How the 1 percent’s savings buried the middle class in debt

Research suggests that when the rich bank, the rest borrow
“Once you leave shareholder value, it’s a morass.”

Page 34
Two recent data points illustrate the scale of the sharpening inequalities wrought by the pandemic. First, the number of billionaires jumped by 30 percent in 2020 to 2,755, according to Forbes—87 percent of them richer now than they were before COVID-19. Second, the Pew Research Center estimates that about 150 million people dropped out of the global middle class last year—the first time the middle-income group has shrunk in more than 20 years.

This issue’s cover story (page 26) delves into new research that demonstrates how the two may be interconnected. Chicago Booth’s Amir Sufi, Princeton’s Atif Mian, and Harvard’s Ludwig Straub have been exploring the sources and consequences of household debt for years, and most recently in their study of the savings glut, the unproductive money that the world’s richest households have amassed. They argue that the rich, through intermediaries, are pushing out their significant savings in the form of loans, which in turn produces more savings. Debt levels are rising, then, because the middle class are borrowing from the rich. Their theory may explain patterns of wealth disparity and investment that have been developing over decades, only to be further exacerbated by the pandemic.

Reflecting further on our current state, we look at Nobel laureate Milton Friedman’s defining paradigm and its place in today’s world (page 34) at a time when businesses are wrestling with their role and responsibilities in the societies in which they operate. Is it time, critics are asking, to move beyond a shareholder focus and develop principles of shared success?

As we explained in our June 2020 issue, data availability is making it possible to conduct research in near-real time and produce analyses that can inform decisions and policy making. In this issue, you’ll find a number of coronavirus-related articles including an argument for more vaccine capacity (page 10), a study of how venture capital has fared in the pandemic (page 11), and a look at perceptions of strict public-health policies such as mask wearing (page 20). Furthermore, research on the response to all-or-nothing rewards (page 24) could help policy makers motivate people to comply with public-health initiatives.

If you enjoy our print edition, visit us online, where you’ll also find videos, interactive charts, and new content daily. As always, please do let us know your thoughts, either by sending us an email or by contributing to the conversation on our social media channels.

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
7 Online shoppers care where sellers are based
10 Why the world needs a lot more vaccine capacity
11 COVID-19 has left venture capital down but not out
12 When people are willing to wait
12 Tying pay to benchmarks can lower returns
13 The hazards of second-guessing
14 Chang-Tai Hsieh: Business in China is evolving
15 How to keep errant companies in line—for awhile
16 Take a family approach to genetic testing
17 Why every country needs a story
17 Owning something causes people to overreact to news about it
18 How central bankers can manage consumer expectations
18 A big risk for companies: Low public support
20 Stricter mask rules are good business
21 Do we need a Chapter 11 for banks?
22 A way out of the replication crisis
22 Should we tax online ads?
23 How a US anti-corruption law boosted economic growth in rural Africa
24 All-or-nothing rewards could motivate impatient people
24 How to forge relationships with the ‘enemy’

26 HOW THE 1 PERCENT’S SAVINGS BURIED THE MIDDLE CLASS IN DEBT
Research suggests that when the rich bank, the rest borrow
By Rebecca Stropoli

34 Is the Friedman doctrine still relevant in the 21st century?
A year of crises has heightened the debate about what corporations owe society
By Amy Merrick

Anil K Kashyap, the Stevens Distinguished Service Professor of Economics and Finance, conducts research on banking, business cycles, corporate finance, price setting, and monetary policy. His research has won numerous awards, and he is an external member of the Bank of England Financial Policy Committee. (Page 12)

Rimmy E. Tomy, associate professor of accounting, is interested in regulation and enforcement in the financial sector, and researches questions relating to effective enforcement and regulation’s unintended consequences. This issue features some of her research on corporate monitors, which the US Department of Justice sometimes uses, instead of prosecution, to address corporate misconduct. (Page 15)
Amir Sufi, the Bruce Lindsay Distinguished Service Professor of Economics and Public Policy, studies finance and macroeconomics. His awards include the American Finance Association’s Fischer Black Prize, given biennially to the top financial economics scholar under the age of 40. His research on household debt and the economy formed the basis of his 2014 book, *House of Debt*, coauthored with Princeton’s Atif Mian. (Page 26)

Lars Peter Hansen, the David Rockefeller Distinguished Service Professor at the University of Chicago Departments of Economics and Statistics and at Chicago Booth, is a leading expert in economic dynamics who works at the forefront of economic thinking and modeling. Among the many awards and honors he has earned, Hansen was a recipient of the 2013 Nobel Prize in Economic Sciences. (Page 43)
CANCEL STUDENT DEBT, OR LET THE MARKET HANDLE IT?

Canceling all student debt mostly helps high earners (Spring 2021)

This is why broad statements or ideas about universal debt forgiveness are insufficient. Let’s focus on the disparate debt patterns of socioeconomic groups and on the question: What targeted interventions would be the best public policy?

—@mrgraves32

Universal student-debt cancelation is highly regressive and bad policy! Let us make sure that any student-debt cancellation benefits those who need it the most.

—@english_august

FINE-TUNE THIS IDEA

Lower fines could lead to higher revenues (Spring 2021)

Another great read in Chicago Booth Review, which has inspired me to email my local representatives in State College, Pennsylvania, to ask them to consider variable pricing on fines. I wonder if this could be extended to other public costs and services? Parking? Refuse?

—@James_Tierney

This is great and easier to apply if the fine depends on taxable income, because net worth is difficult to know: bank secrecy, (no) ultimate controller registration in unlisted companies, etc.

—@MarceloOrtizM1

A fine should be a set amount since the crime committed is the same whether it is committed by a poor person or a rich person. Fines should escalate when the same person continues to commit crimes. Rich people should not be punished for having more money.

—@DvorakEva

THE TRADERS WITH INFLUENCE ARE . . .

Who is driving stock prices? (Spring 2021)

Robinhood and deep value.

—@PatrickGrattan
At Chicago Booth’s Rustandy Center for Social Sector Innovation, we advance cutting-edge, faculty-led social sector research partnerships worldwide. Then we work to share important insights that can advance how sectors operate and address some of the most challenging social issues. Get the latest research from our monthly newsletter.

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Is capitalism the engine of destruction or the engine of prosperity?

Hosts Luigi Zingales, a world-renowned economics professor, and Bethany McLean, a *Vanity Fair* contributing editor, explain how capitalism can go wrong, and what we can do to fix it.

Listen and subscribe wherever you get podcasts, or on Capitalisnt.com.
Online shoppers care where sellers are based

Consumers routinely associate geography with quality—think French wines and German autos—but those location-branding effects can influence trade even within countries and for the sale of everyday items, research suggests.

Chicago Booth’s Pradeep K. Chintagunta and National University of Singapore’s Junhong Chu studied shopping patterns on Taobao.com, China’s massive online marketplace. They find that consumers tend to purchase from sellers in specific provinces when shopping for staples such as diapers, water bottles, and cell phones. Understanding the reasons for geographic preferences could offer insights for merchants, platform operators, and economic-development offices, the researchers write.

One big factor, they find, is trust. Product reviews can offer some comfort to potential customers, but previous researchers have demonstrated that a glut of positive comments dilutes their impact, forcing buyers to look for other assuring signs.

“Like brands, a location serves as a quality cue and reputation mechanism,” Chintagunta and Chu write.
Armed with two years of weekly Taobao sales figures across eight common product categories, the researchers estimated the relative attractiveness of different Chinese provinces. For example, if buyers in Province C buy proportionally more goods from Province B than they do from Province A, for them B is more attractive relative to A.

Comparing specific pairs of provinces could enlighten sellers aiming to hone their marketing strategies, says Chintagunta: “One province might want to advertise more in another province where they aren’t trusted as much.”

Among 31 provinces represented in the data, seven—including Beijing, Fujian, Guangdong, Jiangsu, Shanghai, Sichuan, and Zhejiang—attracted proportionally more business than the rest, the researchers find. Moreover, those geographic preferences persisted over time and explain 41–47 percent of the differences in trade between all province pairs.

To understand why, Chintagunta and Chu correlated these preferences with a host of underlying factors including distance, trust, demographics, and overall business environment. Together, those elements accounted for 75–90 percent of buyers’ geographic preferences, they find. Trust measurements came from a previous study by Beijing University’s Weiyong Zhang and Hong Kong Baptist University’s Rongzhu Ke on the basis of a survey of 5,000 respondents who were asked to identify the “most trustworthy provinces.”

Trust shows a strong correlation with shopping patterns, Chintagunta and Chu observe. While consumers tended to buy from sellers that were closer to home and within their own province, trust between provinces appeared to mitigate those well-established biases.

“A Samsung phone is the same wherever you buy it, yet it seems as if people have trust-related issues with products sold by people from certain provinces,” says Chintagunta. “This is reflected in their purchase behavior, which to us was a surprise.”

Likewise, sellers in provinces with similar demographics, as well as those with commercial-credit regimes, were more attractive to buyers.

In a caveat, the researchers note that their findings may not apply outside of China, citing a 2018 study of geographic trade patterns on eBay, the US-based online auctioneer, by Washington University in St. Louis’s Daniel W. Elfenbein, Boston University’s Raymond J. Fisman, and University of North Carolina’s Brian McManus. While Chinese consumers preferred to buy from provinces that had similar education levels and occupational profiles as their home provinces, US-based consumers were more likely to buy from states that shared like-minded political and religious views.—Brett Nelson

Go to Review.ChicagoBooth.edu to see citations for research mentioned in this article.

### People’s preference for different geographic areas’ shoe sellers

In a study of more than 400,000 purchases of women’s shoes on Taobao.com over 2011–13, the researchers find that people in different geographic areas tended to prefer buying from sellers in certain places. The chart below cross-references a selection of 21 administrative areas across China, and the maps on the next page illustrate how sellers in China’s two biggest cities fared.

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Chintagunta and Chu, 2020

Beijing’s and Shanghai’s data are shown on the maps on the next page.
Different areas’ preference for shoes sold out of **Beijing** . . .

Beijing buyers strongly preferred Beijing sellers

Provinces near Beijing preferred Shanghai sellers less

Darker color = Stronger preference for shoe sellers in the given area

Nearby provinces preferred Shanghai sellers

. . . and for shoes sold out of **Shanghai**
Why the world needs a lot more vaccine capacity

Wherever they are available, COVID-19 vaccines are saving lives, lowering infection rates, and enabling economies to start recovering from the pandemic’s debilitating effects. But on a global level, there are not enough vaccine courses to go around as demand outstrips supply.

To address this, countries should quickly build additional vaccine capacity, according to research. “Investing in accelerating vaccines can pay for itself many times over from reduced fiscal costs alone,” one study reports.

The work, by 16 researchers including Chicago Booth’s Eric Budish and Canice Prendergast, assumes the capacity for the world’s annual baseline vaccine supply to be 3 billion courses. As of late April, this was higher than current production but lower than drug companies’ best-case plans for 2021. (One course can be one or two doses, depending on the vaccine.)

That baseline supply will have a global benefit of US$8.7 trillion in terms of GDP, and at least US$17.4 trillion in additional benefits, according to the researchers, who calculate a benefit of about US$5,800 per course for that initial supply.

Adding 1 billion vaccine courses to the current baseline supply would create enormous additional benefits. The researchers calculate a benefit of almost US$1,000 per course—still far greater than the vaccine price, which has ranged from $6 to $40 globally. Because early vaccine courses are able to mitigate more economic harm, the return on early capacity is greater, the researchers write.

However, “even assuming a lag of several months, we find that additional investment can still be extremely valuable,” they write. They calculate that an extra billion courses, if they had come online in the second quarter, would have avoided almost $1 trillion in losses. If they were to come online in the third quarter instead, they would still be worth US$576 billion, according to the study.

Speed is of the essence in a pandemic, and the researchers’ model indicates that a higher level of early-capacity investment would have yielded large net benefits for countries of all income levels. By following the researchers’ recommendation beginning in August 2020, the United States would have achieved widespread vaccination by March 2021 rather than this summer, as is projected. Had their recommendations guided decisions at a global level, widespread vaccination could have been achieved by October 2021 rather than in 2022.

Because the potential benefit to society far outstrips the profits that vaccine manufacturers stand to make, the researchers offer suggestions for how to expand and stretch existing capacity. For starters, they recommend that countries pay the costs associated with increasing capacity rather than promising vaccine manufacturers higher prices. Offering them bonuses or threatening penalties related to the speed of vaccine delivery might create too much risk for them. Plus, promising higher prices may simply embolden countries to jump the line for vaccines instead of spurring greater production. If governments instead reimburse pharmaceutical companies for investing in factories and other elements that increase capacity, they will encourage greater vaccine production while minimizing risk for those companies.

The researchers also have other recommendations for governments, including to invest in supply-chain capacity. In a pandemic, the price for the materials used to make and deliver a vaccine, such as glass vials and bioreactors, can shoot up—but only temporarily. Because of this, governments could stockpile these items or intervene by building extra manufacturing capacity for them. To ensure that such measures are carried out most efficiently, governments should solicit bids to expand vaccine capacity, which could involve building new factories or repurposing existing ones. Even if the bids are higher than they would be in normal times, the investments will likely pay off, the researchers note.
There may also be ways to stretch the existing capacity of vaccines, they write, recommending that countries look into options that include delaying the second dose of a two-dose regimen or giving only one dose to people who were previously infected with COVID-19. Companies could construct trials so that they learn how to use vaccines in a targeted way in order to prevent new strains from spreading, and they could consider skipping unvaccinated control groups in Phase 3 trials in order to allow for bigger, faster tests.

Many countries are negotiating contracts for vaccines directly with producers, and some have leaned toward investing in domestic vaccine producers because of fears that vaccine nationalism could interfere with exports. High-income countries have signed a disproportionate share of these deals so far, and any further increase in capacity would initially help them. But full economic benefits would require vaccinating the broader population, both within a country and around the globe, the researchers argue.

The need to retain vaccine prices at an affordable level is critical for lower income countries. While it may not be necessary to centralize global vaccine procurement to do so, the researchers write, some degree of this could help to hold down prices, saving lives in poorer countries. Prendergast, Budish, and Harvard’s Scott Duke Kominers are working on a vaccine exchange that would allow countries to trade vaccines and route them efficiently, building on previous research on how to allocate food to food banks and courses to business-school students. (For more, read “Market forces can help fill food banks” in our Spring 2020 issue, and “Why fake money is good for business” in our Summer 2021 issue, or online at Review.ChicagoBooth.edu.)

Although the amount governments spend on vaccines would be returned many times over in the cost benefits, most of the $12 billion in financing offered by the World Bank to developing countries for pandemic-related health expenditures remains untapped, the researchers note. “Using these funds to expand vaccine capacity would have high net benefits for developing countries and their donors,” they write. It’s not too late to invest in more capacity, both now and for future pandemics, they write, “but markets will not deliver this capacity on their own.”

—Emily Lambert

**COVID-19 HAS LEFT VENTURE CAPITAL DOWN BUT NOT OUT**

**VC INVESTORS** are used to dealing with plenty of risk and uncertainty—so how have they fared amid the risks and uncertainties caused by the COVID-19 pandemic? Not that badly, actually. That’s what Harvard’s Paul Gompers, University of British Columbia’s Will Gornall, Chicago Booth’s Steve Kaplan, and Stanford’s Ilya A. Streibulaev find in a survey of more than 1,000 venture capitalists.

COVID-19 hit VCs along with the rest of the business world, as pandemic lockdowns crippled many companies and even entire industries. VCs slowed their investment pace in the pandemic’s early months, and some of their portfolio companies were slammed, the researchers find.

But it could have been far worse. The team conducted their survey in June and July 2020 and were able to compare responses with findings from a similar survey they conducted in 2016.

VCs’ investment pace slowed to 71 percent of normal expected activity in the first half of 2020, the research demonstrates. Respondents said they expected to invest at only 81 percent of their normal pace in the coming year. Two-thirds of the VCs were making fewer investments, according to the survey. This may be because the pandemic made it more difficult for them to travel and have the kind of in-person meetings they’d usually hold before investing in a company.

Yet the industry seems to have fared better during the pandemic than during the aftermath of the 2008–09 financial crisis or the 2001–02 bursting of the dot-com bubble, according to the researchers. While the pandemic and its accompanying uncertainties are far from over, the researchers say that the responses suggest the VC industry has been “more resilient than many other sectors of the global economy.” They speculate that VC-backed companies may have been spared because they were able to switch to remote work more easily and because they tend to have ample cash and not much debt. Economic volatility amid the pandemic may also have helped some VC companies.

The VCs surveyed said 10 percent of their portfolio companies were “severely” hurt by the pandemic, with an additional 38 percent injured but not in “critical condition.” Those numbers are “substantially more positive than we had expected,” the researchers write.

The VCs expect the pandemic to have only a small negative effect on their profits, reducing internal rates of return by 1.6 percent. But the researchers caution that the aggregate numbers may hide the fact that there have been some big winners and some big losers that have averaged out.

Industry participants are optimistic: 91 percent of institutional VCs said they expected to outperform the stock market, and almost 75 percent predicted that the industry as a whole would do so.

As time goes on, it looks like the VCs were right. With the revival of the stock market—particularly for tech companies—not to mention the stunning upswing of the IPO market, VC returns have surged in the pandemic.

—Michael Rapoport

WHEN PEOPLE ARE WILLING TO WAIT

IF YOU’RE considering upgrading your phone, would you go for the very nice model that’s out now or wait for the higher-tech option that will be released in a few months?

Chicago Booth PhD student Annabelle R. Roberts, University of California at Los Angeles’ Franklin Shaddy (a recent graduate of Booth’s PhD Program), and Booth’s Ayelet Fishbach wondered whether how you feel about the phones might impact this choice. Would tech aficionados be less willing to wait for the future model because they’d want the latest and greatest offering—or would they be more willing to wait because the forthcoming technology is more meaningful to them?

Across a series of studies, the researchers find that it’s the latter: liking an item more makes people more willing to wait for it.

In one experiment, the researchers presented participants with 12 T-shirt designs and asked them to select and rank their five favorites, from least- to best-liked. Next, they split the participants into two groups: high liking and low liking.

The high-liking group was asked whether they would rather receive their favorite T-shirt in one size too large that week or the correct size in six months. The low-liking group was asked the same question, but regarding the shirt they’d rated as their fifth favorite.

People in the high-liking group were significantly more willing to wait for the correct size. The same was true for other items the team tested, and it also worked when waiting for a larger quantity of an item: people who were offered the choice between a sample of their favorite food or drink in the same week and a whole portion of it in a month were more likely to choose to wait for the whole portion than people who liked it less.

The difference in subjective value of the item appears to drive the phenomenon. When the researchers asked participants to assign a price to a fancy, reusable water bottle, offered in regular and tiny sizes, people put a much higher value on the larger size. But when putting prices on a less fancy bottle, they priced the larger size only slightly higher than the smaller one. The greater difference between the price put on the larger bottle and the price put on the smaller one translated to choice. People were more willing to wait six months for the bigger version of the fancy bottle (but not the one that was less fancy).

Thus, patience may have a lot to do with how much one values the reward. “The patient person is the person who cares—not the person who’s more able to wait,” says Fishbach. “People are patient when they believe the larger-later reward is worth waiting for. So, whether it’s fashion, coffee, or your savings account, when you like something, there’s a big difference between the inferior and the superior versions of it.”

It’s worth developing patience, and not simply for the latest gadget or outfit. Higher levels of patience have been linked to positive life outcomes, including in the realms of academic achievement, health, income, and even addiction mitigation.

The phenomenon observed in the study suggests that patience may be enhanced by keeping in mind how much you value an item or outcome, and reminding yourself that it will be worth the wait.

—Alice G. Walton

Tying pay to benchmarks can lower returns

For many active-fund managers, a primary goal is beating a designated market barometer such as the S&P 500. Tying a manager’s compensation to outperforming a benchmark supposedly aligns the manager’s incentives with investors’ goals.

But there are problems with this system, suggests research by Chicago Booth’s Anil K Kashyap, Arizona State’s Natalia Kovrijnykh, Booth PhD student Jian Li, and London Business School’s Anna Pavlova. When everyone uses benchmarks as incentives, doing so becomes less effective, the researchers find.

Benchmarks are a long-standing feature of the finance world, but there has never been a theoretical framework for this widespread practice, even as investors have turned over $100 trillion to the asset management industry and the amount of money tied to benchmarks has exploded.

Should pay be tied to benchmarks? To find out, the researchers created a model that considers the effects of often-used linear contracts, which offer managers a fixed salary as well as compensation on the basis of absolute performance (as in, hitting a defined threshold) and performance relative to a benchmark. Managers can beat their benchmarks by making smart moves in the traditional sense of buying and selling but also by engaging in other strategies such as securities lending and trading in house rather than on the open market.

Linking compensation to benchmarks, the researchers find, leads to inflated asset prices. When many managers chase the same benchmark, it raises demand for the assets underlying it. A manager who is paid to beat the S&P 500 is likely to buy shares of the companies in the index, and many other active managers in a similar position will do the same. On top of that, managers of funds that passively follow the index will purchase the same stocks at least at match the benchmark’s performance. This results in higher demand for the underlying stocks, crowded trades, and lower returns.
It can lead to other costs too. Securities lending alone represented 5 percent of total revenue at large investment managers BlackRock and State Street in 2017, the researchers report. But such strategies can involve risk, and they take time and effort to oversee. A crucial assumption in the model is that managers with larger portfolios have higher costs, Li explains.

While the current situation isn’t socially optimal, the researchers suggest modifying rather than scrapping it, lessening the amount of compensation tied to benchmarking by changing the sensitivity ratio. Say an asset manager who beats the S&P 500 by 1 percent is currently rewarded with 0.5 percent higher performance compensation. Changing that 0.5 percent to 0.1 percent would make the payment less sensitive to benchmark-related performance.

It would also behoove investors to lessen the amount of compensation tied to absolute performance, the researchers write. Linking pay to absolute performance does give fund managers an incentive to make money, they acknowledge, and linking it to both absolute and relative performance is ultimately good for both manager and investor. But regulators considering industry compensation rules and investors trying to ensure managers have effective incentives need to take into account the effects of benchmarking on prices, the researchers caution.

They conclude that compensation contracts with better benchmarking practices could lead to lower management fees and help make active management more desirable when compared with cheaper, passive alternatives. Such contracts could even be used to motivate managers to invest more sustainably, the researchers suggest, after considering how their model could be applied to environmental, social, and governance investing. In current industry practice, investors instruct managers to hold a portfolio with a defined average ESG-rating target, such as four out of five globes, with five globes being Morningstar’s highest ESG score. But it would be more effective to instead give managers benchmarks that put more weight on stocks with high ESG scores, according to the study.

“We’re calling for providing incentives through the benchmark design,” says Li. And if the desired ESG benchmark doesn’t exist, she notes, perhaps the industry should create it.—Emily Lambert

Better benchmarking practices could be used to motivate managers to invest more sustainably.

THE HAZARDS OF SECOND-GUESSING

The “wisdom of the crowd” maxim holds that a group is better than an individual at producing an accurate estimate, since an average across many people will remove the bias and random error in an individual guess. The same is often true when an individual makes multiple guesses—a phenomenon that has been dubbed the “wisdom of the inner crowd,” whereby averaging a person’s first and second estimates will generally produce a more accurate response than taking either one alone. People seem to know when they’ve misguessed and, if given another shot, often make a second guess that’s in the right direction.

But making the inner process more explicit can negate this wisdom, suggests research by Chicago Booth’s Celia Gaertig and University of Pennsylvania’s Joseph P. Simmons.

Gaertig and Simmons hypothesized that the process was largely unconscious—and further, that asking people explicitly to evaluate their first guesses might disrupt the process so much as to dissolve the effect. They carried out a series of experiments in which they asked participants to make a guess about something unknown. In one experiment, for instance, participants guessed what percentage of people preferred Indian food over Mexican food; in another, what percentage had a Twitter account; and so on.

Then all the participants made a second, different guess about the same initial question, but half the participants were asked to explicitly decide whether their first guess was too high or too low before guessing again, while the other half were only asked to make that second guess. Participants were paid a small amount for accuracy, which provided an incentive to make accurate predictions.

Overall, the participants asked to analyze whether their first guess had been too high or low performed worse on their second prediction—that is, their second guesses were more likely to be more extreme and thus less likely to be in the correct direction relative to the first. The results held across several experiments, both online and in person.

The researchers also wanted to test the phenomenon in a situation without the boundaries of percentages, so they asked another group of participants to look at stock prices for 10 well-known companies and predict what the prices would be two weeks in the future. As before, one group analyzed their first guess before making a second one—and once again, this group produced second guesses that were more extreme than the first, making the average less accurate.

Asking people explicitly to evaluate their first guess may cause them to use that first guess as a reference point, which can lead to a second guess that’s further from the actual target, the researchers explain. More work is needed to understand exactly why that is, but in the meantime, supervisors who are asking for estimates—for example, on the likelihood of a product’s success—may want to make sure not to upend the inner-crowd phenomenon.

“In general, managers who attempt to elicit the wisdom of the inner crowd from their employees should carefully design the elicitation of second guesses, so as to discourage them from considering how their first guess was wrong,” the researchers conclude.—Alice G. Walton


Summer 2021 Chicago Booth Review 13
China’s economy has experienced rapid growth in recent decades. How has it changed along the way? There’s a narrative about the Chinese economy in which it’s all about the control and the support that the government gives to state-owned companies, plus Chinese industrial policy. If you stop to think a little bit about it, that narrative is basically about the government channeling money to state companies and the government picking industries and companies that will succeed. That approach is the kind of thing that we have lots of reasons to believe will never work. It opens up this puzzle: If what they’re doing is exactly the kind of thing that we say leads to an economic disaster, but in fact it’s not an economic disaster, how can we explain that?

If you want to try to understand the puzzle, you have to look at what’s going on informally—not at what the government is saying, and not at its official policies. My coauthors and I find in previous work that in the 1990s and the 2000s what started to
Q2 What have been the implications for China’s economy? The expansion of this network has been one of the important forces behind Chinese growth. As it expands further, I expect it will deliver additional growth. But at some point, this mechanism is going to hit diminishing returns. If everybody is connected, there are no more gains to be had from the system. Then the source of growth has to come from somewhere else.

It also raises the question: What does this imply if you have powerful state actors who are equity investors in a large number of the most powerful companies in the economy? We have an analogous concern in the US about the media: What if the owner of a media outlet cares less about informing the public than about delivering his or her political agenda? Does freedom of the press include that as well? And what does the free market mean in China? What does a free market mean if the owner also has a political agenda?

The effect of monitors was significant, but temporary.
Take a family approach to genetic testing

Knowing whether you’re a genetic carrier for a disease can be invaluable. A patient who learns she’s at heightened risk for breast cancer, for example, may opt for more frequent mammograms or have a preventative mastectomy, potentially adding many happy and healthy years to her life.

The US Preventive Services Task Force currently advises that individuals who have a family history of a disease should consider genetic testing. But taking a family approach to testing, applying one patient’s results to understand the risks to other family members, could generate comparable health benefits at less cost, suggests research by Chicago Booth’s Dan Adelman and Kanix Wang.

In theory, everyone could be tested for a wide array of potential diseases. But that’s a cost-prohibitive proposition, so what’s the optimal testing system? The researchers studied the issue by simulating the testing of 5 million people for the BRCA1 and BRCA2 genes, which are associated with an increased risk of developing breast cancer. The algorithm Adelman and Wang developed can determine who needs to be tested and can rule out the possibility that some family members are at risk on the basis of others’ results.

At $750 per test, an optimal family-testing policy involving these genes alone would add nearly 300,000 quality-adjusted life years to at-risk people over their lifetimes, 3,000 more QALYs than would be added by testing all people who meet the USPSTF’s guidelines, for $500 million less. A QALY is a measure used by economists to tally the quality and quantity of a life, and one QALY equates to a year of perfect health.

Consider a family in which two of three sibling grandchildren test positive for a BRCA gene, the third sibling tests negative, and the only other known piece of information is that the paternal grandmother had previously tested negative. According to the current guidelines, the siblings’ mother and maternal grandmother should be tested for the gene. But according to Adelman and Wang’s algorithm, it may make the most sense to test only the paternal grandfather. If he were to test negative, it would be clear that the mother and maternal grandmother are the carriers. Under current guidelines, men are rarely tested for a BRCA gene, but doing so could offer valuable information about other family members.

The proposal raises health privacy concerns, and the researchers acknowledge that using their algorithm would require changes in privacy laws, or would require patients to waive those rights.

“One of the essential benefits of testing families is that the informational value of learning test results could outweigh the direct benefits from individual genetic testing. This value hinges on the free flow of information among family members,” Adelman and Wang say. “However, the burden of sharing still falls on individual family members. There would be even more QALYs-improving and cost-saving opportunities if future healthcare legislation were to accommodate family genetic testing, for example, by authorizing primary physicians to contact close relatives.”—Brian Wallheimer

Owning something causes people to overreact to news about it

The car in your garage is precious to you—dents, rust, quirks, and all. That same auto on a used-car lot would probably hold less appeal. This is the essence of the endowment effect, a foundational concept in behavioral finance that highlights the power of ownership. There’s a gap between what people will pay to buy an object and what they’ll accept to sell the same thing that they own.

Research by Chicago Booth’s Samuel Hartzmark and Alex Imas and University of Colorado postdoctoral scholar Samuel Hirshman (a recent graduate of Booth’s PhD Program) suggests that ownership also has an important effect on how people process information. Positive information tends to inspire exuberant optimism, while negative information tends to spark dire pessimism, both out of proportion with the signals themselves. This finding has implications in the stock market, as it may explain how investors react to news and why people trade as much as they do.

In their main experiment, the researchers gave each study participant an asset—think of it like an imaginary stock—then shared information that was an indication of its quality. Participants were shown six equally priced stocks, given three of them, and told that each had either gained or lost value. Then participants had to forecast what each stock would be worth in the future. The experiment involved 15 rounds of price changes and was designed to eliminate any biases about the stocks or the participants as traders.

“We intentionally made this as stylized as possible,” says Hartzmark. “This is light-touch ownership: ‘Here’s a stock. It’s yours.’ We’re not tying in biases that arise from selection.” And yet participants overreacted significantly to signals about stocks they owned. After seeing positive signals, the participants thought stocks they owned were better than the others. After seeing negative signals, they thought their own stocks were worse. In contrast, participants appeared relatively rational when interpreting information about stocks they didn’t own.

The pattern also turned up in consumer data. The University of Michigan Surveys of Consumers asks investors to forecast how they think their stocks will perform, and the researchers analyzed survey data collected between 2002 and 2019. Ownership affected expectations, just as in the experiments. When it came to expectations about future market performance, stock investors responded more positively to recent positive returns and more negatively to recent negative returns than did people who didn’t own stocks.

When people own something, they pay more attention to signals about it, and their increased attention leads them to overextrapolate and overreact, the researchers suggest. While the experiment shielded participants from real-world financial, employment, and status pressures, it’s easy to imagine that the magnitude of these impulses would only grow under such strains.

The researchers also studied how information processing affects the original endowment effect. In the experiment, they gave participants one of two power banks (portable cell-phone chargers) to own. After this, the participants saw a series of Amazon customers’ star ratings of both power banks and were asked how much they would be willing to pay for each of the chargers, and how much they’d be willing to sell theirs for.

In line with ownership-driven overreaction, good reviews of a charger effectively doubled the endowment effect—that gap between what people pay for an object and what they’re willing to sell it for—and bad reviews wiped it out entirely.

The findings may be helpful for investors hoping to moderate the urge to sell when prices drop or invest too enthusiastically when they rise, and it may help explain why people trade more than models indicate they should, which is a long-standing puzzle in finance. In a tweet, Booth’s Richard H. Thaler, one of the researchers who first demonstrated the endowment effect, called the findings the “Endowment Effect 2.0.”

“Ownership is so obviously part of everything that we tend to forget about it,” Hartzmark says. But as he, Hirshman, and Imas write, “our findings suggest that ignoring the influence of ownership on the learning process can lead to erroneous conclusions.”—Michael Maiello

HOW CENTRAL BANKERS CAN MANAGE CONSUMER EXPECTATIONS

WITH INTEREST rates stuck at rock bottom since the Great Recession more than a decade ago, central bankers have lost their favorite economic gearshift. For decades, the US Federal Reserve could rev up the economy by slashing borrowing costs or slow things down by jacking up rates.

Today, European Central Bank president Christine Lagarde and Fed chair Jerome Powell could instead try speaking clearly and directly to consumers, research suggests. Simply stating what monetary authorities are trying to accomplish can have an effect on ordinary people’s expectations and their resulting behavior, according to Boston College’s Francesco D’Acunto, Karlsruhe Institute of Technology’s Daniel Hoang, Bank of Finland’s Maritta Paloviita, and Chicago Booth’s Michael Weber.

The researchers conducted an experiment in June 2020, asking 2,500 Finnish men to respond to messages about ECB policy as posted on Twitter. They showed one-third of the respondents a tweet by Olli Rehn, governor of the Bank of Finland, saying the ECB would “do whatever is necessary to minimize the financial damage to citizens caused by the corona crisis.” The researchers designated this a “target-focused” message, as it set out what the central bank was trying to do.

A second group read a different Rehn tweet: “New EUR750 billion Pandemic Emergency Programme (PEPP) launched by the European Central Bank.” The researchers considered this an “instrument” communication, focusing on how the monetary authorities were trying to reach their goal.

The respondents who read the first, target-focused tweet subsequently said they expected monthly gross incomes to rise €70–€80 as a result of the ECB policy, according to the research. This effect was fully driven by the target-focused communication, D’Acunto, Hoang, Paloviita, and Weber find. By contrast, those in the instrument communication and control groups didn’t report any “statistically or economically significant” revisions to their expectations for household income, the researchers report.

“Target communication is not only more effective than instrument communication in managing the expectations of the average consumer, but it helps especially with managing the expectations of the least sophisticated groups in the population,” the researchers write.

With access to the men’s military IQ tests, they find that the respondents with lower intelligence scores were most responsive to Rehn’s target-focused message. This is the same group that their previous research finds is least responsive to central banks’ traditional, trickle-down messaging. (For more, read “Why central banks need to change their message” in our Winter 2019/20 issue, or online at Review.ChicagoBooth.edu.)

“Our results indicate that monetary policy communication can be a successful policy tool to manage ordinary households’ expectations,” the researchers find, “but this effectiveness is enhanced when central banks emphasize the targets and aims of their policies rather than the specific policy measures with which they want to reach such aims.”—Rose Jacobs

Go to Review.ChicagoBooth.edu to see the citations for research mentioned in this article.

A big risk for companies: Low public support

The COVID-19 pandemic, beyond taking hundreds of thousands of lives in the United States and upending large swaths of the economy, has accelerated the debate over the role of corporations in society.

Chicago Booth’s Emanuele Colonnelli and Niels Gormsen find that this could pose a risk for companies. The researchers document a dynamic relationship between corporate behavior and economic policy, in which public support for regulations or bailouts is tied to what the researchers call “big business discontent.” If Americans across the political spectrum believe large companies aren’t doing enough on behalf of workers, communities, and the environment, they will return the favor by not supporting corporate-friendly policies. Indeed, that’s what the research suggests is the case now.

“Large corporations undoubtedly have power. Citizens vest this power in them in the hope that doing so is economically efficient but also under the expectation that corporations not misuse their power and work to support society as a whole,” write Colonnelli and Gormsen. “If corporations fail to meet public expectations, they will be in breach of the social contract and will face public opposition.”

The 2008–09 financial crisis, Great Recession, and widening inequality have contributed to public discontent. So now, how close or far are companies from breaching the social contract?

The researchers studied how public perceptions of large companies influenced support for corporate bailouts during the first wave of the COVID-19 crisis, when the stakes and public engagement were high. On May 5, 2020, they surveyed about 6,700 US citizens with a broad range of backgrounds and political views—over 90 percent responded within a week—and asked questions that touched on a number of environmental, social, and corporate governance areas, from executive pay to corporate tax rates.

Respondents shared what they thought corporate policies were, versus what they thought they should be—with the
A measure of big-business discontent

Survey respondents indicated that companies should improve their performance across several environmental, social, and corporate governance (ESG) fronts. The researchers observed that while all respondents perceived that corporations were falling short on various ESG fronts, liberals expressed “significantly stronger” levels of discontent than conservatives; older, white, and female respondents tended to be more aggrieved too. When people are unhappy with corporate America, there is less public support for bailouts and more demand for tougher terms that come with financial assistance, Colonnelli and Gormsen add.

To establish whether there was a causal link between discontent and distaste for bailouts, the researchers showed the respondents a professionally scripted control video defining specific corporate policies, followed by additional pairs of treatment videos illustrating those policies in either a negative or positive light. For instance, while one video emphasized that there are fewer women relative to men in executive and board positions, another stressed that the number of women in those positions has been on the rise in recent years.

Both sets of videos elicited a greater level of big-business discontent—as well as less support for corporate bailouts—among liberals and conservatives, the researchers find. “Any video that talks about the nexus of big business and its impact on society acts as a trigger, leading to a strong negative reaction expressed through policy preferences,” says Colonnelli. “Simply put, you make people think about something they dislike, and that thought influences their choices.”

The researchers also showed a subset of respondents a separate treatment video in which leading economists, of all political views, professed support for bailouts during the crisis. While respondents expressed more support for bailouts after watching the video, the size of that positive effect was less than half the size of the negative effects produced by the previous negative treatment videos. A follow-up survey with one-third of the respondents a week later yielded similar (though less pronounced) overall results, the researchers find.

Recognizing that self-reported beliefs don’t always reflect a person’s actual behavior, the researchers ran a final test, in October 2020, asking nearly 1,700 new respondents if they would participate in various activities in support of corporate bailouts—from signing a petition (on the website Change.org) to sending a ready-made email to their senator of choice. In this experiment, half the respondents watched the control video, and half watched a negative-treatment video. Those who watched the negative-treatment video were less likely to say they would sign a petition or send an email than those who watched the control video.

The findings could help explain some of the policy challenges that companies are currently facing, including politicians’ increasingly tougher stance on large technology companies such as Amazon, Facebook, and Google, argue the researchers. And they suggest that companies might want to fortify the social contract by taking such actions as reducing carbon emissions, fostering workforce diversity, and reducing wage inequality. The researchers argue that such actions would be an investment of sorts in future policy: “Corporations’ investment in environmental, social, and governance initiatives, and in the marketing of such initiatives, might be driven by the importance of keeping a good relationship with society that can prove valuable in a time of crisis.”


Perception of the ESG friendliness of large corporations’ practices

Survey respondents indicated that companies should improve their performance across several environmental, social, and corporate governance areas.

### Perception of the ESG friendliness of large corporations’ practices

**0–100 rating scale based on survey responses**

- **Contributing to employees’ health-care costs**
- **Disclosing CO₂ emissions**
- **Making political donations**
- **Caring only about shareholders**
- **Compensating top executives**
- **Placing women in executive roles**
- **Paying federal income taxes**

![Chart](Colonnelli and Gormsen, 2021)
Stricter mask rules are good business

Until a critical mass is vaccinated against COVID-19, public-health experts have urged people to wear masks and practice social distancing. But in the United States, many people have ignored those recommendations, and some businesses don’t enforce guidelines for fear of public backlash.

However, most Americans across the political spectrum prefer businesses that enforce mask wearing and would pay extra to be in such an environment, according to Chicago Booth’s Oleg Urminsky and Booth research professional Abigail Bergman. Their research suggests that consumers and business managers have tended to underestimate other people’s desire for stricter public-health measures.

Urminsky and Bergman conducted a series of experiments involving thousands of participants. In one, 77 percent expressed a preference for using a hospital that required employee vaccinations over one that only recommended them. As was the case in the other experiments, participants underestimated how many other people would have the same preference, a dichotomy that could have implications for public health. Those who underestimated the most were least likely to warn a friend about a hospital’s lack of vaccination requirements.

In another experiment, conducted in August 2020, the team asked participants on a national panel whether they would prefer to fly on an airline that required masks or one that merely recommended them. Ticket prices varied across 11 questions, ranging from $50 for Airline A and $100 for Airline B to $100 for Airline A and $50 for Airline B. Participants were also asked to guess how many of 100 other people would choose Airline A versus Airline B when both priced their tickets at $100. Some 70 percent selected the mask-requiring airline when both tickets were the same price. When the prices varied, participants chose the mask-requiring airline in 69 percent of the choice pairs, which the researchers calculate showed a willingness to pay $27 more for the airline with the stricter policy.

Participants were consistently wrong about others’ preferences. Of those who preferred the stricter policy, 53 percent underestimated others’ preference for the same thing, and 86 percent of those preferring the lax policy underestimated others’ preference for the stricter option.

A second set of experiments indicates similar trends across other types of businesses, including bakeries, pharmacies, movie theaters, hair salons, and gyms. The researchers added questions about customers’ perceptions of businesses with stricter policies and find that people rated these businesses as more caring, warmer, more competent, and more trusted.

A sample of managers also significantly underestimated consumers’ preference for the stricter policy across business types. The discrepancy between how they felt and how they thought others felt suggests managers may not be executing their own views because they too often underestimate how many customers will agree with and even prefer stricter policies, according to the researchers.

Some of the experiments did produce results where political partisanship was evident, with Democrats expressing stronger preferences for stricter policies. However, the degree of partisan preference in favor of strict policies varied by scenario, and the researchers conclude that the tendency of participants to underestimate how many other people shared their views was overwhelmingly nonpartisan. For example, in the experiment that queried participants about whether they’d prefer a hospital with vaccinated employees, political affiliation and demographics were not significant factors in respondents’ choice of a hospital, their predictions about others’ preference, or the likelihood of their warning a friend.

The consistency of the findings across conditions suggests that businesses may want to rethink—and beef up—their policies.

As some states, such as Texas, end mask requirements without the full support of public-health experts, businesses will once again face the dilemma of whether to maintain their own strict mask policies. “Businesses face a risk that they will give in to a vocal minority who oppose masks,” Urminsky says, “and not notice that they are losing the trust and patronage of the majority of consumers who prefer shopping in an environment that enforces mask wearing.”—Alice G. Walton

Support for COVID-19 restrictions is underestimated

Study participants predicted that a majority would prefer businesses that enforced COVID-19 safety measures. But the actual numbers were higher than they thought.

Preference for hospitals on the basis of their COVID-19 vaccination policies

<table>
<thead>
<tr>
<th>Participants’ predictions</th>
<th>Their own choices of which hospital they would go to</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the total share of people who would prefer a hospital requiring staff vaccinations</td>
<td>19.9% vaccination recommended</td>
</tr>
<tr>
<td>64% 13-point underestimation</td>
<td>77% vaccination required</td>
</tr>
</tbody>
</table>

Preference for airlines on the basis of their mask-wearing requirements

<table>
<thead>
<tr>
<th>Participants’ predictions</th>
<th>The actual results of the share who chose that airline</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the total share of people who would prefer an airline requiring masks</td>
<td>Underestimation</td>
</tr>
<tr>
<td>60%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Urminsky and Bergman, 2021
Do we need a Chapter 11 for banks?

When the retailer Sears filed for Chapter 11 bankruptcy in 2018, it came as little surprise to those who watched its long decline—including investors who put heat on CEO Eddie Lampert.

But contrast this failure, of a well-known chain, with the failure of financial institutions such as the 2008 collapse of Bear Stearns. When banks fail, it’s often more of a shock, even to the people with money at stake.

Chicago Booth’s Yueran Ma and Columbia’s José A. Scheinkman find that creditors monitor financial institutions less closely than they do other types of companies. Banks get less oversight, in large part because there’s no mechanism investors can use to discipline management if they need to, the researchers argue. This amounts to a significant weakness for the entire financial system.

Banks, in their simplest of forms, take in monetary deposits and lend out the funds at a profit. But modern banks also raise money from nondeposit funding sources such as capital markets, and the amounts can be substantial. At JPMorgan Chase and Bank of America, the researchers write, nondeposit sources represent 35 percent of the banks’ liabilities.

In principle, investors who have stakes in banks would watch their investment just as much as they do any others. After all, even if some standard metrics used to analyze companies don’t apply—such as earnings before interest, taxes, depreciation, and amortization—there are other ways, such as capital ratios and liquidity ratios, to measure and analyze the performance of financial institutions. Yet the researchers find that investors’ oversight of financial institutions is weaker, at banks both big and small.

Ma and Scheinkman compared various aspects of financial and nonfinancial enterprises, homing in on differences in debt contracts. Investors typically include financial covenants in contracts, outlining certain metrics that companies must hit to avoid going into contractual breach. Financial institutions are less likely to have these covenants in such contracts, the researchers find.

In another sign of weaker oversight, banks take out a higher share of their debt in the form of bonds rather than loans. There are usually stronger financial covenants with conventional loans, and they are more actively monitored, Ma and Scheinkman write.

The financial sector has no equivalent to an orderly restructuring that exists for other types of companies under bankruptcy law. While Chapter 11 can technically be used by any business, many of its provisions don’t apply to financial institutions.

In that case, when there’s no effective way to restructure a bank, financial covenants that threaten default aren’t particularly useful or worth including in a contract, the researchers demonstrate using a model. Moreover, financial institutions are complex, and executives are often highly compensated. When CEOs are hard to replace and have a strong incentive to keep their jobs, this also works against including financial covenants. The result is weaker governance.

The difficulty investors have in monitoring financial companies has implications both for individual institutions and for the overall financial system. If private investors are unable to do the job, the government could step in and do it, says Ma—cautioning that government involvement could turn off other investors.

“Another option is to build better systems that allow private creditors to monitor better,” she suggests. Creating an orderly restructuring system for banks, akin to what nonfinancial companies have with Chapter 11, could restore the ability to discipline management, the researchers argue.—Emily Lambert

A way out of the replication crisis

For more than a decade, academic research has been mired in a “replication crisis,” in which the findings of thousands of published studies have proven to be difficult if not impossible to reproduce. Particularly in medicine and the social sciences, some widely cited papers have been discredited due to concerns about their methodology and conclusions, and tens of thousands of published papers have been withdrawn due to flaws, according to journalists Ivan Oransky and Adam Marcus, authors of the Retraction Watch blog.

This has implications beyond academia. In December 2020, the UK government scrapped unconscious-bias training for civil servants in England after concluding that there was little scientific evidence that it improved workplace equality. In the United States, the replication crisis has been cited in attempts to prevent tighter environmental regulations.

But while flawed, the current academic publishing system may be more valuable to policy makers and society at large than some proposed alternatives, according to a paper by Chicago Booth’s Alexander P. Frankel and University of Oxford’s Maximilian Kasy. They argue that instead of overhauling the system, journals could improve it by making more explicit the criteria they use to select papers for publication.

Many observers have blamed the replication crisis on publication bias, the tendency of journals to prioritize papers that have surprising results, or that upset conventional wisdom. While only a tiny minority of researchers may manipulate their results in an attempt to get published, the fear is that publication bias could prompt even well-intentioned researchers to engage in p-hacking, or data-dredging: parsing data until statistically significant (and therefore publishable) results come up.

In response, a few scholarly journals have moved to a system of registered reports, where they accept papers for publication on the basis of methodology, regardless of the final results. Others have removed asterisks from the tables in published papers—used to call attention to figures deemed statistically significant—so as not to overemphasize these results.

In theory, it might seem ideal to publish every single study regardless of results and let the good science rise to the top. But in reality, there are financial and practical constraints—while all researchers can post their papers on the internet, few of those studies will be seen unless they get published by journals.

This highlights the role of journal editors as gatekeepers. Frankel and Kasy built a model to understand the optimal way for editors to select papers, recognizing that whenever a publication sets criteria for what papers it will publish, there will be trade-offs.

The researchers’ model takes an instrumental perspective, which identifies the value of publication as helping to inform policy makers and guide their decisions. While much academic research is conducted without policy implications in mind, the model is exclusively focused on those studies with clear potential impact. In the model, the most valuable papers are those that prompt policy makers to change policies. The more surprising the result, the greater the likelihood it will change policy makers’ opinions, therefore the greater its value. By contrast, in this perspective, there is no value in publishing null results that confirm conventional wisdom, since the results wouldn’t lead to policy changes.

The researchers propose that the criteria for publication should therefore be determined not on the statistical significance of the findings but on the extent to which those findings can move existing beliefs and shape new policies. Instead of comparing results with what would happen without any policy intervention at all, findings should be compared with the effect of existing policies or conventional wisdom, Frankel and Kasy argue.

When a paper’s results could affect a binary policy choice, such as whether or not to introduce a government program, they should be subject to a “one-sided test” that demonstrates the value they could have on policy, Frankel and Kasy recommend. When it comes to what the researchers call “continuous” policy issues, such as choosing a tax rate, Frankel and Kasy recommend publishing papers that pass a “two-sided test”—for example, the results produce an optimal rate that is either far above or far below the existing tax rate.

The proposed system is meant to be self-correcting. Frankel and Kasy say, because researchers would still have an incentive to overturn inaccurate findings. —Hal Weitzman


SHOULD WE TAX ONLINE ADS?

“Digital advertising is like a form of pollution . . . . One of the problems with the [current] model is that the incentive for a company such as Facebook is to maximize engagement. They don’t want you to feel happy about using Facebook; they want you to spend a lot of time on it. And what they discovered is that getting you angry and in some acrimonious exchange back and forth with somebody else is a really good way to keep you online for a longer period of time, thereby giving them the chance to expose you to more advertising. My proposed solution is a tax on advertising. If you don’t want people to do something, tax it.”

—2018 NOBEL LAUREATE PAUL ROMER, of NYU, on the Capitalist’s podcast, presented by Booth’s Stigler Center for the Study of the Economy and the State
How a US anti-corruption law boosted economic growth in rural Africa

Government corruption is hard to see, and the drag it imposes on economic development is hard to measure. But Chicago Booth’s Hans B. Christensen, Mark G. Maffett, and Thomas Rauter found a way to gauge the effects of a crackdown on corruption and to actually see them—observing how many lights are on after sundown as a metric for economic activity.

This methodology helped them determine that an anti-corruption statute was associated with a 14 percent increase in economic activity near mines and oil wells in Africa. The findings suggest that measures to reduce public bribery, extortion, and embezzlement can help reverse the “political resource curse,” the phenomenon in which rich endowments of natural resources can warp behavior in countries with weak political institutions.

The now four-decades-old statute was enacted by the US Congress in the aftermath of Watergate. The Foreign Corrupt Practices Act of 1977 bars American corporations and individuals from bribing foreign officials to benefit their businesses. Due to a lack of domestic support and limited international cooperation, the FCPA was largely unenforced for decades, according to Christensen, Maffett, and Rauter. That changed in 2005 with an expanded legal definition of bribery and the introduction of deferred and nonprosecution agreements in FCPA cases, and in the wake of the passage of the Sarbanes-Oxley Act, which reformed public-company accounting, they write.

This unleashed a tenfold increase in FCPA cases over the next dozen years. The researchers exploited this development to study the effects of the crackdown. As the enforcement actions mainly affected companies with headquarters in countries that had signed on to the Organisation for Economic Co-operation and Development Anti-Bribery Convention, the researchers could help create a control group of communities untouched by the FCPA.

They built a sample focusing on 487 mines and 113 oil and gas wells across 34 African countries and used luminosity readings from a US Air Force satellite program that compiles data on low-light imaging for every location around the globe every night. They combined that with location, ownership, and commodity data for extraction facilities, determining whether each facility’s owner had been affected by the increased enforcement of the FCPA.

Advocates of calculating economic activity using nighttime light emissions argue that it compensates for the shortcomings of GDP data and allows for more granular assessments. Christensen, Maffett, and Rauter used the technique to measure economic growth in areas within 10 km to 50 km of the extraction sites in their sample.

They find that between 2004 and 2013, luminosity increased significantly in areas within 25 km of extraction sites affected by the crackdown, compared with little to no change in areas around sites with owners who were not subject to the increased scrutiny. Gains in luminosity were more pronounced the closer to an FCPA-regulated extraction facility. Areas within 10 km of a site enjoyed a 14 percent boost, compared with just 3 percent for those within 25 km of a site.

Countries with weak political institutions before the increase in FCPA enforcement saw the largest jump in economic activity, the researchers add, ruling out the possibility that the gains could be related to various other things, including an overall decline in mining activity or changing local economic conditions at the owners’ headquarters.

“We find no evidence of a decline in employment in the extraction sector,” they write. “Rather, consistent with the increase in economic activity being driven (at least in part) by extraction firms shifting to business practices that are more beneficial (or less detrimental) to the local communities where they operate, the association between extraction activities and local economic activity increases by 40 percent.”

The findings point to how anti-corruption regulation might stimulate an economy, say the researchers: larger chunks of foreign investment, for example, may reach local businesses and individuals rather than being sucked away by bribes. International companies might start choosing local partners for their competence rather than their political connections. And with bribery jettisoned from the community-relations tool kit, mine owners might instead curry favor (minus any quid pro quo) with local stakeholders by building roads or increasing wages. These effects appear to outweigh anti-corruption measures’ possible negative impacts on growth, such as companies pulling projects altogether.

The researchers also analyzed surveys by the nonprofit Afrobarometer asking Africans about their perceptions of corruption. They find that people living near FCPA-affected extraction areas were, after 2004, 8 percent less likely than people elsewhere to say they thought government officials were corrupt, and 18 percent more likely to be satisfied with their local government. This further supports the idea that a decline in corruption leads to higher economic activity.

Overall, the study highlights the long arm of the FCPA: “Anti-corruption regulation originating in developed countries” may increase companies’ operating costs, Christensen, Maffett, and Rauter write. But it can also “have a positive impact on the economic conditions in developing countries.”—Rose Jacobs

A promising view from above

Using satellite images to measure economic development in the vicinities of 600 mines and oil and gas wells in 34 African countries, the researchers find improvement in the years after regulators began an international crackdown on corrupt business practices.

Economic activity near sites affected by stricter enforcement of corruption regulations

Percentage difference from 2004 levels, before the regulatory changes

2000 2004 2013

Christensen et al., 2020

Go to Review.ChicagoBooth.edu to see citations for research mentioned in this article.
ALL-OR-NOTHING REWARDS COULD MOTIVATE IMPATIENT PEOPLE

MANY PEOPLE struggle with making lifestyle changes that don’t deliver immediate and tangible rewards. For example, large sections of the population found it hard to observe social-distancing guidelines designed to slow the spread of COVID-19. Policy makers and health-care leaders similarly struggle with devising incentive schemes that are effective in the face of people’s impatience.

Offering incentive payments can help with compliance, according to Indian School of Business’s Shilpa Aggarwal, Chicago Booth’s Rebecca Dizon-Ross, and University of California at Berkeley’s Ariel Zucker.

Their study involved motivating people to walk daily to help manage diabetes, a disease that consumes almost 1 percent of global GDP. The tab is 4.5 percent of GDP in India, where Aggarwal, Dizon-Ross, and Zucker conducted their research.

The researchers selected close to 3,200 diabetic and prediabetic patients from the Indian city of Coimbatore and set out to promote a daily walking target of at least 10,000 steps. During a screening, participants filled out a survey to assess their level of impatience, responding to statements such as “I’m always saying: I’ll do it tomorrow” and “I usually accomplish all the things I plan to do in a day.”

One group of participants, randomly chosen, received a Fitbit electronic health tracker and a reward worth 10–20 rupees (US$0.14–$0.27) per day for compliance.

The participants in this group—unlike the other participants, who received no rewards—were assigned one of two kinds of incentive contracts. Either they earned a reward for each day they met their target goal, or they were rewarded only if they met their goal at least four or five times in a week. Everyone had the same daily payment amounts, but the latter “time-bundled” contract only paid out if participants cleared a threshold.

Someone who walked three days rather than the four or five required wouldn’t receive anything.

Offering a reward had a significant effect, the researchers find. People who received payments met their target more often and boosted their number of daily steps by 1,266—equal to 13 minutes of brisk walking. This held true throughout the three months of the trial and had quantifiable effects on participants’ physical and mental well-being as measured before, during, and after the study.

But the researchers also find that time-bundled contracts were especially effective with participants who were impatient to see the results of their effort—plus achieved the results for 10–15 percent less in costs compared with the other payment model.

The results suggest that offering such all-or-nothing incentives could help encourage people to make healthy choices and participate in vital social programs, and may be particularly effective with people who are impatient to see what their effort will yield. —Rebecca Stropoli

How to forge relationships with the ‘enemy’

When it comes to seemingly insurmountable conflicts, the one between Israelis and Palestinians ranks high.

But a Maine summer camp program called Seeds of Peace, which brings together Jewish Israeli and Palestinian teens, has been overwhelmingly successful at facilitating not just tolerance but close, positive relationships, suggests research by Facebook’s Shannon White and University of California at Berkeley’s Juliana Schroeder (both graduates of Chicago Booth’s PhD Program), along with Booth’s Jane L. Risen.

The work grew out of previous research by Schroeder and Risen, who in 2014 studied the program and found that campers’ attitudes toward people of the other nationality (in the “outgroup”) became significantly less negative after completing the program, particularly for campers who said they’d formed a close relationship with someone from the outgroup.

Why was that the case? To find out, White, Schroeder, and Risen analyzed data from surveys they collected of more than 500 participants who attended one of the Seeds of Peace summer camps between 2011 and 2017. Schroeder and Risen surveyed the teens before their camp stay began, including how positive, sympathetic, and anxious they felt toward or about members of the other group.

They also asked participants questions after camp ended about how close they had become with other members of the program, both Israeli and Palestinian. Finally, the researchers tracked how participants were arranged across three main activities: facilitator-led dialogue groups, bunk groups, and dining-table groups. Because participants were randomly assigned to each activity group, the researchers could test the causal effect of being in the same (versus a different) group on the likelihood of forming a close relationship for ingroup pairs compared with outgroup pairs.
Being in the same dialogue group or bunk affected whether participants became close, and the effect was more pronounced when it came to cross-group relationships. Pairs of Israeli and Palestinian participants were 15 times more likely to become close if they were assigned to the same dialogue group than a different one. By contrast, two ingroup participants were just over three times more likely to become close when sharing a dialogue group.

Similarly, cross-group pairs assigned to the same cabin were nearly 12 times more likely to become close than those in different cabins. The number was 4.5 for two ingroup participants with the same bunk assignment.

This close physical and psychological contact, known in social psychology as propinquity, was a greater driver of outgroup relationships than the participants’ attitudes prior to the camp, the researchers write.

The same wasn’t true for dining-table groups. Sharing a table group increased the likelihood that campers became close, but the effect was similar for outgroup and ingroup pairs. In addition, the effect of being at the same table was smaller than for sharing a bunk or dialogue group, perhaps because table talk doesn’t inspire the same kind of intimate discourse as bunking together or engaging in the deeper debate of a dialogue group, the researchers suggest. The camp’s staff, blind to the specific aim of the study, rated bunk and dialogue groups as involving more time, self-disclosure, and even negative emotions compared with table groups. White, Schroeder, and Risen suggest that the two activities were especially effective at promoting outgroup relationships because they prompted meaningful, if challenging, interactions that wouldn’t have occurred spontaneously.

The hope for Seeds of Peace is that campers take their shared experiences and resulting attitudes with them and become changemakers throughout their lives—but the mechanism can be applied to any ingroup-outgroup dichotomy, according to the study. “Forming relationships with outgroup members can have myriad individual benefits, helping individuals widen their social circles, feel less stress and anxiety in intergroup contexts, and reduce their prejudices,” the researchers write. “But to benefit from the consequences of outgroup relationships, individuals must first build them.”—Alice G. Walton

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How the 1 percent’s savings
buried the middle class in debt

Research suggests that when the rich bank, the rest borrow

BY REBECCA STROPOLI / ILLUSTRATION BY FEDERICO GASTALDI
In the early days of the coronavirus pandemic, Hollywood mogul David Geffen enraged many social media users when he posted a photo of his yacht, Rising Sun, on calm waters. “Isolated in the Grenadines avoiding the virus,” Geffen wrote on Instagram. “I’m hoping everybody is staying safe.”

The photo of billionaire life aboard a 454 ft., $590 million yacht inspired plenty of outrage, and even a parody song by singer John Mayer titled “Drone Shot of My Yacht.” As an example of conspicuous consumption, the post highlighted stark global inequalities in wealth and opportunity, and didn’t land well with the millions of people stuck at home in lockdown or risking their health and lives performing essential work.

But when it comes to wealth inequality, a billionaire’s yacht is a sideshow, says Chicago Booth’s Amir Sufi. After all, a yacht is rooted in the real economy. A good chunk of the money originally spent on the yacht went to pay workers and buy equipment, and had a multiplier effect as it circulated in the broader economy. The real problem could be that much of the money owned by billionaires and other wealthy people never makes it that far. “People get angry about seeing the rich consuming a lot,” Sufi says, “but that’s better than what they’re actually doing.”

What’s happening, he says, is that disparities in income and wealth have fueled ever more saving by the top 1 percent. But while many economists think more saving leads to productive investment, Sufi, Princeton’s Atif Mian, and Harvard’s Ludwig Straub make a different argument. They find that these savings are largely unproductive, being remade by the financial system into household and government debt. And their research outlines a cycle whereby the savings of the top 1 percent fuel the debt and disavings of the lower 90 percent, which in turn leads to more savings at the top.

From the 1980s through 2007, the top 1 percent financed a large portion of the overall rise in household debt for the lower 90 percent, according to the researchers. And as the rich have accumulated capital, the less wealthy have accumulated fewer assets, which means they experience less financial stability overall. Thus, the work argues, the savings glut of the rich, and its role in financing unproductive debt and disavings of the nonrich, leads to instability not only for the less economically privileged but also for the broad economy.

Whose savings glut?
Inequality, in terms of income and wealth, has been a hot topic for the past couple of decades, but it has been unclear what role saving plays in it, whether as cause or effect.

In March 2005, then Federal Reserve governor and future Fed chief Ben Bernanke gave a speech...
before the Virginia Association of Economists calling attention to a global savings glut. Bernanke argued that the US account deficit, which at the time was more than 6 percent of national income, wasn’t due to American profligacy but instead to the rest of the globe’s frugality.

Countries such as China, Korea, and Venezuela were increasingly saving money rather than using their savings to invest domestically. Those savings were then being put to work in industrialized countries such as the United States, through activity including massive purchases of government bonds. These foreign inflows helped inflate stock prices and depress long-term interest rates, said Bernanke—and this in turn encouraged borrowing, particularly for real estate, where prices were skyrocketing at the time. Foreign inflows were also strengthening the dollar, thus discouraging exports while boosting imports, and contributing to a US trade imbalance.

While not all economic experts agree with Bernanke’s savings glut theory, some do argue that a savings glut contributed to the 2008–09 financial crisis. (In 2008, the radio show This American Life famously explained how what it called “the giant pool of money”—the $70 trillion in global fixed-income investments—was lent out as mortgages, many of them subprime, and helped cause the housing crisis.) While there’s no clear consensus in the academic literature on the factors that led to the crisis, Mian, Straub, and Sufi lean toward the global savings glut theory. Mian and Sufi argue in 2018 research that a rapid flow of foreign funds into the US triggered a credit-supply expansion that boosted household debt, which they say was a major factor in igniting the financial crisis.

And with Straub, they draw a line connecting the global situation to the savings glut of the rich. Using US current account data to compare the two, and a methodology that they use to calculate the savings of the rich, they find that from 1982 to 2016, the glut of the US rich was, on average, 60–75 percent of the size of the global glut. And at times in the 1990s and 2010s, the amount rich Americans put away even exceeded the global glut.

The top 1 percent by wealth in the US constitute a wide range, from millionaires to billionaires. (For more data about the ultrawealthy and highest earners, read “Never mind the 1 percent. Let’s talk about the 0.01 percent,” in our Winter 2017/18 issue and online at Review.ChicagoBooth.edu.) It takes approximately $11 million to be at the bottom of the 1 percent by household net worth in the US (as of 2020), and about $538,000 per year to be at the bottom of the 1 percent by income. Credit Suisse’s 2020 wealth report finds that the US has about 20 million millionaires, 40 percent of the global total. Meanwhile, the Billionaire Census 2020 from Wealth-X, which provides information and insight on the world’s wealthiest individuals, finds the US has about 28 percent of the world’s billionaires, who hold a 36 percent share of global billionaire wealth. The world now has a record 2,755 billionaires, according to Forbes.

The analysis by Mian, Straub, and Sufi suggests that the top 1 percent of households in the US have just as much influence as emerging-market economies in fueling the debt of the bottom 90 percent. The researchers’ study focuses on the US, but they say similar patterns of wealth disparity and investment can be seen around the globe.

**More savings, less investment**

Between 1982 and 2007, US states with a higher increase in income inequality experienced a greater rise in saving by the top 1 percent, the researchers find. Florida, New York, and Nevada saw a larger income gap than Michigan, Arizona, and California. They also experienced a greater rise in saving by those at the top.

Ideally, all those savings would be channeled into productive investments such as research and development, or practical equipment, or new roads, or even new yachts—investments that would promote growth in the economy. However, from 2000 through 2016, the average annual savings of the top 1 percent exceeded average annual net domestic investment as a percentage of GDP, according to Mian, Straub, and Sufi. While the rich saved more, investment in productive assets declined.

The researchers argue that those savings were put to use financing both household and government debt. Comparing the 1960s and ’70s with the period between 2000 and 2016, they find that claims on household and government debt account for nearly two-thirds of the rise in asset accumulation of the top 1 percent in the US. In the 25 years leading up to the 2008–09 financial crisis, they calculate, the top 1 percent financed almost a third of the rise in household debt owed by the bottom 90 percent. And they find that in the years since the
crisis, and since the housing bubble burst, the savings of the rich have gone more toward government debt—although many households in the lower 90 percent continue to spend more than they can save, with their debt indirectly financed by the 1 percent’s growing assets.

Not all household and government debt is unproductive, of course. More than one entrepreneur has financed a startup on a credit card or with a personal loan. However, much household debt goes toward instruments such as mortgages and home equity loans, which can be used speculatively, in which case they are less productive than, say, investments in manufacturing plants or technology. Thus, the researchers argue that mortgages, while enabling homeownership, can also help perpetuate a cycle of wealth inequality.

The wealthy aren’t deliberately shying away from productive investments in order to finance household and government debt, the researchers say. And, certainly, many rich people contribute to productive investment and philanthropic causes. However, the rich are seeking returns on their excess savings because, as Sufi says, many of them “just cannot spend all the money they make.” The rich seek returns by investing; the US government, by providing tax breaks on debt interest, and by encouraging banks to lend via debt financing, promotes less-productive investment.

Using Fed data, Mian, Straub, and Sufi find that the five largest asset classes through which the rich hold claims to household debt are time deposits at financial institutions, bonds, pensions, equity, and mutual funds.

How are equities being used to finance household debt? The top 1 percent hold more than half the value of all stocks owned by all US households. Some of the money invested goes toward funding worthy corporate ventures, such as laboratories, technology, or workers’ wages, but some winds up in a corporate savings stockpile. Nonfinancial corporations have increased their holdings of money market funds and time deposits by 10 percentage points of national income since 1995, according to the research.

Public corporations increased their saving following global economic shifts such as declines in real interest rates and corporate tax rates, find the Analysis Group’s Peter Chen, University of Minnesota’s Loukas Karabarbounis, and Chicago Booth’s Brent Neiman in research from 2017. Since the early 2000s, the amount of corporate saving not invested in new capital has increasingly accumulated as cash, they write.

“Corporations can do a number of things with their net income besides simply paying dividends and investing,” Neiman says. “Just because corporate saving grows a lot, it does not necessarily mean that investment in productive assets grows together with it.”

Further, research from Boston College’s Simcha Barkai finds that, from the mid-1980s to 2014, companies pocketed more profits while slashing other spending. Corporate spending on labor and capital, for instance, declined by 7 percentage points of gross value added (a measure of value generated by production), while corporate profits grew dramatically from about 0 percent to 13 percent of value added. In 2014 figures, says Barkai, that was equivalent to $600 billion less going to workers and $600 billion less to plants, property, and equipment—and $1.2 trillion more to profits.

A 2019 study by University of Maryland’s Michael W. Faulkender, University of Kentucky’s Kristine W. Hankins, and Northwestern’s Mitchell A. Petersen finds as well that nonfinancial companies in the US in 2017 were sitting on just under $4 trillion in cash, up from $2.7 trillion in 2010 and just $1.6 trillion in 2000.

Say a corporation issues equity to the wealthy, but instead of spending the proceeds on research or equipment, puts that money into a time deposit at a bank, which in turn uses it to fund a mortgage for a less-affluent household. This is how the rich become lenders, Sufi says. Because they are the most likely to own shares in public companies that may have their excess cash in banks, their money can indirectly fund mortgages and other consumer debt products, including auto loans.

The debt loads that nonrich households carry may rise as a result. Many people today are, as in previous generations, saving money through their homes, and a mortgage payment can be considered “forced savings,” as a percentage of it goes toward the principal of the loan. But consumers are collectively accumulating the same amount of real estate overall, or slightly less, while also taking on more debt—in the form of larger mortgages as a fraction of their house value, or cash-out refinancing and home-equity loans.
Some politicians, economists, and pundits say that people are borrowing (and consuming) irresponsibly. But banks with all that cash on hand work to expand the credit market and realize returns on the savings glut of the rich. “The bottom 90 percent are being convinced to borrow more and more, through lower interest rates, easier credit, and more advertising,” Sufi says.

From the 1980s through 2007, the net amount of household debt that the top 1 percent held as a financial asset rose by 15 percentage points of national income, while at the same time the amount of household debt that the bottom 90 percent owed as a liability rose by 40 percentage points. The so-called accumulated dissavings of the bottom 90 percent from 1983 to 2015, relative to the average level from 1973 to 1982, was over twice the national income, the researchers say.

The debt trap
Households on this trajectory can get stuck in debt, and so can entire economies, argue Mian, Straub,
and Sufi. As the savings of the rich go toward the borrowing of the nonrich, there may be a GDP boost in the short run, as it does encourage consumption. But the debt becomes a drag on future demand, the researchers say.

To understand why, consider households in the bottom 90 percent that are repaying debt. People in these indebted households, usually poor or middle class, may spend less on other goods and services as they make their loan payments. A family repaying a home equity loan, for example, may have less money to spend on new clothes, vacations, or cable television. On a macro level, the decline in spending by people weighed down by debt will trim companies’ revenues and profitability, which could in turn affect the employees at those companies.

“During times when aggregate spending is weak already, this means more workers might lose their jobs, or not get that next promotion,” Straub says.

He makes a distinction between this kind of debt and its productive cousin. “Building a new road might also be debt financed, but because it increases productive capacity going forward, it typically also creates jobs, offsetting the negative externality,” he says. “So we are not arguing that it’s bad if people buy houses—just that unproductive lending has an externality that needs to be corrected.”

The cycle of unproductive debt makes it hard for consumer demand to support full employment in the economy, and it ultimately forces central banks to lower interest rates, argue Mian, Straub, and Sufi. While lower rates may strengthen demand for a time, consistently low rates may be problematic, particularly in a crisis, as they leave the Fed little room to move the benchmark rate to boost demand.

Persistent low demand can foster a high-debt liquidity trap—or debt trap—in which economies are stuck in long periods of sluggish growth, according to the researchers. The US, Japan, and the eurozone provide examples of depressed economic growth after interest rates hit bottom (or even went negative).

The COVID-19 effect
Do the theories that Mian, Straub, and Sufi lay out in research explain recent events? Anyone paying attention to monetary policy in the past decade has seen central banks trying to lift economies creatively, unable to cut interest rates further. When the pandemic spread around the globe in 2020, the US Fed could cut the policy rate by only 1.5 percentage points before effectively hitting zero. While the Fed can and does make other monetary-policy moves, such as large asset purchases, in times of crisis, rate cuts are a key part of the strategy to boost consumer demand.

In a September 2020 speech, Fed governor Lael Brainard warned of a “downward spiral” of elevated unemployment, muted inflation, and slow economic growth amid a reduced opportunity to further cut rates. Former New York Fed president William C. Dudley concurred at a summit in October, noting that “if the Fed did more, what would be the effect on the economic trajectory? It would be very, very modest.”

Several research projects are establishing that poorer households have been disproportionately affected by the COVID-19 recession, while wealthier households have spent less and been able to save. Both spending and saving initially rebounded faster for lower-income households during the pandemic in spring 2020, and some were even able to pay off debt. However, Sufi notes that the decline in household debt and the rise in savings in the middle and lower part of the income distribution can be attributed at least in part to massive government stimulus measures, and are likely temporary.

Indeed, in August, the rise in saving by people who received unemployment checks began to reverse, according to research by University of Chicago Harris School’s Peter Ganong; JP Morgan Chase’s Fiona Greig, Max Liebeskind, and Daniel M. Sullivan; and Booth’s Pascal Noel and Joseph S. Vavra.

Meanwhile, people at the very top of the wealth distribution have grown richer through the pandemic, thanks in part to a poststimulus stock market surge. A March 2021 report by Americans for Tax Fairness and the Institute for Policy Studies finds that the collective wealth of America’s billionaires shot up by $1.3 trillion since the start of the pandemic, to a total of about $4.2 trillion. At the same time, more than one in four families with children are experiencing food insecurity, according to estimates from Northwestern’s Diane Schanzenbach. Mian, Straub, and Sufi see in the data a widening wealth gap and more saving by the rich, thus more money being turned into loans and lent out to consumers.

The researchers suggest that policy actions could encourage the rich to put their money toward more productive uses.
**Is tax reform the answer?**

To the researchers, the savings glut is a result of rising inequality, yet they also suggest that policy actions could encourage the rich to put their money toward more productive uses. Their proposed solutions involve taxation—either a more progressive tax system or a wealth tax—through which the government can finance spending and investment, or redistribution programs that benefit lower-income households.

Such suggestions are controversial. Among the critics, Booth’s Steve Kaplan argues that proposals such as a wealth tax seek to emulate what has already been tried and proven ineffective in Western Europe. As of 1990, there were 12 countries in Europe taxing net wealth, but now that is down to Norway, Spain, and Switzerland. When France did away with its version in 2018, the prime minister said it had caused many millionaires to flee.

Kaplan also notes that income inequality had actually been decreasing in the US in recent years, as the fortunes of the lower 90 percent improved. He points to the Gini index, which measures income inequality on a scale from 0 to 1 percent. From 2017 to 2019, the US Gini index fell 0.005 percentage points, from 0.489 to 0.484 percent, while the share of income held by the top 20 percent fell by 0.4 percent. Meanwhile, median household income rose to a record $68,700 in 2019, driven by an increase in the number of workers, particularly women.

“If you go back to December 2019, the economy was strong and the inequality data were improving while the country was following tax policies the opposite of what they [Mian, Straub, and Sufi] are recommending,” Kaplan says, although he acknowledges that the trajectory has “likely been upended by the pandemic.”

Implementing some of the more progressive tax policies, however, is “only likely to make things worse,” he says.

Data from the Fed’s Survey of Consumer Finances also indicate that between 2016 and 2019 both wealth and income inequality fell modestly. However, Sufi and others focus on the longer trajectory. The rate of inequality may have slowed or even fallen prior to the pandemic for some groups, but inequality remains at historically high levels, and economists are debating what the “right” level of inequality should be and how to achieve it.

“All decline in inequality from 2017 to 2019 was tiny compared with the rise in inequality since the 1980s, and the COVID-19 crisis will almost assuredly amplify inequality going forward,” says Sufi. “Policies tried in the US to stem the rise in inequality have not worked.”

Research by Booth’s Eric Zwick and Princeton’s Owen Zidar suggests that reforms such as rolling back special deductions for pass-through businesses, which they say collectively generate more taxable income for the top 1 percent than do big C corporations, could be a key part of a tax plan that raises up to $5 trillion over the first decade of implementation. Pass-through businesses typically include medical and law practices and other types of consultancies.

When it comes to the billionaire class, a better-designed corporate income tax may be more effective than a wealth tax, Zwick says. A corporate tax that does a better job of aligning the rates on foreign versus domestic income, as the current system gives large companies many incentives to move income offshore, could also be part of the solution, he says.

“Billionaires are “not a huge share of wealth—perhaps 3–5 percent of household wealth in the US,” Zwick says. “And if you look at them individually, their investments are incredibly concentrated. They’re invested in their companies. If you’re taxing Amazon, you’re taxing Jeff Bezos.”

Mian says the most important thing regarding policy is to have the end goal be a healthy economic balance. “We need both investments and a competitive landscape that makes the economy work for everyone so the economic output is more inclusively distributed,” he says.

This may be especially the case as the wealthiest in the US continue to grow their financial portfolios during a health and financial crisis that has intensified the gap between the 1 percent and the bottom 90 percent. If Mian, Straub, and Sufi are correct, as the savings of the rich grow, so do their investments in unproductive debt. This leads to more household debt and less household savings, and a savings gap that grows ever larger. —CBR

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Is the Friedman doctrine still relevant in the 21st century?
A year of crises has heightened the debate about what corporations owe society

BY AMY MERRICK / ILLUSTRATION BY EDMON DE HARO
When

Brian Kemp signed into law in late March a bill containing new regulations about when and how people could vote in the state, it elicited great consternation from opponents worried that the changes would restrict ballot access, particularly for Black voters. Among those voicing their concerns were state and national politicians, activists, and faith leaders—and James Quincey, CEO of Coca-Cola.

“This legislation is wrong and needs to be remedied,” Quincey declared on CNBC, “and we will continue to advocate for it[s change] both in private and now even more clearly in public.”

Coca-Cola, which is headquartered in Atlanta, was not the only company with leadership who repudiated the law publicly. Delta Air Lines’ CEO, Ed Bastian, issued a memo to employees calling the law “unacceptable” and said that it “does not match Delta’s values.” Shortly after, Major League Baseball announced it would not be holding the All-Star Game in Atlanta, as it had planned to do, in protest of the law.

By coincidence, 2020 was also the 50-year anniversary of one of the most famous articulations of corporate social responsibility ever penned: a New York Times Magazine essay in which Milton Friedman, the late University of Chicago economist and Nobel laureate, argued that a company’s sole obligation to society is to make money without breaking the rules. “There is one and only one social responsibility of business,” Friedman wrote, quoting his earlier book Capitalism and Freedom, “to use its resources and engage in activities designed to increase its profits so long as it . . . engages in open and free competition without deception or fraud.”

“Businessmen believe that they are defending free enterprise when they declaim that business is not concerned ‘merely’ with profit but also with promoting desirable ‘social’ ends,” he wrote in the essay’s opening. “In fact they are . . . preaching pure and unadulterated socialism.”

If stockholders want to pursue a social goal, Friedman said, they are free to pay for it out of their own pockets, using their share of a company’s earnings. In this way, individuals can choose their own priorities, while business managers can avoid having to reconcile shareholders’ competing preferences. Business can stick to its essential function—making money and powering economic growth—and the government and private philanthropy can handle the job of identifying social priorities and devoting resources to them.

This debate is hardly without urgency. Contemporary businesses are navigating a fraught landscape in which many of them are being called upon to declare their priorities. Companies in every industry must decide to whom they are responsible, and for what—and, if they choose to look beyond shareholder value in determining their agenda, what that means in practice.
Critics say the Friedman doctrine is too limited for contemporary business. Some argue that shareholder interests go beyond money, and that a single focus on profits shortchanges these other priorities. Others suggest that at a time when corporations have an outsized role in shaping the regulations that govern them, businesses are inextricable from the societies in which they operate, and that it’s time to develop principles of shared success.

Some of these critics are companies themselves. The Business Roundtable, a group of large-company CEOs led at the time by Jamie Dimon, chairman and CEO of JP Morgan Chase, issued a 2019 statement that laid out an expansive view of corporate purpose that included providing value for all stakeholders, such as employees and community members.

Defenders of the Friedman doctrine argue that there’s nothing in it that indicates companies can’t act in a way that benefits the environment, gender equality, racial justice, or any other social concern—only that they should do so not out of a sense of social obligation, but because in so doing they will maximize their long-term value. If investing in social good decreases risk, lowers costs, or attracts customers, those investments are consistent with Friedman’s maxim.

Whatever view a manager may take of the Friedman doctrine, few businesses can remain willfully agnostic about whether they have a social purpose, as the experience of Delta and Coca-Cola suggests. If the social responsibility of business was ever a topic mostly confined to boardrooms, classrooms, and luncheon speeches, it has long since escaped those bounds and become a momentous topic not only to managers and shareholders but to their employees, their elected representatives in government, and increasingly, to their customers.

**Is social justice value maximizing?**

After George Floyd was killed in May 2020 by Minneapolis police officer Derek Chauvin, protests across the US and around the world brought renewed attention to activist campaigns for racial justice. Many companies, believing that their customers and employees would consider silence to be callous, responded with statements supporting the Black Lives Matter movement specifically or racial equality more generally.

Chicago Booth’s Pradeep K. Chintagunta studied how the public responded to statements from five companies with broad public recognition: Airbnb, Amazon, Apple, Netflix, and Pepsi. With Yogesh Kansal, a Booth MBA graduate and a project leader at Boston Consulting Group, and Pradeep Pachigolla, a research assistant at Booth and a Cornell PhD student, Chintagunta analyzed the sentiment of tweets reacting to the corporate announcements.

In a 2020 essay for *Chicago Booth Review*, the researchers explain that consumers responded with negative emotions when companies merely issued general statements of support. The reactions on Twitter became more positive only when the businesses began backing their words with clear financial commitments, such as Netflix’s pledge to invest $100 million in support of Black communities in the US. (For more on this research, read “In corporate responses to Black Lives Matter, commitment speaks volumes,” in our Winter 2020/21 issue and online at [Review.ChicagoBooth.edu](http://Review.ChicagoBooth.edu). You can also read more from Chintagunta, Kansal, and Pachigolla in “Four ways to accelerate innovation,” on page 46.)

At first glance, such decisions would appear to be in direct contradiction of the Friedman doctrine: Shouldn’t Netflix invest that $100 million with a focus on maximizing its return, and then allow shareholders to use their share of the resulting profits to support racial justice if they desire? But Chintagunta says many customers now expect businesses to demonstrate their values.

“There has been a move for some time, especially among the younger generations, to think about the story behind the brand,” he says. “Ultimately, there’s only so much you can differentiate based on product features. The solution, increasingly, is to figure out some kind of emotional attachment. One way in which some companies feel they can make that connection is to highlight the fact they’re supporting these movements. Now, how authentically that is viewed is a different issue.”

Chintagunta sees distinctions between shareholders and other stakeholders as artificial. “If employees and employers work together to make customers happy, shareholders are going to be happy,” he says. “You shouldn’t think of these as separate silos that you can manage independently.”

The conversation with and about brands on social media is a significant shift in the relationship between businesses and their communities, and a potential risk for companies who respond poorly, says Booth’s Steve Kaplan.

Although this digital dialogue didn’t exist in Friedman’s time, Kaplan asserts that the Friedman doctrine of maximizing shareholder value can accommodate shifts in stakeholder perspectives. When customers and employees begin to show greater concern for social issues, as they have over the past few decades, responding to them can boost a company’s stock price in the short and long runs. “Milton Friedman was completely right then, and he’s still right,” Kaplan says. “He didn’t say to treat the environment badly. He was very clear that if the world
changes—and it has—and customers care more that you’re an environmentally good citizen, then being an environmentally good citizen can increase shareholder value."

Yet, companies hoping to add value through social engagement have to perform a difficult balancing act in an age of intense political polarization. In many cases, pleasing one group of stakeholders may alienate another.

After 23 people were killed and more than 20 others injured in an August 2019 mass shooting in a Walmart store in El Paso, Texas, Walmart said it would discontinue sales of ammunition for military-style weapons such as the one used in the shooting. Walmart requested that its customers no longer openly carry weapons in its stores and publicly endorsed certain gun-safety proposals such as strengthening background checks.

Marcus O. Painter of St. Louis University analyzed how customers reacted to the changes. Using geolocation data from smartphones, he finds customer visits to Walmart stores declined 3.3 percent compared with local rivals following the announcement. Visits to Walmart stores actually increased 2.8 percent in counties that were highly Democratic, but that bump was more than offset by an 8.3 percent decrease in customer visits to stores in counties that were highly Republican. Further, the customers in Democratic counties only increased their Walmart visits for a short time, whereas the drop-off in store visits in highly Republican counties persisted.

**Shareholder influence**

Often, pressure comes not just from customers and social media but from shareholders themselves, as well as from potential shareholders.

Eyub Yegen, a PhD student at the University of Toronto, analyzed the effects of privatization and the role of institutional investors on prisoner welfare. The number of inmates in private prisons increased by 47 percent in the US from 2000 to 2016, and in shifting from public to private management, a prison could face cost-cutting incentives that would have negative effects on prisoner well-being. Consistent with this notion, Yegen finds that privatization was associated with an increase in inmate suicide rates of up to 15 percent.

Yegen also finds that long-term institutional investors, such as mutual funds, changed the practices of publicly traded companies that manage private prisons. A 1 percent increase in institutional-investor ownership reduced prisoner suicides by up to 1.2 percent, he finds. But improvement only came from the growing involvement of investors with a long holding horizon, who were more likely to focus on long-term performance. Ownership by investors with a short holding horizon, who were more likely to favor short-term cost cutting, did not reduce suicide rates.

“Although privatization of prisons leads to a reduction in the quality of lives of prisoners, the social costs of privatization are mitigated by the monitoring role of institutional investors,” Yegen writes.

This causal effect is apparent in part because of a change to the tax code in 2012, when publicly traded prison-management companies were reclassified as real-estate investment trusts by the Internal Revenue Service. This change led to a big increase in holdings of prison-management companies by exchange-traded funds, which passively track market indices such as the real-estate industry.

Yegen argues that everyone should care about the welfare of prisoners, but his research indicates that institutional investors are also protecting the long-term value they receive as shareholders by reducing litigation and reputation risks. The effect of institutional-investor ownership on reducing prison suicides strengthened, he finds, following periods with a higher-than-average number of lawsuits filed against prisons.

Yegen’s research reflects a belief among some shareholders that attention to social outcomes is simply good business. This notion has become increasingly mainstream—or at least increasingly visible—in recent years as some of the most influential figures in investing and management have issued reminders that synergies between business and the community are more prevalent than may be commonly assumed.

BlackRock CEO Larry Fink, whose company has $9 trillion in assets under management, wrote an open letter to CEOs in early 2020. In it, he said:

*The importance of serving stakeholders and embracing purpose is becoming increasingly central to the way that companies understand their role in society. . . . Over time, companies and countries that do not respond to stakeholders and address sustainability risks will encounter growing skepticism from the markets, and in turn, a higher cost of capital.*

Markets are showing their taste for social responsibility. In the US, one-third of the $51.4 trillion in assets under professional management, or about $17 trillion, is now invested with an eye on environmental, social, and governance (ESG) issues, a 42 percent increase over 2018.

When analysts start trying to evaluate a business along social or environmental dimensions, their assumptions quickly become murkier.
Chicago Booth’s Lubos Pastor, with University of Pennsylvania’s Lucian A. Taylor and Robert F. Stambaugh, modeled how investors’ appetite for “green” stocks affects asset prices and businesses. The model projects that as investors’ preference for socially responsible companies goes up, so do those companies’ stock prices. This run-up in prices leads to higher realized returns but lower expected future returns for investors. Consistent with the warning in Fink’s letter, more demand for green stocks leads to a lower cost of capital for ESG-aligned companies, and in turn, more investment by those companies, while the inverse is true for “brown” (socially detrimental) companies. Because greener companies have higher market values, even managers whose only concern is maximizing value are motivated to pursue socially beneficial ends. (For more on this research, read “When green investments pay off,” in our Spring 2021 issue and online.)

Regulators are also pushing companies to review ESG concerns as a way to develop resilience against external shocks. In July 2020, the Hong Kong Exchanges and Clearing began requiring listed companies to provide a statement from their boards outlining their discussion of ESG issues and to disclose any significant climate-related concerns affecting their operations. “We look at ESG and sustainability as a risk-management exercise,” Katherine Ng, chief operating officer and head of policy for the listing department of the HKEX, told attendees of a Chicago Booth CSR conference. “It helps in identifying a business’s strengths and weaknesses, as well as recognizing and mitigating material risks. Enshrining ESG principles in business strategy makes a company more agile and better prepared to deal with sudden change in the future.”

What do shareholders want?
In his Times essay, Friedman wrote, “In a free-enterprise, private-property system, a corporate executive is an employee of the owners of the business. He has direct responsibility to his employers. That responsibility is to conduct the business in accordance with their desires,” which Friedman concluded “generally will be to make as much money as possible while conforming to the basic rules of the society, both those embodied in law and those embodied in ethical custom.”

But a 2017 paper by Chicago Booth’s Luigi Zingales and Nobel laureate Oliver Hart of Harvard asserts that it may be an error to assume shareholders care only about profits. If they care (even slightly) about some social objective, and if a business has a comparative advantage over individuals in pursuing that objective, shareholders may want the business to pursue a social goal, even if it means giving up some profit. “Consider the case of Walmart selling high-capacity [ammunition] magazines of the sort used in mass killings,” they write. “If shareholders are concerned about mass killings, transferring profit to shareholders to spend on gun control might not be as efficient as banning the sales of high-capacity magazines in the first place.”

Friedman is right in advocating for shareholder primacy, or the concept that companies should operate for the benefit of the people who pay for the cost of any social agenda, Zingales and Hart argue, but it’s a mistake to define that benefit in entirely pecuniary terms. It’s better for managers to focus on maximizing shareholder welfare more generally, they say, rather than shareholder value specifically.
Brad M. Barber and Ayako Yasuda of the University of California at Davis and Adair Morse of UC Berkeley looked at investment in certain venture-capital funds to explore just how much pecuniary value investors might be willing to give up. They find that investors in dual-purpose VC funds (which aim to have a positive social impact as well as generate financial wealth) willingly sacrificed returns for the sake of creating social benefit.

Barber, Morse, and Yasuda analyzed investments by nearly 3,500 investors in more than 4,600 VC funds, 159 of which they identified as dual-purpose or impact funds. They find that impact funds realized an internal rate of return that was 4.7 percentage points lower than that of traditional funds. However, they also find that investors in impact funds were willing to pay for the opportunity to provide social impact. How much they were willing to pay varied considerably across investors—North Americans exhibited a lower willingness to pay for impact than European, Latin American, and African investors, for instance, perhaps reflecting regulatory differences in what factors investors such as pension funds are allowed to consider—but the researchers find that on average, the impact investors were willing to give up 2.5 to 3.7 percentage points on the internal rate of return when they made their investments.

Drawing the conclusion that shareholders’ desires “generally will be to make as much money as possible” may be too broad, the research suggests. But acknowledging shareholders’ competing priorities comes with its own set of problems—namely, if companies aren’t evaluating themselves solely on the profits they generate, how can they gauge whether they’re truly serving the interests of their shareholders?

Measuring success

One advantage of focusing on shareholder value is that it is relatively easy to quantify. When analysts start trying to evaluate a business along social or environmental dimensions, their assumptions quickly become murkier.

“Once you leave shareholder value, it’s a morass,” argues Kaplan, who is skeptical of the array of standards. “People are saying we should care about these other things, but they have no way to measure their value nor trade them off against each other.”

Money managers who review companies according to ESG factors have many approaches. Some of the most popular standards come from organizations such as the Global Reporting Initiative and the Sustainability Accounting Standards Board, which help businesses measure their impact on issues such as climate change and human rights. But there are many other reporting frameworks, and new ones are being developed all the time.

Despite these efforts to develop rigor, the competing measurement systems hold back investors. In its 2020 Global Sustainable Investing Survey, BlackRock finds that more than half of clients surveyed cited “the poor quality or availability of ESG data and analytics” as the largest barrier to broader adoption of sustainable investing.

However, an analysis conducted by Booth’s Rustandy Center for Social Sector Innovation suggests the metrics around corporate environmental and social performance may be gradually coalescing. Rustandy Center research professional Jingwei Maggie Li, Booth PhD student Shirley Lu, and Rustandy’s Salma Nassar examined the 2017 CSR disclosure reports for each of the 327 companies in the S&P 500 that released one, hand-collecting information about what data the companies disclosed. After dividing the metrics into nine subcategories (such as diversity, energy use, greenhouse gas emissions, and safety), they find that seven of the nine featured at least one metric disclosed by 100 or more companies. They also find evidence that companies are more likely to disclose information about the areas of CSR for which their industries have a larger negative impact: a far greater percentage of companies in the utilities, shipping containers, and automobiles/trucks industries disclosed metrics on their greenhouse gas emissions than did companies in the insurance or retail industries. The researchers conclude that the analysis shows that for each social or environmental category, companies are agreeing on a few key metrics.

In July 2020, researchers at Harvard added a new resource, publishing their assessment of the environmental impact of 1,800 companies as measured by the Impact-Weighted Accounts Project. They find that nearly all companies in environmentally intensive industries such as airlines, paper and forest products, and electric utilities would lose more than a quarter of their earnings before interest, taxes, depreciation, and amortization if they were financially responsible for the environmental harm they create from their operations. In some industries, such as chemicals, apparel, and construction materials, the researchers find a significant correlation between greater environmental damage and lower stock-market valuations—tying their results to the effect on shareholder value.

Government and the law

In laying out his doctrine, Friedman made a sharp distinction between the role of business and the role of government. It’s the government’s function to identify social priorities
Friedman in the 21st century

Friedman freely acknowledged in his Times essay that executives may make decisions that are mutually beneficial to the business and to its stakeholders. He gave the example of a small-town company:

It may well be in the long-run interest of a corporation that is a major employer in a small community to devote resources to providing amenities to that community or to improving its government. That may make it easier to attract desirable employees, it may reduce the wage bill or lessen losses from pilferage and sabotage or have other worthwhile effects.

He argued, though, that ascribing those decisions to “social responsibility” was simply “a cloak for actions that are justified on other grounds.”

What’s wrong with applying a little marketing spin to self-serving corporate decisions? To Friedman, the effects of such disingenuous gloss couldn’t be more detrimental: “The use of the cloak of social responsibility, and the nonsense spoken in its name by influential and prestigious businessmen, does clearly harm the foundations of a free society,” he wrote.

His concern for free society, and how the notion of corporate social responsibility could undermine it, reflects the Cold War era in which he was writing. In September 1970, socialism still loomed as free markets’ most pernicious competitor, creating extraordinary political and military tension. In China, Mao Zedong was still chairman of the Chinese Communist Party; in Cuba, the missile crisis was still a fresh memory; in Vietnam, the US was still fighting a war to prevent Communism from expanding its influence. It was in this context that Friedman fretted that to suggest business had a social responsibility was to preach “unadulterated socialism.”

However, 30 years after the fall of the Berlin Wall, the menace of Communism is much diminished. “If the specter of global Communism stiffened Milton Friedman’s spine, and gave him good reason for being intellectually mulish, the shade has departed, and to suggest that it remains in any manner that remotely resembles the world Friedman knew is to trivialize the devastation it visited,” writes Booth’s John Paul Rollert in a 2019 essay for Chicago Booth Review. “Today, only a person committed to plugging his ears against the appeals of history would suggest that the threats to capitalism of Friedman’s day remain our own.”

Today, Rollert wrote, “the greatest threats to capitalism come from within.” The contemporary era is one of numerous systemic concerns—climate change, inequality, and global pandemics, to name a few—and the free-market system is often blamed for many of them. Engaging with them may not only be good for individual businesses, but for capitalism itself.

In 2018, Marc Benioff, the CEO of Salesforce, wrote an op-ed in the New York Times advocating for a proposed tax on big business in San Francisco, which would be used to help the city’s homeless population. “Companies can truly thrive only when our communities succeed as well,” he wrote. “The business of business is no longer merely business. Our obligation is not just to increase profits for shareholders.”

At a time of widespread crisis, companies may not have to choose between shareholders and the community. In the 21st century, enriching one may require boosting the other.—CBR

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The pandemic has permanently transformed the business landscape and placed extraordinary demands on senior business leaders. Disruptive forces are accelerating the way businesses innovate and operate. To thrive in 2021 and beyond, successful leaders need unparalleled leadership to drive growth from new possibilities while cultivating a sustainable future.

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The COVID-19 era has been an extraordinary time to be a policy maker. The pandemic has created a decision-making environment that is tremendously difficult to navigate—just look at the vast multitude of policies implemented by the globe’s various mayors, governors, members of parliament, presidents, and other local and national leaders. Faced with the same information, or lack thereof, these policy makers have come to many different, sometimes contrasting conclusions about how to confront the virus and its various effects on the health and well-being of their constituents.

Should businesses remain open or be forced to close? How about schools? Should borders be closed to international travelers? Should people be required to wear masks outside their homes? Under what circumstances should they be allowed to leave home at all? Policy questions such as these have been occupying politicians and other leaders for the past year. These issues have been difficult for a variety of reasons. One is the simple dearth of comparable experiences to draw upon for guidance. This certainly applies to the economic crisis induced by the pandemic, but also to the epidemiological side of it: even though we’ve had plenty of experience with various diseases, we’ve had to discover a number of specific details about this virus—how it’s most likely...
to spread, how contagious asymptomatic people really are, how long people remain contagious after developing symptoms—in a hurry.

This time pressure is another complicating factor for pandemic decisions, as policy makers have felt compelled to make quick judgments in hopes of stemming the spread of the virus before its growth becomes out of control. And they must make these decisions in complex political environments that are, in many cases, characterized by polarization and a lack of trust.

In such a context, there is no way for policy makers to guarantee they’re making the “right” decision in every case. But as someone who has devoted a great deal of study to uncertainty and how to cope with it, I believe there is a way to guarantee they’re making prudent, consistent, transparent, and logically defensible decisions. In a recently published paper, a group of coauthors and I argue that by using what decision theorists call decision rules, policy makers can establish a sound decision-making process that includes a framework for examining and evaluating their policy options. Policy makers at every level and of every political philosophy can use such rules to discipline their decision-making, even if they use them informally.

Managing models
An irony of policy making in the COVID-19 era is that despite a relative lack of data or comparable experiences for many of the decisions they have to make, leaders are still confronted with many different inputs to their decision processes, which they must try to balance. One type of input is expert opinion, often from experts in different disciplines—epidemiology but also economics and other social sciences, for example—and often not in full agreement. Another type of input is the competing predictions of various quantitative models, which, like the experts, reflect their own modeling assumptions and interpretations of the data that we do have.

Models are stylized renderings of reality that can help illuminate the channels by which alternative policies could alter socially relevant outcomes, and quantify the potential impact of these policies. They give policy makers a way to project the impacts of alternative policies, such as how a broad closure of businesses might affect viral spread, unemployment, and various other outcomes. By design, models are abstract and incomplete. Every model is, therefore, wrong to some degree.

Different models take different inputs and make different assumptions. They also can be used in different ways. They can provide best-guess estimates for the outcomes of a given policy, or they can elucidate the possible bad outcomes that might transpire. While both types of predictions are informative, it is important to distinguish the nature of the prediction.

Thus, quantitative models can be extremely useful for decision-making, even in cases of tremendous uncertainty, as long as they’re used properly—and that often means considering more than one for making assessments. There is the danger in policy contexts that leaders will find a single model that supports their preferred course of action. The model may thus give them unwarranted confidence in a particular policy path. Thomas Aquinas delivered the famous injunction to “beware the man of one book.” I like to issue the same warning about the policy maker of one model.

I think of each model as telling a story. Rational policy making requires understanding and acknowledging the limits to the credibility of any one model’s narrative, listening to the stories told by competing models, and using them to form a more complete understanding of the situation. Decision theory and decision rules can help discipline this conversation between models and decision makers.

Decision rules in practice
One way to reconcile the conflicting predictions made by various models would be to assign probabilities to each of them. A state governor could look at four projections and decide that Model A has a 50 percent chance of being accurate, Model B a 30 percent chance, and models C and D 10 percent each. She could then craft a policy that averages these various outcomes using weights commensurate with their probabilities.

The problem with this in the pandemic context is that policy makers will often have neither the information nor the expertise to make this kind of calculation. Assigning probabilities in anything other than an arbitrary way is quite difficult in a situation that offers so little information or precedent. While speculating about such probabilities might be a good starting point, it is wise to approach this with an open mind and to explore how sensitive policy evaluation is to the weights assigned to different
models. Decision rules allow leaders to balance their subjective judgments of the probabilities of various outcomes, and to acknowledge the limited information that underlies such judgments and then move forward in a way that incorporates this uncertainty. They can facilitate decisions that, as my coauthors and I put it, “remain valid for a wide range of futures and keep options open.”

Decision rules are meant to add clarity to the decision-making process and to avoid having the public speculate on future courses of action. A decision rule stipulates a course of action as a function of information that will be available at the time of the decision. Under what set of circumstances will particular businesses be allowed to return to normal? These circumstances could include the number of COVID-19 cases or the fraction of the population that has been vaccinated, or whatever other information is deemed to be of value to the decision makers.

There are many possible decision rules, and which one a policy maker uses is a matter of his own preferences and priorities, as well as those of his constituents. Economists like to think in terms of trade-offs. In effect, there is an uncertainty trade-off when using models to assess alternative policies. Policy could embrace the best-guess outcomes predicted by a model or focus on concerns about the possibility of bad outcomes. Decision theory offers a way to characterize this uncertainty trade-off.

In our paper, my coauthors and I demonstrate how different decision rules affect rational policy choices with the example of a school-closure decision. In our exercise, the hypothetical policy maker has to decide whether to close schools in order to stem the pandemic, and if so, for how long. She has three models to consider, all of which are based on different assumptions about how easily children may spread the virus. We consider four different decision rules that lead to four different conclusions about how to proceed, ranging from 10- to 20-week closures.

None of these policies are exclusively the “right” one—the policy maker chooses a decision rule that reflects her personal characteristics and those of her constituency, and the decision rule helps guide her toward a policy appropriate for those characteristics.

What the decision rules have in common is that they provide a way to organize the various contrasting opinions and predictions the policy maker must balance. And critically, they provide a transparent way to work through decisions that makes it possible to communicate to constituents how particular choices were made.

**Communication is key**

Trade-offs are an important concept in economics, and the trade-offs at play in the pandemic—between economic activity and viral transmission, or between fighting the virus and addressing other medical and emotional concerns, or any number of other sets of priorities—are often stark. In many cases, the pandemic will impose costs on society no matter what policies are chosen, so it’s important for policy makers to be able to express how they came to their decisions.

This doesn’t mean that they will or should make the specifics of their decision rules part of their routine communication with the public. But by using decision theory, even informally, to provide structure to their decision-making, they will likely make it easier to explain in an accessible way how they approached the difficult choices they had to make.

One important part of this communication will be acknowledging the role of uncertainty in the decision-making process. There is an urge, prevalent among both politicians and the experts who advise them, to overstate the certainty that underlies any particular course of action. It is driven by a broad perception that the public does not want politicians or policy makers to acknowledge the uncertainty inherent in predictions about the consequences of alternative courses of action. This often leads their advisors to exude excessive confidence in the outcomes of a particular policy when advocating for or against it.

But the public can recognize over-confidence. People see various experts delivering contrasting opinions with the same unflagging certainty and know that one or all must be wrong. They can review a track record of predictions and decisions made with seeming certainty that didn’t pan out. Over time, false certainty undermines trust in both experts and policy makers.

By incorporating uncertainty into their decision-making process—scrutinizing what they don’t know and factoring that into their choice of decision rules or evaluation of models—leaders can more effectively communicate with the public about the role that uncertainty played in determining their choices. It is an important part of being able to articulate, even to themselves, how they arrived at their decisions.

Those decisions may not always lead to the best outcomes as things play out. Decision theory and decision rules are tools to be used in the policy process; they don’t automate decision-making itself. Policy makers must still rely on experts to guide them on how to use models in a reliable way and how much confidence to place in alternative models when their policy implications differ. There is an unavoidable aspect of subjectivity when our understanding is incomplete and models do not have common quantitative predictions. Policy makers must also articulate their goals or preferences, including their aversion to uncertainty.

But in a pandemic context in which there is often a scarcity of data and an abundance of opinions, and in which policy makers are confronted with a variety of models pointing to sometimes diverging projections, decision rules provide a way to treat these various decision-making assets in a transparent and rational way. —CBR

**Over time, false certainty undermines trust in both experts and policy makers.**

Lars Peter Hansen is the David Rockefeller Distinguished Service Professor at the University of Chicago Departments of Economics and Statistics and at Chicago Booth. He was a 2013 recipient of the Nobel Prize in Economic Sciences.

With several vaccines for COVID-19 receiving an Emergency Use Authorization from the US Food and Drug Administration, one might be tempted to think, wishfully, that the period of uncertainty is ending and that things will soon be back to “business as usual.” However, as history indicates, the next crisis is in all probability just around the corner.

Crises have an uneven and asymmetric impact on companies, with some emerging as winners, some showing scars, and some even perishing. For example, the pandemic has hit physical outlets such as Gold’s Gym, 24 Hour Fitness, AMC Theatres, Factory Furniture Outlet, and Neiman Marcus harder than it has hit some of their competitors, particularly those that primarily operate online, including Amazon, Netflix, Peloton, and Wayfair.

Companies that win or even just survive often have, or have had, to pivot their business models to adapt to a new, changed environment. As we described in a previous article, pivoting is defined as a “structured course correction” of a business model. It essentially entails a deliberate shift in the main strategic components of the business model: the customer, the company, and the competition (the “3Cs”). (For more, read “Pivoting in a time of crisis,” in the Fall 2020 issue or online at Review.ChicagoBooth.edu.)

However, transforming organizations so that they’re able to respond quickly to a crisis cannot always be done when they’re already in the midst of one. An effective and rapid response needs planning, operating models, and capabilities that unlock accelerated innovation, particularly around a company’s “4Ps”: product, price, place (i.e., channels of distribution), and promotion. Organizations will be well served by closely examining where they are with these processes to ensure they are crisis ready. As Black Panther’s Shuri, arguably the smartest character in the Marvel Cinematic Universe, puts it, “Just because something works doesn’t mean it can’t be improved.”

Four ways to accelerate innovation

Learn from this crisis to be better prepared for the next one

Crises can lead to unpredictable and massive changes in demand for products. The demand for entire industries evaporated overnight during the early stages of the COVID-19 pandemic.
Crises can lead to unpredictable and massive changes in demand for products. The demand for entire industries—airline, cruise, and hotel among them—evaporated overnight during the early stages of the COVID-19 pandemic, while that for cleaning products, masks, and home delivery skyrocketed. This could be attributed to the aggregate short-term reaction of consumers to a changed environment. As the cloud of uncertainty cleared and initial panic eased, a new steady state emerged. As we can see in the data on Google searches for the terms vacation and disinfectant through 2020 in the chart above, vacation initially dropped and then picked up, while disinfectant moved decisively in the opposite direction.

Given the potential advantages that accrued to companies that were able to address consumers’ changing preferences, accelerating product development was particularly important for businesses in 2020. Making the product-development process more agile by training employees and developing technology to collect and analyze customer feedback quickly are two measures that companies took—and should continue to consider even more now to prepare for the future.

Tesla is a prime example of a company that managed to accelerate its product development. It uses an agile process, assembles teams of trained entrepreneurial and empowered staff, and equips those teams with technology such as core software architecture, a massive data repository, and automated testing platforms. The result is sub-two-year product-development cycles, versus cycles of four or more years at traditional automotive original equipment manufacturers. Chinese tech company Tencent developed and launched its QQ instant-messaging service rapidly back in 2009 by effectively assembling and training a highly cross-functional team that had all the core skills needed for the development and launch. Procter & Gamble took similar measures over the years to improve its processes, which enabled it, more recently, to launch Microban 24, a new disinfectant spray, just in time for the pandemic. While the product had been in the works for almost two years, these measures helped P&G fully capitalize on the spike in demand.
In times of economic uncertainty and crises such as the current pandemic, consumer confidence takes a tumble, which can lead to a decrease in overall household spending. Across categories, consumer willingness to pay (the maximum amount a consumer will pay for something) can change differentially both up and down, which in turn influences how those categories are affected.

As shown in the charts above, consumer confidence and spending dropped precipitously when COVID-19 hit. For services, spending is back up considerably but still not to the pre-pandemic levels, whereas spending on durable goods has in fact increased relative to pre-pandemic levels, possibly owing to work-from-home-driven spending by consumers. Given this scenario, pricing innovation assumes a greater significance for businesses striving to retain and attract new customers.

Developing an in-house pricing capability that is flexible across products, distribution channels, and customer segments is a no-regret move that companies can make now to prepare for the future. The enduring principle underlying pricing—that of recognizing and responding to the economic value that consumers obtain from a product or service—should continue to guide companies as they consider their responses. The launch of Tide Basic—to take another P&G example—was primarily a pricing move: to offer a “basic” version of the detergent so as to not lose customers whose willingness to pay had been affected by the Great Recession.

The current crisis has seen similar pricing innovations. In many cities, restaurants and hotels are teaming up to offer socially distanced experience, room, and food product bundles. One such bundle is a dining experience in a hotel room, a way for diners to enjoy a meal without others in close proximity, and its price includes food and two to three hours of a room rental. Such offerings have created a revenue stream for two of the hardest-hit industries in the pandemic while providing new sources of value for people craving a safe and quiet meal outside the house.

In another example of pricing innovation, financial-technology companies including Affirm, Afterpay, and Klarna Bank AB are seeing massive increases in valuations owing to increased use of their installment payment products. More and more customers purchasing goods from companies such as Bonobos, Dockers, Macy’s, and Peloton are availing themselves of interest-free installment options, in a bid to reduce how much they pay up front while still receiving the benefits of the product or service in question. Companies that have embraced such pricing schemes are therefore providing value by lowering the price of access to their products. We expect some of the behaviors consumers have developed during the crisis to continue even after it abates.
Innovation No. 3: Promotion

When businesses are buffeted by crises, the “what” and “how” of promotions need to keep pace with changes in the marketplace. In the apparel industry, homebound consumers swapped office wear for more casual attire, which created a challenge for retailers that needed to eliminate inventories of “mismatched” styles. As shown in the chart on the right, retail inventories of clothing and accessories skyrocketed in April. This prompted many in the industry to offer bigger discounts. While discounts might have been inevitable, a robust system for rapidly experimenting with and testing various promotional vehicles (discounts, BOGO offers, etc.) along with targeting consumers with the right communication vehicles (think emails, display advertising, and retargeting) can help minimize the potentially damaging effects of consumer expectations for lower prices in the future and the consequent discount death spiral.

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<thead>
<tr>
<th>Ratio of inventory to sales for US clothing and accessory stores</th>
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<tr>
<td>Number of months’ worth of inventory on hand relative to inventory sold for the month</td>
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<tr>
<td>20:1</td>
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Jan 2019 | Jan 2020

US Census Bureau, FRED, Federal Reserve Bank of St. Louis

Innovation No. 4: Place

Of the 4Ps, place may be the one that has stood out the most during this pandemic. As the chart on the right illustrates, e-commerce sales got a major boost in 2020, jumping from a 12 percent retail share to over 16 percent in a matter of months. For context, historically it has taken almost 20 months to achieve each additional 1 percent increase. Companies that were created online, or at least had a significant presence there, fared much better than their offline-only peers.

To prepare now for the future, a company could establish a presence across distribution channels and create playbooks that give it the ability to quickly make adjustments. Even in industries that have primarily been offline, companies should be exploring online distribution channels to fully capitalize on potential opportunities. Zara’s owner, Inditex, is relying heavily on its online business to make up for the loss of offline sales. Gucci, among a few other retailers, introduced augmented reality Snapchat filters that let users try on its products online when they could no longer go to a brick-and-mortar store. Retailers are also addressing the fall in impulse buys at physical stores by replicating the experience online and nudging buyers to keep it up. Walmart added a “last minute deals” page on its website that includes items such as toys and small appliances. Target put together a gift ideas section, and Bed Bath & Beyond curated collections to encourage buyers to purchase items complementary to what they have in their carts.

As Master Yoda put it in Star Wars: The Last Jedi, “The greatest teacher, failure is.” Not all these initiatives will work or pay off. Nevertheless, these various measures enable companies to respond to this crisis and can even help during normal times. And by carefully experimenting and evaluating with the tools available in their arsenals, companies will be better able to take on the next challenge, whenever that might arise.—CBR

Written with Yogesh Kansal and Pradeep Pachigolla. Pradeep K. Chintagunta is the Joseph T. and Bernice S. Lewis Distinguished Service Professor of Marketing at Chicago Booth. Yogesh Kansal is a project leader at Boston Consulting Group and a recent graduate of Chicago Booth’s MBA Program. Pradeep Pachigolla is a research assistant at Chicago Booth and a PhD student at Cornell.

Go to Review.ChicagoBooth.edu to see a complete list of citations for research mentioned in this essay.
Could the US raise $1 trillion by hiking capital gains rates?

The answer lies in more-transparent tax scorekeeping

Capital gains taxes are a perennial issue in US tax-reform debates. Some people maintain that preferential rates on capital gains encourage entrepreneurship and capital formation, while others question whether these benefits are worth the costs.

What are those costs, exactly? It’s clear in terms of direct fairness: the wealthiest 1 percent of US households accounted for two-thirds of capital gains realizations in the Federal Reserve’s 2019 Survey of Consumer Finances. However, the fiscal costs, which are estimated by the Joint Committee on Taxation, are far less clear. In the parlance of policymakers, the JCT is considered the official “scorekeeper” that decides how tax legislation “scores” if implemented. The prevailing wisdom in the taxation-scorekeeping community appears to be that the revenue-maximizing rate for capital gains is about 30 percent, which is well below both current top marginal tax rates on other income and top rates currently under debate. But in a simple exercise, we estimate that increasing capital gains rates to match the ordinary income level could raise more than $1 trillion over a decade. This illustrates the need to rethink scorekeeping in the debate.

The prototypical example of a capital gain is a share of corporate stock. An individual who bought an $18 share of Amazon when it went public could sell that share today and pay taxes on more than $3,100 of appreciation.

If the revenue-maximizing rate is 30 percent, setting a rate too far above this level will actually reduce the total amount of revenue collected, as the gains expected will fail to materialize because the dynamic response of taxpayers will dramatically shrink the tax base.

Such a response could take the form of an investor retiming a stock sale to avoid realizing a capital gain event. This certainly happens, but we suspect that in most instances the investor doesn’t avoid paying taxes on that gain entirely, just immediately. The tax is simply postponed, in which case these behavioral effects are overstated, resulting in a potentially severe underestimate of the revenue at play.

The current realization elasticity used by the JCT and others in the scorekeeping community is approximately -0.7, determined on the basis of both historical scores and more recent academic research. A crude application of this elasticity implies that if capital gains tax rates doubled (to match top ordinary income levels), only 53 percent of gains would be realized. In concrete terms, roughly $1 trillion of annual realizations would shrink to around $500 billion, and the rate hike would be scored as raising no new revenue.

However, this style of calculation neglects a material offsetting factor: medium-term retiming of realizations would offset lost revenues in the short run. Suppose that doubling capital gains rates from 20 percent to 40 percent causes realizations to occur half as often: instead of realizing gains every year, individuals realize them every two years. If assets grow at 10 percent annually, then in the low-tax regime, $100 of assets yields realizations of $10 in Year 1 and $10.80 in Year 2 (after the individual pays $2 of tax in Year 1). In the high-tax regime, $100 of assets yields realizations of $0 in Year 1 and $21 in Year 2. Despite the appearance in Year 1 of a large elasticity of realizations in response to the tax increase, total revenues over both years increase from $4.16 in the low-tax regime to $8.40 in the high-tax regime. In this simple example, without other behavioral responses, the short-term revenue score is zero, and the
medium-term revenue score is double the baseline. Clearly, the latter score is more relevant for policy purposes.

There are also other indications that conventional elasticities may be overstated. For example, the composition of capital gains has shifted in recent years, so that nearly half of capital gains now accrue through pass-through and mutual-fund distributions outside of the direct control of taxpayers. It is unclear whether scorekeeping models account for compositional changes and dynamic weights.

This matters because it’s one thing to time a stock sale, but it’s harder to time pass-through gains, such as those produced by the growth of carried-interest compensation offered to general partners of hedge funds and venture-capital and private-equity firms. Partnership agreements typically require funds to be returned within 10–12 years of the initial commitment. Investors in these structures cannot time realization decisions around favorable tax environments, nor can they typically defer their gains indefinitely. It seems plausible that 30–50 percent of capital gains cannot be easily timed in response to tax changes, and if that’s the case, no matter how large the easily timed elasticity is, doubling rates to top ordinary income levels will still raise substantial revenues.

Consider, also, a few examples of how changes in the capital gains tax might affect other tax bases. Preferential tax treatment encourages avoidance in the form of misclassification of wage income for fund managers through the carried-interest loophole. Similarly, the tax code favors employee stock options, which, when held for long enough, qualify for capital gains taxation. The different treatment of capital gains and dividends affects the relative attractiveness of distributing corporate profits via share buybacks versus dividends. And capital gains tax preferences can affect the allocation of capital across industries and locations, due to sheltering opportunities such as like-kind exchanges in real estate and oil and gas, investments in Opportunity Zones, and incomplete recapture of depreciation deductions following asset sales. Reform capital gains taxation, and you thus also reduce wasteful effort by taxpayers and their planners to devote resources to circumventing tax liabilities by exploiting preferential capital gains rates and sheltering opportunities.

Some have argued that lower capital gains rates promote investment, but this case appears overstated. Among other reasons, it is hard to imagine entrepreneurs making decisions about investment and risk on the basis of the capital gains tax regime: Mark Zuckerberg was not focusing on the capital gains tax when he was in his dorm room coding up Facebook.

Given the magnitudes at stake, scorekeeping procedures employed in evaluating capital gains should be made more transparent and the subject of external professional debate and review. This transparency would facilitate discussion between professional scorekeepers and outside experts about the extent to which models can be improved and new data collected. It would also facilitate the comparison of estimates across a broader set of proposals and help ensure that consistent scorekeeping practices are applied.

Transparency is a double-edged sword. Given the importance of official scores to legislative decision-making, releasing the assumptions underlying scorekeepers’ estimations to the public would invite greater lobbying around those assumptions by supporters and critics of different reforms. Our proposal is not to open the floodgates with respect to scorekeeping writ large. A natural structure is in place: the Congressional Budget Office already has a panel of advisors who provide input on economic issues. This group or a related subgroup of experts can be convened to advise the JCT, as well as the CBO and the Treasury’s Office of Tax Analysis. It would be important for diverse views to be represented in this body, and it would be valuable to work with the full set of scorekeepers to select a panel of people who are thoughtful and likely to be taken seriously by the revenue-estimating community. Short of such a formal gathering, promoting informal conversations and collaborations between scorekeepers and academics would facilitate advancing the research frontier in the most useful directions.

Our call to action is born from a position of enormous respect and admiration for the integrity and seriousness of the scorekeepers. The ultimate goal is to continue to advance our understanding of taxpayer behavior and the revenue potential of capital gains and other tax-reform efforts to inform the policy-making process.

—CBR

This essay is adapted from a January 2021 working paper, “Rethinking How We Score Capital Gains Reform,” by Natasha Sarin, Lawrence H. Summers, Owen M. Zidar, and Eric Zwick. Natasha Sarin is assistant professor of law at the University of Pennsylvania. Lawrence H. Summers is the Charles W. Eliot University Professor and president emeritus at Harvard University, and served as the 71st secretary of the US Treasury and the director of the National Economic Council. Owen M. Zidar is professor of economics and public affairs at Princeton. Eric Zwick is associate professor of finance and a Fama Faculty Fellow at Chicago Booth.
Women and minority investors are taking matters into their own hands

The VC industry continues to pay lip service to diversity

Several recent studies point out that the COVID-19 pandemic is taking a greater toll on women in the workforce than on men. In this respect, the startup world is no different. A December 2020 headline from Crunchbase News tells the story: “Global VC funding to female founders dropped dramatically this year.” This in the same time frame during which global VC investments grew 15 percent year over year, to $259 billion, and US investments reached an all-time high of $130 billion, according to a PwC and CB Insights report.

When I last wrote about female founders and how much venture capital they received versus male founders (“What venture capitalists can learn from ‘racist’ rats,” in the Winter 2017 issue or online at Review.ChicagoBooth.edu), women-only teams were getting a paltry 2.6 percent of the VC dollars, while all-male teams took home 87 percent. I wondered: How much lower could it go?

Digging into the data, I learned that investment in female-only founding teams hit a high-water mark in 2019—of 3.4 percent of VC dollars, before falling to 2.4 percent in 2020. Funding to mixed-gendered founding teams dropped from 13 percent in 2017 to 9 percent in 2020, which still leaves an astounding 87 percent of funding going to all-male founding teams.

VCs invest in people who look like themselves, and data indicate that they do this even though it hurts portfolio performance. Research by Harvard’s Paul Gompers and Silpa Kovvali finds that VCs that increased their proportion of female-partner hires by 10 percent saw, on average, a 1.5 percent improvement in annual fund returns and a nearly 10 percent increase in profitable exits.

Nevertheless, women appear to have made little to no progress in venture capital in the past four years, despite the persistence in the industry of the buzzword diversity. According to research conducted by Deloitte, the National Venture Capital Association, and Venture Forward this past March, the number of venture firms with diversity initiatives increased from 24 percent in 2016 to 43 percent in 2020. Forty-one percent of the VCs interviewed reported that their limited partners—the high-net-worth individuals, pension funds, family offices, corporate investment arms, and other institutions that supply the capital that VC funds invest—now asked about their diversity strategies.

The same report indicates that women currently make up 23 percent of investment professionals and 16 percent of the partners at venture firms, up from 9 percent of partners 20 years ago—although research from Women in VC, a global community of women venture investors, suggests that the
actual percentage of female VC partners may be much lower, finding that just shy of 5 percent of VC partners are women. Why haven’t these initiatives and new cohorts of women investors affected the funding going to female founders?

Maybe they have, just in a surprising way, producing results yet to be seen in the data.

‘Sisters are doin’ it for themselves’
In response to this situation, many women appear to be going out on their own. As the Eurythmics song goes, “Sisters are doin’ it for themselves.” Some 140 new women-led investment funds launched in the past four years, more than doubling the number that existed before 2017, according to the Women in VC report. Half of the women partners in the survey said they had started their own firm. These emerging managers, as the VC industry calls new fund managers, are investing from small first funds and are heavily focused on seed- and early-stage deals.

In March 2021, I had a chance to engage with a dozen of these women to find out what motivated their decisions to start their own venture firms. Most are fairly new to the game, having launched their funds in 2020 or 2021, with the oldest firm dating to 2015. All but one of the women are focused on seed- and early-stage investing. A third are investing from small funds, with less than $10 million, but two of them are on a second or third fund with assets

Building up their own funds
While the venture-capital industry as a whole has made poor headway in terms of leadership diversity over the past decade, the number of funds started by women or by Black or Latinx founders has risen considerably.

275 VC funds led by women
By time of formation

55 VC funds with Black or Latinx founders
By time of formation

Deutsch, 2021; Women in VC, 2020
under management of $21 million to $50 million. The remainder manage funds that have $10 million–$20 million. These women have invested in 174 portfolio companies so far, and several have seen successful exits, with one reporting that her fund had already invested in two unicorns (private companies with valuations of over $1 billion). Despite the fact that only three of the investors have a gender-specific investment thesis, 64 percent of the startups in this portfolio group have a female founder, and 18 percent have an underrepresented minority (Black, Latinx, or indigenous) founder. All told, their aggregate portfolio shows a very different profile from the traditional VC industry.

Two-thirds of these investors considered joining an existing VC firm before launching their own funds, but chose to go it on their own for a variety of reasons. Nearly half mentioned wanting to build their own company and be the decision maker rather than join someone else’s firm and have less say in the investment thesis or process. Others were aware that they had nontraditional backgrounds that would not get them in the door at most VC firms. Even when women have a more typical VC résumé, it is difficult for them to be seen in the same light as male candidates. For example, one woman who had experience in commercial banking and several years of corporate venture investing was asked by a company where she interviewed if she would consider an investor-relations job instead of one on the investment team.

All of the women I spoke with expressed how difficult it is to raise money for their funds. Their early LPs tended to be high-net-worth individuals. In one case, several early investors were successful founders the woman had worked with at previous venture funds, and they wanted to back her when she went out on her own. Another was financed by a single LP, a family office with a mission of supporting women entrepreneurs. One woman told me that raising her first fund required more than 1,000 conversations. Many said that LPs (especially larger foundations, corporate investors, and pension funds) frequently commented that the women’s funds were too small and didn’t have enough of a track record, and two stressed that most institutional investors won’t look at emerging female VCs unless they have been partners at large, top VC firms.

When it comes to gender diversity, inertia seems to be the strongest force in this industry.

The impact of emerging managers

What has this surge of new women-led VC funds meant for female entrepreneurs? Despite a 25 percent decline in overall funding to women-only startup teams, the number of deals done declined by only 18 percent. With more women creating venture funds to encourage female entrepreneurs at the earliest stages of their journeys, more deals are being done at the top of the funnel—the earliest startup stages—where the amount of capital deployed is the smallest. But that early financing can make all the difference between hitting key milestones and failing to launch.

The female investors I interviewed said they had no trouble finding good deals. Their diverse paths to venture capital gave them strong networks that were different from their male counterparts’, plus the female entrepreneurs they were meeting had a lot of difficulty getting in front of the guys. At the same time, a couple of them noted that once female entrepreneurs had achieved significant milestones in their businesses, it was too late for their own small funds to get into the round. The guys had taken notice of these successful companies and priced the young funds out of the deal. Anecdotally, this implies that if women-led VCs can nurture more female entrepreneurs through the early funding desert, more women-led companies will attract conventional growth-stage capital successfully. Of course, this remains to be seen.

Women aren’t the only group of investors taking the issue of diversity into their own hands. Harlem Capital Partners, a Black-owned VC firm founded in 2015, conducted research to identify Black and Latinx venture capitalists, a rare breed that together account for only 7 percent of venture partners. Their report identifies 200 investors, of whom half are at the partner level in their funds. Unsurprisingly, 80 percent of the partners are at funds they themselves started, and from what I see, most of these funds have been created in the past decade. I was able to identify 55 Black- or Latinx-founded VC firms, all but 10 founded since 2010.

Can we get beyond diversity lip service?

When it comes to gender diversity, inertia seems to be the strongest force in this industry. According to the VC Diversity Index from the tech news site the Information, 41 of the 102 largest
VC companies have zero women partners. The situation is even worse for underrepresented minority investors, as only 16 of those largest 102 companies have one or more Black or Latinx partners. The Deloitte report indicates an increase in female investment professionals over the past four years, but if the majority of the new underrepresented minority and women investment partners are self-made, are establishment VCs changing at all? The report also showcases the lack of change in the number of Black investment professionals, at 3 percent, and the decrease in Latinx investors, from 5 percent in 2018 to 4 percent in 2020.

Some large LP investors have created emerging-manager programs and dedicated to them a small portion of their overall investment capital. However, considering that they often define emerging manager as any VC firm with fewer than three funds under its belt, they are still looking for a new VC firm to have a significant track record before they will consider an investment. And as several of the women I interviewed pointed out, when female and minority managers are shunted off to the emerging-manager program, they are kept away from the decision makers who write the biggest checks.

These programs can also hide bias in how asset allocators evaluate emerging managers. Many LPs anticipate lower returns from these so-called emerging investments, perceiving them as riskier than allocations to established funds, even though first funds are more likely to see 25 percent or higher returns than later funds. Further, a group of researchers from Stanford and Illumen Capital modeled profiles of emerging managers raising their third venture fund, demonstrating that asset managers don’t perceive white and Black fund managers the same way. When submitting fictitious profiles to asset allocators for evaluation, they altered only the race of the managing partner. Profiles of successful funds, indicated by previous fund returns, the number of exits, and partner credentials, were given lower ratings on fund performance, investor skills, overall competence, social fit, expectations of how much the team would be able to raise, and likeliness that managers would take a meeting with the team when the managing partner was Black, the researchers found.

Is technology the diversity silver bullet?

As I was conducting this research, I came across an interesting early-stage VC firm out of Covington, Kentucky, called Connetic Ventures that is taking a different approach. Connetic was founded by Brad Zapp, a white man whose thesis was to let technology do all the prescreening for the fund’s deals. He and his team built an artificial-intelligence engine they named Wendal, embedded in it the deal characteristics they believed would lead to good investment opportunities, and trained the engine on data from 100 companies where the outcomes of success or failure were known.

Wendal has been refined with data from 3,000 startups over the past four years, and the results are fascinating: 52 percent of the startups that Wendal has recommended for further due diligence have either a female or nonwhite founder. Gender and ethnicity are not variables that the algorithm considers, so Connetic discovered this statistic when they analyzed Wendal’s results. It turns out that Wendal recommends female and nonwhite founders at about the same proportion that those founders apply to Connetic and go through their screening process, which counters the myth that there aren’t enough good female and minority entrepreneurs for VCs to fund. Connetic’s portfolio reflects this diversity, with 36 percent of its companies led by female CEOs, and 18 percent by people of color.

Connetic isn’t the only venture capitalist trying this approach. San Francisco–based SignalFire and EQT Ventures out of Stockholm have also built A.I. engines that are directing parts of their investment process. Technology research firm Gartner predicts that three-quarters of VCs will be using A.I. to make at least some of their investment decisions by 2025. If Gartner is correct, it appears that—the established industry’s lip service to diversity notwithstanding—a truly diverse startup ecosystem is now developing in the hands of women, minorities, and A.I. Take note of that, entrepreneurs. So much for the old boy network. —CBR

A truly diverse startup ecosystem is now developing in the hands of women, minorities, and A.I.

Waverly Deutsch is clinical professor at Chicago Booth.
Dealer's special: The problem of a fair price

Should a buyer's identity affect what she pays?

What is a fair price? Taken in isolation, this is a question that can seem either maddeningly obvious or obviously mad—it all depends on one's commitment to equality.

What do I mean by this? Consider the following thought experiment.

Let's say you purchase a car for $2,000. You lovingly care for it for two years, and at the end of those two years, you sell it for $2,500. No one is coerced into buying the car, and you make no fraudulent representations of its condition. Is $2,500 a fair price?

Make a note of your answer. Now, let's change things slightly. Let's say you purchase a car for $2,000. You lovingly care for it for two years, and at the end of those two years, you sell it for $2,500. No one is coerced into buying the car, and you make no fraudulent representations of its condition. This time, however, the buyer is your sister. Is $2,500 a fair price?

When I present these possibilities to my students, I ask them to raise their hands if they have no objections to selling the car for $2,500.

In my fall class, 37 students raised their hands in the first instance; eight did not. In the second instance, the numbers flipped. When the bargain was struck with one's sister, eight students had no objections to the $2,500 price tag, while 37 resisted.

I then tell them this is not merely a philosophical dilemma but the makings of family drama.

When I was 16, I bought my first car, a 1986 Saab 900S. For eight years, the silver-gray sedan had been owned and meticulously cared for by a family friend. When he decided to part with it, he offered to sell it to me for a steal, just $2,000. To this day, the kindness of the gesture still leaves me a little misty-eyed. The car had a moon roof, automatic windows, and plush, plum-colored seats. I'm a little biased, of course, but at the rural, Midwestern high school I attended, it was the coolest car in the parking lot, a Scandinavian swan in a sea of boxy American afterthoughts. For two years, I spent every penny I earned maintaining it—and working for $4.25 an hour, I didn't have many pennies to go around. But my adolescent penury made for something of a sorry choice when I finally left home for college. The Saab was the most valuable thing I owned—heck, it was the only thing of value I owned—and I could afford neither to take it with me nor to leave it waiting for me at home. I had to sell it. My baby. My beloved Saab.

I did, however, have an interested buyer immediately available to me, my middle sister, Alexis, two years my junior. She needed a car, and a splendid one in spotless condition happened to be sitting in the driveway.

But what should I sell it to her for? I decided to ask the person who seemed like an authority on such matters, the mechanic recommended to me by the previous owner. Having collected nearly all of my pennies for two full years, he knew the car's condition better than anyone else: What would a fair price be? The mechanic said $2,500. That would be a fair price, perhaps even a little generous.

I had only one thought: sold!

Now, of course, $2,500 is $500 more than I paid for the car, a detail that I was morally unperturbed by but one that made for something of a sensitive matter in the Rollert household. For my Eagle
Scout father, the very idea that I would contemplate selling my car at a profit to my little sister was irrefutable evidence of my moral corruption as well as his failures as a parent. My mother was more ambivalent. She was hardly thrilled by the bargain, but in her view, the car was mine, and I had worked hard to maintain it, so especially since the money would be going toward schoolbooks, she was willing to hold her nose while a deal was struck right under it.

When I invite students to the proverbial dinner table for this debate, most often their initial verdicts begin to wobble. If, before I share my story, the overwhelming majority of students treat it as axiomatic that Thou Shalt Not Profit off Thy Sister, when they consider the fact that $500 was hardly a trifling amount to me at the time, their sympathies begin to tip in my favor. Yes, I could have given my sister a $500 break and sold her the car for $2,000, but I didn’t have to sell it to her, and with my $4.25/hr. wages, we’re talking about a gift that was the equivalent of more than 100 hours of labor. A brother should be kind to his sister, but couldn’t he just send her flowers?

For other students, the fact that the car had the quality of a gift built into the original purchase price meant that I shouldn’t profit from the sale at all. It’s odious to capitalize on a kindness, they say. The family friend hadn’t done me a favor simply for me to pawn it. Rather than monetize the gift, I should “pay it forward.”

These aren’t the only observations that trouble the moral certainty of students. Some note that, even if $2,500 was a fair price, since my sister saved me the hassle of advertising the car, she deserved some consideration. Others contend that, however valuable the $500 cash was to me at the time, it had to be weighed against the long-term opportunity for reprisal. I might have a few more bucks in my pocket at the beginning of college, but for decades to come, Thanksgiving would be hell.

It should be noted that such moral indecision and prudential hairsplitting tend to baffle one outlying group in my classes, the equalitarians. For them, the answer to the fair price question is simple and straightforward: whatever the market will bear.

Now, when they offer this response, these students are typically providing a mechanical answer rather than a moral one. They know from their microeconomics classes that the price for a good in a free market is determined by whatever a buyer is willing to pay for it. But to say as much is merely to explain an economic phenomenon; it doesn’t articulate a moral commitment.

Which is not to say that it can’t be one. Indeed, whether they are aware of it or not, when my students make such a declaration, they are actually committing themselves to the principle of equality. When business affairs are pursued with the untroubled logic of a utility maximizer, they involve neither friend nor foe but merely agents who lack any distinctive elements of individual identity and the moral claims they make.

For Milton Friedman, this essential fact about capitalism was a cause for celebration, as it made the system an engine of antidiscrimination. “No one who buys bread knows whether the wheat from which it is made was grown by a Communist or a Republican, by a constitutionalist or a Fascist, or, for that matter, by a Negro or a white,” he wrote in Capitalism and Freedom, his 1962 book on political economy. He went on:

*This illustrates how an impersonal market separates economic activities from political views and protects men from being discriminated against in their economic activities for reasons that are irrelevant to their productivity—whether these reasons are associated with their views or their color.*

Or their consanguinity. The fact of a family member should not matter in the marketplace. Homo economicus is not merely blind to color or politics but to any trait—cultural, lineal, or biological—that might distinguish us. Whether it is Stalin, Cousin Glen, or the Lord God Almighty, everyone is treated equally.

Now, of course, principled commitments to certain types of equality can obscure and even undermine other conceptions. Set aside the uncomfortable fact that until every element of commercial creation is superintended by enlightened automatons, discrimination of all sorts will inevitably infect capitalism, in ways both structural and familiar. The equality Friedman highlights is equal treatment of buyers in the marketplace, the moral scope of which recalls Anatole France’s famous quip about equal treatment before the law: “In its majestic equality, the law forbids rich and poor alike to sleep...
under bridges, beg in the streets, and steal loaves of bread.” Friedman’s commitment to equality celebrates that Oprah and I can both purchase a 16th-century Swiss château while being conspicuously silent about the fact that until academics enjoy wages commensurate with celebrated talk-show hosts, only one of us will ever have cause to take up yodeling.

For most people, the trade-off between maximum aggregate utility and inequitable purchasing power makes for a serious moral conundrum, but not for members of the equality cohort. To their mind, offering my sister a break when she is perfectly willing to pay full price is an offense to the enlightened requirements of Pareto efficiency. Because of my misguided beneficence, $500 in value tragically dissolves from the communal ledger. She doesn’t win—we all lose.

Now, it is important to note that the equalitarians in class are actually two sects, entirely at odds with each other intellectually. Both groups are in complete agreement that my sister deserves no special consideration when it comes to the sale price of my Saab. But while that belief leads the Pareto party to conclude that I should unapologetically charge her $2,500, the other holds that I should charge her $2,000 because I should charge any person only that amount.

I am inclined to call this second group All God’s Children, for they marry a suspicion of profit taking on a gift-inscribed good with the belief that people shouldn’t be given an absolute right to exercise disparities in purchasing power. For them, a fair price is a single price offered to everyone, one that is determined apart from the relative ability of people to pay.

It is worth noting that this group challenges the moral instinct of the vast majority of my students—that it is wrong to profit off a sibling—and counters that, in fact, it would be wrong to extend my sister a benefit that I wouldn’t extend to anyone else. Indeed, they ask, why is it so magnanimous of me to give my sister a $500 break but not some nice old lady who replies to a want ad? She could certainly use the $500, couldn’t she? And, in respect to moral commendation, isn’t it more laudable that I offer a benefit to some anonymous person from whom I stand to gain nothing than to my sister, whose consideration I stand to profit by in myriad ways for the rest of our lives?

Moral reasoning is an exhausting and at times enraging endeavor, and it can lead one to long for the certainty the equalitarian camps propose with respect to fairness in the marketplace.

The approach of this group—smaller in my classes than the other sect of equalitarians but buoyed by the same sense of righteous certainty—recalls a precapitalist vision of what constitutes a fair price, a commercial sensibility inspired by medieval Christian theology. For those in the thrall of this vision, the ability to pay is never regarded as the obvious answer to what constitutes a fair price. On the contrary, such a suggestion smacks of iniquity, as it seems to excuse price gouging and other predatory practices that strengthen the hand of the rich at the expense of the poor and vulnerable.

Whatever one makes of such an approach to the fair-price problem, the difficulty for this second group is something of a photographic negative to the Pareto party, who start with a mechanical certainty about how prices are to be determined, which they then patinate with moral principle. All God’s Children, meanwhile, begin with the conviction that Every Buyer Must Be Treated Fairly! and then stumble when it comes to determining a price consistent with this principle.

Again, consider my Saab. Even for one moved by such a benevolent mandate, why is $2,000 necessarily a fair price? Clearly, for All God’s Children, there is a firm conviction that I could offer everyone the car at too high a price. But could there be good reason for me to go lower than the price I bought the car for? How about the fact that automobiles are typically depreciating assets? Fairly speaking, after two years of use, shouldn’t the value I hope to collect from a buyer for the car be less than what I paid for it? Or what if we change the circumstances of the story and say that, by the time I come to sell the Saab, I’ve won the Powerball. I’m rich. Is $2,000 still a fair price when I could clearly take less and have my life be unaffected?

It bears repeating that both of these camps are outliers in my business ethics classes. Uncertainty, or at least open-mindedness, characterize most of my students’ responses any time I’ve conducted this thought experiment. The requirements of fairness are far less fixed for them, just as they are for their teacher, who wonders whether his own ambivalence about the hard bargain he struck years ago has more to do with moral enlightenment or a newfound measure of financial stability.

Moral reasoning—and what is a debate over fairness, if not that—invites not only a scrupulous attention to various details (intentions and possible outcomes as well as biographical minutiae) but also a debate over how much weight these peculiarities should be granted. It is an exhausting and at times enraging endeavor, and it can lead one to long for the certainty the equalitarian camps propose with respect to fairness in the marketplace. The central question is whether the certainty they offer is indeed a penetrating insight into moral affairs or the self-assuredness of an ideologue, who swings his mighty hammer, always expecting to find nails.

John Paul Rollert is adjunct associate professor of behavioral science at Chicago Booth.
THE GRUMPY ECONOMIST  
JOHN H. COCHRANE

Why we should free the market for public toilets

America’s dearth of public restrooms reveals a regulatory failure

Why are there so few public toilets in America? Many of us have had occasion to ponder this pressing—often quite pressing—question, and in March, Nicholas Kristof and the New York Times did as well. Kristof calls for a federal infrastructure plan to fix the problem: “Sure, we need investments to rebuild bridges, highways and, yes, electrical grids, but perhaps America’s most disgraceful infrastructure failing is its lack of public toilets.”

Now, put on your economist hat. Or even put on your reporter hat. Ask the question, why are there no public toilets in America?

I hope that didn’t take too long. Answer: because it’s illegal to charge for toilets. There were once abundant public toilets in America, as there are in many other countries. And you paid a small fee to use them. Why does the law now forbid pay toilets?

This answer, too, is not hard to find. I googled “pay toilets illegal,” and the first three results—particularly Aaron Gordon’s article for Pacific Standard—gave me the answer. Nineteen sixties activists demanded that bathrooms be declared free, bemoaning inequities in who needs to use toilets more. They achieved the inevitable result: no toilets for anyone. (Interestingly, many pay toilets were introduced by railroads, which first tried to give access only to customers and employees, but then learned they could make money allowing everyone to use them.)

But you have to ask the question! The absence of pay toilets is a delightful microcosm of so much that is wrong with American economic policy these days. Activists decide free toilets are a human right, and successfully campaign to ban pay toilets. For a while, existing toilets are free. Within months, upkeep is ignored, attendants disappear, and the toilets become disgusting, dysfunctional, and dangerous. Within a few years, there are no toilets at all. Fast-forward, and we have a resurgence of medieval diseases that come from people relieving themselves al fresco.

You might ask: What about people who can’t afford to pay? One of the top 10 principles of economics is, Don’t silence prices in order to transfer incomes. That dictum is particularly salient here because we’re literally talking about quarters. Let’s add:—especially to transfer ludicrously small amounts of income. Is it really wise to silence the incentive to create, provide, and maintain clean, safe toilets in order to transfer a few dollars of income to the less fortunate?

Maybe, you say. But look how well requiring toilets to be free has worked out. Before, a person experiencing homelessness had to beg for a nickel to use a toilet. Now there are no toilets. They are worse off than if we had pay toilets and them, no money. And, really, does the government have to interfere in a business’s desire to provide a clean restroom and make a little money, and your and my desire to pay a small fee to relieve a bursting bladder, because of the problem of transferring a few dollars’ income?

If you really must have the transfer, the answer is simple enough. Let us add
to the next stimulus bill $5 per month for every resident of the United States to compensate them for the cost of using public toilets. Oh, you worry they’ll spend that on something else? Well, we could talk about paternalism, but let’s just cut to the chase and distribute tokens or bus pass-style cards.

Kristof would prefer a national infrastructure project to provide free toilets. If you’ve followed this over the years, you will have seen many efforts at government-provided toilets. Costs are often in the hundreds of thousands of dollars, and the efforts still frequently fall apart. There are some free toilets. The Chicago Park District still has some, but without the incentives created by the ability to charge a bit of money, they were typically disgusting and dangerous when I encountered them. San Francisco ran a three-month pilot in 2019 to keep three public toilets open all night, at a cost of $28.50 per flush. As with the unbuilt $80 billion high-speed train to nowhere, the problems of public infrastructure in the US are not money.

Next, of course, public toilets must be built to standards, certified, regulated, inspected, licensed to ensure quality, and subject to zoning, environmental impact, design, and historic preservation review. Hmm.

We face the inexorable tragedy of government-provided goods. Toilets, like everything else in life, come in gradations. There is a trade-off between various grades of clean versus cheap. Not everyone wants the same thing. Some might want $28.50 trips to beautiful refreshment stops. Some might be willing to put up with a bit of smell and grunginess if it only costs a quarter. No public allocation can bring itself to admit that gradations in quality versus cost are desirable. Toilet inequity! That’s where we started. We get nothing at immense cost.

The ban on pay toilets is only part of the problem. As a bit of research or basic common sense make clear, the key to clean, safe bathrooms is attendants. Real, human attendants.

Like so many problems in the US, this one can be solved with one simple policy: get out of the way. Allow businesses to build, maintain, and charge for toilets. Allow people to pay for a service so dearly needed. If we can’t free a market for a service that literally costs 25 cents, heaven help the rest of the economy.

Indeed, a good place to start would simply be to let restaurants, bars, gas stations, or retail stores charge for the restrooms they have now. The current system (legal or no), that you have to buy something to use the restroom, dramatically raises the price—now you need to buy $10 of something you don’t want instead of paying 25 cents for the thing you do want. And most stores just don’t let people use restrooms at all.

I keep waiting for America’s libertarian moment. We’ll know it has arrived when pay toilets return.

This is not a fun job. It is well suited to new immigrants, especially those who don’t speak English, are not well attuned to American culture, and have little education or training. We have quite a few of such people, and they need the work. But now ask, what will happen if the attendants must be regular employees, paid $15 an hour, with an eight-hour schedule, rest breaks, health insurance, a retirement plan, overtime, e-verified immigration status, and the full complement of US labor regulation? How will it work if in addition they are unionized government employees? Staffing costs are pretty much how San Francisco got to $28.50 per flush. Doesn’t everyone deserve such a decent job, you say? Indeed they do. Everyone deserves $50 an hour. But at $28.50 per flush, you won’t have pay toilets. And the immigrants will not have any jobs at all.

Like so many problems in the US, this one can be solved with one simple policy: get out of the way. Allow businesses to build, maintain, and charge for toilets. Allow people to pay for a service so dearly needed. If we can’t free a market for a service that literally costs 25 cents, heaven help the rest of the economy.

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**John H. Cochrane** is a senior fellow of the Hoover Institution at Stanford University and distinguished senior fellow at Chicago Booth. This essay is adapted from a post on his blog, The Grumpy Economist.
A lot of companies make mistakes when they use A.I. to build a bell-and-whistle that’s adjunct to their product that might just be gratuitous or fun to use, but doesn’t help grow the business because it’s not in line with the mission and it’s not keeping the customer in mind.

Buluswar: In our world, where we traverse digital and physical, it’s critical that the conversation we have with our customers is consistent, regardless of whether it’s in a physical branch, with a call center, on a mobile app, or online. There are three areas we’re focused on: prediction using advanced analytics, primary research to understand the customer’s choices, and robust experiments to create an industrialized test-and-learn environment.

Historically, in large organizations such as ours, when you interacted with a call center, a branch, an ATM, or a digital channel, those data remained in that silo. We’re in the throes of stitching that across channels with three goals in mind: to be able to predict and preempt customer-service issues, to delight customers in ways they might not have imagined, and to understand their financial needs. Data is at the core of developing this cross-channel, cross-product customer intelligence.

How have you used A.I. to make a positive social impact?

Sullivan-Cross: One of the products we launched about a year ago is Inclusive Beauty, a skin-tone search feature that uses machine vision to sort pins. The users trigger it initially. We’ve given them the option to refine their searches on the basis of skin tone. Once they do that, we learn from them that this is what they’re interested in, and we’re able to serve up an experience in content for them that’s more in line with what they’re looking for.

Buluswar: There’s two aspects. One is being able to tap into a wider range of data, in addition to the traditional credit reports, to understand customer behavior and customer risk at deeper...
levels and in more dynamic ways. Historically, banks relied on credit reports. They’re valuable to a point, but are limiting in that they can be static and retrospective—and we have a vast underbanked population. We’ve invested in Perch, a startup that looks at alternative data, such as cell-phone payments and rent, to understand credit risk and creditworthiness better.

Another opportunity is engaging with prospective and current customers to preempt adverse situations. For example, we’re looking for patterns, such as whether customers pay their utility bills on a certain date, to know whether they’ve got enough of a balance in their account to avoid an insufficient-funds situation.

**Misra:** There’s a massive opportunity for using A.I. and targeted marketing in the public sector. Some time ago, we started thinking about taking some of the tools we had developed here at Booth and using them to do good. One project I worked on was with SNAP, the [US] food-stamp program. Even during the pandemic, people who are eligible and have qualified for SNAP have had to refile a form after six months to continue to be eligible. If they don’t fill out the form, they lose their food stamps, but about 80 percent of people fail to fill out the form and thereby lose their benefits.

From a marketing perspective, we view this as a churn problem. In collaboration with Code for America, we ran an experiment using deep learning to identify what elements of a message resonated with particular participants. We used algorithms to create what [Booth’s] Richard Thaler would call “nudges” that are personalized with language that resonates with the participant, and we managed to get a 20 percent bump in the number of people filling out the form.

There’s a view that sees personalization as necessarily a bad thing, a form of exploiting customers. The most interesting thing I’ve learned is that not personalizing has a massive social cost. In the context of social programs, which traditionally have one message that goes out to everybody, the people who respond are typically the better off, while those who don’t respond tend to have lower incomes and poorer living conditions. But once you personalize, the entire distribution of people who respond shifts. In other words, without A.I. we would be hurting the very people we were trying to help.

Another example is personalizing prices. Many people think of that negatively, but the ability to personalize prices allows people who would not have bought your product or service at the standard price to become customers by receiving a discount. There are huge benefits that machine learning, deep learning, and A.I. bring to the table, both on the commercial side and on the social side.

**Are people right to be worried about data privacy?**

**Buluswar:** It’s critical to create more awareness and give consumers the ability to make more overt choices around the degree to which they feel comfortable sharing their data. You could have all the legislations in the world and there’d always be loopholes. Any regulation should set the lowest bar, not the highest bar. The highest bar is: What are we using these data for? And do our customers understand what data we’re using and how we’re using them? If we can answer that higher-order question, we’ll set a higher bar, for not just what is permissible, but what is right and readily defensible.

**Sullivan-Cross:** We use the minimum amount of data we need to make a user’s experience better. For example, we’re one of the very few apps that doesn’t collect geolocation, and we do not ask for a zip code when somebody signs up.

**Misra:** There are two sides to this. One is making sure that people have control over their own data, and when they’re sharing, they’re sharing voluntarily and they know what the costs and the benefits are. The risk would be blanket regulation that says, “Thou shalt not collect this particular type of data.” That might target messages like I talked about with the SNAP program. If we shut down...
the ability to use individuals’ data, we go back into this world where everybody gets the same message, and that hurts the bottom rung of society the most.

If consumers are allowed to share data voluntarily, that also comes at a cost. Now companies have to think about who the people are who are sharing the data and for what purpose. Are there strategic reasons for sharing and not sharing? That’s a difficult question. The US needs some kind of overarching privacy legislative framework. But we don’t yet know exactly what it should look like.

Buluswar: There are two issues: what data are collected and what purpose they’re used for. Those two questions go hand in hand, but regulations are too focused on what data are collected, when really the problem they’re trying to address is: Is it being used for justifiable moral purposes? It feels like that’s the direction in which the dialogue needs to shift.

Misra: I agree. The early drafts of the European Union’s General Data Protection Regulation would have completely eliminated any personalized pricing, including discounts. There’s a push toward stopping data from moving around or imposing massive costs. Big companies are the ones that have benefited from GDPR because they have legal teams and can navigate the morass of GDPR fairly easily. Smaller companies don’t have those resources. More regulation could have unintended consequences.

Buluswar: The irony is that the whole point of A.I. is to de-average and create extreme customization, yet some of the regulations are moving precisely in the opposite direction, of broad-brush legislation that averages the world again.

Are companies using A.I. to track people’s emotional reaction to marketing efforts?

Sullivan-Cross: We used something like this in our marketing campaigns when I was at Pandora. We’ve worked with companies that have customers who’ve agreed to have their facial reactions to the ad tracked, and then we get data back from that company telling us how people feel when they’re watching the ad, or at particular points in the ad. We’ve used tools like that to help make sure our advertising is hitting the right notes with customers or potential customers.

Buluswar: One application that my team has engaged in is that we get millions of calls every month. We’re trying to collect all of those voice and text data from the transcripts and translate those narratives into measuring the customers’ emotional pulse, to understand how well we did or not in satisfying them or addressing their issue. And if we did not, taking actions to follow up on those phone conversations. It’s more than natural-language processing; it’s really trying to get at those emotional tones of those conversations.

Misra: There are companies that offer a service where a company can plug in to its call center, and in real time it takes the audio and scores that against emotion and then makes a recommendation to the call-center agent if the customer is angry or has another emotional response. It doesn’t just track the emotions of the customers and where they’re going, but also offers suggestions such as, “Speak more slowly.” “Be more deliberate,” making positive recommendations for an agent to be able to deal with a particular customer.

How should organizations institutionalize the use of A.I., particularly when many employees do not understand the analytical models the algorithms use?

Misra: There’s a push toward “explainable A.I.,” taking the black box that people usually think about in terms of deep learning and machine learning and creating essentially an English-language representation of what that model does. Partly this is coming about because GDPR requires organizations to explain how their analytics actually work if a customer asks. That can also be used internally to explain to employees what that black box does and why and how it should be used.

I support this “human + A.I.” approach. Rather than take the A.I. and implement the decisions directly, think of A.I. as being an assistive technology that goes to the human decision makers and gives them options. There’s a pricing-recommendation engine for hotels, for example, where the software says, “Here’s what the rooms should be priced at today,” but then pricing managers can accept or reject that depending on their own judgment. Through repeated interactions, A.I. gets better and learns what’s working and what’s not. A partnership with the engineering team and the product/marketing team is a good way to go.

“We’ve used emotion-tracking tools like that to help make sure our advertising is hitting the right notes with customers or potential customers.”

— LISA SULLIVAN-CROSS
**Buluswar:** The problem of “explainable human” is much more interesting than the problem of “explainable A.I.” It’s that combination of human and machine intelligence that really does matter. A.I. is obviously phenomenal at finding deeper levels of connections, and correlation not causation. Where human intelligence can come in is to be able to make sense of that. Sometimes it might confirm the hypothesis. Sometimes it might actually challenge the hypothesis, but the magic almost invariably will happen at that intersection. A company that wants to start using A.I. should think of it as a tool. The question I would ask is: What are the problems you want to solve and why do they matter? Until you know what decisions are going to be made and how decisions are going to be made differently as a consequence of this tool, you shouldn’t be focused on the tool; you should be focused on your strategy first.

**What are companies doing to address implicit bias in their algorithms?**

**Sullivan-Cross:** There are instances where we need to correct for that. Formerly, when people came to Pinterest and searched for, say, hairstyles, it would be a bunch of white women that showed up on the screen, and that wasn’t reflective of who was using the product. Instead of just relying on the behavior-based machine learning that is supposed to give the right content, we had to go in and make changes.

**Misra:** My Booth colleagues Sendhil Mullainathan and Marianne Bertrand have worked on this quite a bit. Human beings have biases, too, and you have to be careful that you’re not injecting the human bias into the algorithm. Partly just being cognizant that these biases exist is a good starting point. Beyond that, Sendhil likes to say that our best hope for de-biasing algorithms are algorithms themselves. For example, when it comes to making sure that we don’t condition on characteristics that we are either legally or morally obligated not to include in the model, there’s this tendency to kind of ignore those data, whereas maybe the algorithm should actually internalize those data and then explicitly not use them for recommendations.

We need to start thinking a little bit more deeply about where these biases are, and where they could manifest themselves, to recognize that we may not be able to see them, and then allow the algorithm to challenge our hypothesis around what we think is the right way to go.

**How have you used A.I. in the COVID-19 era?**

**Buluswar:** COVID-19 has been a precipitating force because of how fundamental and sudden that change has been. We’ve really learned to adapt to it in ways that, frankly, we might not have otherwise, certainly at the speed that we did. One simple example of that is in the height of the COVID-19 crisis, particularly in the New York area in March and April of last year, we were grappling with understanding which branches we should open, for what hours, and what cash availability was needed in those branches to make sure that our customers who were in need were supported. And we were able to create data-planning and predictive algorithms to understand where we might have issues and how we should manage the logistics of branch opening and cash availability in much more preemptive ways. Would we have gotten there eventually? Sure. But COVID-19 was, in that sense, a force for some positive change.

**What social need would you like to see A.I. used to address?**

**Buluswar:** Predicting the return on one’s college loans. We’ve got many students who are borrowing tons of money to further their college education. We could use A.I. to help them understand the return on that investment so they have a richer understanding of how much they could actually afford to borrow without being burdened excessively postgraduation.

**Misra:** Lowering the cost of making good decisions in the most disadvantaged populations. SNAP is one example, but it turns out that people who are most disadvantaged have a difficult time making decisions that many of us would think of as being obvious and easy decisions to make. We could use A.I. and data to help them make those decisions.

**Sullivan-Cross:** Increasing the representation of women and minorities in fields and at career levels where they’re grossly underrepresented. –CBR
WHAT POLICIES BEST ADDRESS OBESITY?

One risk factor for severe COVID-19 illness is obesity, which the World Health Organization describes as “one of the greatest public health challenges of the 21st century.” In many European countries, obesity’s prevalence has tripled since the 1980s, according to the WHO, and obesity affects 10–30 percent of adults. The situation is even worse in the United States, where it affects about 42 percent of adults, and the related medical care costs were an estimated $147 billion in 2008, which translates to $181 billion in 2021 dollars. The health issue is complex, as obesity can result from a number of causes, including heredity. However, could policies motivate people to adopt behaviors that would help, such as moving more or eating better? Chicago Booth’s Initiative on Global Markets polled its US and European Economic Experts Panels on the issue.

See more online
All responses to these polls can be seen at igmchicago.org.

About the IGM Economic Experts Panels
To assess the extent to which economists agree or disagree on major public policy issues, Booth’s Initiative on Global Markets has assembled and regularly polls a diverse panel of expert economists, all senior faculty at the most elite research universities in the United States and Europe. The panel includes Nobel laureates and John Bates Clark medalists, among others. Polls are emailed individually to the panel members, and panelists may consult whatever resources they like before answering. Members of the public are free to suggest questions.
**Statement A:** Policies that aim to reduce obesity by increasing incentives for physical activity would improve social welfare more than policies that increase the financial costs of consuming calories.

Pinelopi Goldberg, Yale
“Losing weight requires reduction in calorie intake. Physical activity helps, but does not solve the problem of obesity.”
Response: Disagree

Eric Maskin, Harvard
“Taxing junk food could conceivably be more effective against obesity than subsidizing exercise. But its incidence would fall on the poor.”
Response: Uncertain

Carol Propper, Imperial College London
“The literature on changing health behaviors largely concludes that one tool alone (be it taxes, bans, or facilities) is not enough.”
Response: Agree

**Statement B:** A ban on advertising junk foods (those that are high in sugar, salt, and fat) would be an effective policy to reduce child obesity.

Rachel Griffith, University of Manchester
“It might reduce temptation, but prices would likely fall (increasing quantity), and the overall impact of reducing junk food is unclear.”
Response: Uncertain

Richard Schmalensee, MIT
“The definition of junk would be controversial and would affect product design in interesting ways.”
Response: Uncertain

Antoinette Schoar, MIT
“It can help at the margin but will have minor effects by itself. Given the severity of the obesity crisis, we should use all possible tools.”
Response: Agree

Karl Whelan, University College Dublin
“There are lots of unhealthy foods. Picking some specific products to ban seems unfair and unworkable.”
Response: Disagree

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Note: Percentages are weighted by confidence ratings that panelists assigned to their own responses.
Monetary policy at the crossroads
How to clean up after the global financial crisis
BY RAVI MENON

One of the most pressing questions facing central bankers today concerns the role of monetary policy in helping to secure financial stability. For two decades before the 2008–09 global financial crisis, central bankers thought they had found the secret sauce of monetary policy. The recipe was simple: an independent central bank, a single target (price stability), and a single instrument (the interest rate). Monetary policy was directed at achieving price and output stability, with the central bank’s reaction function well characterized by the Taylor rule [a relationship linking interest rates to inflation and unemployment, used to guide monetary policy] on an ex post basis.

The recipe worked brilliantly. Sustained price stability and steady economic growth were the order of the day. The result was the Great Moderation. Indeed, monetary policy was getting boring. During this period, monetary policy was unencumbered by financial stability considerations. To be fair, central bankers were not unconcerned about financial stability. But it was seen as the preserve of prudential regulation and supervision. Academic thinking reinforced policy practice: the macroeconomic models central banks relied on did not map clear linkages between financial and real variables.

Another constraint may have been the perceived difficulty in identifying a financial bubble ex ante. How does one tell if the value of an asset reflected economic fundamentals or speculative fever? So when faced with potential financial vulnerabilities, it was deemed better to clean up after a bubble had actually burst than to try to lean against suspected bubbles.

But beneath the still waters of macroeconomic stability, deadly financial whirlpools were forming. Financial
When economic agents are determined to take risks, they will find ways to circumvent measures that central banks and regulators have put in place.

The first approach is well known and still the dominant practice in most central banks today, especially in the advanced economies. Under this inflation-targeting approach, monetary policy will not try to respond to credit-cycle movements or asset bubbles unless they have a demonstrable impact on inflation outcomes. The success of inflation-targeting regimes in central banks around the world has provided ample evidence of the efficacy of this approach. As Lars Svensson of the Stockholm School of Economics put it in a 2010 speech while deputy governor of Sweden’s central bank, flexible inflation targeting “remains the best-practice monetary policy before, during, and after the financial crisis.”

Financial stability: What we know and what we don’t
Following the crisis, there has been growing consensus that it is important for central banks to pay more attention to financial stability. We know now that macroeconomic stability does not guarantee financial stability, nor does prudential supervision of individual institutions guarantee financial stability at the systemic level.

We also have a much better appreciation of how credit cycles have strong implications for financial stability, which helps us better understand the conditions that led to the global financial crisis. The concerns remain valid in the postcrisis environment. There are signs of growing risk-taking in the form of leveraged loans, covenant-lite corporate bonds, and narrowing spreads on subinvestment-grade paper. The risks to financial stability are nowhere near precrisis levels, but they bear close watching. We must not repeat the mistakes of the past.

But there is as yet no consensus on how to secure financial stability and, in particular, what role, if any, should be played by monetary policy.

There are three broad approaches to these questions. The first is to stick to the status quo. Monetary policy remains focused on price stability, with macroprudential policies limited to the use of capital buffers to preempt insolvencies. In the second approach, monetary policy explicitly takes account of financial stability in addition to price stability. Under the third approach, monetary policy remains focused on price stability, while financial stability is secured with the help of a more active macroprudential policy.
banks and regulators have put in place. Nonmonetary tools such as macro-prudential policy will therefore not adequately address the root problem caused by interest rates that are too low.

Under these circumstances, arguably only monetary policy can “get in all of the cracks” to plug the vulnerabilities. An increase in short-term interest rates will trigger a more realistic evaluation of asset and collateral values, income flows, and, thus, risks. This will curtail the extent of leverage created by banks and capital markets and keep asset managers from crowding into risky assets. The effects of monetary policy are all-pervasive and cannot be easily circumvented.

This approach, if formalized, amounts to augmenting the Taylor rule with an additional term to capture deviations in financial variables from their equilibrium levels. If financial-market imbalances are growing, ceteris paribus, monetary policy should be tightened, even if it causes further deviations in actual output from potential output in the short run. This approach does not preclude the need for robust financial regulation and supervision. But the key is to get the price of money right, and to encourage a more realistic perception and tolerance of risks.

While no central bank currently implements monetary policy in this way, the concept behind the approach may not be as abstract as it seems. In practice, central bankers do not ignore financial-stability considerations when setting monetary policy.

**Why getting in all of the cracks may not always work**

Relying solely on monetary policy to secure financial stability may not always be sufficient, for at least three reasons. First, monetary policy could be constrained by its traditional mandate: price and output stability. Second, monetary policy could be constrained by global financial factors. Third, monetary policy may get in all the cracks, but it may not be able to fill some of them.

It is useful to illustrate these considerations by drawing on the Asian experience in recent years. First, it is possible that there is a conflict between the objectives of price stability and financial stability in the short run. Financial and business cycles are not synchronized. The interest rate appropriate for price and output stability may therefore not be consistent with financial stability.

This has been the case. When Asian economies recovered fairly quickly from the global financial crisis, their central banks raised interest rates. This was, by a happy coincidence, congruent with the need to stem the rapid credit growth that was being fueled by improved economic prospects domestically and easy monetary conditions globally. However, following the eurozone debt crisis and other domestic shocks, economic activity in Asia slowed, and it became untenable for Asian central banks to raise interest rates further. At the same time, risk-seeking capital continued flowing into the region, inducing further increases in credit and asset prices. The business cycle and financial cycle began to diverge.

A second constraint on the effectiveness of monetary policy in dealing with domestic financial stresses is the prominent role played by international liquidity in fueling these stresses. The exuberance in Asian asset markets and consequent buildup of financial risk in recent years has been exacerbated by the global search for yield in a zero-interest-rate environment. Raising policy rates may not sufficiently alter the extent of risk-taking in these economies. In fact, paradoxically, a central bank that tightens monetary policy to stem domestic borrowing could perversely attract more capital flows into the economy, resulting in stronger credit growth and rising asset prices.

Third, it is not clear that monetary policy can fill all the cracks. Undoubtedly, monetary policy flows into all the cracks by influencing all interest rates in the economy, but some cracks are just too big to fill. Financial vulnerabilities are not evenly spread across the economy, and tend to be concentrated in specific sectors and segments. Even when monetary policy has configured aggregate liquidity and risk-taking settings appropriately, specific pockets of financial-market vulnerabilities could remain, for example, property bubbles. Monetary policy is too blunt an instrument for addressing such specific risks to financial stability.

**Macroprudential policy: Targeting the cracks**

This brings us to the third approach: using macroprudential policy to secure financial stability while monetary policy continues to focus on price and output stability. Macroprudential policies can be more effective for targeting the cracks where specific vulnerabilities are concentrated.
In thinking about the so-called new normal, we should pay equal heed to what is new and what remains normal.
How to identify research that can sway policy makers

In the world of academic journals, editors are the gatekeepers of their discipline, accepting only high-quality research papers that push the frontier of knowledge forward. But beyond furthering the field and maintaining a journal’s high standards, editors can use other criteria when choosing which papers to publish, including whether a paper’s findings can guide policy makers in forming policies that achieve better outcomes for society, argue Chicago Booth’s Alexander Frankel and University of Oxford’s Maximilian Kasy. For a paper to inform policy makers and prompt a change in policy, its findings must deviate substantially from prevailing beliefs on a particular policy. A paper that simply confirms existing policies doesn’t add much value and comes with an opportunity cost—if published, it can shift the public’s attention away from papers that deserve more attention. To learn more, turn to page 22.

When it’s optimal to publish a paper

THE DIFFERENCE BETWEEN

| X − μ₀ | ≥ (1 + \frac{S^2}{σ^2}) \sqrt{C}

...relative to prior uncertainty

Uncertainty about the paper’s findings...
See you online

While COVID-19 has changed the location of events, conferences, and programs, Chicago Booth and the University of Chicago continue to sponsor many opportunities for inquiry and for participants to gain insights. The events below will all be held virtually, and more information can be found at the sites listed.

JUNE 1
JOHN EDWARDSON, ’72, SOCIAL NEW VENTURE CHALLENGE FINALS
snvc2021.eventbrite.com
Tune in to watch University of Chicago's newest social entrepreneurs compete for $150,000 in cash prizes.

JUNE 7–16
NEGOTIATE WITH INFLUENCE
ChicagoBooth.edu/NI
Develop skills that will help you maximize the interests of your organization, improve cross-border negotiation outcomes, and identify hidden biases.

JUNE 15 AND 17
VIRTUAL ON BOARD 2021: HONG KONG
Chicagobooth.edu/onboard
Join The Hong Kong Jockey Club Programme on Social Innovation and the Rustandy Center for Social Sector Innovation online for the annual event exploring key trends and insights in nonprofit board service.

JUNE 15–24
ENTREPRENEURIAL MINDSET IN CORPORATE STRATEGY
ChicagoBooth.edu/EM
Learn how to develop a growth strategy for your new venture, product, or service and take on well-established competition.

JULY 19–22
DIGITAL INNOVATION STRATEGY AND MANAGEMENT
ChicagoBooth.edu/DISM
Explore how to turn strategy into action, thrive through disruption, and achieve sustainable growth.

AUGUST 3–12
RESILIENT LEADERSHIP FOR HIGH-PERFORMING ORGANIZATIONS
ChicagoBooth.edu/RLHPO
Tap into your inner gumption and gain the tools to lead with courage to create an agile, high-performance environment.

ONGOING
EXECUTIVE MBA ADMISSIONS EVENTS
ChicagoBooth.edu/exec-events
Meet students and alumni and hear from Booth’s Admissions team at regionally focused events.

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.
WOMEN AND MINORITY INVESTORS ARE TAKING MATTERS INTO THEIR OWN HANDS
Page 52