What happened to your goals?
The science of motivation can help get you back on track

Plus:
Lessons from Samsung’s Galaxy Note 7 disaster
A way to trade on the Fed
Can sales taxes boost economic growth?
“When you add it all up, they would have been better off just burying [their deposit] in a hole for several years.”
This is typically the last article in Chicago Booth Review to get written.

It’s much easier to give advice on other people’s work than to do your own, and that often leads to procrastination. We can happily fill our time editing others’ writing, selecting illustrations, or checking graphics, rather than facing the blank page and actually putting our own words down.

But this issue’s cover story (page 26) inspired us with findings from behavioral-science research about how to harness motivation and meet your goals. So with a clear goal in mind, we put some of the advice to the test with the thorny task of getting this article written on time.

Research suggests that it can help to break big, daunting projects into smaller, more manageable tasks. We could have established modest goals, writing and perfecting one paragraph at a time, but that would have taken too long. And according to Chicago Booth’s Ayelet Fishbach, when pursuing a goal, it helps to make enjoyment part of the pursuit. We could have reveled in the joy of writing, but that’s tough when you’re under the gun.

Then it hit us: the article mentions stickK.com, a website created by behavioral economists at Yale University, so we decided to check that out. We went online and entered into a “commitment contract,” making a binding agreement to write an interesting and entertaining editors’ note before our deadline. The site asked us to appoint a referee (to double our chance of success) and to put money on the line (to triple our chance of success), either destined for a charity or an organization we detested.

A few minutes later, we had committed $10 to a cause that made our blood boil—and a few minutes after that, emboldened by dread, we finally started writing.

After this note was done, on time and with no money lost, we started wondering what we could accomplish if we’d try out some of the findings we hadn’t even had the opportunity to use. We hope that if you have a goal—one you’ve had in mind for years, months, or even minutes—the insights in this issue will help you reach it.

**Ideas to help you reach your goals**

At CBR, we understand that our readers’ goals are often big and ambitious. Ideas presented in these pages are often about policy, or the financial markets and systemic risk. And this issue is, as always, full of ideas that could help further the goals of leaders, organizations, or entire economies. For example, in a financial crisis, forget the ‘too big to fail’ mantra—consider saving smaller institutions first (page 15)—and to prevent said crisis, encourage regulators to be strict (page 23).

Avoid starting a business in a hot market (page 21). Use consumption taxes to kick-start economic growth (page 42). And to avoid a product disaster, embrace, among other things, rigorous testing (page 56).

Sometimes research findings are better to chew on than to act on. But either way, we want to bring you ideas that help you reach your objectives. If you take action based on anything you read in this issue, let us know what you did—and how it turned out. We want to hear from you. Engaging with readers is a worthy, achievable goal.

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Michael Weber, assistant professor of finance, studies asset pricing, macroeconomics, and international finance. He is a faculty research fellow at the National Bureau of Economic Research, a member of the Macro Finance Society, a research affiliate at the Munich-based CESifo Research Network, and a visiting researcher at the Bureau of Labor Statistics. (Pages 15, 19, 42)

Jing Cynthia Wu, associate professor of econometrics and statistics and James S. Kemper Foundation Faculty Scholar, is an expert on monetary policy whose research has been cited in more than 1,200 academic papers. Her findings have been referenced by former US Federal Reserve Chair Ben Bernanke and current Chair Janet Yellen, as well as numerous media outlets. (Pages 16, 47, 80)
WE WELCOME LETTERS

We welcome your comments. Send email to Review@ChicagoBooth.edu or send letters addressed to Chicago Booth Review at any of the following addresses:

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ANTICIPATING TRUMP

In response to, ‘What economists think about Donald Trump’s 100-day plan’ (Published online, November 2016)

Fair enough! Economists can analyze and suggest options, but let the decisions be made by politicians.

—Naveed Iftikhar

Interesting poll—seems like economists are not that crazy about making America great again.

—Jarkko Soikkeli

Economists don’t know anything, though. The people know!

—Larry Berroya

ADVICE AND DISSENT

In response to, ‘Eugene Fama’s advice to the next president’ (Posted online, October 2016)

Dr. Fama loved the dot-com days of 2000 when there were 30 percent more new issues and 80 percent of them failed.

—Sam Costanzo

THANK YOU, FAMA! We should let nature and social Darwinism take care [of] itself. Wealth transfer in the form of taxes and/or “regulation” is never going to solve the social-inequality problem.

—Michael Lin

Private markets have gotten way more sophisticated, and companies aren’t going public because they don’t have to. The rest of his point comes down to: regulations increase barriers to entry. I’d be curious how he’d respond to the argument that industry consolidation has been much more damaging to GDP growth than the regulatory environment.

—Andrew Kerosky

AN ALTERNATIVE VIEW OF BREXIT

In response to, ‘Brexit explained: How witch hunts create community’ (Winter 2016/17)

Sir,

I read with interest Professor Ron Burt’s insights in “Brexit explained: How witch hunts create community.” However, it occurred to me that Professor Burt might be in an echo chamber of his own.

In the last 10 years, the United Kingdom has seen a growth in the share of exports going outside the European Union, despite being unable to sign trade deals with countries in the rest of the world (constricted as it is by the EU’s protectionist customs union). In 1999 the EU accounted for 55 percent of UK exports, yet in 2015 it had fallen to 44 percent. It is not obvious from the data, then, how being in the EU contributes to the positive “hub” effect he alludes to. More obvious reasons may be language, the prevalence of common law, favorable employment law, and time zone.

Professor Burt also makes reference to “community in the abuse of others.” Again, it is useful to look at actual data. The Lord Ashcroft polls, for example, show that the main concern for Leavers was the restoration of sovereignty, not immigration—which makes sense given the independent, free-market culture and history of the UK. Can you imagine the US ceding any sovereignty to, say, Mexico or Canada, in order to be allowed to sell products into those markets?

Many Leavers are now excited that, once outside of the EU, we will once again be able to negotiate free-trade deals across the world and, in particular, renew relationships with high-growth nations in developing markets.

Yours faithfully,

Richard Ayres, London
TO SET YOURSELF APART
THINK BOOTH

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Nudging Now: How behavioral economics explains US politics


Getting Better, Faster: Optimizing trials and treatment

John R. Birge, Jerry W. and Carol L. Levin Distinguished Service Professor of Operations Management, on streamlining the processes of drug approval and customized medicine.

These events are part of the Chicago Booth Insights series.
For more details, email Review@ChicagoBooth.edu or call 773-834-5863.
Corporate managements may feel besieged by the growing trend of institutional investors, but those powerful critics likely don’t have enough time to closely monitor all the companies they invest in, let alone every listed company. So while institutional investors are busy making demands on some companies’ management, what’s occurring at the neglected companies?

Chicago Booth’s Elisabeth Kempf, along with Bocconi University’s Alberto Manconi and Tilburg University’s Oliver G. Spalt, examines the economic impact of an environment in which shareholders are unable to actively monitor all the companies they invest in. Consistent with the standard principal-agent framework from economic theory, in which agents (managers) act on behalf of principals (shareholders), the researchers’ findings reveal that when shareholders are “distracted,” executives have greater leeway to maximize private gains, to the detriment of shareholder value.

When shareholders aren’t watching, managers misbehave

There’s a link between distraction and lower returns.
"We exploit unique features of US institutional holdings data to show that managers respond to temporarily looser monitoring, induced by investors with limited attention focusing their attention elsewhere, by engaging in investments that maximize private benefits at the expense of shareholders," write Kempf, Manconi, and Spalt. They suggest that investors pay less attention when their focus gets diverted to other industries in their portfolios, such as technology during the dot-com bubble or banks during the 2007-10 financial crisis.

"Managers can get a sense of shareholder distraction from fewer direct phone calls, fewer meeting requests by institutional investors, diminished news coverage, conference calls with fewer critical questions, or from simply observing that many investors are focusing on ‘hot’ or ‘crisis’ industries," they write.

The researchers analyze corporate takeovers because those involve executive decisions to make large discretionary investments. Their results suggest that the likelihood of a company announcing a merger is higher when shareholders are distracted, and that acquisitions that diversify a company’s business are nearly twice as likely to happen as compared with general deals.

A diversifying acquisition, expanding the products and services of the merged company, is considered to disproportionately benefit management "for reasons of empire building or job security through more stable cash flows," according to the researchers. When investors are distracted, managers tend to tilt their budgets toward diversifying acquisitions, which turn out to be value destroying. Kempf, Manconi, and Spalt find that "bidders with distracted shareholders experience substantially negative abnormal returns over the 36 months following the deal."

The underperformance of firms with distracted shareholders relative to firms with less-distracted shareholders isn’t confined to M&A announcements. The researchers sort all stocks in the Center for Research in Security Prices database into a low-distraction portfolio (below-median distraction measure in a given industry and month) and a high-distraction portfolio (above median). They find a significant underperformance in companies with distracted shareholders, but no abnormal performance for companies whose shareholders are less distracted. This relative underperformance amounts to 15 basis points per month, suggesting that managers engage in value-reducing actions, beyond M&A, on an economically significant scale when their investors aren’t paying attention.

The findings are consistent with the view that managers actively try to take advantage of investor inattention, to the harm of their shareholders. Unmonitored managers are more likely to cut dividends and design merger financing so that a shareholder vote isn’t required, and they are less likely to be fired during periods when the firm’s shareholders are distracted by outside events.

Understanding managers’ behavior in environments where shareholder attention is limited could “significantly improve our understanding of value creation in firms,” write the researchers. Perhaps the best advice to a distracted shareholder is to assume that management is misbehaving when no one is looking.—Alex Verkhivker


Taking advantage of investor inattention
Companies pursue more M&A activity when shareholders are looking the other way, and the returns are poorer, research suggests.

| Companies with high investor distraction | Low investor distraction |

Kempf et al.
How fast does the economy recover from a recession?

When an economic boom ends with a recession—as it did when the US real-estate bubble popped—business leaders and policymakers would like to know how long it will take for the economy to recover.

The trajectory of the recovery depends on the length of the preceding economic boom, according to research by Chicago Booth PhD candidate Yunzhi Hu:

- Each additional year of an economic boom delays the recovery that follows by about two-and-a-half months, the data suggest.

Banks’ lending standards vary with the economy:

- Sometimes banks intensively screen start-ups applying for credit, considering information such as business plans or character assessments. Banks may then only lend to high-quality entrepreneurs most likely to be successful. But in an economic boom, banks loosen standards and lend to more entrepreneurs, strong and weak.

The quality of entrepreneurs looking to borrow varies with lending standards: when it’s cheap and easy to borrow, high-quality entrepreneurs will take on credit. But when it’s harder or more expensive to borrow, those entrepreneurs will hold off.

In boom times, entrepreneurs know they can borrow money quickly. Here’s where the length of the boom matters.

- In a sustained boom, banks lend to strong and weak borrowers. Weaker borrowers lower the quality in the pool of entrepreneurs seeking funds.

- In a shorter boom, banks lend to strong and weak borrowers. There’s less time, however, for weaker entrepreneurs to apply for credit in large numbers.

When the boom ends in a recession, banks cut back on costly credit screenings and on lending, both of which are difficult to justify with a low-quality borrowing pool.

- When the boom ends in a recession, banks cut back on screenings and lending, but for a relatively short amount of time.

Eventually banks again start screening borrowers and offering credit to the high-quality entrepreneurs. But those entrepreneurs are reluctant to borrow, anticipating looser lending standards and lower interest rates ahead.

- Banks start offering credit again to stronger entrepreneurs, who borrow money and invest in their companies.

RESULT: SLOWER RECOVERY

RESULT: QUICKER RECOVERY

Why luxury goods typically come from rich places

Why are many luxury goods made in rich places? Italian leather goods typically are higher quality, and more expensive, than similar items from developing countries. And Brooklyn, New York, turns out a number of upscale items, from fancy pickles to high-end wallpaper and custom furniture. Could a struggling US city, such as Detroit, compete?

The short answer: not easily. The reason has to do with economic geography—and holds lessons for politicians and policy makers trying to bring economic development to poorer regions.

Chicago Booth’s Jonathan Dingel looks at two leading theories for why high-income locations produce high-quality goods. One credits the factors of production: rich places have more educated workers, or more capital per worker. The other, the home-market effect, says that companies are targeting what their local customers want, and local high-income customers are willing to pay more for high-quality goods.

Dingel finds that while both theories are valid, strong local demand from rich customers is particularly important—especially when it’s supplemented, through trade, by demand from high-income consumers in other markets. “A firm’s demand curve will include both people who live in the same city and people who live in other locations—nearby cities and countries, to the extent that countries don’t erect trade barriers,” says Dingel.

Using US manufacturing data, Dingel compared regions with disparate income levels such as New York City and Wichita, Kansas. There are differences in the experience and education levels of workers in these two cities, but that alone doesn’t explain entirely why goods such as tables made in higher-income New York, say, tend to be higher quality and higher priced than tables made in Wichita. Neither do other factors, such as the cost of doing business in high-income areas and the age of companies that may have evolved into luxury makers when faced with competition from cheaper imports. Rather, the data point to New York’s proximity to other high-income cities on the east coast creating a larger local market for high-quality products, Dingel says.

Ultimately, local policy can do only so much to shape economic outcomes. A mayor or state legislator may have some ability to affect which industries set up within a jurisdiction, but “economic outcomes are determined by an interlinked system of geography,” Dingel says. Even if government policy changed to restrict foreign competition, and even if US manufacturing output increased, “poor cities would be unlikely to be manufacturing high-quality goods—those are likely to be produced in higher-income cities.”—Chana R. Schoenberger

In supply chains, some companies can take more risk than others

When automotive supplier Clark-Cutler-McDermott declared bankruptcy in July 2016, it refused to deliver parts and inventory to General Motors. As CCM was GM’s sole supplier of certain insulation and acoustic components, the company’s financial troubles threatened to disrupt production at several GM plants and cost the automaker tens of millions of dollars.

The dispute highlights the interdependence of manufacturers in a production network, where companies can be hurt by others, particularly suppliers, in their network. Research by Chicago Booth PhD candidate Ben Charoenwong looks at the dynamics of these supply chains and finds that the risks that companies manage differ depending in part on their place in a supply chain. Some companies are better able than others to manage these risks—but all can be affected.

When a company’s tax rate rises, it tends to take on more debt because it can deduct interest payments, Charoenwong finds. That higher debt represents additional financial risk. He analyzed a sample of 8,110 public companies that were customers or suppliers of other public firms between 1984 and 2014, looking at the responses of companies that experienced increases in their marginal corporate tax rate.

When companies took on more financial risk, they also took steps to diversify their supply chain, recognizing and potentially reducing the possibility of a supplier disruption. Overall, when a company increased leverage by 1.4 percentage points, it had a 10 percent higher chance of adding another supplier.—Kate Marshall Dole


Guarding against weak links

In an interdependent supply chain such as auto manufacturing, some companies are better able than others to manage financial risks—but all can be affected.

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MALLABY: ALAN GREENSPAN DIDN’T BELIEVE IN EFFICIENT MARKETS

“As soon as he got to the Fed, he confronted the 1987 stock market crash, then there was an S&L [savings and loan] crisis. . . . He went through crisis after crisis. The notion that he thought that finance was perfectly fine and totally stable, and he didn’t have to worry, is just not true. He never believed that markets were efficient. This is why he bought himself a seat on the commodities exchange in New York, because he thought the prices were so inefficient that he could make money by trading against them.”

—Sebastian Mallaby, author of The Man Who Knew: The Life and Times of Alan Greenspan, speaking at the Initiative on Global Markets in December about former Federal Reserve Chairman Alan Greenspan
Devin G. Pope says expert advice isn’t always better

Professor of Behavioral Science and Robert King Steel Faculty Fellow at Chicago Booth

Q1. Economists, academics, and other experts are often asked to weigh in on policy and business matters. Should we trust their advice?

I’ve always been a little bit worried by my own ability to forecast research outcomes. There’s little data about whether academic experts are better than a smart layperson at predicting certain types of outcomes.

We ran a large online experiment where we had people quickly push the A and B buttons on a keyboard. We then asked 208 academic experts who study decision making—economists, behavioral economists, and psychologists—and several hundred students and nonexperts to forecast which incentives would motivate people to work the hardest.

Academic experts [professors] did a pretty good job forecasting the results, but by several measures they did no better than students or other nonexperts.

I’m not suggesting that when you’re not feeling well, you should go to a neighbor’s house instead of a doctor. Experts have a role to play. But if I’m at a company, perhaps trying to determine what website design format will work best, the advice of people without special expertise may be as accurate as the advice that comes from a decision-making expert.
People feel more grateful for experiences than things

Feeling grateful may be more a product of the experiences we have than the things we buy, according to research by Cornell University PhD candidate Jesse Walker, Chicago Booth postdoctoral fellow Amit Kumar, and Cornell University’s Thomas Gilovich.

“Our work focuses on the distinction between experiential purchases—money that people spend on doing, on things such as travel, meals out, and tickets to performances—and material purchases—money that people spend on having, on possessions such as clothing, jewelry, furniture, and gadgets,” says Kumar. The gratefulness piece is the researchers’ latest argument in favor of experiences, which they’ve already suggested in earlier research leave people happier and more satisfied.

**Where the money’s going**

<table>
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<th>How people feel about:</th>
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<td>Material purchases</td>
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63.2% of people, after recalling both types of purchases, reported that they felt more grateful for the experience.

**Scale of gratefulness**

In a follow-up study, participants reflecting on an experience felt more gratitude than those reflecting on a material purchase.

Feeling grateful is linked to a number of benefits, such as health and well-being. But the researchers wanted to see how recalling an experiential rather than a material purchase might also affect how people behave toward one another.

Participants played an economic game in which they had to decide how to divvy up $10 between themselves and another player, after reflecting on either an experiential or material purchase.

**Effect on people’s actions**

Those asked to recall material purchases gave less. $2.67 Those asked to recall experiences gave more. $3.96

The phenomenon was also apparent in the real world: the team looked at customer reviews at various websites, such as TripAdvisor and Yelp for reviews of experiences, and CNET and Amazon for reviews of material purchases. Two coders rated 1,200 reviews on a scale of 1 to 3, with 3 expressing the most gratitude. Reviewers, the researchers find, were more likely to use language involving gratitude when reviewing an experiential purchase.

“Our studies show that reflecting on experiential purchases inspires more gratitude than reflecting on material purchases,” says Kumar. “In other words, people are more grateful for what they’ve done than for what they have.”

—Alice G. Walton


### NEEDED QUICKLY:

**GOOD BUYERS FOR BAD DEBTS**

**AS THE 2007–10** financial crisis unfolded, defaults in the subprime-mortgage market dragged down the values of unrelated debts, such as AAA-rated asset-backed securities. In financial markets, this phenomenon is known as contagion.

If skilled debt buyers were to step in sooner than they typically do, they could limit contagion, argues Chicago Booth PhD candidate Hyunsoo Doh.

He draws his conclusions from an economic model in which the cause of one company’s default likely differs wildly from the cause of another’s. Every company funds itself by issuing short-term debt to creditors that may choose to extend or withdraw funding as issues mature. The debts’ maturities are staggered to avoid a concentrated liquidity crisis.

“If any single firm fails to repay its debt outstanding, it is forced to liquidate its assets and, by doing so, lowers the collateral values of other remaining firms,” Doh writes.

The speed and skill with which new investors refinance the market help to determine the depth and severity of price drops during default events. Doh argues that even when there is money to be made by buying a failing company’s assets, skilled investors may not be able to purchase failed assets immediately. In the meantime, prices for failed assets fall, which hurts even companies that have not defaulted.

The situation also leaves creditors with a conundrum that can cause runs in the credit markets. If they believe their recovery rates could drop, they have an incentive to permit companies to fail so that they can seize and sell the underlying assets before prices crater.

But one group does benefit from contagion: distressed-debt investors who step in and scoop up assets at bargain prices.

—Michael Maiello

What’s limiting China’s growth?

Repercussions from China’s 2009–10 fiscal stimulus—a widely praised spending program credited with dampening the effects of worldwide recession—are limiting the country’s economic growth today, according to research.

A study by Chong-En Bai of Tsinghua University, Chang-Tai Hsieh of Chicago Booth, and Zheng Michael Song of the Chinese University of Hong Kong demonstrates that off-balance-sheet investments by local governments funded China’s stimulus and obscured a high debt load for the country. The program may have created a permanent decline in the growth rate of China’s aggregate productivity and GDP. The findings explain how China initiated major infrastructure projects without officially raising national debt to alarming levels.

To fund the stimulus, China lifted longtime rules that prohibited local governments from accruing debt or running deficits, the researchers find. Freed from these constraints, local governments transferred land to investment vehicles to use as backing for bank loans or bond issuances. The researchers estimate that about 75 percent of China’s stimulus spending came from transactions through these entities, whose debt is not reflected in official tallies of government accounts.

The local governments continued to invest with off-balance-sheet transactions long after the stimulus ended. Although they continued to make significant investments in infrastructure, they put more of the money toward commercial projects by favored private companies, according to the study.

Contributions from local government entities led China to attain one of the highest investment rates of any country in the world.

China’s stimulus package has drawn praise in the past in economic and policy circles, including appreciation from leaders of the International Monetary Fund. But more recently, IMF officials and international economists have warned that China’s high corporate-debt levels could be a threat to economies worldwide.—Dee Gill

Boosting investment without raising national debt

China funded its 2009–10 stimulus by accruing debt through local investment vehicles that did not count against the national debt, a practice that continued after the stimulus ended.

Growth rate of China’s GDP
Compared to same quarter of previous year

Investment rate and budget deficit as a percentage of China’s GDP
Percentage point change since 2006

Local investment vehicles issuing bonds for public spending
The number of vehicles that must provide public information rises during the stimulus years. Information is limited on the many others—6,200 in 2013—whose debt is not fully reported.

In a crisis, some funds are ‘too big to save first’

During the 2007-10 financial crisis, the US government decided that some institutions were too big to fail—and bailed them out.

Now research by Chicago Booth’s Lin William Cong, Stanford University’s Steven Grenadier, and Booth PhD candidate Yunzhi Hu finds that among the too-big-to-fail institutions, some may actually be too big to save first. The findings suggest that when bailouts are being considered, a better sequence of events could involve saving the relatively smaller institutions first.

The researchers model runs on money-market mutual funds and on the financial commercial-paper market, following Lehman Brothers’ failure in 2008. In that case, the Federal Reserve essentially provided unlimited insurance to those investors, which quickly stopped the panic selling. The researchers illustrate how policy makers can utilize an initial intervention to shape the information available before future interventions, thus affecting investor reactions.

The theory suggests that policy makers should consider how interventions in some markets relate to one another. In many cases, if an initial intervention is successful, less is needed in subsequent crises. But if the first intervention fails, investors will be more pessimistic, and a second has to be bigger.

One of the findings suggests that, considering the funds to be bailed out, it could be beneficial to target smaller institutions as the first bailout recipients. Rescuing smaller institutions, which are cheaper to save, would make a later bailout of a bigger institution less expensive and more likely to succeed. The researchers contend that some funds would benefit more from broader investor optimism that earlier, less-costly bailouts could establish.

The study also considers how one country’s investors learn from the outcomes of another country’s interventions, particularly in interdependent countries such as those in the European Union. Coordinating central-bank interventions, the researchers suggest, would lead to more-effective and less-costly intervention policy for each government. –Dee Gill

MARKET PARTICIPANTS obsess over the Federal Reserve. The Federal Open Market Committee (FOMC), responsible for setting monetary policy, holds eight meetings per year—and investors eagerly wait to hear whether there will be changes to the Federal Reserve’s benchmark interest rate, the federal funds rate.

But research by University of Notre Dame’s Andreas Neuhierl and Chicago Booth’s Michael Weber provides a way to quantify and trade, year round, on expectations about what the Fed will do.

Investor expectations are reflected in the Chicago Mercantile Exchange’s federal funds futures contract. Prices for fed funds futures indicate the market’s predicted interest rate.

The researchers use weekly changes in one-month and three-month fed-funds-futures data to develop a variable—coined a “slope factor”—that measures investors’ evolving expectations about the future path of monetary policy. “The slope factor allows us to get market expectations on how fast or slow the FOMC will increase or decrease future fed funds target rates,” write the researchers.

And Neuhierl and Weber find that the slope factor predicts the returns of a broad stock index from the Center for Research in Security Prices, Chicago Booth’s provider for historical stock market data.

The CRSP value-weighted index of stocks includes all common stocks trading on the New York Stock Exchange, American Stock Exchange, and Nasdaq, which means the slope factor predicts the returns on almost the entire market capitalization of US-traded companies.

“The predictive power of the slope factor is large in economic terms,” the researchers write, claiming investors can use the slope factor to increase the weekly Sharpe ratio (which measures risk versus return) by 20 percent compared to a buy-and-hold investor, meaning investors can use the information to obtain higher returns for a comparable amount of risk.

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They can do so year round, not just during periods when the Fed’s policy makers determine federal-funds-rate changes. The research suggests that monetary-policy decisions happen continually throughout the year, confirming a widely held view that policy deliberations are always evolving.—Alex Verkhivker


For more about the Fed and forward guidance, visit Review.ChicagoBooth.edu to read “Note to Yellen: Knock off the time-based guidance,” from the Fall 2016 issue, and view the June 2016 episode of The Big Question, “Does forward guidance work?”

SHOULD REGULATORS STOP PUSHING BANKS TO DIVERSIFY?

REGULATORS PUSH banks to diversify their holdings, but they might want to reconsider, according to Chicago Booth’s Philip G. Berger and Michael Minnis and MIT’s Andrew Sutherland. The researchers find that a bank with lending concentration is able to develop valuable expertise that actually makes lending more efficient.

When a bank assesses potential borrowers, it can ask for any number of documents, including audited financial statements. The researchers find that the more concentrated a bank’s commercial loan portfolio, the less that bank collected audited statements. For every 1-standard-deviation increase in a bank’s exposure to an industry, the researchers saw a 2.4%-percentage-point decline in the rate at which the bank collected audited statements from borrowers.

But skipping audited statements didn’t lead to greater loan losses. The researchers conclude that specialized banks “are trading off alternative information sources rather than recklessly forgoing audit requests.”

Larger banks tend to collect more documented (or so-called hard) information while smaller banks rely more on conversations and personal relationships. But Berger, Minnis, and Sutherland say their findings are unrelated to the size of the bank or the borrower.

“An explanation consistent with our evidence is that concentration fosters lending expertise,” they write. “A bank with more exposure to an industry has better information about it, and, thus, less need to obtain high quality (and costly) financial performance information from borrowers in the industry.” Conversely, a bank with less concentration and experience needs to see audited statements. However, the researchers caution against extrapolating their findings too far. “Our findings do not support extreme concentration,” notes Minnis. “While on the margin, concentration fosters expertise, at some point the increasing risk of concentration surpasses the benefits of expertise.”

It generally takes a bank four-and-a-half years to accumulate enough information to make it knowledgeable, the researchers find. When a bank first lends to borrowers in a specific sector, the audit rate is over 6 percent higher than for the bank’s other loans, but it declines as the bank gains expertise in the area. —Alex Verkhivker

Building expertise

Banks become more-efficient lenders as they gain exposure to borrowers in a new industry.

As lending to a new industry increases . . .

Standard deviations

. . . the rate of audited statements declines

Percentage points

Difference in average audit rate compared to bank’s other exposures

New loans

After 2 years

After 4 years

+6.4%

+5%

+4.4%

Berger et al., 2016

The ‘shadow rate’ can measure the effects of QE

U nconventional monetary policies, such as the Federal Reserve’s quantitative-easing program, have played a large role in shaping world economies since the 2007-10 financial crisis set off global recession. Economists, however, have struggled to quantify the effects of these policies; traditional economic models used for research simply don’t capture them when key interest rates sit at or near zero, as they do in much of the developed world today.

But researchers have proposed a tool, a “shadow rate,” that shows the Fed’s easing—and can be used in established economic models to measure the economic effects.

In normal economic times, economists use the federal funds rate—the interest rate banks use to lend to each other overnight—in many economic models. But in 2009, the fed funds rate hit zero, and monetary policy entered the zone termed the “zero lower bound.” When that happened, the fed funds rate stopped working in models.

Chicago Booth’s Jing Cynthia Wu and Fan Dora Xia, now at the Bank of International Settlements, devised an alternate shadow fed funds rate that can be negative, reflecting the Fed’s additional easing through unconventional policies. When the Fed was pursuing easing, the shadow rate dropped 3 percent through mid-2014.

And the researchers demonstrated it could substitute for the fed funds rate in an established economic model known as a vector autoregression, or VAR. By plugging the shadow rate into the VAR, they could see the effects of quantitative easing on economic aggregates such as the unemployment rate, industrial production, and housing starts. (See “Is Fed intervention effective?” Summer 2014.)

Now Wu and Ji Zhang of Tsinghua PBCSF are extending the usefulness of the shadow rate, applying it to a New Keynesian model, a general equilibrium model that is popular in
A versatile tool for economists

When the federal funds rate hovers near zero, many economic models stop working. Researchers developed a “shadow rate” that can stand in for the fed funds rate, drop into negative territory, and make those models functional again. The shadow rate tracks the movements of various benchmark data.

Wu and Zhang, 2016

The Taylor rule provides guidance on how central banks should change interest rates based on economic conditions.

The shadow rate helps measure deviations from the Taylor rule. These “shocks” were much smaller during the 2007–10 crisis than in the 1980s, when interest rates were high. Percentage points

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Do home-buyer credits work?

A program meant to help stabilize the economy during the 2007–10 financial crisis worked wonders for the housing market, but didn’t measurably add to GDP.

Northwestern University’s David Berger, the US Office of Tax Analysis’s Nicholas Turner, and Chicago Booth’s Eric Zwick set out to determine if the Internal Revenue Service’s First-Time Homebuyer Credit spurred any real boost in the housing market or simply fast-forwarded by a few months sales that consumers planned to make anyway.

The FTHC was one of several programs meant to boost the economy amid the crisis that saw housing-price increases slow, real-estate prices regress, and unsold housing inventory double from 2004 to 2008. Early versions of the program provided interest-free loans of up to $7,500 for first-time buyers. But later versions, on which the researchers focus, turned the loans into refundable tax credits of up to $8,000 for first-time buyers. The program ran from 2008 to 2010.

The loans and credits increased home sales, especially for people who were able to make mortgage payments but who would have had a hard time coming up with a down payment.

Some worried the program would attract people already planning to buy a house, rather than people who otherwise would not have bought one. If that happened—and people who were already planning to buy a home moved their purchase up by a few months to take advantage of the tax credit—it’s likely that housing sales would have spiked, fallen sharply to preprogram levels or below, then stagnated.

But the data suggest something else happened. The researchers estimate that home sales increased by at least 7 percent nationwide during the years of the FTHC program. And they saw only an insignificant dip in sales in the months after.

Berger, Turner, and Zwick compared sales in areas that typically appeal to first-time buyers to sales in areas unlikely to draw in first-time buyers. They find that the FTHC induced an estimated increase in home sales of 397,000–546,000, or 7–11 percent, across the United States.

Without the tax credits, some of those sales would have likely been made at least two or three years later, the researchers say. “A noticeably younger cohort of first-time buyers appeared in 2009 alone, driven by the temporary policy incentive to accelerate transition into homeownership,” the researchers write.

The credit spurred people to buy distressed or vacant homes. More than a quarter of those homes were in foreclosure or were part of lenders’ real-estate-owned portfolios. Another 16 percent had been built in the few years before the housing market crashed and were sold by builders who still owned them. Because previously built homes do not directly add to GDP, the effect on GDP was insignificant, and any injection to the economy came from realtor fees, appraisals, or other costs.

Those sales stabilized the housing market, however. First-time home buyers were no more likely to default on their mortgages than first-time buyers in the years after the FTHC program ended. And housing prices rose after 2010, increasing housing wealth by between $100 billion and $200 billion.—Brian Wallheimer

Evidence that the First-Time Homebuyer Credit worked

Researchers saw a predictable spike in home sales close to the program’s deadlines—and no stagnation afterward, which some had feared.

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SMALLER COMPANIES JUMP AT TAX BREAKS FOR NEW EQUIPMENT

Economists have long made the case that cutting taxes can lead to economic growth, as companies use the money saved to invest in plants and equipment. A study that focuses on one area of US tax policy—bonus depreciation—provides more evidence of this, and suggests that smaller companies and companies in need of immediate liquidity are particularly receptive to the tax break.

Chicago Booth’s Eric Zwick and economist James Mahon studied bonus depreciation, the additional amount of depreciation that businesses can deduct from federal taxes after purchasing a piece of equipment. Under normal, straight-line depreciation, companies deduct an equal amount for every year of the asset’s useful life. But bonus depreciation is a form of accelerated depreciation, which allows businesses to deduct a larger portion of their investment immediately for items—such as vehicles or machinery—that would otherwise depreciate more slowly over time.

In 2001, Congress voted to allow companies to write off 30 percent of the cost of qualified investments right away, with a recovery period of up to 20 years. The bonus increased to 50 percent in 2003 and expired in 2004. Congress reinstated the bonus-depreciation provision at 50 percent four years later under the Economic Stimulus Act of 2008, intended to help spur recovery from the Great Recession.

Using data on more than 120,000 unaudited corporate tax returns, the researchers investigated how companies responded to the bonus-depreciation deduction, and they find that the policy response—the amount of investment purchases a business makes—was higher for small and medium-sized companies than for large ones. “Small firms respond 95 percent more than big firms,” they write. Small businesses tend to have low levels of cash, so they got an immediate benefit when the deduction provided a bump to cash flow. They responded to the promise of immediate benefits, not to the idea of future ones.

As the policy change freed up cash, companies used it to expand productive capacity. Policy responses were higher for companies that made more of their investments in long-lived product categories, such as solar turbines, which can last for decades, as opposed to assets with shorter lives, such as light vehicles or office equipment.

“The results imply that stimulus policies that target investment directly and yield immediate payoffs are most likely to influence investment activity,” the researchers write. —Alex Verkhivker

Zwick and Mahon, 2017

Immediate payoff gets firms to spend

The researchers find that a large number of US companies made investments that matched the exact amount of the maximum tax deduction for depreciation.

<table>
<thead>
<tr>
<th>Difference between firms’ investment and maximum deduction US dollars</th>
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<tr>
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<td>4,500</td>
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Networks link Fed moves to the stock market

The Federal Reserve and other central banks can move financial markets, but their end goal is actually to influence the real economy. Federal Reserve Bank of Boston’s Ali Ozdagli and Chicago Booth’s Michael Weber find that central-bank policy moves travel to the real economy through production networks.

Economists have long tried modeling the competitive forces that exist within an economy. To do this, they typically use input-output tables that link all the corporate transactions involved in producing a product. Ozdagli and Weber use these benchmark input-output tables—available from the Bureau of Economic Analysis at the US Department of Commerce—to create a network of trade flows that details the movement of money between producers and consumers within the United States for a wide array of goods and industries.

Take cars, for example. When demand increases, car manufacturers buy more inputs such as tires and steering wheels, which in turn causes producers of those inputs to increase production. In this way, demand moves upstream through production networks.

The researchers say that Fed monetary-policy changes have direct demand effects, but also indirect ones through these production networks. Ozdagli and Weber find that 50–80 percent of stock-return swings due to monetary-policy decisions can be attributed to these indirect network effects. “The effect is robust to different sample periods, event windows, and types of announcements,” write the researchers.

The network model of trade flows across producers and consumers is an important mechanism to measure monetary policy’s economic impact on the stock market. Often-cited research by former Fed chair Ben Bernanke and Williams College’s Kenneth Kuttner documents that an unexpected interest-rate cut of 25 basis points leads to a 1 percent return in a broad index of stocks. Ozdagli and Weber help document in their work that production networks help propagate this effect. —Alex Verkhivker

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

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ONE PARTY, MULTIPLE FACTIONS

An economic model decodes the Chinese Communist Party

At a glance, the Chinese Communist Party rules the People’s Republic of China as a single, unified body. But under the surface, there are rules that govern power sharing among rival factions and keep high-ranking individuals moving up the ladder, according to research by University of British Columbia’s Patrick Francois, Francesco Trebbi, and PhD candidate Kairong Xiao.

THE FACTIONS VYING FOR POWER
There’s evidence of at least two factions: the Shanghai Gang, whose members originate with the Shanghai municipal administration, and the Communist Youth League of China, the main youth organization of the CCP. While an exact breakdown is not publicly known, about 20 percent of Central Committee members fall into one of these factions. Some of the rest fall into groups of either military members or “princelings,” who are part of families that held elite political status when Mao Zedong ruled China. Many CCP members are not tied to any faction and are considered independent.

BUILDING RELATIONSHIPS WITH CHINA
The researchers hope the model provides insight into the leadership dynamics of the CCP under its current leader, Secretary General Xi Jinping. As the party looks toward elections at its 19th National Congress this fall, it’s unclear which faction he belongs to and whether he is bound to govern as a strongman, like Mao Zedong or Deng Xiaoping, or as more of a collective leader in the style of Jiang Zemin and Hu Jintao.—Brian Wallheimer

It’s tempting for entrepreneurs to jump into a hot market, but they’d do better to go their own way, according to research by Chicago Booth’s Elizabeth G. Pontikes and William Barnett of Stanford University.

The researchers examined data on 4,566 software-industry start-ups spanning 456 market categories and 13 years. They mined thousands of press releases published from 1990 through 2002, using automated text software to identify market categories and track how businesses identified themselves over time. The researchers also interviewed software-industry executives, investors, and board members to learn more about how they made decisions when breaking into new markets.

Pontikes and Barnett find that although there’s a strong impulse to enter a market while it’s hot, those who jump on market trends are less likely to secure funding from venture capitalists and more likely to exit that market later. Similarly, companies that receive venture funding during these rush periods are less likely to go public. However, “non-consensus entrepreneurs who buck the trends are most likely to stay in the market, receive funding, and ultimately go public,” they write. And start-ups that enter a market where others have gone bankrupt are more likely to survive.—Jane Porter

KEY INSIGHT

VENTURE BACKERS INVEST IN PEOPLE, NOT PRODUCTS

Venture capitalists backing big ideas are likely less interested in the product than the people developing that product. Harvard University’s Paul Gompers, University of British Columbia’s Will Gornall, Chicago Booth’s Steve Kaplan, and Stanford University’s Ilya A. Streibulaev surveyed 885 institutional venture capitalists at 681 firms and report that high-dollar investors attribute their willingness to invest (or not) to the management team.

One of 2016’s highest-performing securities was stock in a company that few investors had ever heard of 18 months ago. The stock had historically experienced little trading activity, and the company last reported financial results in 2013, when it had fewer than $5,000 in assets. But none of that kept shares in Neuromama Ltd. from more than quadrupling in value over the course of eight months, giving the company a market capitalization of $35 billion at its peak. It’s the latest case of an over-the-counter (or OTC) stock becoming the surprise beneficiary of mysterious—and, perhaps, suspicious—activity on the markets on which they’re traded.

Despite the unsavory image engendered by cases such as Neuromama, OTC markets are more regulated than their reputations may suggest. Often, though, their rules are not set by the US Securities and Exchange Commission (SEC)—in fact, the relevant regulatory regime varies from market to market, creating substantial disparities in the level of transparency required of publicly traded companies and the risks faced by investors. In a study of OTC markets and the stocks traded on them, Humboldt University’s Ulf Brüggemann, University of Alberta’s Aditya Kaul, Chicago Booth’s Christian Leuz, and Ohio State’s Ingrid M. Werner describe the landscape of OTC markets as a “twilight zone” of assorted regulatory regimes.

The researchers examined more than 10,000 domestic firms traded on OTC markets from 2001 to 2010, the regulatory structures surrounding those markets, and the ensuing “market quality” of various OTC markets. They focus on two important aspects of market quality that are closely related to the core objectives of securities regulators: market liquidity (how active trading is in a particular market) and crash risk (the likelihood that a stock’s price will lose almost all its value).

The three main markets for trading OTC stocks are the OTC Bulletin Board (OTCBB), the Pink Sheets (operated by the OTC Markets Group), and the Grey Market. Companies traded on the OTCBB have, since 1999, been required to file regular reports to the SEC. Some companies traded on the Pink Sheets and in the Grey Market have to file with the SEC as well, but many have too few so-called record holders (an arcane way of counting shareholders) and therefore are exempt from SEC reporting. (Formerly, companies had to file reports to the SEC if they had more than 500 shareholders of record; under the JOBS Act of 2012, that threshold was raised to 2,000 shareholders for most issuers, potentially enlarging the number of companies that are exempt from SEC reporting.)

In most states, those firms not filing with the SEC must go through state merit reviews, and must be registered in each state if their stocks are to be traded there. But since most OTC companies are small—the average company in the study had a
market capitalization of $52 million—this can be financially cumbersome. So in 41 states plus the District of Columbia, OTC firms are allowed to trade if they are covered or published in a nationally recognized securities manual, which performs a basic review of company history, financial statements, and other documents.

OTC stocks are highly volatile and often experience negative returns. In fact, the median annualized (log) return for an OTC stock during the 2001–10 study period is -46 percent. Hence, while less regulation helps smaller companies access capital markets, it also allows riskier companies to access those markets as well.

“We show that OTC firms that file disclosures with the SEC, publish information in a recognized securities manual, are headquartered in states with stricter merit reviews, and are in higher-level Pink Sheets information tiers exhibit higher market liquidity and lower crash risk,” the researchers write.

While they caution that their results show associations rather than causation, they note that while lowering regulatory requirements may ease burdens for small firms, it also “significantly reduces market liquidity and increases crash risk for investors.” The findings suggest that regulators face a crucial trade-off between creating opportunities for small businesses to access capital markets, it also allows easing burdens for small firms, it also “significantly reduces market liquidity and increases crash risk for investors.”

The findings suggest that regulators face a crucial trade-off between creating opportunities for small businesses to acquire capital and providing adequate protection to investors.

Though OTC stocks are hardly uniform in their regulatory burdens, the researchers did find one thing the vast majority of OTC firms had in common: a low probability of ever trading on a more traditional exchange. They find that only 17 percent of the firms in their sample were “fallen angels” that delisted from traditional exchanges such as the New York Stock Exchange. And though the sample also contained more than 3,000 “new” firms that entered the OTC markets during the study period without having publicly traded elsewhere before, fewer than 9 percent of these new firms (and 6 percent overall) ever moved up to the larger exchanges, suggesting that the vast majority of companies don’t use the OTC markets as stepping stones to more-conventional trading venues.

—Brian Wallheimer
Ancestry can pave the way for foreign investment

The United States’ long history of welcoming immigrants has brought about many economic benefits, which include boosting investments and generating jobs, according to research by Konrad B. Burchardi of the Institute for International Economic Studies, Chicago Booth’s Tarek Alexander Hassan, and Thomas Chaney of the Toulouse School of Economics. Using 130 years of data on migrations to the US, the researchers find that US counties that received more migrants from a given country were more likely to later have a subsidiary owned by a company headquartered in that foreign country. The impact goes both ways—more migrants also increase the likelihood that US companies will expand their markets by setting up subsidiaries in the foreign country. The effect, according to the authors, unfolds over many generations, and is strongest the more diverse the local population, the farther the country is from the US, and the higher the quality of judicial institutions in the foreign country. 

*Migration data (1880–2010) include ancestral countries not found on current political maps.*
Effect of doubling the number of immigrant descendants
Average estimates across countries and US counties

- **4.1 percentage points**
  - Increased probability of foreign direct investment in the US

- **7.8%**
  - Increase in local subsidiaries owned by foreign companies

- **9%**
  - Increase in foreign subsidiaries owned by local companies

- **28.6%**
  - Employment increase at these local subsidiaries

- **21.5%**
  - Employment increase at these foreign subsidiaries

Effect of a 1 percent increase in US residents of a particular ancestry on their home country's direct investment in the US: Each box is sized by the average percentage-point increase in probability that the country will invest (2010).

**Top 10 countries by probability**

- Why Kuwaitis, for example? They're relatively underrepresented in the American ethnic mix, which helps explain why adding US residents with Kuwaiti heritage, on average, has a larger effect on the probability of attracting investment.

**United Arab Emirates:** 11.9 percentage points

**Kuwait:** 6.1 percentage points

**Soviet Union:** 0.2

Number of US counties with a foreign investment connection: Affiliations include US subsidiaries of a company headquartered in that country or local US companies with a subsidiary in that country (2014).

**South Korea:** 609

**Sudan:** 90

**India:** 2

**Philippines:** 1

**Vietnam:** 1

**Malaysia:** 1

**Singapore:** 1

**Australia:** 2.2

**New Zealand:** 3

**Samoa:** 6

What happened to your goals?

The science of motivation can help you finish what you started.

BY ALICE G. WALTON PHOTO ILLUSTRATIONS BY GLEN GYSSLER
Remember your New Year’s resolutions? Every January, many of us resolve to diet, exercise, turn off the television, and live life to its fullest. Research suggests that by this point in the year, most of us have failed. University of Scranton’s John C. Norcross has found that after three months, half of people who made resolutions haven’t been successful at sticking with them. And Richard Wiseman at the University of Hertfordshire established that by the end of a year, only 12 percent of resolutions were met.

The problem with big resolutions is that motivation tends to wane over time, says Chicago Booth’s Ayelet Fishbach, who studies motivation and decision making. People start out strong, but then reality sets in as they realize it’s easier to set goals than to carry them out. “The problem with persisting is that our priorities change in the course of a day, a week, a year,” says Fishbach. We may wake up in the morning determined to watch what we eat, but by the afternoon, we’re distracted—and start snacking again. Or we may feel determined to invest more time in relationships, but that slips our mind when an important work deadline looms. “Successful goal pursuit,” she says, “requires employing strategies that keep us on track as our priorities momentarily shift away.”

Research by Fishbach and others can help people salvage failed goals, or achieve new ones. Findings from behavioral science suggest that people can do better if they conceptualize goals more effectively, design incentives to boost rather than quash motivation, and use relationships with others strategically. With data-based maxims, you can move past failure and do a better job at achieving your goals.

**Set ambitious goals**

Every endeavor has a starting point and an end point, which can be as specific as meeting a work deadline in one week or as general as losing weight. One reason many people fail to reach their objectives, says Fishbach, is that they tend to set goals that are difficult or even impossible to achieve, or too general. Making them more concrete and achievable—goals you can envision yourself completing—may yield better results.

Yet effective targets should be ambitious. As long as the goal is within reach, the more you expect from yourself, the more you’ll achieve, as people often respond to a challenge by working harder. Fishbach and her former student, Ying Zhang of Peking University, performed a study in which they gave groups of participants an anagram task. Participants were asked to make new words from a target word. (For instance, from “seat” one can make “east,” “teas,” and “eats.”) But for some

### Predictions can help motivate you

People who set a goal in the face of a difficult task spent more time trying to complete the task.

<table>
<thead>
<tr>
<th>Groups told their task would be:</th>
<th>Difficult</th>
<th>Easy</th>
</tr>
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<tbody>
<tr>
<td>Predicted how well they’d perform</td>
<td><img src="Zhang_and_Fishbach_2010" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>Did not make predictions</td>
<td><img src="Zhang_and_Fishbach_2010" alt="Graph" /></td>
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Zhang and Fishbach, 2010
of the trials, there were no correct solutions, which allowed Fishbach and Zhang to gauge how much people would persist in the face of difficulty.

The researchers find that people who expected the task to be challenging stated more ambitious goals, saying in advance that they’d do better than two-thirds of the participants—and they persisted at the task for longer than others (almost eight minutes). People who expected the task to be less challenging stated they’d do about average on the task, and they persisted for just six minutes.

“Goals need to be self-imposed and optimistic,” says Fishbach. “People can motivate themselves by planning to finish a task earlier than later, or achieve a higher score, and so on. They might not meet the target, but the optimistic target is nonetheless more motivating than a pessimistic target. Just make sure the optimistic target is not an impossible target.”

Sometimes targets start as predictions—for example, if you tell a friend you think you’ll lose 5 pounds by June, that prediction ends up also functioning as a goal. Those predictions can help motivate you—just don’t worry too much about whether your prediction was actually correct; such worrying about accuracy may cause you to set too low a bar for yourself.

In another study, the same researchers asked people to complete a test at home. And they asked participants to predict how long it would take them to complete the test, which included 100 verbal and quantitative-reasoning questions.

Participants’ answers varied according to how much they thought the accuracy of their predictions mattered. Taking the pressure off in terms of accuracy seemed to help people set ambitious goals and work harder: told accuracy didn’t matter, participants predicted they’d finish a hard test more quickly than an easy test, and did just that. But when told that accuracy did matter, people predicted they’d need more time when the test was harder, and then took more time on a harder test.

**Break big projects into smaller tasks**

Motivation waxes and wanes as you work on a particular goal. You start off motivated, and you are motivated again toward the end of a project. But in the middle stretch, your motivation tends to lag, data suggest.

Fishbach and her former student, Northwestern University’s Maferima Touré-Tillery, observed this across a series of tasks. In one experiment, which involved 10 trials, they asked participants to proofread passages for spelling and grammatical errors, and they had participants determine the length of those passages by coin flips. The results conformed to chance at the beginning and end of the tasks, where participants assigned themselves to read short passages about half the time, as would be expected by random coin flips. But in the middle, participants assigned themselves to short passages 70 percent of the time, suggesting that they probably assisted the flipping process—cheated—in the middle section.

Similarly, when the researchers recorded how observant Jews lit candles throughout the eight-day holiday of Chanukah, they saw people lag in the middle of the task. On the first night, 79 percent of the 202 people they observed reported lighting candles, but that dropped to 49 percent by the fifth night, before rebounding to 57 percent on the final night. And the more observant the participants were, the more likely they were to light candles at the beginning and end of the festival, “but behaved like less religious participants in the middle,” the researchers write.

Fishbach and Touré-Tillery saw the same pattern when they asked people to cut out a series of shapes. “The participants did a better job on the first and last shapes—where they were literally cutting corners—and worse in the middle,” says Fishbach. “This is telling. The beginning and end of a project tend to be motivating.” We identify with our own actions more at the beginning and end of tasks, the researchers say. We see

“Break a goal into shorter subgoals to maximize beginnings and ends, and to minimize middles. Instead of an annual goal, set a monthly goal. Instead of weekly, make it daily.”

—AYELET FISHBACH
Your motivation can lag along the way
Participants in a study started relatively strong, cut corners in the middle of the process, and focused once again toward the end.

Participants who reported winning coin flips to do an easier task
Results should have remained at about 50 percent but rose in the middle of the sequence.

Quality ratings for a sequence of detail-oriented tasks
Participants’ work is poorer in the middle of the sequence than the beginning or end.
Scale: 10 = excellent

Participants who reported winning coin flips to perform an easier task. Results should have remained at about 50 percent but rose in the middle of the sequence.

Quality ratings for a sequence of detail-oriented tasks. Participants’ work is poorer in the middle of the sequence than the beginning or end.

Touré-Tillery and Fishbach, 2011

Your motivation can lag along the way
Participants in a study started relatively strong, cut corners in the middle of the process, and focused once again toward the end. “In the middle stretch as less indicative of who we really are. So to motivate yourself in the middle of a task, minimize the amount of time you spend there by deconstructing your end goal. “Break a goal into shorter subgoals to maximize beginnings and ends, and to minimize middles,” says Fishbach. “Instead of an annual goal, set a monthly goal. Instead of weekly, make it daily.”

Work by Washington University’s Hengchen Dai and University of Pennsylvania’s Katherine L. Milkman and Jason Riis suggests that how we time our goal pursuit may also help us stay motivated. Making a goal on a landmark day—such as New Year’s Day or even just a Monday—is more motivating than beginning it on a regular day, they suggest. People are more likely to visit gyms on Mondays or to start working toward goals on the first day of spring, a phenomenon the researchers dub “the fresh start effect.” The fresh start represents a break from our former ways, as the researchers also find that it distances us psychologically from our past selves and failed attempts.

That’s why it can help to construct a goal out of smaller subgoals. With each step forward, we can feel as though we’re advancing toward future successes and away from past failures. Reach your annual goal by setting monthly markers along the way. To reach your goal for the week, outline daily tasks. And if you can’t even remember your resolutions for 2017, that’s OK—set a goal for this month, and create milestones for each week.

Celebrate your progress, however small
People are more motivated, and tend to move faster, when the end is in sight. This phenomenon is known as the goal gradient. Say you’re trying to run 5 miles: each increment of progress you make initially seems small, because that first mile you run represents just 20 percent of your total goal. Meanwhile the last mile you run completes the goal, so it feels more substantial.

This insight comes originally from academic research into animal behavior, including studies of rats in a maze, says Chicago Booth’s Oleg Urminsky. “Proximity to the goal increases motivation. If you’re a rat in a maze, you run faster the closer you get to the end. So we tested this in people, in the context of a loyalty program in coffee shops.”

When Urminsky was a doctoral student at Columbia University, he and his advisor, Ran Kivetz, and Yuhuang Zheng, now of Tsinghua University, demonstrated this phenomenon in coffeehouses on an urban college campus. The team gave people cards to be stamped each time they bought a cup of coffee.

People bought coffee more frequently the closer they got to earning a free cup, the researchers observed. “The closer you are to the reward, the more likely you are to pursue it,” says Urminsky.

Later, Urminsky and his colleagues tested out two types of loyalty cards. Half the cards were numbered from 1 to 10, as before. In the other, “accelerated” group, the cards were numbered from 1 to 12 but had two of those slots already prestamped. People in the accelerated group completed their purchases an average of three days sooner, thanks to an illusion of progress. If you feel like you’re already two stamps closer to the end point, you’re more motivated to get there.

This same idea can get you more than free coffee. “Be aware of the fact that when the goal is far away, it’s going to seem harder,” says Urminsky. “So people should supplement with other methods earlier on.” For example, if your goal is to exercise more, consider starting out by exercising with a buddy, as social pressure is another motivating factor that will get you to the gym. (More on social pressure later.)

And make sure to take stock of what you’ve done, especially when you’re just starting out—measuring early progress at the beginning can be as motivating as using a goal that’s in sight at the end to spur you to the finish line. Using a similar setup to Urminsky’s, Fishbach, along with Minjung Koo of...
Sungkyunkwan University in Seoul, Korea, created stamp cards for a sushi restaurant, designing them to draw attention either to what had been accomplished or to what was left to do. The researchers measured how frequently the people using these stamp cards returned to the restaurant.

“Near the beginning, people are motivated by what’s been done,” says Fishbach. In the restaurant study, people who had eaten just a few meals at the restaurant were motivated by what they had accomplished to earn the reward (a free meal). People who had eaten there a lot were motivated by the diminishing number they had left to eat. Fishbach and Koo call this the “small-area hypothesis,” indicating that we’re motivated by whatever is the smallest amount of progress, done or left to do.

Others of Fishbach’s studies have found that one’s commitment to a project also follows the same pattern. People who are not so committed or who are new to a pursuit (for instance, new employees) are also more motivated by what they’ve done already. But those who are highly committed to a pursuit or who are experienced at a project will be more motivated by what’s left to do.

So at the start of a goal, keep your mind on what you have done, even if it’s very small, Fishbach advises. “If it’s your first month in gym, well, you’ve already signed up; you’re already here,” she says. “Employees at a new job—you’ve already applied for, interviewed, and gotten the job. There’s always something that you’ve done.”

**Connecting with our future selves can help us make wiser decisions in the present, from saving money to cutting calories.**

**Think about the future you**

One way to change your behavior in the present is to think about the future. Urminsky and his Chicago Booth colleague Daniel Bartels find that connecting with our future selves can help us make wiser decisions in the present, from saving money to cutting calories.

Urminsky and Bartels have been studying people’s present and future selves for years (see “What your future self can teach you,” Winter 2015/16) and continue to make discoveries. In previous research, they demonstrated that people vary in how connected they are to their future selves, and that degree of connection can be manipulated to nudge people to make different purchasing decisions—be that to save more money or to give more to charity.

In a recent pair of studies, they extend this line of thought to show how people’s connections to their future selves can also be used to influence their choices affecting their health, including what they choose to eat and whether they go to the gym. The researchers interviewed University of Chicago students to measure how connected they were to their future selves. Students who were more connected to their
future selves were more fit, as measured by Body-Mass Index, on average. Even among overweight students, those who were more connected to their future selves went to the campus gym more often. The researchers also tested whether manipulating connectedness would affect snack choices among museum visitors. The team manipulated how connected people would feel to their future selves by having them read about studies that argue the self is either stable or changing over time, and included a subtle reminder to think about the potential for regrets from unhealthy eating. The participants chose between taking a high-calorie or low-calorie snack (or no snack) as compensation for participating. Among overweight participants, those who read about how the self is stable and were reminded to think about potential snacking regrets took fewer calories. However, if participants weren’t overweight, or weren’t

** WHAT’S THE BEST WAY TO DESIGN INCENTIVES? **

If you want to help someone reach a goal, pay them to do it: that’s the simple view of incentives. But research is helping to develop a more nuanced understanding.

** Offer something other than money **

Chicago Booth’s Devin G. Pope and University of California, Berkeley’s Stefano DellaVigna looked at how different incentives affected people’s performance on a short but tedious task: pressing the A and B buttons on a computer keyboard. The researchers presented 10,000 participants with a task—to press the buttons as many times as they could in 10 minutes—as well as one of 18 incentives, such as money or a donation to the Red Cross.

Looking at how each incentive affected the participants’ work, the researchers find that offering money worked best, but other incentives also proved effective—including telling people they would see their performance compared to others’ at the end of the task.

“In our context, we find that financial incentives are the most effective at motivating behavior,” says Pope. “However, we also find smaller but real benefits from nonfinancial motivators. While these nonfinancial incentives are not as effective overall, they are cost effective, given that they do not cost money to implement.” (For more on this experiment, see “Devin G. Pope says expert advice isn’t always better,” page 12.)

** Create personal, flexible incentives **

Chicago Booth’s Sanjog Misra has looked at how data from employee performance can be used to understand individual patterns, and, in turn, help optimize how incentives are designed. Misra finds that certain circumstances cause performance to lag—for example, if an employee is far from meeting her quota, or close to the cap of a reward.

“Employees learn quickly about the incentive systems and the best way to make the most with the least amount of effort,” says Misra. “Sometimes incentive systems—for example, goals, quotas, or targets with incentives tied to them—can create distortions in effort. For example, if the quota is too high, employees may give up. If they have achieved the quota, and there are no incremental incentives, they can stop working.”
reminded to think about snacking regrets, shifting their connectedness made no difference. So connectedness doesn’t necessarily help us remember our goals, but when we are conflicted, it helps us stick to them.

**Find your intrinsic motivation**

Some people love running for the sake of running. This type of runner has intrinsic motivation—they find running enjoyable. For others, a jog in a park may be more of an exercise in pain and torture, but they do it anyway because they feel they should, to stay in shape or lose weight. Their motivation is extrinsic. Research suggests we should harness the power of intrinsic motivation, as it can be the more powerful predictor of future success.

Fishbach and Booth PhD candidate Kaitlin Woolley asked people to think about their New Year’s resolutions and to rate how much they enjoyed them. For instance, the researchers asked if the resolution a person had selected was “something that provides you with a positive experience.” And was that resolution “important for you to do?” Two months later, they had people come back and report how well they’d stuck to their resolutions, and how well they expected to stick to them for the remainder of the year.

They learned it’s really important for you to enjoy your resolution. That’s not how people typically choose their goals—they choose ones they feel are important. Fishbach says it’s fine to go ahead and set goals that feel important, but don’t compromise on pleasure entirely. “Don’t choose a New Year’s resolution you don’t enjoy doing.” You’ll be setting yourself up for failure.

So forget about doing something you hate but think is important. Instead, if you’re trying to eat more healthy foods, don’t expect to learn to like all healthy foods—find some you already like. Find an exercise you enjoy. Find books you like reading. Tap into your intrinsic motivation.

Misra’s work suggests that to maximize motivation, incentives should be based on the behavior patterns of the individual worker. It can be costly but nonetheless worthwhile to calculate each employee’s optimal incentive structure, says Misra.

Another way to boost effort is to implement systems that are flexible in both how and when incentives are awarded. “Good incentive systems allow employees to find the right part of the system that works for them,” says Misra. For example, a company with a rigid policy might offer a flat, 1.5 percent commission to all sales agents. But if there’s a sliding scale, some agents might be happy to work toward a 1 percent commission, while others might set higher goals and work harder to make 2 percent or more—and this might help the company retain more agents.

Misra says companies that are trying to design better incentive systems should keep the following in mind:

* It’s important to understand how your employees will react to the incentive system you put in place.
* Good incentive systems align goals and should be win-win. You make more if your employees make more.
* Timing is crucial—when you pay is just as important as how and how much you pay.
* Simplicity is good. Complicated incentive plans create more opportunity for gaming.
* An incentives system should be flexible so employees can use it to self-select their optimal effort. This may involve sliding scales of commissions, bonuses, contests, etc.

**Understand the risks**

Incentives can backfire, and that’s particularly true for negative reinforcement— incentives that seek to punish rather than reward people.

A study by UC San Diego’s Uri Gneezy and University of Minnesota’s Aldo Rustichini asked owners of several Israeli childcare centers to fine parents who were late to pick up their kids, to test whether it would make parents more or less likely to arrive on time. More parents started picking up their children late—as the fine changed the social contract, the researchers surmised. As parents saw the fine as a payment for an extra service, it became acceptable to arrive late. Even when the fine was removed, parents still showed up late, which suggested that in some cases, an incentive (or here, a deterrent) can cause permanent change.

For more, read “Why your sales force needs smarter incentives,” in the Summer 2016 issue. Go to Review.ChicagoBooth.edu to see citations for research in this article.
Reward yourself, carefully
Economists know well that incentives can be used to motivate people. (See “What’s the best way to design incentives?” page 32.) But incentives have a reputation for killing off the very motivation you want to harness.

“The conventional wisdom in psychology for the last 20 years or so has been that incentives undermine intrinsic motivation,” says Urminsky. For instance, paying people to do a task they already love can sap their joy and make them less likely to do it when not paid to do so. “The policy conclusion is that it is dangerous to pay incentives for things that people might do without an incentive.”

But Urminsky and his former PhD student, University of Buffalo’s Indranil Goswami, find that when an incentive is taken away, intrinsic motivation will come back, and fairly quickly. They offered participants money to encourage them to choose doing math puzzles over watching video clips, then looked at what happened once the incentive was taken away. Conventional wisdom was half-right: when the incentive disappeared, people initially did fewer puzzles. But the researchers saw the change was temporary. After a small break, motivation levels returned to what they were before an incentive was offered. Moreover, the more participants were paid, the less their intrinsic motivation was affected. People who were paid more demonstrated less need for a break.

There is some evidence that we can design effective rewards for ourselves. In a study, Milkman, Harvard’s Julia A. Minson, and University of Pennsylvania’s Kevin G. M. Volpp told some people they could only listen to “addictive” audio books—including The Hunger Games trilogy, The Da Vinci Code trilogy, the Twilight series, and The Devil Wears Prada—when they worked out at the gym. They gave others all-day access to the same audio books but encouraged them to use them only at the gym. A control group received $25 to spend at a bookstore. Initially, the first group visited the gym 51 percent more frequently than a control group, and the second group visited 29 percent more frequently, though these effects diminished over the course of a 9-week follow-up period.

The findings suggest that we may be able to create self-incentives by pairing undesirable activities with desirable ones. For those of us who need a little extra push, websites such as stickK.com, created by behavioral economists at Yale University, may offer assistance. The site provides a structured forum for users to set goals, establish stakes, and invite friends and family to hold them accountable.

Embrace competition
Pressure from those around us can spur us on—having a running buddy or some friendly competition at the office tends to work in our favor. But social networks can actually slow us down, while a little old-fashioned competition may work much better.

Researchers at the University of Pennsylvania—led by Jingwen Zhang (now at UC Davis), with Devon Brackbill, Sijia Yang, Joshua Becker, Natalie Herbert, and senior author Damon Centola—looked at how active people were during...
an exercise initiative that included fitness classes, mentoring, and information about healthy eating. The researchers measured success by how many exercise classes people took over the course of an 11-week program.

Unbeknownst to the participants, the researchers had assigned them to one of four experimental groups, designed to test the effects of social influence on their behavior. The first group interacted on a website, where they could chat with and support one another, but not see others’ “scores”—the number of times they took an exercise class on their own during the 11 weeks. This showcased social networking but deemphasized competition. In the second group, individuals competed against each other, able to see how often others were exercising. In a third group, people competed in teams, and the scores of other teams were visible. Finally, in a fourth (control) group, people were given access to the same exercise program, but without any online social network, either supportive or competitive, to motivate them.

People who competed against others, either individually or as groups, took significantly more classes than anyone else—90 percent more than in the control group. Yet people who supported each other online took the fewest classes.

It would seem that encouragement is far less effective than good-old competition. “People [in the social support group] did not use their peers as sources of social comparison, but instead as sources of encouragement,” says Centola. “The least-active members of the group created a kind of social inertia that pulled the others to exercise less,” he says. However, when people could see others’ scores, they were motivated to work harder. “If we see others doing better—getting back into shape faster, going to more fitness classes, and losing weight more quickly—it gives us a new goal. Peer competition is very useful for goal setting, and for creating aspirations for getting into shape faster.”

And with competition, we lust after what other people want, not what they have. Fishbach and the University of Florida's Yanping Tu looked at people's tastes, from food to items on Amazon. They find that people often choose to make choices that complement but don’t overlap with their friends’ choices. For example, people would buy gum, as their friends had done, but choose different flavors. “Psychologically, people are probably in the mind-set, ‘I’m not buying the same thing as you. But if you like it, then I want to have it,’” says Fishbach.

Looked at together, these research findings can be prescriptive, and help you meet goals you’ve previously failed at. So forget about the person you were when you made your resolutions for 2017. Instead, set a new, optimistic goal that challenges what you think you can accomplish. Predict how you’ll do on it; write down the answer. Think about how your future self will feel when you accomplish it. Make sure your goal involves something you enjoy doing—if it doesn’t, go back and rethink the goal. After that, create realistic, weekly subgoals. Make the subgoals measurable, and reward yourself when you achieve them. Also give yourself a reward for starting this process, that’s akin to one free punch toward a free coffee.

Zhang et al., 2016

A little social pressure can spur you

While creating competitive environments motivated people in an exercise initiative, support groups created a sense of inertia.

**Cumulative exercise classes attended**

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**Teams competing**

- More exercise
- Less exercise

**Individuals competing**

**Individuals alone**

**Social support teams**

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Spring 2017  Chicago Booth Review  35
Can we save retirement?

Mexico and Australia both reformed their social security programs, with very different results. The US and other countries can learn from what worked—and what failed.

BY ALEX VERKHIKER  ILLUSTRATION BY MATT CHASE
On the website of the interest group that represents American retirees, there’s palpable concern about the future. The vast majority of Americans haven’t saved enough in their retirement accounts to cover their expenses after they finish working. Rising health-care costs and increasing life expectancies only aggravate the problem. And the state pension is a hot political issue. Exactly one month after the US Presidential election, Representative Sam Johnson introduced a bill that would address a looming shortfall in Social Security, the massive federal pension program, by cutting benefits.

“Social Security is a contract with American workers that must not be broken,” read an article on AARP.org a few days later. “AARP will continue its fight to ensure that current and future generations get the benefits they’ve earned.” More than a hundred people quickly weighed in with comments, and hundreds more followed. “When contacting our representatives, we must state clearly and strongly that there will be NO changes to these systems as we know them—except to strengthen them AS IS,” wrote one commenter.

When it comes to pension crises, American workers are not alone. In the United Kingdom, many of the country’s almost 6,000 employer-sponsored, defined-benefit programs are underfunded. “There is a clear economic imperative to address the issues identified, for the health of both individuals and the wider economy,” wrote the Pension and Lifetime Savings Association in an October 2016 report. Doing nothing to fix the problems, it warns, “is not an option.” In Greece, Poland, and across the European continent, a demographic mismatch means there are not enough incoming taxes to fund promised payouts. “Western European governments are close to bankruptcy because of the pension time bomb,” Ernst & Young’s Roy Stockell told the Wall Street Journal last year.

Privatization is often suggested as a solution to pension crises. Rather than have governments or employers fund workers’ retirements, why not give retirees more control over funding their retirements, with private individual accounts? States and companies are burdened by their promised obligations, but workers planning ahead could save more and choose how much risk to take when investing their retirement funds.

Some countries have adopted aspects of this privatized model, and researchers are analyzing the results. Evidence from Mexico, Australia, and the United States has lessons for countries facing pension crises—and seeking solutions.

Privatized retirement in Mexico

Many critics of privatization are quick to point to Chile as a cautionary tale. The Chilean government privatized its pension system in 1980, its secretary of labor and social security inspired by Milton Friedman’s book *Capitalism and Freedom*. But as payouts fell dramatically, upwards of 100,000 people took to the streets last year to demand reform, and President Michelle Bachelet announced a series of changes.

Less attention has been paid to Mexico, which privatized its system more than a decade later, in 1997. After the 1994 financial crisis, when the peso dropped in value as inflation took off, rescuers that included the World Bank recommended Mexico reform its social-security program. Brown University’s Justine Hastings, University of Chicago’s Ali Hortaçsu, and Chicago Booth’s Chad Syverson analyzed the data to learn from Mexico’s experience with privatization.

In Mexico, money is automatically deducted from workers’ wages and placed in individual accounts. Then individuals choose from a menu of assets in which to invest and work through regulated, professional money managers, each of which offers a single investment product. For the first decade of the system, those managers charged fees on both automatic salary contributions (loads) and assets under management (balance fees).

“The Mexican government was smart about some elements of the way they designed this system,” says Syverson. For example, the government took steps to create a competitive marketplace, accepting applications from two dozen managers to compete by presumably offering the best prices. With competition among fund managers, many politicians, financial institutions, and even academics predicted rising returns. “Estimates indicate that within 25 years, the reform could double financial savings in Mexico,” wrote Agustín G. Carstens, then director general at Banco de México’s Department of Economic Research, in 1997.
But competition did not materialize as the government had hoped it would. Hastings, Hortaçsu, and Syverson looked at where investors lived, which fund managers they invested with, how much money they saved—and earned after fees. They find that while many people expected competition to drive down costs, the average asset-weighted load was a steep 23 percent, and balance fees were another 0.63 percent. Those fees ate away—a lot—at returns. If an investor deposited 100 pesos and earned a 5 percent annual return, “it would take them about six years to get back to their original 100-peso contribution,” says Syverson. “When you add it all up, they would have been better off just burying [their deposit] in a hole for several years.”

**The competition conundrum**

The fund managers did compete, the researchers find, but not by offering the best fees. Instead they competed by offering the slickest marketing, and investors eschewed the cheapest offerings in favor of companies that invested in advertising and sales forces.

Analyzing the content of more than 200 video advertisements for fund managers that ran from 1997 to 1999, the researchers found that fewer than 20 percent said anything about costs. Television spots and sales-force practices focused on selling managers’ experience, innovation, and skill. Problematically, advertising claims were often misleading. The Spanish banking giant Banco Santander, for instance, advertised that it was free to sign up for a retirement account with the bank—without mentioning that this is true for all account managers in Mexico’s system. Another company claimed in an ad illustrated with apples that it wouldn’t “take a bite” out of savings because it charged no fee on contributions, despite charging approximately 4.75 percent of assets under management.

In Mexico, most investors overpaid

Charging higher fees and investing in marketing and sales forces, fund managers lured many people into expensive plans.

**How much workers could have saved with their cheapest option**

| Number of days’ wages per year | 4.6% of workers paid six extra days’ wages, on average, going with the company with the highest fees. |

| Average worker could have saved about three days’ wages |

| 17 money managers’ market share (100% scale) |

**In Mexico, most investors overpaid**

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| Average worker could have saved about three days’ wages |

| 17 money managers’ market share (100% scale) |

| Hastings et al., 2016 |

Mexico made several reforms in an attempt to bring down fees. One made it easier for investors to switch from one manager to another, but that didn’t do much for fees, as investors weren’t focusing on them anyway.

Another attempted to attack investors’ lack of focus on cost. The government introduced an index intended to allow investors to more easily compare fund managers’ fees. It required that fund managers show a standardized table of comparative fees that boiled loads and asset fees into one more-digestible fee that would make it easier to comparison shop. But investors still bought high-fee funds, according to Brown’s Hastings and RAND Corporation’s Fabian Duarte.

The government required fund managers to show combined load and balance fees according to a formula that was simple to read but, crucially, didn’t reflect true costs. Investors did pay attention to the index, and many did switch their investment choices in an attempt to invest more wisely. However, management companies restructured their fees to exploit the formula. They lowered load fees but raised management fees to maintain a low index value. As a result, many investors ended up in funds that were more expensive than they realized, and managers continued raking in hefty profits.

The new fee structure actually raised management costs for low-wage workers, who ended up subsidizing wealthier workers, according to Hastings and Duarte. “Rather than harnessing perfect competition, privatized social safety net markets may result in abundant advertising or complicated and obfuscated fee schedules,” they write.

Financial-literacy programs for low-income workers would help, according to a model created by Hastings, Hortaçsu, and Syverson. Combining those with a low-cost government alternative that would give the private-fund managers some additional competition could force down prices by as much as 77 percent, the researchers estimate.

“Our study not only helps explain experiences and outcomes in one of the world’s largest privatized social security markets, but also suggests broader lessons as retirement savings and investment processes evolve.”
health-insurance markets head toward greater individual control,” Hastings, Hortaçsu, and Syverson write.

**Mandated savings in Australia**

Mexico’s experience offers one cautionary tale, and Australia’s offers another, although somewhat more hopeful. “Australia’s retirement income system is regarded by some as among the best in the world,” writes Julie Agnew of the College of William and Mary. “It has achieved high individual saving rates and broad coverage at reasonably low cost to the government.”

In 1992, Australia recognized its own retirement savings system was inadequate, and its leaders embraced savings and optional matching employer contributions. It kept a government-funded pension safety net, introduced in 1908, but it also required that almost all workers participate in a retirement savings system. Most plans are privately operated.

**A survey of Australian investors found a low level of financial literacy. Over half of respondents either didn’t know what a balanced mutual fund was or incorrectly thought it was composed of risk-free assets.**
Last year 53 percent of US retirees had less than $25,000 saved, and 27 percent had less than $1,000, according to the Employee Benefit Research Institute.

Australia’s “Superannuation” system relies on employers, rather than workers, to fund retirement accounts. It has higher minimum savings requirements: currently, employers must contribute 9.5 percent of most workers’ earnings to tax-advantaged retirement plans. That’s 3 percent more than the automatic set-aside required in Mexico. Unlike in the US and Mexico, early withdrawals are not permitted in the Australian system.

But Australia, too, has high fees. Workers in Australia are allowed to invest their retirement accounts in a wide variety of assets, and some are expensive. “Many researchers argue that these fees are too high overall,” says Susan Thorp, at the University of Sydney. The average fee is about 1 percent of assets per year, which includes life- and permanent-disability-insurance premiums. One rule of thumb says that an annual charge of 1 percent each year over a 40-year career is equivalent to roughly a 20 percent front load.

Also, a survey of Australian investors found a low level of financial literacy. Over half of respondents either didn’t know what a balanced mutual fund was or incorrectly thought it was composed of risk-free assets. “This finding is disturbing, as the majority of default investment options at the time of the survey were balanced mutual funds, and suggests more should be done to help Australians understand their financial options,” Agnew writes.

But Australia’s Superannuation program now holds more than A$2 trillion, the equivalent of US$1.5 trillion. That represents almost a third of the roughly $5 trillion saved in the US in 401(k) accounts—and the US has a population roughly 15 times larger.

The US retirement crisis
The American retirement system, the world’s biggest, is in trouble. But does the US itself hold lessons for reform? Since the 1980s, saving and investing for retirement in the US has increasingly become the responsibility of individuals. Companies have done away with corporate pensions, and workers have been encouraged to save in tax-advantaged accounts such as 401(k)s and individual retirement accounts.

Analysis from JP Morgan Asset Management, looking at average investor stock market returns between 1996 and 2015, set against an 8.2 percent annual gain in the S&P 500 during that time, found the rank-and-file investor realized a mere 2.1 percent. Fees ate away at gains, and individuals tossed out some of the rest by pulling counterproductive moves that locked in losses and forewent gains. Behavioral biases cause people to flee the stock market after a plunge, as in 2009, and pile into stocks near a peak, as in 2006.

Now many Americans cannot depend on savings and investments alone to comfortably pay for retirement: 53 percent of US retirees had savings of less than $25,000 in 2016, while 27 percent had less than $1,000 saved, according to the independent Employee Benefit Research Institute (EBRI). Among Americans still working, 54 percent have less than $25,000 in savings, the EBRI reports. (The EBRI excluded primary home and pension values from the savings calculations.)

As for Social Security, it is projected to start running a deficit, and future retirees could receive only partial benefits. In 1983, the US made changes that included gradually raising qualifying full retirement ages from 65 to 67, with the aim of extending the life of the program. The bill put forward by Johnson, chairman of the House Ways and Means Social Security subcommittee, would again raise the retirement age (to 69) and cut benefits for many.

US politicians have broached the idea of giving individuals further control over Social Security. In his 2005 State of the Union address, former US President George W. Bush proposed letting some workers redirect a portion of their social-security withholding into individual accounts. Bush remarked:

*Personal accounts are a better deal; your money will grow, over time, at a greater rate than anything the current system can deliver. And your account will provide money for retirement over and above the check you will receive from Social Security.*

Some research findings at the time indicated reason for concern about the plan. Nobel Prize–winning economist Peter A. Diamond of MIT, and the Brookings Institution’s Peter R. Orszag, examined three proposals presented by Bush’s Commission to Strengthen Social Security, and found significant risks in all, particularly associated with cash flow. To finance Bush’s privatization proposals, the shortfall in funds entering the Social Security system would have to be made up by borrowing, increasing the federal debt. Individual accounts “are simply inappropriate for a social insurance system intended to provide for the basic tier of income during retirement, disability, and other times of need,” they wrote, collecting their thoughts in the book *Saving Social Security: A Balanced Approach.*

Bush’s proposal failed to advance, and it remains to be seen whether individual accounts would gain traction now. But the experiences of reform suggests that privatization involves nuance. Fees can be high, despite considerable efforts to promote competition. Mandated savings levels can be set too low. “To the extent policymakers care about the total costs paid to operate a system, it may be necessary to do more than simply set up a market with several players and free information flows,” write Hastings, Hortaçsu, and Syverson. A privatized market involves a range of thorny details—all of which matter to the many millions of people moving daily toward retirement.

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How sales taxes could boost economic growth

Research suggests higher taxes could help end stagnation in developed economies

BY DEE GILL ILLUSTRATIONS BY EIKO OJALA
The fight against sluggish global economic growth has been expensive, protracted, and unexpectedly vexing, leaving central bankers in developed economies with a laundry list of shared frustrations. Meager economic growth, flagging wages, and low inflation persist, in spite of bankers’ monetary stimuli, and threaten to quash upward mobility for young job seekers and midcareer employees in even the richest countries.

There’s a poster child for what countries do not want to become: Japan. The former economic powerhouse has been stuck in low-growth purgatory since 1991. And yet, as much as they’d like to avoid it, some countries have been sliding in that direction.

Many big economies are stagnating, and economists are running out of options to fix them. The conventional monetary policy for encouraging spending has been to drop short-term interest rates. But with rates already near, at, or below zero, that method is all but exhausted. Some economists have also started to empirically and theoretically question the power of forward guidance, in which central banks publicize plans for future interest-rate policies, at the zero lower bound.

To create the rising prices that fuel higher wages and economic growth, central banks must convince consumers and companies to spend more money. But controversial asset-buying programs that brought down long-term interest rates have not also produced sustained price increases as hoped, and they have inflated central-bank balance sheets. In the United States and Europe, those figures recently stood between 24 and 36 percent of GDP, according to WSJ Pro Central Banking. Japan’s central-bank balance sheet was a whopping 90 percent of GDP, and prices are still going down.

Central banks and governments badly need a new stimulus tool, preferably one that doesn’t cost a lot of money. Some researchers are proposing a fix that might sound unappetizing: raising sales taxes as a means of jump-starting economic growth.

Francesco D’Acunto of the University of Maryland, Daniel Hoang of Germany’s Karlsruhe Institute of Technology, and Chicago Booth’s Michael Weber find evidence that a preannounced tax hike—a 3-percentage-point increase in Germany’s Value Added Tax enacted in 2007—provided just the kind of growth stimulus central banks desperately need today.

In the 14 months between the government announcing the tax hike and its effective date, German consumers’ willingness to purchase large-ticket items rose by 34 percent, according to the research. Moreover, that excess willingness on display ahead of the VAT hike reverted to its preannouncement levels.

The researchers’ conclusions suggest that consumption taxes could be a cheap alternative to monetary policy for goosing sluggish economies. The strategy is termed “unconventional fiscal policy.”

Why we need inflation

Anyone who has lived through high inflation, such as the double-digit inflation of the late 1970s in the US, may be skeptical of any plan to raise prices. Few consumers would welcome a return to 13 percent mortgages, or to paychecks that buy progressively fewer goods.

But low inflation presents equally worrisome problems. Companies do not spend money to expand, because they do not see rising demand for their products. There is little job growth and meager wage growth, which makes consumers reluctant to spend on the products that the companies sell. Also, consumers might put off buying appliances and other large purchases in hopes of buying them cheaper later. In the US, this vicious cycle stifles upward mobility, as hard work doesn’t produce the same opportunities to make more money and improve quality of life as one would see in a
growing economy. For most countries, an ideal annual inflation rate is between 2 and 3 percent.

Japan’s economy illustrates the ravages of low inflation. In the nearly 25 years since the country’s stock and real-estate prices collapsed, Japan’s economy has barely grown. Corporate Japan is hoarding cash estimated at 50 percent of the country’s GDP. Pay hikes are running at about 2 percent a year, even though low unemployment has created a tight job market. Japanese stock prices today are roughly where they were in the year 2000. Despite record-low borrowing rates (some mortgage rates are below 1 percent), Japanese consumers aren’t buying. Deflation, or falling prices, has given them good reason to hold off on purchases. The near-zero interest rate paid to savers also makes accumulating funds for retirement difficult. (See “Another uncommon idea: Overshoot inflation targets,” page 47.)

Although Japan has been fighting it the longest, this cycle of low inflation and low growth repeats itself throughout the developed world today. Even the stronger economies such as the US and the UK have seen prices hold fairly steady in recent years.

The situation has confounded many economists, who predicted in recent years that the US would be experiencing rampant inflation by now. In hopes of promoting investment, many central banks, including in the US and Europe, bought massive amounts of financial assets in the years following the Great Recession. Because the programs required central banks to create new assets for the purchases—the banks essentially made money out of nothing—mainstream economists warned that high inflation would follow. But the critics were wrong. Not only did the money-printing schemes fail to inflate prices appreciably, parts of the eurozone are now flirting with deflation.

Meanwhile, GDP growth across Europe was well below 2 percent last year. In the US, the Fed forecasts GDP growth of about 2 percent in 2016, with lower growth in the following two years.

**Buy now, or pay later**

The idea that the threat of a sales-tax hike might stimulate stagnant economies has been around for some 25 years. But before the researchers homed in on the German VAT increase, economists had not documented such an effect in real life.

University of Michigan’s Matthew D. Shapiro first made the case, in 1991, for using a tax increase to get consumers to spend. Harvard University’s Martin Feldstein proposed in 2002 that recession-plagued Japan announce plans for quarterly VAT increases, along with simultaneous income-tax reductions, to entice households to spend money ahead of the cost increases. (Both sales taxes and VATs are consumption taxes: a sales tax applies to goods, while a VAT generally applies to both goods and services.)

A decade later, another group of economists—Isabel Correia and Pedro Teles, both of Banco de Portugal and Universidade Católica Portuguesa, Harvard’s Emmanuel Farhi, and Federal Reserve Bank of Minneapolis’s Juan Pablo Nicolini—demonstrated theoretically that the tax policy Feldstein described could stimulate economic activity when interest rates were at or near zero, which is the zero lower bound that limits central bankers’ options for providing growth through conventional monetary policy.

Still, economists struggled to prove that consumers changed their spending plans when faced with impending inflation. Two separate studies from 2015 report conflicting conclusions. A study led by University of Notre Dame’s Rüdiger Bachmann finds no statistically significant association between households’ inflation expectations and their readiness to spend on durable goods such as appliances, lawn equipment, and other household investments expected to last for a few years, such as cars and houses. A study led by the New York Fed’s Richard K. Crump, using data from the Federal Reserve Bank of New York’s Survey of Consumer Expectations, finds a significant positive association between inflation expectations and spending growth expectations.

**Evidence in Germany**

D’Acunto and his team exploit a natural experiment that closely resembles the theoretical situation explored by Correia and her colleagues, who had supposed that a government, at a time of flat nominal interest rates, would announce in advance increases in consumption taxes. And something like that did...
happen in 2005, when Germany unexpectedly announced a 3-percentage-point increase in VAT in 2007. Germany acted for political rather than economic reasons; the move was required to bring the German deficit in line with EU rules governing debt-to-GDP ratios. To comply with the requirements of the 1992 Maastricht Treaty, which ultimately created the European Union, the increase became effective in January 2007. The European Central Bank explicitly stated it would not adjust interest rates to counter the inflationary effects of the tax.

The VAT increase announcement immediately increased German expectations of inflation, but it did not change inflation expectations in similar households in the UK, France, and Sweden, according to analysis of monthly household surveys conducted by the European Commission. By November 2006, German households, compared to the control group, were 34 percent more willing to buy durable goods. By 2007, the announcement had increased consumer price inflation in Germany.

Moreover, the researchers find no negative effects from the tax increase after January 2007. German households’ spending expectations matched those of their foreign counterparts before the VAT increase was announced—and after the hike went into effect.

Weber and his colleagues conclude that this unconventional fiscal policy is a viable option for stimulating stagnant economies. They suggest raising the tax incrementally, by perhaps 1-2 percent a year over several years. Germany reduced income and other direct taxes by 2 percent to soften the added costs for consumers, and Weber says that he would expect to see such pairings in practice, as well as other moves such as tax rebates, to make a tax increase more politically palatable. However, he stresses that such an offset is not necessary for the plan to produce spending.

A practical stimulus?
The stimulus Weber describes is hard to swallow in a recession-weary world. In the US, where wages are depressed and many middle-aged people are unemployed or underemployed, politicians rarely win votes by promising tax hikes.
ANOTHER UNCOMMON IDEA: OVERSHOOT INFLATION TARGETS

Since the Great Recession, much of the developed world has suffered from chronically low inflation. In Japan, the central bank is using an uncommon strategy to try to grow the economy: it’s manipulating inflation expectations by overshotting inflation targets.

The Bank of Japan announced this past September that as the economy approaches the central bank’s long-term target of 2 percent inflation, it will overshoot that inflation target rather than cut back on inflationary practices. It will keep making massive purchases of bonds, exchange-traded funds, and Japanese REITs (real-estate investment trusts) until the country’s observed consumer price index consistently grows more than 2 percent.

Central banks worldwide have spent the better part of a decade trying to spark inflation through low interest rates and boosting the money supply. The US Federal Reserve and many other central banks have paired asset-purchasing programs with reassurances that they would not allow inflation to rise above a set rate, typically around 2 percent. Japan, which has been in or barely out of recession since the early 1990s, has also used this approach.

But a study by Chicago Booth’s Kinda Hachem and Jing Cynthia Wu—first circulated in August 2012 and brought to the mainstream in a May 2016 column by Narayana Kocherlakota, former president of the Minneapolis Fed—finds that strict inflation limits handicap efforts to sustain a healthy rate of inflation. The researchers provide evidence that expansionary monetary policy would be more effective if central banks allowed inflation rates to rise and remain above targets for a period of time before taking steps to ease rates down to desired levels. This is exactly the overshooting strategy Japan is now pursuing.

Hachem and Wu find that overshooting counteracts downward pressure on inflation.

When companies have a variety of inflation expectations, the ones that expect low inflation or even deflation don’t want to be caught spending more money today than they take in tomorrow. As a result, they pull back on production, which creates a drag on the economy and puts downward pressure on inflation.

To counteract this, a central bank needs to capitalize on the inflation expectations of other companies and essentially galvanize those that expect inflation to be high, the research suggests. Companies that expect high inflation will continue producing their goods or services, and they’ll set high prices. To give these companies extra encouragement, central banks should make a series of aggressive announcements, the researchers suggest. Hachem and Wu’s model prescribes that a central bank should announce short-term inflation targets that are higher than the desired long-term inflation goal. Those targets will encourage some companies to set higher prices for their goods or services, which will lead to inflation.

However, the central bank will eventually want all companies, not just some, to share the view that inflation will rise at a target rate. It will take time for people to align their expectations with central-bank forecasts, but they’ll do so when they see the bank has a track record of achieving its forecasts. Hachem and Wu demonstrate that once higher inflation has taken hold, the central bank can build this track record by gradually lowering its inflation target toward 2 percent. It can’t act too quickly here: if it does, some companies could be spooked and again cut back on production.

In the US, moreover, raising sales taxes would be tricky in practice, as the central government does not currently assess this type of tax. Rather, 45 of 50 states collect sales taxes at varying rates, while five states do not charge any sales taxes. Implementing higher taxes as stimulus would require either a new, VAT-like tax or a coordinated effort by all 50 states, which have independent tax laws.

On top of that, consumption taxes are regressive. While sales or VAT taxes generally apply equally, they have a greater effect on the poor, who spend a larger percentage of their disposable income on consumer goods. Adding to the controversy, taxing authorities decide what is or is not considered a necessary item exempt from taxation. Advocates in the US and the UK have protested taxation of feminine sanitary products, for example. “That’s a totally valid point,” says Weber about the taxes’ regressive nature, but he says a tax could be implemented in a budget-neutral way, for example, by pairing a sales tax with income-tax cuts and monetary transfers to the unemployed.

And he already has an endgame in mind: ultimately, if the policy were to work as intended, consumers would start buying more goods. The central bank would escape the zero lower bound.

Then unconventional fiscal policy would pass the baton back to conventional monetary policy.

The global economic backdrop is making it possible for such a suggestion to enter the discussion. Some central banks are toying with stimulus plans that would have been considered wildly unorthodox for developed economies a decade ago. The European Central Bank, as well as its counterparts in Switzerland and Japan, has experimented with negative interest rates. In Denmark, homeowners are getting paid interest on their mortgages, according to Gemma Tetlow writing in the Financial Times, which also reports that some banks in Ireland, Denmark, and Switzerland have been charging companies to hold cash.

So far, the Fed governors have seemed averse to straying too far from the stimulus tools already in use. At an annual summit of leading central bankers in Jackson Hole, Wyoming, in 2016, Fed Chair Janet Yellen indicated that rate changes and, when needed, asset purchases remain the tools of choice for managing US economic growth. She did not mention negative interest rates or taxes.

But if the US won’t experiment with an unorthodox tool, perhaps another country will. Japan is a special case, says Weber, but the researchers have been presenting their findings at central banks including the Deutsche Bundesbank, the European Central Bank, Banca d’Italia, Banque de France, and the Reserve Bank of Australia. Weber thinks that the most-likely candidates for trying out sales-tax hikes for stimulus purposes are long-suffering countries, especially those whose high debt levels make debt-financed fiscal stimulus difficult.

“A country where you might see it implemented is Italy,” Weber says. “Italy’s GDP has been barely growing in real terms for the past three decades,” and its debt-to-GDP ratio is high, he says. “They need a budget-neutral (stimulus) policy.” Weber presented the evidence for unconventional fiscal policy in 2015 at the Banca d’Italia, to good reception.---


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"Midway upon the journey of our life
I found myself within a dark forest..."

"...for the straightforward path way had been lost."

—Dante’s Inferno

Are you Virgil, come to lead me through hell?

No, I’m Professor Neale Mahoney of Chicago Booth. Virgil is at a humanities conference and asked me to lead you through hell for him.

But hell has been in foreclosure since 2008, so I’ll have to show you our modern hell...

Abandon hope all ye who enter here.

...living with unemployment and bad credit!
DEALING WITH UNEMPLOYMENT IS HARD ENOUGH AS IT IS.

AND THE BURDEN OF BAD CREDIT IS LIKE AN EXTRA DEMON TO CONTEND WITH.

YOU POOR WRETCHES! THIS IS WORSE THAN ANY INFERNO I COULD IMAGINE!

IT'S WORSE THAN YOU THINK. EMPLOYERS LOOK AT OUR CREDIT HISTORY WHEN THEY DO BACKGROUND CHECKS!

HOW TERRIBLE! IT SOUNDS DISCRIMINATORY!

WELL, ACTUALLY ... THERE ARE MANY ANECDOTES OF CREDIT RATINGS HINDERING EMPLOYMENT, BUT PAUL GOLDSMITH-PINKHAM, WILL DOBBIE, JAE SONG, AND I TEAMED UP TO SEE WHETHER THOSE ANECDOTES ARE SUPPORTED BY DATA.
WE LOOKED AT TWO GROUPS OF PEOPLE: THOSE WHO HAD GONE INTO CHAPTER 7 BANKRUPTCY AND THOSE WHO HAD GONE INTO CHAPTER 13.

BOTH GROUPS HAVE COMPARABLE CREDIT, BUT CHAPTER 7 BANKRUPTCY ENDS AFTER TEN YEARS, AND CHAPTER 13 ENDS AFTER SEVEN. AFTER THAT YOUR CREDIT HISTORY IS WIPED CLEAN.

FOR THREE YEARS, ONE GROUP SERVES AS A TEST CASE FOR THE OTHER. THEY BOTH HAVE BAD CREDIT, BUT ONLY ONE HAS IT ON RECORD.

FIRST, WE WANTED TO KNOW WHETHER BEING FREED FROM THEIR CREDIT HISTORY WOULD HELP MEMBERS OF THE CHAPTER 13 GROUP WHEN THEY TRIED TO BORROW MONEY.

PREDICTABLY, IT WAS EASIER FOR THE CHAPTER 13 GROUP TO BORROW DURING THOSE THREE YEARS.

SECONDLY, WE WANTED TO SEE IF HAVING THEIR RECORDS CLEARED IMPROVED THE CHAPTER 13 GROUP’S EMPLOYMENT OPPORTUNITIES.
Did the Chapter 13 Group’s incomes increase? Did they find jobs more quickly or move to different fields more easily? In short, were employers discriminating against people with bad credit scores when they could see credit history?

We found no significant difference between the two groups.

...and they are right. We compared people with bad credit and good credit, and there wasn’t any difference in turnover or wage growth between the two groups.

Employers don’t seem to think bad credit will affect a worker’s performance...

Unemployment and bad credit seem to be two unrelated struggles people must contend with.

This is the power of modern economic analysis—we can discern that these two hells people have to go through are not correlated!

Fascinating!
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Entrepreneurs who seek angel and venture-capital funding are conditioned to project a “hockey stick” revenue curve. Most business plans I see at the angel- and seed-funding stage show companies hitting $50 million or more in revenue within a mere four or five years, hence their predicted sales charts look like hockey sticks. Is growth at that pace even possible? Is this just the wild optimism of the entrepreneur? The answer to both questions is yes.

Looking at the first question—-is it possible?—-entrepreneurs can point to many examples. Groupon, founded in 2008, hit the billion-dollar mark in top-line sales in four years. Uber booked nearly $4 billion in gross revenue five years into its operations. (Of course, after it paid the drivers and accounted for all the discounted rides, the company really only took home $500 million.)
Pure Storage, an enterprise storage start-up, passed the $100 million sales mark three years after launching its product, as did health-care technology company Evolent Health. As of July 2016, there were more than 170 privately held tech companies that have come to be known as unicorns—earning market valuations over the $1 billion mark. Frequently these firms have rapid sales growth into the double- and triple-digit millions within five years. But they are very much the exception, not the rule, and what these companies have in common is tens and hundreds of millions, sometimes billions, of dollars of venture-capital and private-equity backing.

All this outside capital allows these firms to overinvest in sales and marketing efforts, product development, and hiring, and even to make acquisitions to grab big chunks of revenue all at once. And the capital allows them to drive extremely rapid sales growth without having to worry about turning a profit. Seven years after being founded in 2009, Uber is still losing money. The ride-sharing giant reportedly lost $1.2 billion in the first half of 2016.

In the United States, more than 400,000 entrepreneurs launch new companies every year—these are employer firms, not simply people who begin to work for themselves as independent contractors. Of these companies, about 13 percent receive seed and early-stage capital from angel investors, with average deal sizes in the hundreds of thousands of dollars. However, only 0.6 percent of those 400,000 entrepreneurs will get early-stage funding from venture capitalists.

What does the sales trajectory look like for those 300,000-plus entrepreneurs who don’t receive the jump start of substantial outside capital? With the help of two analysts from Civis Analytics, I examined data from the Kauffman Firm Survey (KFS), collected annually until 2011 from nearly 5,000 new companies that started in 2004. These companies were randomly selected from the Dun & Bradstreet list of new business starts. Many of the companies never went on to hire employees or generate revenue, and data collection left some entries incomplete or inaccurate. After purging those from the data set, we were left with 1,007 companies. Only six in our sample reported raising outside equity capital, and the average amount raised of just under $55,000 led us to infer that this funding came from angel capital.

What we discovered was a sales pattern that was much more linear than hockey-stick shaped and that largely flattened after the first four years. However, in the fifth year, 2008, the US economy entered the Great Recession. We see an across-the-board decline in the sales of the KFS companies from 2009 to 2011.

We also discovered that in those early years, gross sales exceeding $1 million were rare, with the mean revenue for the surviving KFS companies leveling out at just under $900,000. We identified only 70 companies with annual growth exceeding 30 percent year over year for the first three years. We called these gazelles. Their sales climbed much faster than the remainder of the surviving companies but capped out at just under $2.5 million. They didn’t soar to $50 million and beyond. The story of explosive growth told by the press when it covers the darlings of Silicon Valley paints an unrealistic picture for the average entrepreneur seeking to start and grow his or her company.

More importantly, a telling pattern emerged when we removed the 10 percent of companies that reported being sold during the eight-year timeframe, and when we separated the 52 percent of firms that survived from the 38 percent of them that went out of business during the study. Companies that did not learn to sell, whose sales pattern started up in years one and two but flattened out early at less than $400,000, were destined to fail, even if it took seven years.

There is an important lesson here for entrepreneurs and investors: learning to sell—identifying your target customers, improving your processes to acquire new customers, retaining existing customers, and growing the base—happens in the first two to three years of business. If your sales trajectory is not trending up after that time, chances are it never will. Examine your value proposition to your customer, your approach to the market, and your internal sales talent. If you can’t fix these, you may not have a repeatable, scalable business model to pursue after all.
How sales patterns vary
When trying to predict sales patterns, it is also relevant to look at the way companies go to market. We used the North American Industry Classification System (NAICS) codes collected by the Kauffman researchers to organize the companies into four categories, using the typical go-to-market approach:

**Relationship selling** is typified by a member of a direct-sales force employed by the company interacting one-on-one with an end buyer of the product or service. Individual contracts are customized to the specific buyer’s requirements, and growth means adding buyers one at a time. Most business services, enterprise software, large capital-equipment companies, and some consumer services such as home repair, interior design, and cleaning are sold this way. These companies experienced slow, steady linear growth in the early years, and the impact of the Great Recession was delayed for them, perhaps due to the longer-term nature of the one-on-one contracts.

**Retailers** have physical store locations where they generate revenue from the mix of products and services sold at that location. Many companies selling goods such as groceries, furniture, clothing, and other consumables directly to consumers—as well as companies selling consumer services such as health and wellness, beauty, hospitality, and entertainment—generate revenue by having retail locations. Some business goods and services are also sold in retail locations. Most entrepreneurs starting stores think they will hit steady-state revenue in six months to a year, but our model suggests it takes three years for a retail unit to achieve that. None of the retail-based companies in the KFS opened additional locations during the study period.

**Channel sales** involve selling a product or service to another company that either resells it directly to the end user or embeds it into a final offering that is sold to the ultimate customer. One example: consumer-goods producers sell to wholesalers and retailers, which sell the products to consumers. This model gained market traction the fastest and appeared to hit steady state, possibly based on production-capacity constraints, in year three.

**Online distribution** is the newest go-to-market model for soft goods such as content, software, and financial services, as well as an alternative to brick-and-mortar stores for e-commerce companies. While a relatively small percentage of retail goods are sold direct to consumers from online stores such as Amazon.com and eBay, this approach to the market is growing rapidly. And especially in the start-up world, companies increasingly rely on this method of sales and distribution—particularly online-native businesses. These companies are the most likely to demonstrate a propensity toward the hockey-stick curve of exponential growth. The KFS companies in this model seem to have been delayed by the Great Recession but achieved a sharp upward trajectory from 2008 to 2011.

**What correlates with sales success?** We looked across several elements in the data set to determine what correlated with longer-term survival rates—only in academia do you need a statistically relevant data sampling to tell you what you already know, but it is true: more revenue absolutely correlates with survival rates. So, what are the variables that correlate with higher revenue? We found two.

**Capital.** When a company has capital to work with, whether it is debt (120 companies in our sample reported accessing an average amount of $178,000 in debt), financing from savings or friends and family (275 reported injecting an average of $70,000 of personal capital into the business), or equity (six companies reported raising an average of $54,000 in equity funding), there is a significant and positive correlation with higher revenue the following year.

**Employees.** In every year of the study, an increase in the overall number of employees shows strong positive correlation with increased revenue the following year. And more employees dedicated to sales activities correlates with higher revenue.

What can the aspiring entrepreneur take away from all of this? The hockey-stick growth model that gets a company to $50 million, $100 million, or even $1 billion in five years, so touted in the press, exists—but it is rare. Perhaps not unicorn rare, but far less than 1 percent of companies will achieve results even close to that. You need to plan your business accordingly, but there are two things you can do to meaningfully increase your chances of success: give your company enough capital to work with in the early days, and invest some of that money in employees who can sell. In the end, revenue generation is the way to business survival.

Waverly Deutsch is clinical professor of entrepreneurship at Chicago Booth.

Analysis of the data was completed as a result of a generous grant of pro bono services from Civis Analytics and was conducted by Danning Chen with guidance from Carolyn Kriss and Waverly Deutsch.

Entrepreneurs’ sales approach
Online businesses are most likely to show a propensity toward “hockey-stick” growth.

![Graph](Deutsch, 2017)

Sales for a sampling of new US companies, by go-to-market approach
US dollars

| Channel sales | 130 making products that other companies then resell |
| Channel sales | 16 firms |
| Online sales | 71 with physical stores |
| Relationship sales | 240 working one-on-one with an end buyer |
| $200,000 | $400,000 | $600,000 | $800,000 | $1 million | $1.2 million | $1.4 million | $1.6 million |
| 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
Learn to avoid the next product disaster
Identify problems before they blow up

There’s a saying in England: ‘Where there’s smoke, there’s fire.’” So said James Bond, played by the inimitable Sean Connery, after setting fire to a fleet of Spectre boats in the movie From Russia with Love. The outbreak of flammable Samsung Galaxy Note 7 phones suggests the reverse—where there were fires, there must have been smoke. There must have been signals ahead of that unfortunate outcome for Samsung. So what were some of these signals and the reasons behind them?

With the Galaxy S8 release expected this spring, as well as the conclusion of an investigation into what happened, Samsung is trying to put the exploding episode behind it. But it’s useful for everyone to look back at what happened, as a case study for how companies can avoid creating product disasters.

The first issue that affected the Note 7 was product design. The smartphone market has become more competitive, and in recent times we haven’t seen the types of technological breakthroughs that characterized the early period of the smartphone life cycle. Manufacturers have more recently focused on making phones bigger, thinner, faster, and brighter. This, and the desire for a longer battery life, put a lot of pressure on the design of the lithium-ion battery embedded in these phones.

According to CNET, this is why there’s little room for error: “Phones use lithium ion battery packs for their power, and it just so happens that the liquid swimming around inside most lithium ion batteries is highly flammable. If the battery shortcircuits—say, by puncturing the incredibly thin sheet of plastic separating the positive and negative sides of the battery—the puncture point becomes the path of least resistance for electricity to flow. It heats up the (flammable!) liquid electrolyte at that spot. And if the liquid heats up quickly enough, the battery can explode.” Companies in general (and in this case, Samsung in particular) need to be sensitive to products’ design parameters.

The second issue: product testing. The best way to minimize the probability of problems is to subject a product to rigorous testing: alpha tests, performed in-house; beta tests, with some subset of customers; and delta tests, which assess longer-term wear and tear. (Samsung, as the Wall Street Journal has reported, tests its batteries in-house.) With the pressure on to bring to market new and improved devices, it seems likely that the amount of testing that products are being subjected to is declining. Less testing, in conjunction with more-complex design, increases the likelihood of an episode such as that suffered by Samsung.

The third aspect, perhaps unique to Samsung, is product overassortment. Unlike Apple, which generally sells only one flagship product, or more recently two, Samsung sells an entire product line with several series—including A, C, E, J, S, Y, and Note. Samsung has more products to test. An issue with even one of the products is liable to damage the company’s reputation.

Designing and testing each product in each of the lines is clearly a challenge for the company, even before it faces the marketing challenge of differentiating...
How Twitter reacted to a flammable phone

While Samsung’s Galaxy Note 7 took a beating in terms of Twitter sentiment, the main Samsung brand was not too badly affected.

Chintagunta, 2017
these series in the minds of consumers. (Of course, some of the series are country specific; for example, the C series was launched in China.) The above factors may have all contributed to the greater likelihood of the Note catching fire.

Consider marketplace factors
There are also marketplace factors that Samsung, and others, should pay attention to in the future. Companies launching products should be more circumspect about new pricing and promotion policies being followed by product distributors.

As the technologies underlying the products advance (producing faster chips and brighter displays), the cost of manufacturing remains high ($255, by one estimate) and the market price for phones keeps rising. Granted, Samsung is in an enviable position of being more vertically integrated than other manufacturers, and so it has managed to keep costs in line with that of the previous generation phones. But a high retail price has implications for consumers.

In the past, wireless carriers including AT&T and Verizon subsidized their consumers’ phone of choice. In effect, the consumer paid only about $199 for a device. However, facing competitive and margin pressures of their own, these wireless carriers have started to end the price subsidies, and now consumers are required to pay full price (albeit, in most cases, in installments).

If consumers are paying $700 for a phone when they used to pay $200, they’re likely to be a lot more sensitive to a phone’s quality. Having the device catch fire could have long-term consequences in this new pricing and promotion regime. It would behoove Samsung and its rival manufacturers to take into account that consumers are spending more than ever when making a smartphone purchase and therefore are expecting to have a robust device.

Samsung particularly has to consider the role of the wireless carrier. In most cases service providers also distribute devices. When a device is recalled, carriers need to work with customers to retrieve the recalled phones and provide replacements.

Several manufacturers now compete in the devices marketplace, making the carriers less dependent on any particular one, especially one having an issue with its products. Samsung needs to recognize the power of the carrier and ensure that it keeps its relationships with these players strong.

The aftermath of the explosions
But did the exploding phones already do permanent damage? Twitter data offer some insight.

With the help of Yogesh Kansal, a current Booth MBA student, I looked at Twitter data from August 15 to September 15, pulled from the 2 percent of tweets that Twitter allows us to freely access. Let’s review the timeline of events. (See “How Twitter reacted to a flammable phone,” previous page.)

I began by plotting the time series in tweet volume for “Samsung” and “Galaxy Note.” Not surprisingly, we saw a spike corresponding to the recall announcement. There was also a spike corresponding to the warnings issued by the CPSC and FAA. The numbers remained somewhat elevated through the middle of the month.

Next, we looked at the overall sentiment for the “Samsung” brand in this period. The split indicates that, overall, Samsung was not too badly affected by the recall. This is also evident from the sentiment trend.

What about the Galaxy Note subreddit? The news was less positive. Here, the overall positive sentiment shows a clear drop off over time. However, the negative sentiment peaked around August 31, when the shipment delays were announced, and then again after the FAA and CPSC warnings came out.

Consumers were clearly unhappy about the delay in the shipments. This is understandable, since the later launch would eliminate bragging rights the Note 7 owners would have vis-à-vis buyers of the iPhone 7, which was set to come out later.

Moreover, consumers were confused by the recall. Samsung could have reacted to their confusion by issuing clear instructions. In the context of a global launch, where governments may require different interventions, Samsung needed to come up with a comprehensive global response. And while there was considerable buzz around the Samsung event, it was quite small in the context of the iPhone.

It is clear that Samsung and Galaxy Note had the lowest positive sentiments, but negative sentiments were no higher than those for the other brands. So working to regain the trust of the customers could result in more-positive sentiment.

Did other brands benefit from Samsung’s travails? The answer: it appears there were no major beneficiaries of Samsung’s missteps. While there does appear to have been a slight uptick in positive sentiment for the iPhone, this could easily be attributed to Apple’s announcement of the next-generation iPhone.

The data suggest that Samsung should be able to eventually overcome the fallout from the Note 7 recall. Most of the negative sentiment focused on the specific product rather than the parent company: perhaps this is an instance in which having a product line might have contributed to the problem while at the same time limited the negative consequences of the incident.

Of course, this rebound depends critically on whether the company moves decisively to address the problems.

Special thanks to Yogesh Kansal for his help with this article.

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A way to fight bank runs—and regulatory complexity
Cure two ills at once by giving banks a choice

The United States is approaching the seventh anniversary of the passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act. Though the act was intended to limit risk taking by banks and promote financial stability, many economists and politicians think instead that it’s an example of regulatory overreach that has hamstrung large institutions, squashed smaller ones, and pushed the US toward a sclerotic, uncompetitive, and crony-ridden financial industry—one that is no safer from systemic crisis than it was before.

Republican Jeb Hensarling, chairman of the House Financial Services Committee, has introduced the Financial CHOICE Act to reform Dodd-Frank. The core of the act is simple: large banks should fund themselves with more capital and less debt. In that way, losses are borne by shareholders, not taxpayers. Furthermore, losses do not spread to other financial institutions through runs or debts unpaid, so the government does not have to try to regulate risk taking in great detail.

The act strives for a very simple measure of capital adequacy in place of complex Basel rules, by using a simple leverage ratio. Very roughly, banks should fund themselves with more than 10 percent equity relative to the value of their assets.

And the act has a clever carrot in place of the stick: this is not a regulatory requirement. Instead, banks with enough capital are exempt from a swath of Dodd-Frank regulation. Banks can operate with less capital if they want, but the Dodd-Frank regulators will be back.

In November, Hensarling solicited “advice and counsel” on modifications to his bill, and that invitation, along with the increased likelihood of regulatory changes under a new president, is a good prompt for a discussion of what regulatory reform should look like.

Find market-based alternatives to a leverage ratio
The most important question, I think, is how, and whether, to improve on the leverage ratio with a better but similarly simple and transparent measure of capital adequacy. Keep in mind, the purpose is not to determine a minimum capital level at which a bank is resolved, closed down, bailed out, etc. The purpose is to find a minimal capital ratio at which a bank is so systemically safe that it can be exempt from a lot of regulation.

There is always a trade-off between simplicity, transparency, and accuracy. So, one can complain about inaccuracies of the leverage ratio. For example, it means that banks must have $10 of equity to take $90 of your money and buy $100 of reserves at the Fed—the safest investment imaginable. It also gives banks incentives to invest in riskier securities. A $10 call option and a $100 stock can have the same risk, but the call option requires only $1 of equity, not $10.

The “right” answer remains, in my view, the pure one: 100 percent equity plus long-term debt to fund risky investments, and short-term liabilities such as deposits must be entirely backed by treasuries or reserves. But, though I still think it’s eminently practical, it’s not on the current agenda, so for the time being let’s return to the task of coming up with something better than a leverage ratio.
Our regulators’ and bankers’ strong preference for accounting values rather than market values comes from the fact that they think they know values better than markets do.

Market values. First, we should use the market value of equity, not the book value, to measure a bank’s capital position.

The market value of equity (and debt) is a better measure of the value of bank assets than are accounting measures, or even mark-to-market values. Asset risk weights are complicated and open to games, and no asset-by-asset system captures correlations between assets. Value at risk captures that correlation, but people trust the correlations in those models even less than they trust risk weights. Accounting values pretend assets are worth more than they really are, except when accounting values force marks to market that are illiquid or “temporarily impaired.” The market value of equity solves these problems neatly.

If the assets are unfairly marked to market, equity analysts know that and assign a higher value to the equity. If assets are negatively correlated so the sum is worth more than the parts, equity analysts know that and assign a higher value to the equity.

Liabilities, not assets. Second, we should use the ratios of liability values, not the ratios of equity and debt to asset values. Rather than measure a ratio of (book) equity to (accounting) asset values, look at the ratio of market value of equity to the debt that the bank issues. Here, I would divide market value of equity by the face value of debt, and especially debt under one year. We want to know if the bank can pay off its creditors, or if there will be a run.
So far, then, I think the following ratio:

$$\frac{\text{market value of equity}}{\text{(equity + face value of debt)}}$$

is both better and much simpler than the leverage ratio that compares book value of equity to complex book value of assets.

One can do even better:

$$\frac{\text{market value of equity} + \frac{1}{2} \text{market value of long-term unsecured debt}}{\text{market value of short-term debt}}$$

is attractive, as the main danger is a run on short-term debt.

Use options prices for tails. Ratios such as these are, I think, an improvement on leverage ratios all around. But both measures have a common problem, and I think we can improve them both.

A leverage (equity/assets) ratio doesn’t distinguish between the riskiness of the assets. As above, a bank facing a leverage constraint has an incentive to take on more risk. (A deep problem of accounting is that measuring the value of something does not tell you how likely that value is to change.)

The main motivation of risk weights is to try to measure assets’ risk—not the current value, but the chance of a big loss in value—and make sure there is enough equity around for all but the worst risks. You can see why critics want to bring back risk weights.

So let’s try to solve the risk problem with market prices.

A simple idea: use options prices to measure the banks’ riskiness. An option gives you the right to buy or sell a stock at a given price. The more volatile the stock, the more valuable the option. So options prices tell you the market’s best guess of the chance that stocks can take a big fall. You can use options prices to calculate “implied volatility,” a measure of the standard deviation of stock returns.

If Bank A has bought stock worth $100, and Bank B has call options that are worth the same $100 but are 10 times riskier, the options prices on Bank B’s stock will be much larger, and therefore the implied stock volatility will be higher.

So, bottom line: use the implied volatility of bank options to measure the riskiness of the bank’s assets. Don’t ignore risk (leverage ratio) or try to measure it with complex risk weights (Basel).

As a simple example, suppose a bank has $10 market value of equity, $90 market value of debt, and 25 percent implied volatility of equity. The 25 percent implied volatility of equity means 2.5 percent implied volatility of total assets, so (very roughly) the bank is four standard deviations away from wiping out its equity.

We might be able to simplify even further. As a bank issues more equity and less debt, the equity gets safer and safer, stock volatility goes down, and the implied volatility of options goes down. Perhaps it is enough for regulators to say, “The implied volatility of your at-the-money options shall be no more than 10 percent.”

There are even purer versions of the same idea, though one has to think a bit harder about options markets to see how they work. A put option is the right to sell stock at a given price. So determine the minimum cost of put options that give the bank the right to issue stock at a price sufficient to cover its short-term debt. For example, if the bank has $1,000 of short-term debt, then we could look at the value of 10 put options, each giving the bank the right to sell its stock at $100. If the market value of equity is greater than the cost of this set of put options, the bank is OK. In short, I think we could improve a lot on the current leverage ratio by using market values of equity, using ratios of equity and debt liabilities rather than accounting asset values, and using options prices to measure risk.

Our first step is to get our regulators and bankers to trust the basics:

1. Stock markets provide good measures of total value—at least better than regulators.
2. Options markets provide good measures of risk—at least better than regulators.

What if market gyrations drive down the value of a bank’s stock? Well, that would be an important signal that bank management and regulators should take seriously! The bank should have issued a lot more equity to start with to make sure that didn’t happen. It should have issued contingent convertibles or bought put options if it thought raising equity was hard. And when a bank’s equity takes a tumble, that is a great time to send the regulators in to see what happened.

Fundamentally, our regulators’ and bankers’ strong preference for accounting values rather than market values comes from the fact that they think they know values better than markets do. (A cynic might also add that accounting numbers are easier to
fudge.) Markets get it wrong all the time—but accountants, bankers, and regulators get it wrong much more often!

**We can live with a leverage ratio**
The problems with a leverage ratio are not catastrophic. Right now, banks have to issue capital if they take your money and hold reserves at the Fed or hold short-term Treasury debt. That obviously doesn’t make much sense, as those are riskless activities, and banks are complaining.

More subtly, a leverage ratio forces banks to issue capital against activities that are almost as safe, such as repurchase (“repo”) lending secured by Treasuries. Stanford’s Darrell Duffie argues that the leverage ratio discourages banks from acting as intermediaries in the markets for safe assets such as repo loans.

The natural response, then, is to start risk weighting lite. The Bank of England recently exempted government securities from their leverage ratio. But consider the natural response to the natural response: once we start making exceptions, the lobbyists swarm in for more. The poster child for the ills of risk-weighted asset regulation: Greek sovereign debt still carries no risk weight in Europe.

But how much damage is really done by asking for capital for safe investments? Recall the Modigliani-Miller theorem after all: if a bank issues equity to fund risk-free investments, the equity is pretty darn risk free too, and carries a low cost of capital. And even if funneling money to safe investments costs, say, an extra percent, does that really justify the whole Dodd-Frank mess?

In the end, it is not written in stone that large, systemic, too-big-to-fail banks must provide intermediation to safe investments. A money-market fund can take your deposits and turn them into reserves, needing no equity at all. There are many other ways to funnel risk-free money to risk-free lending activities. The usual mistake in financial policy is to presume that the current big banks must always remain, and must always keep the same scope of their current activities—and that new banks, or new institutions, cannot arise when profitable businesses such as intermediation open up.

So, in the worst case that a leverage ratio makes it too expensive for banks to funnel deposits to reserves, or to fund market making or repo lending, then all of those activities can move outside of big, too-big to fail, banks.

**Are markets illiquid? Are there people who can’t get loans? The answer, usually forgotten in policy, is not to prod existing businesses to change, but to allow new ones to enter.**

**Let Dodd-Frank wither**
The CHOICE Act has some additional interesting characteristics.

Most of all, it offers the carrot I mentioned earlier: banks with sufficient equity are exempt from a swath of regulation.

That carrot is clever. We don’t have to repeal and replace Dodd-Frank in its entirety, and we don’t have to force the big banks to utterly restructure things overnight. Want to go on hugely leveraged? The regulators will be back in Monday morning. Would you rather be free to do things as you see fit and not spend all week filling out forms? Then stop whining, issue some equity, or cut dividends for a while.

More deeply, it offers a path for new financial institutions to enter and compete. Compliance costs and a compliance department are not only a drag on existing businesses, they are a huge barrier to entry. Are markets illiquid? Are there people who can’t get loans? The answer, usually forgotten in policy, is not to prod existing businesses to change, but to allow new ones to enter. A new pathway—lots of capital in return for less asset-risk regulation—will allow that to happen.

In the Department of Finish Sanding, I would suggest requiring a good deal more than 10 percent equity, and I would also prefer a stair step: 10 percent buys exemption from X (maybe SIFI—systemically important financial institution—status), 20 percent buys exemption from Y, and so forth, until at maybe 80 percent equity plus long-term debt you’re not even a “bank” any more.

Remember, the issue is runs, not failure. Banks should fail, equity be wiped out, and long-term debt become equity. The point of regulation is not to make sure banks are “safe” and “don’t fail.” The point of regulation is to stop runs and crises. So ratios that emphasize short-term debt are the most important ones.

Ultimately one of the act’s cleverest provisions is that it doesn’t obliterate Dodd-Frank, but rather provides a route around it. Both politically and economically, it is much easier to let Dodd-Frank die on the vine than to uproot and replant it.

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Take a hard look at the money motive
There are many sides to self-interest

People are generally more comfortable circulating a dirty joke than taking credit for it, which may explain why one of my favorites is variously attributed to Mark Twain, Winston Churchill, George Bernard Shaw, and Groucho Marx. While there is no authoritative version, the joke runs more or less as follows:

**Old Rogue:** Would you sleep with me for $10 million?
**Starlet:** Why, of course I would!
**Old Rogue:** How about $15?
**Starlet:** Fifteen dollars! What do you think I am?
**Old Rogue:** We’ve already established what you are, Madame. Now we’re just haggling over the price.

What I like about this joke—beyond the withering rejoinder—is what it teaches us about ethics, namely that the decisions we make are shaped by not only a wide variety of interests but the fickle relationship between them.

The moral status of motives, especially when they are classified under the heading “self-interest,” tends to prick the conscience of even the most cocksure corporate executive. Such hesitation is hardly surprising. Self-interest has had a discomfiting relationship to economic development since the early 18th century, when Bernard Mandeville published *The Fable of the Bees; Or, Private Vices, Public Benefits*, an allegory implying that the common good came about when businessmen behaved badly.

Mandeville’s cynical views about human nature made him the *bête noire* of Adam Smith, who struggled to distance his economic system from one that implied the wealth of a nation depended upon a license for depravity. As a matter of moral retort, his greatest success was to take the debate about the relationship between opulence and ethics beyond a stale showdown between selfishness and altruism.

As Smith understood, what constitutes self-interest is actually a swarm of contending motives: the concern for security and self-advancement, the lust for power, the pride of completed projects, the pleasure of esteem, the desire for friendship and love, the satisfaction of righteous action and worldly improvement, the delights of recreation and physical gratification, and the need for rest. This catalog is by no means complete, but it indicates a more complex portrait of human motivation than Mandeville ever allowed. More importantly, while Smith agreed that allowing people to pursue their own private concerns was a better recipe for general affluence than the benevolent efforts of central planners, he also knew that to say as much was to say very little about the wide variety of motives that move us, or whether they might include broadly benign aims. (That’s a matter that hardly requires prolonged reflection, unless you believe that the interests of most people exclude the health and welfare of others.)

Ultimately, it is the role of one interest in particular, rather than a concern for whether we should ever be moved by the lives of others, that remains vexing to those who worry about the relationship between economic development and moral reasoning: the money motive.

Contrary to how it is sometimes treated by cheerleaders and critics of capitalism
might be achieved in two ways. The first is when money is made to only matter. This is most effective, organizationally speaking, not that not merely bearable but actually welcome. Make sleepless nights for a young banker stock options can’t replace sleep, they can money.” As Wall Street CEOs well know, if people are motivated by things other than they are required precisely because firm performance. Indeed, as the duo would contend in a later paper, while “monetary incentives are not the best way to motivate every action,” ultimately “they are required precisely because people are motivated by things other than money.” As Wall Street CEOs well know, if stock options can’t replace sleep, they can make sleepless nights for a young banker not merely bearable but actually welcome.

Jensen and Meckling’s chief insight is not that only money matters, but that it is most effective, organizationally speaking, when money is made to only matter. This might be achieved in two ways. The first is when money becomes an end in itself. That possibility is the one that has most often worried moral philosophers and moralizing economists alike. John Maynard Keynes memorably imagined that one day,

As Adam Smith understood, what constitutes self-interest is actually a swarm of contending motives.

the love of money as a possession— as distinguished from the love of money as a means to the enjoyments and realities of life— will be recognized for what it is, a somewhat disgusting morbidity, one of those semi-criminal, semi-pathological propensities which one hands over with a shudder to the specialists in mental disease.

Whatever one makes of such outrage, it can’t be doubted that our environments can produce strange and bizarre beliefs, among them the conviction that money is the exclusive measuring stick of meaning and accomplishment. And while those disposed to such a mind-set are certainly morbid, if not necessarily semi-criminal, they seem marginal figures whose moral significance is easily quarantined.

A second way in which money might only matter is far more troubling, however, largely because it implicates the unconvincing by contaminating the many things that make up our self-interest.

Consider how Jensen and Meckling defend the role of monetary incentives in their vision of the corporation: “The main advantages of monetary incentives in this mosaic of organizational incentives is that general purchasing power is valued by almost everyone (because it is a claim on all resources), and it can be easily varied with performance.” This claim seems logically compelling and largely unobjectionable, unless one takes a more expansive view of what constitutes “all resources.”

Contemporary philosophers, including Michael Walzer and the late John Rawls, have spent considerable time contemplating the types of things we tend to want (the constituent parts of our self-interest) and how exactly we should get them. This is to say, they have been preoccupied with justice, an inquiry in large part devoted to the allocation of goods. For those unfamiliar with these debates, the term “goods” can be a bit confusing, for it tends to include, but is hardly limited to, material things. Rawls, for instance, held that there were a wide variety of goods that all individuals are assumed to want: “rights, liberties, and opportunities, income and wealth, and the social bases of self-respect.” Whatever one makes of this particular taxonomy—and among philosophers it by no means commands universal assent—the important point is that there are different types of goods we desire as well as various ways in which we generally believe they ought to be allocated. If Michael Phelps sets a world record in the 200-meter medley, he may be fairly entitled to an Olympic gold medal, but not admission to Harvard Medical School.

This is why Jensen and Meckling’s observation about the “main advantages of monetary incentives” is worth lingering over, for it is obviously the case that the more goods money may command, the more compelling such incentives will be on one’s behavior. And if money can command all goods, material and nonmaterial alike, it may be said, in a different sense from the morbid individual
above, that only money matters.

To be sure, it is hardly a profound insight that the goods supplied by great wealth are not limited to material things, to say nothing of ease and comfort, and for anyone who has ever marveled at friends who spend an awful lot of time opening up homes for some fugitive “season,” even the latter relationship seems dubious. Smith, himself, was skeptical. He called the belief that the “pleasures of wealth and greatness” are “well worth all the toil and anxiety” we bestow on them the great “deception” that “keeps in continual motion the industry of mankind.” While such strenuous efforts benefited the broader public, Smith steadfastly maintained that the work of superintending an “economy of greatness” was more of a burden to the wealthy merchant (however well fed and richly attired he might be) than a clear and present blessing.

Smith’s conclusion had much to do with the modest universe of material things that were available to even the wealthiest merchant in 18th century—most of which he dismissed as “baubles and trinkets”—but it was also a reflection of the fact that, in the hierarchical world Smith knew, the nonmaterial goods one might want to buy were still highly circumscribed by aristocratic privilege. Writing 50 years after Smith’s passing and long after the Industrial Revolution had kicked into high gear, Karl Marx concluded that the forces of capitalism, once unleashed, had a tendency to expand the purchasing power of money by effectively putting a price on everything. The agents of industrial development, he famously said, have “drowned the most heavenly ecstasies of religious fervour, of chivalrous enthusiasm, of philistine sentimentalism, in the icy water of egotistical calculation,” with the result that there remains “no other nexus between man and man than naked self-interest, than callous ‘cash payment.’”

Notably, such reflections put Marx in league with Jensen and Meckling. On the one hand, a publicly traded company for them is ultimately no more than “the nexus of a set of contracting relationships among individuals,” a contention that obviates “the personalization of the firm implied by asking questions such as ‘what should be the objective function of the firm,’ or ‘does the firm have a social responsibility’” (an exercise in philistine sentimentalism if ever there were one). On the other hand, this essentialist approach simplifies a company’s incentive structure by making “cash payment” (callous or otherwise) the exclusive mechanism.

For Marx, Jensen, and Meckling alike, the money motive is capitalism’s most expedient instrument for shaping human behavior in favor of economic efficiency; but the power of that motive depends entirely on the universe of goods that money might command. If it can only buy “baubles and trinkets,” it can hardly be inclusive of self-interest in its entirety. To be absolutely potent, it must be able to purchase a wider array of nonmaterial things we desire, such as honor, dignity, preference, respect, opportunity, privilege, and power.

This possibility was welcomed by Marx as an omen of capitalism’s undoing, but it has unnerved others. In Spheres of Justice, Walzer championed what he called a “diversity of distributive criteria that mirrors the diversity of social goods.” For Walzer, these criteria were largely determined by commonly held opinions about merit—again, what entitles one to a gold medal as opposed to medical-school admission—and the real threat to justice, as he saw it, came not from the monopoly of a single good, but from the possibility that any good could become a powerful claim on others. “Tyranny,” said Walzer, citing Blaise Pascal, “is the wish to obtain by one means what can only be had by another.” As such, “The following statements, therefore, are false and tyrannical: ‘Because I am handsome, so I should command respect.’ ‘I am strong, therefore men should love me.’”

If you exchange “wealthy” in those statements for “handsome” or “strong,” Walzer would contend that you are describing an allocative logic that is manifestly unjust. Whatever one makes of this argument, it obviously doesn’t hold great sway under capitalism; nor is it entirely clear how, in a free society, we might prevent the buying and selling of so many goods that seem unlikely items for an auction block. That said, such difficulties are certainly conducive to economic efficiency, for the greater the world of goods that money might command, the more powerful the money motive becomes precisely because it comes closer to satisfying all of the desires that make up our self-interest.

Before we get too busy patting ourselves on the back for the boon to productivity, we might consider the broader consequences of this trend for moral deliberation, not to mention our capacity for humor. Take the joke that I began with. If there isn’t any taboo around the buying or selling of carnal knowledge, the joke isn’t dirty. In fact, if all the Old Rogue and the Starlet are doing is haggling over the price, it isn’t even a joke at all. When the role of money in such matters is unabashed, the very nature of the bargain changes.

The same holds true for all sorts of goods. Being able to buy an Olympic gold medal, medical-school admission, or a midnight rendezvous changes the meaning of honor, opportunity, and love—and the way we go about pursuing them. In such a world, it could certainly be said that only money matters because money could satisfy our self-interest in its entirety; but if the goods we crave are a reflection of who we are and what we value, one could be forgiven for wondering whether the achievement is ultimately worth the trouble...

When the role of money in such matters is unabashed, the very nature of the bargain changes.

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How to explain the Brexit vote (and what it will mean)

Chicago Booth faculty examine the UK’s momentous decision

In the days and weeks immediately following the June 2016 Brexit referendum, the ramifications of the UK’s vote to leave the EU were shrouded in uncertainty. Would the UK slide into recession? When and how would it withdraw from the union? What would be the response of voters in other Western democracies? Why did the vote go the way it did?

Some of these questions still linger, and some will persist for years to come. But have months of reflection and analysis brought economists, policy makers, and voters any closer to understanding the drivers and consequences of the Brexit vote? In December, Chicago Booth’s Initiative on Global Markets convened an expert panel to discuss the referendum and what it will mean for the UK and for Europe. The panel, moderated by Chicago Booth’s Randall S. Kroszner, featured Booth faculty Christian Leuz, Lubos Pastor, and Marianne Bertrand, who collectively explored the political, cultural, and economic forces surrounding Brexit. Their discussion—an edited excerpt of which follows—helped to demonstrate not only the diversity of perspectives, but the broad uncertainty that still remains.

Randall S. Kroszner: Christian, you’ve made the comment that what the EU has lost with Brexit is a voice for open and flexible markets. What did you mean?

Christian Leuz: Let’s first step back and talk about the broader political ramifications of Brexit and set it into context, and then come back to what I meant by that comment. Many would agree that the EU is largely a political project that needs to be seen through a political lens. As can be seen on EU summits and in EU rule making, politics often prevail over economics. Therefore, I think some of the most important consequences of Brexit are going to be political consequences.

My sense is that the overall political dividend from the EU is huge. There have been many political and economic successes, and probably the biggest one has been peace among European countries. Think about the introduction of democracy and the transition from dictatorships in southern Europe, where the EU (or its predecessor) played a significant role, or the fact that nationalism, despite its recent rise, has been pushed back significantly.

Moreover, if you look at how conflicts among EU countries are now being handled, it’s not that conflicts of interest between countries have disappeared. But they’re getting dealt with in an entirely different way than they used to be.

Europe is a leader when it comes to basic human rights and civil rights. Cultural diversity in Europe has gone up significantly. Student exchange programs are a very tangible benefit of European cooperation. Even institutions such as the EU court or EU rules, which often were a lightning rod in the Brexit debates, are significant achievements that, among other things, put meaningful constraints on countries. Even the largest country, Germany, has been told repeatedly that it can’t do certain things, like supporting its banks or its industries in certain unfair ways. And among the economic achievements, there is the common market and free trade.
These successes make me quite positive about the EU and actually quite optimistic. But these successes have not been communicated well, in part because many are not so tangible. They’re fairly abstract, and to people who are struggling to make ends meet, it’s more difficult to see these benefits.

What Brexit means is that the EU needs to find a new resolve. It needs to communicate much better what the European project is all about and where the benefits are. Leaders also need to find more tangible successes that are important to people.

Another challenge is that, because the EU is a political project, many EU solutions are political compromises. They’re not clean solutions. They’re difficult to implement. They’re difficult to enforce. They’re messy in practice. This is something that people sense and that they are frustrated about.

The euro is a good example. Without a fiscal union in the EU, the joint currency has posed a number of difficulties. Another example is immigration. The Schengen Agreement allows free movement within the EU and eliminated border controls. But the EU doesn’t have a joint asylum and immigration policy, which now poses significant challenges when you have free movement under the Schengen Agreement.

When it comes to the political compromises, this is where not having the UK in the EU is going to be a significant loss. The balance of power within the EU has been fundamentally changed. It was healthy to have three big countries in the EU—Germany, France, and the UK—playing a significant role.

Politically and economically, the UK was a counterweight to some of the more-continental European ways of doing things. The French tend to be more interventionist, whereas the UK is much more pro-market. The UK also plays, obviously, an important role from a foreign-policy perspective.

Randall S. Kroszner: Lubos, why did the Brexit vote go the way it did? It surprised everyone not only that it went for “Leave,” but that it was a 4-percentage-point margin of victory. This was a near landslide. What forces were driving it?

Lubos Pastor: Some people blame a poor campaign strategy on behalf of the “Remain” camp. It emphasized fear: if you vote Leave, then Britain will fall apart. They could have emphasized the benefits of the EU, along the lines of what Christian mentioned. And I think there’s some merit in that criticism of the campaign. Others emphasized that the EU institutions are too distant from EU citizens. Again, there’s some merit in that. But I don’t think either of those is the main reason.

To me, the most fundamental reason why Britain voted to exit is the broader pushback against globalization. I view Brexit as the same kind of event as the rise of the far-right parties in Europe, the same kind of event as the election of Donald Trump in the United States.

There’s this insurrection against the Western liberal order all over the Western world. Why is that? There are both economic and noneconomic reasons. On the economic side, we need to understand that globalization creates not only winners but losers. Globalization is a good thing for the planet as a whole; it makes the pie bigger and we all get a piece of that bigger pie, but the gains from globalization are unevenly distributed. And the losers from globalization are pushing back.

Now, who are those losers? If you look at the skilled people in rich countries, pretty much everyone has benefited from globalization. If you look at the developing world—China, India, Indonesia, Pakistan, etc.—it has benefited hugely from globalization. There is no pushback against globalization in those countries. Who has lost is the middle and lower classes in the rich world—in the US and in Western Europe mostly.

These are people whose skills are not sufficient to benefit from globalization. They can’t really reach out to the whole world applying their skills. Instead, they are competing with billions of people from other countries. Their wage growth has been basically nil over the past 20 years. From the economic perspective, it’s those people who are pushing back.

But that’s not the whole story. If this were the whole story, we would see only the poor voting for Trump and for Brexit. That hasn’t been the case because there are also noneconomic reasons. Let me use the example of immigration, which was, I think, the number one issue that pushed Britain toward Leave.

To be clear, this is not the immigration issue that you typically hear about in the news. It’s not the infl ow of refugees from the Middle East and Africa into Europe. Instead, this is the flow of people mostly from Poland, Romania, countries such as those, inside the EU.

Many Britons are worried that immigrants are stealing their jobs and competing for public services and public housing, etc. But they’re also worried that immigrants are diluting their culture and their traditions. If you’re an English

“It’s easier for people to get upset at the foreigners, at the outsiders, than to get upset at the robots.”
— MARIANNE BERTRAND
person in the countryside and you go to your beautiful, picturesque church on Sunday, you want to see Aunt Margaret. Instead, the church is full of Polish people. Some people mind that.

I don’t think the British or Americans are racist or xenophobic. I think people simply value nonmaterial things. People put some value on culture, traditions. They prefer being in the presence of familiar people who have values similar to theirs.

I think of that as a luxury good. If you’re poor, if you’re struggling to survive, you don’t think of these things. Once you reach the level of wealth that we have reached in the Western world, you do start thinking of these things. How much are you willing to pay in order to live in a world where people share your values? Clearly, people are willing to pay something. There are many people who have abandoned lucrative jobs in New York to move back to Bulgaria. People are willing to pay for this.

What we’ve seen in Britain is that people are willing to pay quite a bit. Different people value these things differently. Economists agree that there’s a cost for Britain to exit, but maybe the British were not totally uninformed. Maybe it’s a cost that they’re willing to pay.

Let me close by saying I think we need to speak up more for globalization—not enough people do. Because the benefits of globalization are widespread and the costs are fairly concentrated. We need to make a case for it because globalization makes the pie bigger.

How do we resolve the problem with some people being losers? We can always make transfers. Instead of building walls, let’s build no walls and make transfers to compensate those who are hurt by globalization. That could be achieved by maybe more progressive taxation in the rich world, more job training for those who are hurt the most.

This is something we should take seriously, because globalization is not irreversible. If you look back 100 years, globalization was in full bloom until it just stopped. In 1914, a hundred years ago, it went fast into reverse, with disastrous consequences for the world. Hopefully we can avoid that.

Randall S. Kroszner: That’s an important historical lesson. World War I changed things and then certainly the Great Depression in the 1930s changed things. The world became a much-less-open trading place. Trade as a percentage of GDP didn’t reach the levels that we had seen before the depression until very, very recently.

Now, Lubos had mentioned some of the issues of income inequality. Marianne, what do you think are going to be the consequences of Brexit for wage inequality in the UK and the EU?

Marianne Bertrand: To go back to some of the things that Lubos said, the people who voted for Brexit, very much like the people who voted for Donald Trump, did so because of uncertainty about jobs and economic uncertainty in their daily life. I agree with Lubos that globalization and, in the UK context, immigration, was a really key factor.

It’s somewhat unfortunate that the big rise in the number of immigrants coming to the UK from Eastern Europe, which started in the mid-2000s, correlated with the financial crisis. In people’s minds, you had this big economic shock, and you were seeing more and more Polish people in your street. I think that phenomenon probably was quite relevant in people’s minds.

However, income inequality really has been growing. That’s a phenomenon that economists have been studying for two decades. There’s been an increase in economic returns to skilled workers; but if you don’t have an education, you’re going to find it harder to make a good living.

I think the explanation for this phenomenon, though, is way more complicated than just globalization.

Maybe globalization and immigration play some role in it, but a big part of it is technology. In most of the economies that I’ve studied in respect to this phenomenon, technology is a bigger part of the story than trade is.

People have an easier time getting angry at all the humans than they have getting angry at machines. It’s easier to grasp. It’s easier for people to get upset at the foreigners, at the outsiders, than to get upset at the robots.

Related to that, in the contexts of both Brexit and the US presidential election, there was really a failure to communicate facts. All the research that has been done on the impact of immigration on wages—a lot of it is done in the US, but there’s also been some research in Europe—has failed to find any negative impact for natives. The negative impact that occurs when more immigrants enter a country is on the wages of the prior generation of immigrants, because they’re the closest substitute. The overlap between the skills of the natives and those of the immigrants is just not that large.

I think there’s also a failure to communicate not just facts, but some of the main features of our models, which are sometimes complicated. Whenever we think about a given shock, there’s going to be a direct effect, which is typically what people can easily think about: “Let more immigrants in, wages are going to go down.” But there are also indirect effects, which take a bit more higher-order thinking to consider: “Let more immigrants in, there are going to be more people demanding foods, and that might be good for my job.”

It’s surprisingly hard for economists to communicate these higher-order, general-equilibrium kinds of dynamics. And I think we are really feeling that.

Randall S. Kroszner: Speaking of the experts, we saw them say that Brexit would be a disaster for the British economy. And if you look at the FTSE [Financial Times Stock Exchange] 100 index, there was a big negative initial movement down, but then it moved to record levels. Now, you could say that was being driven by depreciation of the British pound, which is 10–15 percent off where it was prior to the vote, but the FTSE 100 is up 10 or 15 percent. Even in normalizing the world value of those assets, they didn’t change that much. If you look at the FTSE 250, which includes smaller firms that have a more domestic focus than the larger, more-export-
focused firms in the FTSE 100, that’s also up—not as much as the FTSE 100, but up in the 5-10 percent range.

Why are the experts so consistently negative when the markets haven’t been as negative? Why is the market’s reaction so different from the experts’?

Lubos Pastor: The experts basically said this is going to be bad news for Britain, and I think it has been bad news for Britain. The only question is, in what form is that news going to materialize? We haven’t really seen a recession in Britain, but we have seen a mild slowdown in investment, which is not surprising. With more uncertainty, you get a slowdown in investment.

The main adjustment that has taken place was the drop in the pound. Brexit made Britain less attractive internationally for foreign direct investment, and the pound had to drop significantly to adjust so that people now continue being happy investing in Britain.

If the adjustment takes place only through the weaker pound, that’s going to be great news for Britain. In principle, the weaker pound is going to allow them to export more. Of course, the weaker pound has made the British poorer by about 15 percent relative to Germans and Poles and Americans, but maybe that’s the price they’re willing to pay.

Christian Leuz: In terms of the stock market reaction to Brexit, we’ve gone through waves, given that there’s still a lot of uncertainty. People initially were dismayed and surprised, and then sentiment moved to, “This is just going to be some form of soft exit and we’re going to find ways; common sense will prevail.” But then people realized that maybe that’s not so clear, which explains some of the volatility in markets.

If freer trade is restricted, that is clearly going to be a negative. If you look at the forecasts—be they from the IMF [International Monetary Fund], the OECD [Organisation for Economic Co-Operation and Development], or the UK’s own Office for Budget Responsibility—all of them are saying, “We’re going to lower our forecast for growth over the next couple of years.” And that’s not even having built in much of a Brexit model. In addition, Britain may have to do significant borrowing to soften the blow from Brexit.

Randall S. Kroszner: I’m a bit uncertain about what the consequences are going to be, because it’s unleashing some different political and policy-making forces. It could be that one of the responses to Brexit will be structural change in the affected countries, regulatory reforms.

Getting back to Christian’s point, Europe may be losing this voice for more-open and more-flexible markets, but it may respond by having more-flexible markets domestically, lower corporate taxes, and such. This gets to Marianne’s point about the second-order effects: with policy as is, Brexit would have negative consequences; but if it’s a jolt to the policy process, it may not necessarily be as negative as the experts had suggested.

But this comes back to politics both in the UK and Europe. So what does this mean for the fragmentation of both the UK and Europe?

Lubos Pastor: Scotland voted 62 percent to remain. Northern Ireland voted something like 55 percent to remain. Have you heard the one about the Englishman, the Scotsman, and the Irishman walking into a bar? The Englishman wanted to go, so they all had to leave. That’s pretty much what’s going to happen. The question is, how is the UK going to balance the different wishes of the English people, the Scottish people, and the Northern Irish?

Northern Ireland has arguably the most to lose from Brexit. It shares the same island with the Republic of Ireland, which is part of the European Union. It’s hard to imagine border checks coming up again, separating the two countries.

With Scotland, there’s the question of another referendum and whether the country’s going to go independent. I’m not sure, but I doubt it. Scotland would love to stay in the EU, but it needs the UK more than it needs the EU. Two-thirds of Scottish exports go to the rest of the UK and only about one-sixth go to the EU. There’s also the question of Scottish fiscal sustainability, because Scotland receives transfers from the rest of the UK, and if they were to separate, they would have to run Greek-style austerity to stay alive.

Randall S. Kroszner: How about continental Europe? Germany, France?

Christian Leuz: Germany is and has been one of the staunchest supporters of the EU and the European project for historical reasons, and it’s ingrained in many ways in the German psyche. At the same time, we now see right-wing, anti-EU movements in Germany that are similar to those in other EU countries. At the moment, they’re not as big a force as the pro-EU sentiment, but this development is still worrisome.

This is where my earlier comments come in: the EU and, in particular, Germany need to do a much better job communicating to people why there are some very tangible benefits of EU participation and what the EU is all about. Take the example of the Greek bailouts: Merkel didn’t do a good job of explaining to the German public why supporting Greece was important. The same can be said about explaining why Germany has accepted a large number of asylum seekers.

To me, that is the biggest challenge that Europe needs to figure out: not just how to communicate the big ideas such as peace, freedom, democracy, and civil rights, but how to address the demands that people have. They want certain protections; they want to feel safe; they want to have an economic living. These are legitimate and basic demands. EU leaders have to take them seriously and have to explain to people how they’re going to address them. At the moment there’s a big deficit there, and that makes me worried with regard to some of these populist movements.
How Can You Become a Better Leader?

Chicago Booth’s Harry L. Davis and George Wu are joined by leadership consultant Nancy Tennant to discuss practicing leadership skills and conducting experiments at work.

George Wu
John P. and Lillian A. Gould Professor of Behavioral Science, Chicago Booth

Harry L. Davis
Roger L. and Rachel M. Goetz Distinguished Service Professor of Creative Management, Chicago Booth

Nancy Tennant,
former corporate vice president for leadership and strategic competencies, Whirlpool Corporation

Is leadership best learned in the classroom or from experience?

Davis: Both. A lot of leadership is learned through day-to-day engagements in the workplace. Theoretical and domain knowledge has to be translated into action with and through other people, something we call “action skills.” Leadership is much more than simply thinking about taking actions.

Wu: There’s clearly lots of parts to leadership—strategic vision, and decision making, and those kinds of things—that are very different from interpersonal skills. All those things require both classroom experiences, and theories and frameworks, as well as practice through action.

Davis: At Booth, we’re trying to bring a more scientific approach to learning on the job. For example, we talk about learning how to do a better job of paying attention, observing. It’s also important to experiment—to try things, then collect data from interactions with people in the workplace, reflect on these data, and share what you learn with other people to get feedback.

What is the best way to try out leadership skills at work?

Tennant: I coach leaders to think about not 10 things they want to change, but one or two. Think about the experiment you’re trying to do. What’s the hypothesis? Then get people to give you feedback.

Wu: I love the idea of breaking complex tasks, such as mobilizing people or influencing an organization, into smaller tasks that people can take on at any given time. I teach negotiation, and on the last day I ask students how they’re going to continue to learn after the classroom experience. People tend to say they’re not going to have a chance to negotiate often. I ask, “Are you going to talk to people? Well, you’re practicing negotiation. You’re practicing listening, an important part of negotiation.” That’s about decomposing the big, difficult, hairy thing of doing all those tasks at once into smaller ones that you can do all the time.

Davis: One thing that makes it more complicated in the real world is that we’re doing these things in very different contexts. It’s not like repeating an experiment over and over again in a controlled laboratory environment. I may be attending a meeting in the morning to increase revenue, and in the afternoon I’m trying to reduce costs. The same skill may come out quite differently in different contexts. That’s why it’s so...
important to collect data. Sometimes we spend too much time thinking about doing something, and not enough time just doing it and saying, “What did I learn from it?” That iterative process is valuable.

Tennant: It’s really hard to sit back and reflect on what you learned. Companies are always trying to figure out how to add that last loop. It’s important to share best practices. A lot of companies like to beat themselves up and think a lot about what went wrong with the failures, but it’s important to analyze success as well.

Wu: We’re trying to teach people to think about small-scale, low-cost experiments. A $1 billion deal might not be the right place to try something new. But if I talk with Nancy all the time, why not try something new there, or maybe even telegraph to her that I’m trying to do something?

Tennant: I like for people, when they’re experimenting, to think about 30-day, 60-day, or 90-day windows. What can you really accomplish in 90 days? Pick one or two things, compress the time, and see what changes you can make.

How important is it to solicit feedback?

Wu: Feedback is important, because you simply cannot see some things that others can see easily. By asking others, you can try to collect data on yourself, but sometimes you’re just going to miss things that are glaring to other people. People have to collect data, but they also have to be wary about how they interpret them, and look for other ways of getting data that are outside their own vision.

Tennant: Getting feedback is hard. Sometimes you don’t want to hear it. It’s tough, especially when it’s negative, and you’re trying as hard as you can and not getting anything back.

Davis: A lot of feedback is too aggregate, too removed from the context, too general. In the theater, directors give actors specific feedback about small parts of the script. They don’t rehearse a whole scene and then say, “Now sit down and let me give you 30 minutes of feedback.” Formal feedback mechanisms in organizations are often not particularly helpful for improving performance. That raises some interesting issues about feedback as a way of really improving day-to-day performance and learning, rather than a more bureaucratic evaluation. Sometimes, for example, people get feedback such as being told they’re too impatient. It may be that I should have been more impatient because we’ve been talking about some strategy for a month, and it’s time to make a decision. It could have more to do with the person giving me the feedback. Was he close enough to the behavior that he was actually seeing, and was it recent enough such that he remembers it accurately?

What sort of experiments should executives try out?

Davis: Like exercise or healthy eating, you have to do something every day, and keep working at it. If I tend to talk a lot and I don’t listen that well, I may ask someone else to facilitate a meeting. Change the rules, switch things around. Rather than giving my opinion, I may listen to what others think and ask questions.

Wu: I think of the scientific method, having a hypothesis. One thing that’s difficult about a lot of interpersonal skills is that maybe the hypothesis is, “I’m unable to do that,” or, “I will feel really uncomfortable doing that.” That’s a hypothesis about capabilities. Another hypothesis is about effectiveness: “If I do this, it will be ineffective.” So, first, you have to be clear about capability and consequence. Then, try something different. Sometimes there are small things you can do that are a little different. Thirdly, you have to behave differently in different situations. When you’re in front of the room, people expect you to take command. That’s different from being in a group of peers. You have to develop the capabilities of being in lots of situations, and to figure out what’s right to do in each situation.

Davis: One thing that gets in the way of experimentation is that people tend to seek confirming evidence. If I think someone doesn’t like me, in a group situation, I’m not going to do anything that would disconfirm that. I would probably not say much, because my belief is they’re not going to listen to me. But it’s important to seek disconfirming evidence. That’s the way science evolves. In the laboratory courses that I’ve run in the past two or three years, where we’re collecting data, people are surprised when they seek disconfirming evidence that, in fact, the hypothesis and the belief they had were wrong. For example, someone thinks, “If I express my opinion, people are going to distance themselves from me.” That’s a habit that often needs to be broken. When they start to do it, people say, “That’s really smart. Say more.”

How important is it to have a mentor?

Davis: Mentors are part of the feedback process. They’re people who care, and have time to spend. People in the same company are helpful when it comes to sharing tacit and domain knowledge, as in when somebody says, “Let me tell you what happened 10 years ago that’s still part of the culture.” But sometimes it’s refreshing to talk to somebody in a completely different field. It’s important to open oneself up, asking for help. Some leaders say, “I shouldn’t ask for help. That means I’m weak.” That’s really not the case. At the same time, teachers and mentors can be helpful, but when all is said and done, leadership is a personal commitment to oneself and one’s uniqueness.

Tennant: Mentors and teachers can take you to a point, and then you have to perform. You have to try things.

Are technical skills or interpersonal skills more important for leadership?

Wu: Business is always going to be a combination of these. If you don’t understand your business and strategy, you’re unlikely to be successful. On the other hand, if you cannot get people mobilized behind what you’re trying to do, that’s not going to be effective either. The hard part is those things are often seen as two different ways of thinking, two different kinds of skills, and at times, you’ve got to do both. What makes it even harder is that good leaders have to make the assessment, “Is this mostly a vision thing, where what I have to do is understand what’s going on, or is it mostly a people thing? Or is it something where it’s people at the beginning, then the vision, or vice versa?” Being able to perform on both those dimensions is necessary.

Davis: Things get done not just because of the leader, but because the leader has created a culture and a sense of empowerment, a sense that lots of people in the organization take responsibility. That’s critical. The leader may get all the attention and the credit, but it’s to some extent the result of having inspired people, often not just intellectually but emotionally.
Do antitrust efforts encourage monopoly?

One barrier to competitive markets is antitrust authorities themselves

BY YALE BROZEN

Economic theory and experience tell us that competition weeds out inefficiency. Competitive markets select those who employ the most-efficient technology to produce the most-efficacious products. As a consequence of the competitive process, industry uses resources in the ways that maximize consumer satisfaction.

If it happens that the most efficient producer operating at his most economic scale can supply the entire market, competition concentrates production in the hands of one firm. This the textbooks call “natural monopoly.” The courts may designate this as legal under the antitrust laws because the “monopoly” status was thrust upon the natural “monopolist.”

Reading some of the language of decisions of recent years, however, beginning with Judge Learned Hand’s in the Alcoa case (United States v. Alcoa, 1945), I am dubious that a single seller could succeed in defending himself on these grounds unless he met certain tests.

If his product differed from that of his former competitors and was clearly superior enough in the eyes of all buyers that they willingly paid as high or higher a price than that charged by other sellers, this defense might be accepted if his behavior has been pure. If he ever committed a sin, however, such as producing a special model of his product for a large buyer with whom he signed a requirements contract calling for the buyer to assign at least, let us say, three-quarters of his purchases to him before he invested in special tooling for the special model, he will be regarded as having unclean hands and be ruled guilty despite the superiority of his product. If he anticipated an expansion of the market and built capacity in time to supply the needs of his customers as their demand expanded, then superiority of a product and higher price than his former competitors would not preserve him from being ruled a transgressor.
I am afraid that if a single seller succeeded in reaching this position with an inferior product for which he charged less, and enough less to offset its inferiority in the eyes of all buyers, our seller might be ruled as having engaged in predatory action despite this being the efficient way in which to use resources. Of course, if the other sellers he drives from the field by his greater efficiency and lower prices are larger companies engaged primarily in other markets, he would not be ruled in violation of the antitrust laws.

This is only one example of the conundrums that exist in our antitrust policy. These conundrums can be summarized in saying that the law as presently interpreted seems to say that firms should compete but should not win. Firms should be efficient enough to survive but, if more efficient, should not share the fruits of that greater efficiency with their customers. The relatively more efficient firms must not operate competitively. They must not press the rate of output to the point where marginal cost approaches price if that rate of output is sufficient to supply most of the market, particularly if their efficiencies spring from the large-scale provision of advertising. We have confused high concentration with monopoly and competitive activity by large firms with predatory behavior. We have taken descriptions of sufficient conditions for competition, such as a large number of firms, and confused them with necessary conditions.

If the US Department of Justice Antitrust Division and the Federal Trade Commission are to permit the competition that will press efficiency in the economy to its optimum level, they and the courts must learn what are the necessary conditions for competition. The leap beyond what is strictly necessary is repressing competition when applied in inappropriate cases. Unfortunately, although we economists are very sure of what constitute sufficient conditions for competition to prevail in some circumstances, we are not at all sure of what are the necessary conditions in all circumstances.

Open entry
Open entry is, it seems to me, a necessary condition if a competitive result is to prevail in a market. I am confident, furthermore, that open entry is sufficient to enforce competitive behavior in most, if not all, circumstances.

Efficiency is hardly an arbitrary or artificial barrier to entry.

If I am correct, the task of the Antitrust Division can be confined to the demolition of arbitrary barriers to entry and the prevention of the erection of such barriers. It need not confuse itself with such tasks as attempting to break up major firms in highly concentrated industries. It need not determine what is a market or an industry. The courts would not have to listen to endless arguments as to whether a line of commerce or a market includes only domestically produced virgin aluminum; all virgin aluminum pig used in the US, whether produced at home or abroad; all virgin aluminum plus secondary aluminum; all metals used for the purposes for which aluminum is used; all materials used for the purposes for which aluminum is used; etc. The courts would not have to decide such arguments as whether the shoe market consists of a neighborhood, a city, a metropolitan area, a state, a region, or a nation. If the Antitrust Division concentrated on the task of eliminating contrived impediments to entry, it would efficiently accomplish the twin goals of ensuring competitive behavior and maximizing efficiency in the economy.

Barriers that are not barriers
The sophists in our profession have confused the meaning of barrier to entry. Because of this confusion, I am sure that the Antitrust Division would do ridiculous things in the name of removing impediments to entry. Even enlightened chiefs of antitrust have fallen for the notion that advertising is a barrier to entry. One of the widely used texts in industrial organization tells us that differentiation of product is a barrier to entry. A basic text in price theory informs us that, “Barriers to entry arise because of economies of scale.”

Limitations on advertising would erect a new block to entry rather than removing one. It would, in fact, create grandfather rights. It would become more expensive to inform prospective customers that a firm new to a given market is prepared to supply them. It would raise the cost of letting the world know that a better mouse trap has been built. It would force firms to invest more heavily in a dealer network or in a distribution system if they were limited in their advertising outlays, thus raising the long-term-cost curves of prospective entrants. It would become more expensive to build volume quickly to a level that would achieve the
major part of the available economies of scale. Efficiency would fall because firms would be forced to resort to the inefficient substitutes for advertising they otherwise avoid.

Attacks on product differentiation by the Antitrust Division or the Federal Trade Commission also could result in blocking entry. A new entrant can usually insinuate itself more easily into the market if its product is not identical with those offered by established firms. Why should buyers switch to a new supplier unless its product serves their tastes more efficiently than those already available?

It may be argued that a market may be more competitive—more open to entry—with product differentiation than without it because of its effect on buyer behavior. Buyers dissatisfied with a product from a current supplier will more readily engage in a search for an alternative supplier if there are no legal barriers to the offering of alternative varieties. If only a standardized product is allowed, search is less likely to be fruitful and less likely to be undertaken.

Even with the Antitrust Division focusing on the task of removing artificial impediments, there will be thickets of sophistry to clear away if the division is to do a proper job of promoting competition. That sophistry can lead to ridiculous attacks by the Antitrust Division was certainly demonstrated in one case in which the division maintained that it needed certain accounting and budgetary data from the defendant in order to prove that he was the low-cost producer. The division’s theory was that being a low-cost producer conveyed monopoly power by making it possible for the defendant to sell at lower prices than its competitors and thereby drive them from the field. Being a low-cost producer and not using such efficiency to preempt the market seems to me to be more akin to undesirable monopolistic behavior. Efficiency is hardly an arbitrary or artificial barrier to entry.

Real barriers to entry

If free entry is the (or only a) necessary condition for the maintenance of competition, I would suggest that the Antitrust Division should be devoting itself to attacking controls on entry. It should enter those cases where, for example, the Interstate Commerce Commission denies certificates to those who would enter, let us say, the trucking industry. When someone seeks a charter from the Office of the Comptroller of the Currency or from state banking authorities to enter the banking business and is arbitrarily denied, the division should come to the assistance of the applicant. When the Massachusetts Pharmacy Board refuses permission to a pharmacist to open a drug store, presumably because an adequate number already operate in the area, the division should leap to attack this artificial barrier. When the Minnesota Pharmacy Board denies any nonpharmacist the right to start a drug store and hire a pharmacist, the division should train its legal artillery on the barricade. When New York, Chicago, San Francisco, and all major cities other than Washington, DC, refuse to issue taxicab licenses to those who willingly satisfy all requirements for the provision of trained, licensed chauffeurs and safe equipment, with appropriate amounts and types of insurance, the division could certainly ride to the rescue of the patrons of this fenced-in market.

When the Postal Service harasses those who would compete with it and shuts them out of the postal market on the authority of a law that makes it illegal for anyone but the post office to use a householder’s mailbox or to carry written messages, the division should recommend the repeal of such arbitrary barriers. When the division attacks the New York Stock Exchange, it should concentrate on the practices and rules of the exchange that impede entry to the stock brokerage business, such as limitations on the business member firms are allowed to do with nonmember firms.

The division should also be devoting attention to the attempts to erect new barriers to entry. When bills are offered prohibiting banks from entering the computer service market, the division should be as eager to maintain this source of potential entrants to an industry as it is when it attacks joint ventures and acquisitions.

What is entry?

On the subject, those attacks raise some interesting questions as to the meaning of entry and of “arbitrary barriers to entry.” It would appear that the Antitrust Division itself has become an arbitrary barrier to entry.

The division defines entry as the appearance of a new name in the list of those competing for a given set of customers. If the new name is simply a replacement of an old name because an acquisition has occurred, the division regards this as no improvement.

For no apparent reason that can be justified by economic analysis, the Antitrust Division and the Federal Trade Commission take a dim view of vertical acquisitions.
in the competitive situation. In many cases, it has argued that this is a degradation of competition because a name has been removed from the list of potential entrants.

To an economist, expansion of capacity—either by de novo entrants or by established companies—is entry in the meaningful sense of moving resources (capital and manpower) into the use in question. Monopoly in an economically functional sense means a situation where an industry fails to add resources when justified and called for by the demand and cost situation. If customers are willing to pay more for the additional product than the cost of using resources to produce more, and if these resources are not moved into the industry in question, monopoly prevails and inefficiency is a consequence.

The Antitrust Division barrier
If a potential entrant into an industry chooses to enter by acquisition of an established firm, it will have to offer a price that is worth more to the sellers than retaining ownership of the firm. Presumably, it will offer such a price if it believes that it can manage the acquired assets more efficiently than they are being managed. Alternatively, it finds it cheaper to enter the industry in this way than by building new assets, and it believes the industry worth entering at this cost. If the former is the situation, and the division blocks the acquisition, it is blocking a probable improvement in efficiency. If the latter is the case, the blockage of the acquisition may block the entry of the firm since more-expensive methods of entry may mean that it will not be worth entering at the higher cost.

Preventing acquisitions in new markets or new industries by major firms because they might be potential entrants de novo may reduce the number of de novo entrants rather than increase them. Barring minor firms from selling their assets to leading firms—whether already established in the field or looking to enter the field—will limit their marketability. De novo entrance into a field by new firms will be reduced by this lack of marketability. The incentive for entrepreneurs to establish firms will be reduced, and it will be more difficult to obtain financial resources.

For no apparent reason that can be justified by economic analysis, the Antitrust Division and the Federal Trade Commission take a dim view of vertical acquisitions. They do have a (non-) theory of foreclosure—a set of words without an analytic base. Vertical integration is not automatically anticompetitive and should not be treated as if it were. Even if the vertically integrating firm is a monopolist in its original field, integration does not extend monopoly power outside the field of the monopolist.

On conglomerates
The current furor over conglomerates apparently may lead to legislation limiting the ability of multi-industry companies to move into new fields. If this occurs, it will block the openness of entry that I believe is the one condition necessary to enforce competition. It will reduce the list of potential entrants. The Antitrust Division should be alert to such a possibility and be prepared to recommend against inappropriate legislation.

To the extent that conglomerates improve efficiency in the use of resources, the antitrust authorities should approve. If they remove resources from fields where they are used less efficaciously than they can be used in alternative applications, and move them into these applications, conglomerates should be applauded. These activities make markets more competitive and move industries more rapidly toward a long-term competitive equilibrium.

To make our markets more competitive, the main thrust of antitrust activity should be in the direction of removing contrived barriers to entry. We must recognize that calling things such as advertising and product differentiation barriers does not make them such. The main barriers to entry are those imposed by regulatory commissions, tariffs, quotas, licensing requirements, and some of the activities of the antitrust authorities. The division can at least cease these activities. Further, it can act as a “friend of the court” before agencies that are rejecting would-be entrants in many fields, and it should be recommending against proposed legislation that would erect more barriers and pressuring for repeal of present legislative barriers. The return, in terms of the restoration of meaningful competition, can be very large indeed, especially in the reinvigoration of the forces that guarantee efficiency and spur innovation.

Yale Brozen was professor of business economics from 1957 to 1987 at Chicago Booth. He died in 1998.

We must recognize that calling things such as advertising and product differentiation barriers does not make them such.
WHAT ECONOMISTS THINK ABOUT ‘SWEETHEART’ TAX ARRANGEMENTS

In recent years, the European Union has ordered countries such as the Netherlands, Luxembourg, and Ireland to collect back taxes from multinational firms—Starbucks, Fiat, and Apple, respectively—that it suggested had benefited from “sweetheart” deals with local tax authorities. Such deals, the reasoning goes, give the companies an unfair edge over rivals and amount to illegal state subsidies. But legality aside, it’s unclear whether the benefits of these arrangements outweigh the costs for the countries involved: 30 percent of the economists on the European IGM Economic Experts Panel say they do, while 26 percent say they don’t. Most of the panel agrees, however, that this form of competition between European governments is not to the region’s benefit.

See more online
All responses to this poll can be seen at igmchicago.org/european-economic-experts-panel.

About the European IGM Economic Experts Panel
To assess the extent to which economists agree or disagree on major public-policy issues facing Europe, Booth’s Initiative on Global Markets has assembled and regularly polls a diverse panel of expert economists, all senior faculty at elite research universities. The panel includes 50 economists from 27 major universities and business schools. Questions 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.
Question A: Giving tax incentives to specific firms to locate operations in a country typically generates domestic benefits that outweigh the costs to the country providing the incentives.

Agnès Bénassy-Quéré, Paris School of Economics
“Even in distressed areas this kind of policy gets poor results.”
Response: Disagree

Kevin O’Rourke, Oxford
“It depends on the nature of the incentives and the nature of the firms. Targeting sectors [is] presumably better than targeting ‘specific firms.’”
Response: Uncertain

Marco Pagano, Università di Napoli Federico II
“Providing such incentives may simply induce other jurisdictions to engage in the same behavior, and so eventually benefit only firms.”
Response: Uncertain

Jan Pieter Krahnen, Goethe University Frankfurt
“While benefits are consummated locally, negative externalities and allocative distortions are largely outside the country.”
Response: Agree

Strongly agree 0%
Agree 30%
Uncertain 36%
Disagree 22%
Strongly disagree 4%
No opinion 0%

WEIGHTED BY EXPERTS’ CONFIDENCE
33% agree 36% uncertain 27% disagree 4% strongly disagree

Question B: Europe as a whole benefits when European cities or countries compete with each other by giving tax incentives to firms to locate operations in their jurisdictions.

Charles Wyplosz, The Graduate Institute Geneva
“Tax competition is a Nash game that stands to hurt everyone. But, given high tax rates in Europe, tax competition keeps the lid on.”
Response: Agree

Nicholas Bloom, Stanford
“This helps reduce capital taxes, but risks generating incentives for bureaucracy and even corruption in governments.”
Response: Uncertain

Rachel Griffith, University of Manchester
“European countries largely compete against each other for firm location, so gains in one country equal losses in another.”
Response: Strongly disagree

Christopher Pissarides, London School of Economics
“The strongest will become stronger and the weakest weaker!”
Response: Strongly disagree

Strongly agree 0%
Agree 6%
Uncertain 20%
Disagree 38%
Strongly disagree 28%
No opinion 0%

WEIGHTED BY EXPERTS’ CONFIDENCE
17% uncertain 43% disagree 34% strongly disagree 6% agree
Did quantitative easing work? Let’s find out . . .

With its federal funds rate pinned near zero, the US Federal Reserve relied on massive bond purchases—a process known as quantitative easing (QE)—to lower bond yields and stimulate the economy. But although QE has become a vital tool for major central banks, it plays no role in economists’ standard models of monetary policy. To address this gap, Chicago Booth’s Jing Cynthia Wu and Ji Zhang of Tsinghua University introduce QE into the economic models by linking the Fed’s bond holdings with the “shadow” fed funds rate. Learn more about the model at Review.ChicagoBooth.edu and on page 16 of this issue.
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