s, more than 80 US companies vied to produce a car, each with its own distinct design and production. At that time, annual industry production rarely exceeded a few thousand units, as these startups struggled to master product and process. Even as late as 1905, state-of-the-art manufacturing required car bodies to be delivered by horse-drawn carriages while workers rotated from one station to another doing their assembly tasks. By 1916, the moving assembly line had improved significantly, which meant that the annual production volume of Ford’s Model T had grown substantially, and the price of the car dropped from $850 to $300.

Tighten operational planning: In Measure What Matters, The late editors: Better training, better talent, and a better organizational culture. Thus, your tuning is critical when to stop.

More from Ram Vishvakumar

Visit our website to read other articles by this author.
The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously.

Skill #4: Raising capital

Going from prototype to scale (or niche segment to mass market) requires capital. Often, the capital required is far greater than can be bootstrapped by the entrepreneur. Many entrepreneurs raise seed (equity) capital from family members, friends, and angel investors and debt capital (loans) from individuals, credit cards, banks, and alternative-lending platforms such as LendingClub.

For the entrepreneur contemplating a venture investment to support the scaling-up journey, it is important to answer a couple questions:

Is my company fit for venture capital? In his recent book, Secrets of Sand Hill Road, Scott Kupor, the venture capitalist, says that one of the first questions entrepreneurs must answer is whether venture capital is right for them. Enables you to safely achieve the key milestones means that the next round of investors will reward you with a higher valuation.

One school of thought says that companies would do well to avoid raising too much capital. Reflecting on the $38 million that he raised for Fieldglasses over six years, Shekhawat told me that he was “probably about $8 million more than we needed, which makes for expensive equity at the next round.” “If you’re willing to think about it that way,” says Jai. “And you don’t want to take on customers who force you far afield from your company’s mission and competencies.”

Discover product-channel fit: One of the more-contested periods in a Shark Tank episode centers on the entrepreneurs’ go-to-market strategy. The sharks often argue with the entrepreneur as well as with each other on the relative merits of alternative channels. Each shark plays up the strength of his/her expertise in channel selling while mocking the channel network competencies of the other sharks.

The right channel partners operate quickly; put the company’s products in the hands of the ideal customer; help the product achieve greater name recognition; and, importantly, help the company grow its reputation and bottom line. In contrast, the wrong channel partners damage a company’s prospects: they dilute the brand value by mispositioning the product or, in many cases, they waste valuable time by doing nothing.

Startups in a range of industries from software to manufacturing often rely on bigger competitors to bring the product to market. Small biotechnology companies often enter into partnerships with large pharmaceutical companies to commercialize their products; small retailers use the Amazon marketplace to sell their products; and small software companies often rely on software and information technology services companies to market and distribute their products.

However, reliance on a single channel partner can be risky. A former Booth student of mine, Jill James, who now runs growth-advisory company 51 Industries, describes the channel chaser dilemma for startups as follows: “I think of early-stage channel strategy as finding your frenemies: you’ll work together for now, but if things go well, you’ll directly compete or even put them out of business. You do not want to do the wrong thing to build scale until you can have the means to control the channel.”

Skill #5: A key to success

Howard Schultz, who acquired Starbucks in 1987, wanted to be in the coffee-roasting business, but Howard Schultz. In his recent book, Secrets of Sand Hill Road, Scott Kupor, the venture capitalist, says that one of the first questions entrepreneurs must answer is whether venture capital is right for them. Enables you to safely achieve the key milestones means that the next round of investors will reward you with a higher valuation.

One school of thought says that companies would do well to avoid raising too much capital. Reflecting on the $38 million that he raised for Fieldglasses over six years, Shekhawat told me that he was “probably about $8 million more than we needed, which makes for expensive equity at the next round.” “If you’re willing to think about it that way,” says Jai. “And you don’t want to take on customers who force you far afield from your company’s mission and competencies.”

Rethinking the scalers

The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously. The skills required to scale up a company are distinct from those needed to launch one successfully, which is why founders often depart when their companies start to grow seriously.
HAS UNCONVENTIONAL MONETARY POLICY RUN ITS COURSE?

Tharman Shanmugaratnam, Senior Minister and Coordinating Minister for Social Policies of Singapore, sat down with Chicago Booth’s Steven J. Davis at the Sixth Asian Monetary Policy Forum, an event organized by Chicago Booth, the National University of Singapore, and the Monetary Authority of Singapore. In a discussion of monetary-, fiscal-, and other public-policy topics, Tharman shared his thoughts on the effects of a prolonged period of extraordinarily low interest rates and unconventional monetary policies such as quantitative easing, and the international spillovers that may arise.

The overreliance on monetary policy has also led to larger spillovers to the rest of the world. That, too, is why the mix of domestic policies matters. What mix of policies in the major economies will enable them to achieve their domestic objectives of inflation, employment, or growth, without the negative spillovers that reduce policy space for other countries?

More on monetary policy
Review.ChicagoBooth.edu has discussion excerpts from past Asian Monetary Policy Forums.

If you look at growth since the global financial crisis, two-thirds has come from the developing world. That will likely remain so. A central challenge for the international monetary system must be to help facilitate that growth, and avoid the recurrent disruptions to financial stability that set back that growth.

We’re at the tail end of the global business cycle, but on unprecedented terrain. There’s very little monetary-policy ammunition left for the next downturn, a consequence of the overreliance on monetary policy to date. It’s far from optimal, has undermined the effectiveness of monetary policy itself, and has led to a build-up of financial vulnerabilities. We can’t blame central banks for trying to fulfill their mandate. But we do have to reflect on the governance arrangements and coordination required to achieve a more effective mix of monetary, fiscal and structural policies across the cycle.

There is a broad consensus that the marginal impact of monetary easing on real economic activity is now small and diminishing. But a continuation of extremely easy monetary policy—conventional and unconventional—plus the signals that we give, can lead to continued elevated asset prices and a search for yield, which sets us up for future financial instability.

We also have to think hard about how we sustain an active fiscal-policy role going forward, but with a discipline that has not been common in fiscal policy globally—being able to roll out projects quickly, without long lags, when the economic cycle demands, and knowing when to pull back spending in good times, so that government debt does not move up endlessly. It requires a new political economy.

We see enough examples of how extremely low or negative real interest rates, and ample liquidity in the system, make financial markets less discriminating between weak and strong firms, and allow zombie firms to live on. It hampers the reallocation of capital and other resources to the more efficient, which has historically been the motive force in productivity growth.

I have to think hard about how we sustain an active fiscal-policy role going forward, but with a discipline that has not been common in fiscal policy globally—being able to roll out projects quickly, without long lags, when the economic cycle demands, and knowing when to pull back spending in good times, so that government debt does not move up endlessly. It requires a new political economy.

The overreliance on monetary policy has also led to larger spillovers to the rest of the world. That, too, is why the mix of domestic policies matters. What mix of policies in the major economies will enable them to achieve their domestic objectives of inflation, employment, or growth, without the negative spillovers that reduce policy space for other countries?
IN WHOSE INTERESTS SHOULD BUSINESS OPERATE?

In August, the Business Roundtable, which represents the CEOs of some of America’s largest companies, issued a statement addressing the purpose of a corporation. The statement indicated that, for the 181 chief executives who signed it, their businesses were bound by a “fundamental commitment” to all stakeholders, including shareholders but also customers, employees, suppliers, and the communities in which they operate. The statement appears to be a step away from the “shareholder primacy” model of corporate governance. But does operating a business for the explicit purpose of enriching shareholders create harm for other stakeholders? Would a “stakeholder primacy” model mean worse outcomes for shareholders? Chicago Booth’s Initiative on Global Markets consulted its economic experts panels in the United States and Europe to investigate what the ideas around stakeholder capitalism might mean for business.

**Statement A:** Having companies run to maximize shareholder value creates significant negative externalities for workers and communities.

**Daron Acemoglu,** MIT
“Cutting wages or polluting increase shareholder value with considerable social cost. Competition will not necessarily drive them out.”
Response: Agree

**Peter Neary,** Oxford
“I agree with this statement, though maximizing shareholder value also encourages efficient profit making, which has social value.”
Response: Agree

**Lubos Pastor,** Chicago Booth
“True, but it creates not only negative but also positive externalities. The net effect varies across firms.”
Response: Uncertain

**Statement B:** Appropriately managed corporations could create significantly greater value than they currently do for a range of stakeholders—including workers, suppliers, customers, and community members—with negligible impacts on shareholder value.

**Darrell Duffie,** Stanford
“Hard to know. But if true, this would imply almost no misalignment of incentives between shareholders and the others. That seems unlikely.”
Response: Uncertain

**Oliver Hart,** Harvard
“Companies are not usually managed inefficiently. They may be maximizing the wrong thing, but I don’t think there’s money ‘left on the table.’”
Response: Disagree

**Hélène Rey,** London Business School
“Some cost-cutting decisions are often very short term and destroy value in the long run. Example: fraud (diesel-emissions scandal).”
Response: Agree

Responses weighted by each panelist’s confidence

<table>
<thead>
<tr>
<th>European IGM Panel’s responses</th>
<th>US IGM Panel’s responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>22%</td>
</tr>
<tr>
<td>Agree</td>
<td>29%</td>
</tr>
<tr>
<td>Uncertain</td>
<td>34%</td>
</tr>
<tr>
<td>Disagree</td>
<td>6%</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>9%</td>
</tr>
</tbody>
</table>

Responses weighted by each panelist’s confidence

<table>
<thead>
<tr>
<th>European IGM Panel’s responses</th>
<th>US IGM Panel’s responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>4%</td>
</tr>
<tr>
<td>Agree</td>
<td>58%</td>
</tr>
<tr>
<td>Uncertain</td>
<td>30%</td>
</tr>
<tr>
<td>Disagree</td>
<td>3%</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>5%</td>
</tr>
</tbody>
</table>

See more online
All responses to these polls—and a third question, which isn’t included here—can be seen at igmchicago.org.
How does leading an international team differ from managing a team that’s based in the same place?

Hastie: There are four big differences between local teamwork and global teamwork. One is country culture differences—Germans and Japanese and Americans trying to solve a management problem together. Second, there are company cultural differences. Employees in the [international] branch of the company or the consultant we’re working with in India may not have the same experience as those inside the American branch of the company. The day-to-day conventions and habits, even though we’re all in the same company, might be different. Third, you have to solve the problem of electronic-media communication. If that fails, everything falls apart: for example, the team collaboration session goes wrong because the phones or the video didn’t work. Finally, there’s the time difference. Sometimes we’re lucky. We may be in Chicago, collaborating with a team in São Paulo, where there isn’t a big asynchrony. But if a team in Chicago is trying to collaborate with colleagues in India and France, that requires time management. It can put a differential strain on the parties, and then they might even make inferences about being disrespected, so you can see how what sounds like just a timing issue creates deeper layers for the climate and performance of the whole team.

Castillo: I’ve been on numerous conference calls at two or three in the morning. One of the biggest things that you learn is to be very flexible. But it’s a give-and-take with cultural and language differences—we get something from our international colleagues and they get something from us. There are times where I have spent every other week on the road going and meeting with my colleagues. Technology is wonderful, but especially when you’re new to a global team, you have to have that opportunity to build relationships and have that face-to-face.

Faria: A few years ago I was running a Brazilian multinational—based in Brazil but with most of our business in the Middle East, Africa, and Asia. It required finding a lot of compromises. At first there was some resistance—we were the home office, so we dictated the timings. But we moved until ultimately we found ourselves in the middle. People are people anywhere, and when you go back to the essential elements of a culture, everybody wants to belong to a group, everybody wants to be on a mission or to accomplish something, and everybody has the overwhelming need to feel safe.

Baker: Understanding other cultures is really important. For example, on a conference call, it’s really against certain cultural norms to speak up, or to speak against an idea, so if you really want people’s opinions, you have to ask them in a different manner. We had a project in China that involved global conference calls. We were trying to elicit feedback on solving problems and improving processes. We had 100 people on the line, and we weren’t getting any meaningful feedback. So we did smaller groups, with two or three people at a time. We got better feedback, because it was part of the culture to be able to get that in a smaller group.

How should you manage a global team?

Chicago Booth’s Reid Hastie, Kristen Castillo of AbbVie, Pedro de Andrade Faria of Tarpon Investimentos, and Parexel’s Chris Baker discuss the challenges of leading employees across international boundaries.

What’s the optimal number of people for an effective team? And how do you get buy-in among diverse and far-flung teams?

Hastie: Obviously, the optimal size depends on the task and whether the group should be broken down into subgroups that then work in a coordinated or hierarchical manner. As a general principle, groups are too large. There are arguments for oversize teams: often younger, less-experienced staff are brought on to teams to get them acculturated, so that they can learn the conventions and the culture of the company, and how to do the team’s task. Teams aren’t just optimizing execution. They’re also bringing in and training people. But in general, if you’re looking at team composition, you should tell yourself, “This one is probably too large if I am just aiming for maximum efficiency.”

Castillo: You want to have the right people in the room, not everybody in the room. It’s important to have subject matter experts, and people who are empowered to speak on behalf of the team.

Faria: I’ve often chosen to have too many people in the room because I wanted to make sure—in the context of a globally expanding firm—that everybody was heard, and that everybody was listening to the same “source of truth.” Whereas, when you want to really get effective, probably smaller teams would be better, so long as they have diverse perspectives. I’ve always enjoyed putting together teams that don’t seem to make sense at the start, with the idea that over time, they’ll cohere and become stronger.

Baker: Another good argument for larger teams is to make sure the solutions they come up with are acceptable to the team and the larger organization. I consider making the team’s solution acceptable to be one of the subtasks of a team and a team leader. How do you get your solution accepted? That can be hard, especially when it’s not going to be a
Castillo: You can’t just sit in the home office, come up with a strategy, and expect people to adopt it. With some of our countries and affiliates, it may be as more of a partnership, more of a give-and-take. They tell us what they need, and we try to figure out how we can help them. With smaller countries that have fewer resources, we’re able to provide a lot of assistance, help, and guidance. Even if the overarching strategy is set in headquarters, nobody knows the business like the people who have feet on the street. You have to empower people to make their own decisions and customize. Because you’re not there, because of the time difference, you have to be able to empower people to make really good decisions.

Baker: Sometimes the US corporate strategy needs to be modified to meet a regional landscape. For example, when I held a leadership role for Pfizer in South Africa, where TVs were less prevalent, instead of running TV advertisements for Lipitor, as we did in the US, we focused on developing key opinion leaders’ advocacy for Lipitor and in turn drove one of the highest market shares of the product in the world.

Faria: One of the most challenging projects I ever worked with was launching a manufacturing facility in Abu Dhabi, United Arab Emirates, with a team comprising 22 nationalities. We had a lot of language challenges, but it led us to an essential part of our message: the importance of safety. Early on, a lot of the programs were steered toward safety at work. And that facility has been operating, since its launch in 2014, with zero accidents. That message of safety percolated across nationalities. So when you eschew essentials as safety, or a sense of purpose and mission, you accomplish far more than you would through strict command and control, which can be very ineffective.

In general, my experience has made me lean toward a lot less command and control and toward a lot more freedom. We acquired a company in Thailand, and I was very interested to learn about Thai culture and the differences between Brazil and Thailand. We figured out that we were never going to learn exactly the cultural aspects of working and operating in Thailand, so we gave a lot of power and autonomy to the Thai team. We made them part of our global teams. Our head of quality assurance came from Thailand. Those kinds of things have proven to be more effective than dictating the entire playbook.

How do you make sure people in international offices feel they are not isolated but really part of the organization? Has technology helped?

Faria: It’s not enough just to send people from the head office to a local office. Typically, when you do that, the person from the head office acts like an instant knowledge provider who has been parachuted in for two or three days to tell the locals what to do. In my experience, the other way around has been a lot more effective than dictating the entire playbook.

Baker: Respect is a big part of it. So is spending time getting to know people better. It sounds basic, but that really helps foster trust and communication. Technology such as teleconferencing makes things easier. However, to build successful work relationships, spending time face-to-face is vital. Traveling to visit colleagues shows respect, fosters relationships, and builds trust.

Castillo: Being able to share slide decks, or using telepresence helps to develop an ongoing cadence. But you have to buoy that up with face-to-face meetings. That really helps round it out.

What advice do you have for someone managing a global team for the first time?

Hastie: My one piece of advice is to put an incredible amount of extra energy into the beginning. [Having] face-to-face meetings, social as well as business, getting people aligned with project goals, being flexible about adopting the central culture versus the peripheral culture—all those things are important. And doing them right at the beginning, getting off on the right foot, that’s essential.

Castillo: Taking on a global role requires you to make certain sacrifices. It has to be something that you’re ready and willing to take on. It’s certainly not for everybody. But it’s incredibly rewarding as well.

Faria: It’s all about disintermediating—removing some nodes of the network that can create a lot of resistance. Part of that involves shying away from the head-office leader who says, “Oh, I know everything” and looking instead to people who say things like, “I want to learn from you.” On the other hand, I’ve seen instances in which there is a regional office of a multinational where the local managers tell their staff, “We are a great team, despite what the people in the head office are saying.” You need to be up front and attack that. A lot of that happens in the beginning. And over time, trust gets built. People feel safe. They have a shared sense of purpose, or a mission, and then they can perform at their best, despite cultural differences, time zones, and things of that nature.

Baker: It’s key to know how to communicate through the lens of other people’s culture. There is a story about a general manager who went to Italy and tried to build consensus. He ended up getting fired, because the perception was that he wasn’t able to make a decision. That same general manager would have done really great in another country that needed to build consensus. It shows that you really need to understand the culture of the country. That’s important for retaining the local talent. The job of the leaders in the head office is to learn how to bring out the best in their global workforces by trying to see the world through their cultural lens.

Why the government shouldn’t intervene in strikes
Conflict produces generally desirable results for society

By GEORGE P. SHULTZ

What’s old is new
Go to Review.ChicagoBooth.edu to read more from Selected Papers through the decades.

It has been widely observed that congressional approval of compulsory arbitration in the railroad industry marks a breakdown of private bargaining, and may well lead to compulsory arbitration for a wide range of vital industries. This is a tragic half-truth. The misunderstanding of what has taken place on the railroads and in other cases of intense government intervention may well lead to a drastic and, I believe, undesirable shift toward compulsion in our system of institutional relations. But this will not reflect a breakdown of private bargaining.

There has been no real private bargaining on the railroads for decades. What has failed is government-dominated bargaining. Ironically, when this much-government system finally failed completely, the answer was more government—in the form of compulsory arbitration—rather than less. And the irony is the more striking since free and more-nearly-private bargaining is, by and large, working well.

My purpose here is to convince you that a free and private system of industrial relations is superior to a government-dominated one; and that this alternative is really available, despite the many and serious steps taken in the other direction during the past few years. To do so, I must face up directly to the questions raised by the community by strikes, especially strikes involving large numbers of people or strategically placed workers. I must present a way of dealing with major labor disputes that you judge to be a workable, practical way. No doubt government has important responsibilities that will tax its capacities in this area, but its role must not be the dominant one toward which it now seems headed.

How to make conflict constructive
It has been said that job security now outweighs wages in importance as an
for the government to change its stance, to make a more considered assessment of the possible impact of strikes, and to help the public make such an assessment. Educate the public about what is really going on.

My third point rests on a common analysis of the impact of major strikes. Perhaps we can use an approach that has not been tried much but that would seem to offer real potential for protecting the public interest. We could have limited, continued operation, but still let most of the strike go on, an approach built on the use of limited continued operation of struck facilities. To be sure, there are all sorts of political difficulties, but the difficulties are worth facing up to.

You have a management that is moribund and is not doing anything, or if you have a union that is lazy and is not representing its workers adequately, you really have a situation that is much worse than it otherwise might be. When it takes six or seven years to settle a single grievance, you surely have a bad situation. Third, in this effort to suggest that the public has a stake in strikes other than only to get them settled, I offer you the great importance of having private parties be responsible, feel responsible, and have some responsibility for the results of their efforts. Whatever settlement is reached—good, bad, or indifferent—somehow it must be their own settlement. It is the settlement of the people who have worked it out, not somebody else’s doing, but not to the point where we become Pollyannish about labor relationships.

As one of my colleagues has said, in a television interview we had a nice discussion about conflict, of which the strike is but one example, is a widely used method for producing generally desirable results for the public interest. We have organized our economy on the basis of freedom to enter new businesses, to innovate, to compete in competition for markets. Let there be many companies in the field and let them fight with each other so that the consumer gets better products and lower prices. Some people get hurt by these processes; I need not tell you that they are often the small companies. This course has in it a very, very great danger that we get away from these basic processes, for instance, and we produce situations in which we are not getting the best products and lower prices.

We must recognize that some strikes are simply part of the price we pay for free collective bargaining. As we can see from our experience, the nation is that some strikes are simply part of the price we pay for free collective bargaining. We can see that some strikes simply are part of the price we pay for free collective bargaining. We can see that some strikes simply are part of the price we pay for free collective bargaining.

The danger of government intervention

The present course of national policy has seemed, at least until very recently, to be: intervening only when and with preconceptions of what the right answer is; and intervene frequently, over a wide scale, with a variety of methods. The picture is further complicated by the fact that Congress, albeit reluctantly, is in the act. Indeed, the very reason for this policy is but just what has happened. That is in a sense the effective policy we have, and it has been found, by the practical people involved, all out of sorts of problems arising from the structure and issues of collective bargaining.

This process also demands solutions. If you are going to take the intervention route, you have to provide the answer. If parties feel they are not getting what they want through bargaining, they are certainly going to look back at the restructuring answer and try to use that leverage as much as possible. This can ruin private bargaining because it forces each party to hold back any concessions that might normally be made. Anything you concede will be held back by the next, higher round of discussions.

This course has its real value, its very, very great potential, in helping to bring out and represent their interests forcefully. Such representation can be productive, but it cannot take place if we do not allow for the possibility of a clash in views and the likelihood of an occasional explosion.

It is very important for the high-level people to virtually refuse to get involved, and to say, “I’ve had it and I’m just not going to spend so much time on labor disputes anymore.” Let the top officials disengage themselves and try to get the problem pushed into an area where the people who are supposed to spend all of their time doing this kind of thing.

My third point rests on a common analysis of the impact of major strikes. Perhaps we can use an approach that has not been tried much but that would seem to offer real potential for protecting the public interest. We could have limited, continued operation, but still let most of the strike go on, an approach built on the use of limited continued operation of struck facilities. To be sure, there are all sorts of political difficulties, but the difficulties are worth facing up to.

Let me throw out a few ideas in the full realization that it is much easier to be critical than to be constructive.

First of all, as an administrative propostion, it seems very important somehow It is very important for the high-level people to virtually refuse to get involved.
How to use waiting lists to make better matches

Products or services in high demand—such as a spot in day care or public housing in a good location—can result in an overloaded waiting list. People’s preferences vary, but if they face a long wait—perhaps months or even years—they may choose to settle for what’s available instead of what they initially wanted, according to research by Chicago Booth’s Jacob D. Lleras. In his model, people prefer one of two options, and can join a queue to wait for it, which should result in a good match. But if that queue is too long and the expected wait unacceptable, they may give up and take the other option, resulting in a mismatch. To minimize such inefficiencies, Lleras proposes using a randomized selection within each queue, giving people better incentives to wait for their preferred option. To learn more about how research is helping businesses manage the many ways we wait, turn to page 36.

\[
\frac{2p(1-p)}{(1-p)K^A + pK^B + 1}
\]

On Board: San Francisco

- **January 10**
  Economic Outlook, Chicago. “Big Tech, Trade, and the Future of the Economy”—Chicago Booth’s Austan D. Goolsbee, Randall S. Kroszner, and Bhagwati G. Rajan discuss how fast-changing technology and the escalating trade war will affect the global economy.

  ChicagoBooth.edu/oe

- **February 11–12**
  Strategic Thinking, Hong Kong. Develop the strategic-thinking skills to recognize how industry changes are affecting businesses—and determine what is required to preserve and grow through those disruptive changes.

  ChicagoBooth.edu/stthk

- **February 15–16**
  Asia Forum, Hong Kong. Network with University of Chicago and Chicago Booth alumni, and discuss critical topics affecting professionals throughout Asia.

  ChicagoBooth.edu/asia-forum

- **February 27**
  On Board, San Francisco. Learn about key trends and insights in nonprofit board service, network with Chicago Booth alumni, and discover opportunities to make an impact on social issues. Hosted by Booth’s Rustandy Center for Social Sector Innovation.

  ChicagoBooth.edu/onboard

- **March 16–20**
  Advanced Strategy Program: Building and Implementing Growth Strategies, Chicago. Develop a strong strategic intuition with emphasis on scanning for patterns, analyzing what makes your organization great, and assessing what the competition is doing.

  ChicagoBooth.edu/asp

- **March 18–19**
  Negotiations: Strategies and Processes for Impactful Outcomes, Hong Kong. Become a more effective negotiator by developing your tool kit of negotiation tactics and strategies.

  ChicagoBooth.edu/asp

- **May 15–16**
  PhD Program centennial celebration, Chicago. Join us for an academic conference with plenary speakers and breakout sessions by discipline, as well as social events, to celebrate the first business PhD program in the United States. Register at ChicagoBooth.edu/phd-100

Since 1898, the University of Chicago Booth School of Business has produced ideas and leaders that shape the world of business. Our rigorous, discipline-based approach to business education transforms our students into confident, effective, respected business leaders prepared to face the toughest challenges. Visit ChicagoBooth.edu/programs for more information about our Full-Time MBA, Evening MBA, Weekend MBA, and Executive MBA Programs, our PhD Program, and our Executive Education courses. Chicago Booth has campuses in Chicago, London, and Hong Kong.
HOW (IN)ACCURATE IS MACHINE LEARNING?
Page 16