How to create middle-class jobs

Invest in infrastructure, raise workers’ skills, and other ways to construct good-paying work

Plus:
The private-equity fund of funds that earns its fees

Raghuram G. Rajan on populist politics
“Opacity is the friend of corruption. And with the SEC in particular, we have a difficult time getting data on their enforcement processes.”
CNN’s website features a Trump jobs tracker, which gives a visual snapshot of recent data issued by the US Bureau of Labor Statistics. The tracker displays the number of US jobs added or lost since President Donald Trump took office in January, the number of new jobs by sector, unemployment figures, and the workforce participation rate. The web page reminds visitors of President Trump’s campaign pledge to create 25 million jobs in 10 years. As of the time of writing, CNN proclaims, “he’s off track.”

But headline jobs numbers only tell part of the story. The US economy certainly needs more job creation, but what has declined in recent decades is a specific kind of employment: decent, good-paying, middle-class jobs. While middle-class can be defined in a variety of ways, we take it to mean jobs that can pay for a mortgage, a car, a college education, and maybe even an annual vacation or two.

Not only the current US president, but pretty much every politician in the industrialized world talks of the need to create more of this type of job. Yet practical, evidence-based ideas to revive the middle class are thin on the ground. So how exactly do we do it?

We were encouraged as we put together this issue, because researchers from a variety of top academic institutions offered ideas and some specific advice for how to take on this difficult challenge. In our cover story (page 24), we interviewed 16 experts and asked them all the same question: What policies would create middle-class jobs?

Two clear themes emerged. The first, to cut regulation, might be expected from researchers at the University of Chicago, where the study of regulation has a long history, and today is centered at Chicago Booth's George J. Stigler Center for the Study of the Economy and the State. The second, to create more skilled workers, also relies on theories of human capital advanced at the University of Chicago, but we were struck by the strong consensus that we need an education system—from preschool to high school to college and beyond—that does a better job of preparing people to be productively employed. As Stanford's Edward Lazear puts it, “People create jobs for themselves.”

The challenge of job creation is a theme throughout this issue. Read the essay by Chicago Booth’s Raghuram G. Rajan, who was recently the governor of the Reserve Bank of India (page 59), and the discussion between Rajan, JPMorgan Chase’s Jacob Frenkel, and Singapore Deputy Prime Minister Tharman Shanmugaratnam (page 62). Automation’s effect on jobs is the topic of this issue’s Grumpy Economist column (page 68) and IGM economic experts poll (page 80). And once you’ve read this print issue cover to cover, you’ll find more jobs-themed content online, including our video “What’s really hurting the American worker.”

We are reminded of how important it is to bridge the gap between ideas and actions. The ideas in these pages could be life changing for many people—but the challenge is to find the political will to implement them effectively.

Many of you will have ideas of your own on how to create decent employment, based on your experiences in job-creating companies and organizations. Please share them with us by email or on social media, and we’ll continue the conversation on our Feedback page in the next issue.

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HOW TO CREATE MIDDLE-CLASS JOBS
Sixteen top academics offer ways to bring back opportunities
Edited by Emily Lambert

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If robots take our jobs, will they make it up to us?
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How can start-ups attract investors?
The Big Question
JOIN THE CENTRAL-BANKER CLUB

In response to ‘Have central bankers lost their power?’ (Summer 2017)

That depends on whom you ask! Hero or villain? Depends whether you’re in the “club” or not.

―Captain Catus

THE SMALL-BUSINESS BRUSH-OFF

In response to ‘The Big Question: How can start-ups attract investors?’ (Posted online, May 2017)

Good question, since data show approximately 3 percent of #smallbiz get equity financing and 1 percent of those are start-ups.

―RandomIntention

OUR NEW CATCHPHRASE

In response to ‘Could the government lower my phone bill?’ (Summer 2017)

Love the comic economics :)

―Amit X Gupta

THE GREAT TAX DEBATE

In response to ‘How a Value Added Tax could spark economic growth’ (Published online, May 2017)

In Spain, the VAT hike of 2010 increased demand before the hike and then destroyed the economy. VAT hikes are unfair for low-income classes and reduce demand once put in place. They only make sense as a way to increase money for the government in years of economic expansion and reduce the expansion if the economy is getting hot.

―Josete Murch

In response to ‘Economists are skeptical that growth will finance tax cuts’ (Published online, May 2017)

The question about growth/tax cuts was put incorrectly. The supply-side theory is that there will be less of a revenue loss than predicted by static analysis, and that if the “additional” revenue is enough to cover the real interest on bonds issued, the tax cuts pay for themselves.

As put by the Laffer Center at the Pacific Research Institute, which provides information about economist Arthur Laffer and his Laffer Curve theory, a theory that illustrates a relationship between tax rates and tax revenue, Importantly, the Laffer Curve does not say whether a tax cut will raise or lower revenues, nor does it predict that any and all tax rate reductions would necessarily bring in more total revenues. Instead it says that tax rate reductions will always result in a smaller loss in revenues than one would have expected when relying only on the static estimates of the previous tax base. This also means that the higher the starting tax rate, the more dramatic the supply-side stimulus will be from cutting the tax rate. It is possible that this economic effect will swamp the arithmetic effect, causing an actual increase in tax revenue.

However, the Laffer Curve does not say that “all tax cuts pay for themselves” as many people claim. What is true is that tax rate cuts will always lead to more growth, employment, and income for citizens, which are desirable outcomes leading to greater prosperity and opportunity. There is, after all, more to fiscal policy than simply maximizing government revenue.

―Timothy F. Kearney

In response to ‘Economists endorse boosting infrastructure spending—if tax policy supports it’ (Published online, June 2017)

Tax policy has nothing to do with spending. Keynes debunked that almost a century ago. Why can’t these dopes keep up?

―Nathan Hulick
October 13, 2017
Hyatt Regency Chicago

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“Embracing the F-word: Failure”
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For stock investors hunting for securities that appear to trade for less than their intrinsic value, a high book-to-market price ratio is a “buy” signal. But this value-investing benchmark may need an update, potentially transforming the way investors calculate overvalued and undervalued stocks.

Book-to-market has been a staple of value investment strategies since at least 1934, when the late Benjamin Graham and David Dodd published the classic text Security Analysis. But research by Chicago Booth’s Ray Ball and Valeri Nikolaev, Dartmouth College’s Joseph J. Gerakos, and University of Southern California’s Juhani T. Linnainmaa suggests that the underlying reason investing in high book-to-market stocks earns higher returns on average is not that those stocks are undervalued. The researchers’ interpretation of the data is that book-to-market is actually a good indicator of profitability, and hence of factors, such as risk, that affect both profitability and average stock returns.

In a traditional book-to-market price ratio, “book” is made up of two components: retained earnings and contributed capital, which is essentially the total value of stock that shareholders have directly purchased from the issuing firm.
company. Book, the numerator, is divided by market value (the number of shares outstanding multiplied by the stock price). In the simplest of value-strategy screens, if the ratio is above 1, the stock is believed to be undervalued and could represent a good deal. If the ratio is less than 1, the stock is thought to be overvalued.

The researchers say there’s a weakness in the classic book-to-value computation, however: those key components of book together do not function as an accurate predictor of future stock prices. Instead, the researchers suggest stripping out contributed capital, leaving only retained earnings in the numerator.

Why? Research indicates that a ratio of earnings to market value is a likely proxy for expected stock prices. Retained earnings make a particularly good predictor because they include past earnings and also because “noise”—such as accounting accruals, and one-time items that typically reduce the informative value of bottom-line net income—largely averages out over time, which reduces its distortive effect on accumulated past earnings.

To test this, the researchers broke down traditional book value into its components, retained earnings and contributed capital. They developed a ratio—each component over market value—and utilized regression analysis to check how well each ratio predicted stock prices for New York Stock Exchange-listed companies. They find that the retained earnings-to-market ratio powerfully predicted future pricing, statistically significant up to 10 years into the future. In contrast, the ratio of contributed capital to market value exhibited a statistically insignificant relation to future pricing across all prediction horizons.

“Our evidence highlights the value of digging deeper into accounting numbers, whose components generally contain different information about the cross section of stock returns,” the researchers write.—Marty Daks


**How far into the future the ratios predict stock returns**

The retained-earnings-to-market ratio’s predictive power remains statistically significant for more than twice as long.


*Higher value = stronger predictive power (t-values)*

![Graph showing the predictive power of book-to-market and retained-earnings-to-market ratios over time.](image)

Ball et al., 2017
The best salesperson may not be the best manager

The late educational scholar Laurence Peter in 1969 proposed what is known as the Peter Principle: the most-competent and best-performing employees win promotions for good performance until they reach a position in which they are not competent.

Now data in the sales field strongly support the theory: researchers looking at information about 48,000 sales associates and 5,000 managers find that when companies made promotion decisions, they picked people who had performed well in the past, and not necessarily people who would have made the best managers.

University of Minnesota’s Alan Benson, MIT’s Danielle Li, and Yale’s Kelly Shue used detailed microdata on sales workers at more than 200 US companies, examining promotion as a function of both sales performance, or the dollar value of sales, and sales collaboration, or the number of salespeople involved in a transaction. They calculated how well newly minted managers did in managing the sales performance of their direct subordinates.

Companies may base promotions on objective measurements to give employees an incentive to work harder in the hopes of attaining a promotion. Promotions based on current job performance also help to avoid any whiff of favoritism. But the researchers find that this has a significant cost. The best salespeople did not make the best managers: sales skill, as evidenced by managers whose sales doubled before their promotion, corresponded to a 10 percent drop in sales performance for each of the new subordinates.

Benson, Li, and Shue credit a manager for improving the performance of her sales staff only when workers performed for her better than they did, on average, under previous supervisors.

The researchers also find that businesses could promote salespeople using other metrics that positively predict manager performance. When deciding promotions, businesses put more weight on individual sales performance than collaboration experience, even though a high level of collaboration before promotion correlates strongly with managerial performance. The research indicates that companies that use promotions as a way of motivating sales in lower-level employees may find themselves overlooking the best potential managers.

—Alex Verkhivker

Why the public hates performance-enhancing drugs, and what it means for athletes

Performance-enhancing drugs (PEDs) continue to make headlines—and end athletic careers. Barry Bonds, wrapped up in baseball’s steroids scandal, has been excluded from Major League Baseball’s Hall of Fame; Lance Armstrong was stripped of seven Tour de France wins after he admitted to PED use; and the entire Russian track-and-field Olympic team was banned from the 2016 Rio games because of an ongoing doping scandal.

Chicago Booth’s Daniel Bartels, postdoctoral researcher Justin F. Landy, and PhD candidate Daniel K. Walco looked at the public’s feelings about PED use, and at why most people feel that PEDs are taboo. Their findings could help lawmakers and leagues respond to doping scandals, and help athletes polish their personal brands.

The researchers tested the importance of fairness: if there were no competitive advantage for an athlete to take a PED, because all athletes were taking them, would people still oppose its use? Study participants, drawn from the internet, read a blurb about a fictional amateur weightlifter, Joe, who was considering using steroids for the first time. In some versions, the steroids would have given Joe a clear advantage over other competitors—but not in other cases. Participants rated, on a scale of 1 to 9, how wrong it was for Joe to use steroids, with 9 being “extremely wrong.” They said it would have been wrong for Joe to use steroids in any case, but particularly so if it would have given him an advantage. In that case, their rating approached an 8, on average.

To probe this, the researchers had a different set of participants consider one of 10 other scenarios, including whether Joe was a competitive or recreational athlete, and whether the substance in question was illegal or prohibited by the rules, had health consequences, or affected the amount Joe had to work out.

Few of these issues mattered: participants’ judgments about the wrongness of PED use changed only based on whether or not the substances were prohibited and whether they posed a risk to the user. This led the researchers to conclude that while people respond to perceived violations of fairness, they respond more to laws and regulations and to health risks. Their findings fit into a larger theory in psychology, Social Domain Theory, which suggests that people may object to a particular concept because it breaks a “rule” of social convention, morality, or prudence. Here, the use of PEDs seems to break all three.

The findings could have some relevance to legislators and league managers who want to affect public opinion about PED use. “Understanding why people are so opposed to this can tell us something about how you could present a case to ratchet public opposition up or down,” says Landy, who adds that it may also interest athletes concerned about their personal brands. “Even athletes who don’t enhance can use what we’ve learned to more effectively communicate to the public why they don’t [use PEDs], and why that matters.”—Alice G. Walton

Seller beware: Bundling items can backfire

Bundling is a classic sales trick: offer a group of items together instead of individually, and customers will be more likely to buy the whole set. But bundling can backfire, as it changes how people value the items, research suggests.

Chicago Booth’s Ayelet Fishbach and Booth PhD candidate Franklin Shaddy predicted that grouping items together creates a whole that is seen as greater than the sum of its parts. When a person has a group of items, taking one item from the group feels more significant to that person than taking the same item in isolation.

For example, in a study, the researchers offered participants energy bars, some bundled into a “chocolate variety pack.” They asked participants with packs of bars how much money they’d need in order to relinquish one bar. The answer: $2.45. The researchers asked the same question of participants who had received individual bars, and their answer was $1.98. As predicted, people wanted more money for a bar if it had been part of a bundle.

But when a different group of participants had the opportunity to actually buy the same bars, they offered less money for the bundle ($2.45) than for the three bars individually ($3.58 in total).

Name your price

Bundling three energy bars together altered people’s perception of how much they were worth.

Clif Bar prices set by different groups of study participants

Shaddy and Fishbach expanded on the results using Lindt truffles. Participants asked to sell a truffle from a four-pack set requested a higher price than people who’d been given an unbundled assortment of truffles. And when asked if they wanted to add a truffle to their bundled or unbundled group of three, those with bundles offered less money (28 cents) than those with the assortment (42 cents), suggesting that it’s as undesirable to disrupt a group by adding an item as it is to do so by taking an item away. The researchers tested other iterations of the setup—with greeting cards, luggage sets, and baseball cards—and arrived at similar results, with customers both paying less for and demanding more from groups of items.

The findings have implications for companies selling bundled items. Once a group is created, breaking it up can disappoint or even anger a customer. Write the researchers, “While the old adage caveat emptor (‘buyer beware’) is likely more familiar, for bundles, caveat venditor (‘seller beware’) might be more apt.”—Alice G. Walton


WORK CLIQUES CAN BLIND YOU TO THE FUTURE

IT IS WIDELY known that people discount income and other rewards that will be delayed into the future. This temporal discounting is typically attributed to human frailties or personal weaknesses—but research by Chicago Booth’s Ronald S. Burt suggests it’s a characteristic of the social network around an individual.

Keeping a close-knit circle of coworkers can create comfort and trust—but it can also result in discounting. A by-product of tight social networks, discounting occurs when people pay less attention to events that will happen in the future than to events happening in the present or near future. People in close-knit groups have to manage the simultaneous demands of interconnected colleagues, and they can end up focusing disproportionately on what’s going on day to day.

Burt tracked the work-related social networks of 852 managers at three organizations: a computer manufacturer, a financial-services company, and a commercial bank. Managers in close-knit networks showed lower performance, and their activities were more compressed into daily interactions. Managers in these closed networks were more likely to use the present tense instead of the future tense in their explanations, demonstrating less attention to future events.

The tendency to discount the future extends outside of the office. People without a close-knit circle of friends may think more about the future than people who are part of a social clique, Burt finds. “A person could have an open network in their profession that encourages thinking about long-term work issues, but a closed network in their personal life that compresses time to the exclusion of the future,” he writes.

But if temporal discounting is situational, people could be helped to think about the future by changing their social network.—Alina Dizik

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How poorly rated schools attract better teachers

The idea of holding schools accountable for students’ performance has stood at the center of Democrats’ and Republicans’ school-reform efforts in the United States for more than two decades—and has sparked significant debate. One of the many questions that have been raised is whether accountability efforts could backfire by driving good teachers out of poorly rated schools, creating a vicious cycle for principals attempting to turn their institutions around.

Chicago Booth’s Rebecca Dizon-Ross finds that sometimes the reverse is true: in certain circumstances, a bad accountability mark for a school decreases the likelihood that a teacher will leave, and even leads to more good teachers joining.

Dizon-Ross analyzed data from New York City’s public-school system, which began assigning school-accountability ratings in 2007. A–F are assigned every November, based on measurements taken the previous school year, including from standardized test scores, attendance, and student and parent surveys. Schools that earn As and Bs win extra funding, whereas schools rated C and below face serious sanctions, including potential closure. Teachers are neither punished nor rewarded for the ratings their schools receive.

Dizon-Ross examined the impact of one year’s ratings on teacher turnover the following summer, looking in particular at schools that hovered at the cutoff.

**School-accountability ratings affect teacher turnover**

Research finds that when schools on the lower end of the rating scale just missed getting a better accountability mark, more teachers stayed.
points between two ratings. That allowed her to get a vivid estimate of the effect of receiving a lower rating, since those schools looked similar otherwise, on paper. She finds that schools that just missed out on a D and instead got an F, or schools that just missed a C and instead were awarded a D, saw a 20 percent decline in baseline teacher turnover.

She also assessed teacher quality by using a “value-added” measure that essentially looked at each teacher’s contributions to her students’ year-on-year test-score gains. She concludes that at the schools that just missed the higher rating, high-quality teachers were no more likely to leave, while teachers who joined were better, on average.

All these results apply only to schools that just missed a C or D rating. In contrast, at schools hovering around the dividing line between A and B, or B and C, there were no benefits for the schools that narrowly missed the higher rating. In fact, the analysis suggests the quality of teachers joining the lower-rated schools was below that of those joining the higher-rated schools.

Dizon-Ross considered the possible mechanisms driving teachers’ job moves. For example, why did turnover fall at the lower-rated schools at the bottom end of the performance spectrum—the schools that nearly received Ds and Fs? One explanation is that a teacher could be stigmatized by a school’s rating and therefore less able to land a new job. But the greater number of high-quality teachers willing to face potential stigma by entering a low-rated school contradicts that theory. Instead, Dizon-Ross hypothesizes, low ratings carry serious consequences, such as school closure, and put pressure on principals to make improvements—and teaching at an improving school is a rewarding experience, enough so that good teachers are more likely to stay and other good teachers are more likely to join.

This doesn’t happen at higher-performing schools because New York City doesn’t punish schools for getting a B rating rather than an A, meaning principals feel little pressure to make changes for the better. Here, New York’s accountability system might not be inducing positive changes, with lower scores at best having no effect on turnover and at worst damping a school’s ability to recruit strong teachers. “At the top . . . accountability pressures were not strong enough to spur positive changes,” says Dizon-Ross.—Rose Jacobs


**WANT TO KNOW THE FED’S NEXT MOVE? CHECK ITS LEADERS’ BIOS**

**The Federal Reserve’s** inflation forecasts and interest-rate targets are full-time obsessions on Wall Street, where announcements of these numbers routinely set off trading frenzies. The Fed’s Federal Open Market Committee meetings, during which members debate their assessments of inflation before declaring ideal rates, generate seemingly endless speculation, which in turn affects securities prices.

Research suggests that anyone trying to guess the central bank’s next move would do well to study committee members’ biographies. FOMC members’ voting behavior, federal-funds-rate decisions, and inflation forecasts are substantially influenced by the members’ personal experiences with inflation, according to a study by Ulrike Malmendier of the University of California at Berkeley, Chicago Booth’s Stefan Nagel, and University of Michigan PhD candidate Zhen Yan. Their findings suggest that these individual experiences with inflation predict the level of inflation fear in the committee as a whole and lead to measurable effects on monetary policy.

The researchers looked at the individual votes cast at each FOMC meeting between March 1951 and January 2014. They summarized voters’ inflation experience in terms of the average level of inflation and the persistence of inflation they had seen throughout their lifetime until the FOMC meeting. They find that if an FOMC member’s personal inflation experiences were such that they suggested a higher inflation rate going forward, this member was more likely to cast a “hawkish” dissenting vote—for tighter monetary policy—when the FOMC concluded its meeting with policy recommendations.

Similarly, members with experiences suggestive of higher future inflation also were more likely to give speeches with a hawkish bent, according to the findings.

Inflation experiences also help explain why many members provided inflation forecasts that differed from the FOMC staff’s official Greenbook reports, and whose opinions of appropriate rate targets differed from the consensus. The study indicates that members put a weight of 37 percent—“and possibly more”—on their own experiences when setting inflation forecasts and interest-rate targets.

To examine how this partial reliance on personal experience may have affected the federal funds rate over time, the researchers compared the rate’s actual movement over time to the path it would have taken if it had been based solely on the Greenbook forecast. FOMC members’ personal experience at times had a significant “but not unreasonably large” effect on the federal funds target rate. Malmendier, Nagel, and Yan find.

They note that FOMC members have ready access to objective data used in making forecast and rate decisions, as well as competent staff to analyze these data for them. The researchers suggest there is a deeper behavioral reason, regardless of these resources, behind the members putting considerable weight on their own experiences.—Dee Gill

What interests you about private-label products?

We know that doctors and pharmacists are much more likely to buy unbranded over-the-counter medicines, and chefs are much more likely to buy unbranded pantry staples. People “shop smart” in areas where they have expertise. This raises the question: If you give people objective product information, will they switch?

Stanford’s Bart Bronnenberg, Booth PhD candidate Robert Sanders, and I ran blind taste tests at several stores in the Mariano’s grocery chain, comparing branded and private-label ice cream, yogurt, and cookies. Before the tasting, only 44 percent of participants predicted they would choose the store brand. In the blind test, 72 percent picked the store brand, and 84 percent predicted they would purchase it next time they shopped.

We used loyalty cards to match each participant’s shopping behavior with her responses in the blind taste test. Shoppers’ actual purchases of the private labels increased by 16 percentage points during the week after the test, but the effect decayed quickly over time, falling to only 2 percentage points six months later.

Brands cost more. Why do people stick with them? From other work, we know that branding works and can establish early-mover advantages for a company. The decay in the effect surprised us. Perhaps consumers are forgetting what they learned in the blind taste test. Or perhaps the ongoing marketing and advertising by national brands slowly overwhelms the information from the test.

Do you buy private-label products? I assume you are referring to prepackaged foods. We do buy many branded food products, such as cereals and sodas. However, we buy Mariano’s fresh-squeezed orange juice and organic milk religiously. We also buy private-label over-the-counter pain medicines, along with basic baking essentials such as sugar and flour.
UNDERSTANDING PEOPLE REQUIRES ‘BEING’ THEM, NOT READING THEM

People underestimate how important it is to share others’ experiences in order to understand them, according to ShanghaiTech University’s Haotian Zhou, Elmhurst College’s Elizabeth A. Majka, and Chicago Booth’s Nicholas Epley. People tend to think they can understand others simply by watching them—but they can’t read people as well as they think. Understanding another person actually requires getting perspective by being in his or her situation.

In a series of experiments, the researchers laid out what influences our perception of another person’s experience, and what we believe influences it. In one study, they had participants (“experiencers”) view pictures of various types of events—positive, neutral, or negative—and rate how the pictures made them feel. They had a separate group of participants (“predictors”) rate how they believed the experiencers were feeling.

The researchers had some predictors watch a video of the experiencer’s facial expressions. They had others see only the picture the experiencer was observing, and a third group saw both the video of the experiencer as well as the picture he or she was observing.

The predictors who saw the pictures experiencers were rating were dramatically more accurate than those who only saw the video of the experiencers’ expressions. Watching the video of experiencers’ expressions did not seem to do anything to increase accuracy. Once predictors had put themselves in the role of experiencers, by looking at a picture, “reading” the experiencer didn’t further improve accuracy.

The findings suggest that if you truly want to understand someone else, try sharing his or her experience.—Alice G. Walton

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Creative destruction is overblown

Just a decade ago, Nokia phones accounted for half the high-end market, and the company was the envy of technology circles. Then Apple’s iPhone—and the Google Android phones by Samsung and others—toppled Nokia’s offerings. There are many similar stories: Priceline and Expedia undid travel agents, Uber has replaced many taxis, and Airbnb has challenged hotels worldwide.

The concept of disruptive innovation has become so ubiquitous, many economists say that creation and economic growth stem mostly from new companies upending entrenched ones. But the contribution of these disruptive companies to overall economic growth is relatively small, according to the International Monetary Fund’s Daniel Garcia-Macia, Chicago Booth’s Chang-Tai Hsieh, and Stanford’s Peter J. Klenow.

The researchers examined job-growth patterns using US Longitudinal Business Database records from 1976, when the database was formed, to 2013. The data give the researchers a snapshot of the number of US jobs created and destroyed each year.

They looked at two 10-year periods, 1976-86 and 2003-13, to see how much of the economy’s employment growth and productivity growth could be attributed to incumbents, and how much to new entrants. The researchers argue that the role of entrants should be tied to the employment share of young companies.

Creative destruction should show up as big declines among some incumbents (some of which exit the market)—and major growth among the companies doing the destroying.

In contrast, when incumbents improve their own products, they replace their own offerings, entailing much smaller changes in employment. Think of a retailer upgrading an outlet as opposed to opening a new store and driving out a competitor. Thus the effect of such incremental innovations within companies should populate the “middle” of the job-growth distribution.

Garcia-Macia, Hsieh, and Klenow conclude that creative destruction explains the extreme employment declines and company exits seen in the data. But most employment changes, even over five-year periods, are much more modest. The researchers conclude that most innovation takes the form of incumbents improving their own products.

From 1976 to 1986, creative destruction accounted for 19 percent of US productivity growth. The rest came from companies introducing new products and services to replace their own, or incrementally improving on their earlier offerings. From 2003 to 2013, creative destruction accounted for an even smaller portion of growth: only 13 percent of productivity growth came from new entrants displacing incumbents.

Forty years ago, economic growth wasn’t dependent on massive upheavals in the marketplace, the researchers write, and it is even less dependent on these shifts today. Over this 40-year span, only 10-12 percent of new job growth can be attributed to creative destruction.

“If you want to grow, the main focus is not so much about the big things; it’s about the small and little things you can do,” Hsieh says. “Home runs are rare. Companies grow by hitting single after single and steadily building.”—Brian Wallheimer

More innovation comes from incumbent firms

Improvement of established products accounts for the bulk of productivity growth.

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<td>New lines of business</td>
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<td>4.4%</td>
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Garcia-Macia et al., 2016

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What’s driving the growth in shadow banking

In the wake of the 2007–10 financial crisis, there’s been sizable growth in shadow banking—companies without banking charters entering lines of business traditionally associated with deposit-taking banks. Hedge funds that make direct loans to midsize businesses, online mortgage originators, peer-to-peer lending platforms, and payday lenders have all been on the rise.

What’s behind this? According to Chicago Booth PhD candidate Greg Buchak, University of Texas’s Gregor Matvos, Columbia’s Tomasz Piskorski, and Stanford’s Amit Seru, much of the growth is due to regulations that have pushed banks out of traditional lending businesses. The researchers also attribute some growth to online technology that has lowered the barrier to entry in markets where lenders once needed networks of physical branches to have any hope of building business.

The researchers focus on the US residential lending market, the largest consumer loan market in the country—and the market that drew the most attention from regulators after 2008. Between 2007 and 2015, shadow banks nearly tripled their market share, from 14 percent to 38 percent. They gained the most in the Federal Housing Administration (FHA) mortgage market, which serves lower-quality borrowers and is where shadow banks’ share rose from 20 percent to 75 percent.

Traditional banks retreated from sectors of the mortgage market where the regulatory burden grew the most, the researchers note. Traditional banks have been particularly hindered by rules that increased monitoring of balance-sheet holdings and constrained what banks could hold in their own accounts. Their retreat helped shadow banking succeed in the riskier FHA market and in more-traditional, conforming mortgages.

The researchers also separated shadow banks into those that did and didn’t originate loans online. During the study period, lenders that originated loans online (fintech lenders) saw market share rise from 4 percent to 13 percent—but that remains less than half of the shadow-banking sector.

Fintech lenders have found a niche: they charge higher rates for the convenience of originating loans online, serving a constituency of time-sensitive, less-price-conscious, lower-risk borrowers. But fintech lenders rely almost entirely on support that government-sponsored entities Fannie Mae and Freddie Mac provide to the conforming mortgage market. Since the future of Fannie and Freddie is by no means assured, the study suggests that “how changes in political environment impacts the interaction between various lenders remains an area of future research.”

Up to 55 percent of the growth of shadow banking can be attributed to regulatory arbitrage, the researchers conclude, with alternative lenders operating where traditional banks either won’t or cannot because of postcrisis rules and capital requirements. The remaining 35 percent of growth, they say, can be attributed to disruptive technology.—Michael Maiello


Filling a void left by traditional lenders

As conventional banks retreated from the US mortgage market after the 2007–10 financial crisis, nontraditional lenders expanded their reach.

Shadow banking companies’ share of:

<table>
<thead>
<tr>
<th>Shadow banking companies’ share of:</th>
<th>All US mortgages</th>
<th>Conforming mortgages</th>
<th>Federal Housing Authority mortgages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>07</td>
<td>08</td>
<td>09</td>
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</table>
Saying you’re at the doctor’s office and need a shot in the buttocks. You may take steps, such as avoiding eye contact or small talk, or smiling less, to distance yourself from the awkward situation.

This seemingly unfriendly behavior toward a service provider is a reaction to intimate services, according to research by University of California at Berkeley’s Juliana Schroeder, Chicago Booth’s Ayelet Fishbach, and University of North Carolina at Chapel Hill’s Kurt Gray and Chelsea Schein, a PhD candidate.

The reason has to do with what Schroeder and her coresearchers dub “functional intimacy.” Behavioral scientists have previously studied and established two other kinds of intimacy: “relationship intimacy,” experienced intentionally with people we’re close to, and “imposed intimacy,” the unwitting closeness that people might experience, say, on an overcrowded subway car.

But in this third type, people have a purpose that needs fulfilling that also brings with it an undesired intimacy. This can create some cognitive dissonance, at a doctor’s office, say, or at the airport when receiving a security pat-down. The researchers find that in situations of functional intimacy, people become socially awkward in a bid to distance themselves psychologically.

In one experiment, the researchers had people imagine one of several scenarios, which included receiving a vaccine in the buttocks and being patted down by an airport security officer. Study participants said they preferred less social interaction when the exchange was more intimate.

The researchers also tested the phenomenon in real, rather than imagined, settings. In a flu clinic at the University of Chicago, people who were primed to expect a more-intimate exchange said they planned to have less social interaction with the nurse.

When asked to hold hands with a stranger, people in both a lab setting and a museum minimized their physical interaction with the other person more so than they did when asked to simply shake hands with someone they didn’t know. The hand-holders made less eye contact and “turn[ed] their body away from that person so they’re literally minimizing social interaction,” Fishbach says.

“People psychologically distance themselves from functionally intimate interaction partners.”

This kind of behavior can lead nurses, security agents, and other service providers to feel isolated, dehumanized, and stressed—but understanding the psychological impulse behind such distancing attempts could help them not to take the reactions personally, says Fishbach, who adds it’s also important for those who manage these service providers to offer social support.

—Alice G. Walton


Well, this is awkward . . . Why you’re avoiding eye contact with your nurse

TAX INCENTIVES THAT DON’T WORK AS ADVERTISED

When economic weakness leads to rising unemployment and falling productivity, policy makers typically offer businesses tax incentives to upgrade equipment, expand operations, and otherwise invest in themselves. Incentives such as the Internal Revenue Service’s special depreciation allowance, which was estimated to cost the United States some $100 billion a year in forgone tax revenue during the last recession, are designed to spur job creation and consumer spending.

But the effectiveness of these incentives has been greatly overstated, according to research by Chicago Booth’s Thomas Winberry. Furthermore, his results suggest that shaping incentives to target only companies that require them for spending commitments is vastly more cost-effective than offering them broadly.

Winberry argues that although the state of the economy affects how stimulus policies influence corporate investment, the most popular models used by policy makers and economists fail to consider this. During a brisk economic expansion, businesses are up to 35 percent more likely to make an investment because of a tax incentive than they are in a similarly deep recession, according to Winberry’s model.

Winberry also argues that when it comes to how an individual company is affected by stimulus, company size matters. His model tackles a common conundrum in fiscal policy: When do incentives spark investment that would not otherwise occur?

He uses the model to test a hypothetical policy that gives incentives to only large corporations. This targeted stimulus would be five times more effective than the sort of broadly distributed stimulus packages currently in place, the model predicts. —Dee Gill

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PRIVATE-EQUITY investments can be enticing, but also complicated. It can be expensive for institutional investors, endowments, and pension funds to find and monitor private-equity investments—which can then be illiquid and difficult to scale.

A private-equity fund of funds, which holds a portfolio of other funds, potentially provides diversification and economies of scale, as well as specialized investment services. But are the advantages worth an extra layer of fees? Private-equity FOFs typically charge investors an annual fee of around 1 percent, and management gets 5 percent of all gains. That’s on top of the standard “2-and-20”—2 percent of total asset value and 20 percent of any additional profits—usually charged by each of the private-equity firms in which FOFs invest.

Research by University of Virginia’s Robert S. Harris, University of Oxford’s Tim Jenkinson, Chicago Booth’s Steve Kaplan, and Rüdiger Stucke of private-equity firm Warburg Pincus suggests that one type of private-equity FOF has been able to overcome that fee hurdle.

The researchers assessed the five-year performance of nearly 300 FOFs started between 1987 and 2007, differentiating between funds that focus on buyouts and those that invest in venture-capital private-equity funds. Firms that focus on buyouts usually invest in mature companies and buy all of a company’s equity. VC firms, by contrast, invest in start-ups and growth companies, taking lesser equity stakes.

Both the buyout and VC strategies delivered average returns net of all fees that matched or surpassed the performance of public-equity markets (as measured by the S&P 500 and the Russell 2000 stock indexes) over the sample period. When the two strands of private-equity FOFs were compared to investing directly in private-equity funds, the results were different. FOFs that focused on buyouts underperformed a strategy that invested directly in buyout funds. FOFs that focused on VC funds did just as well as investments made directly in VC funds.

Previous research from the same team helps explain how the average VC FOF has managed to overcome its extra layer of fees. In 2014, the researchers found that VC funds have more performance “persistence” than buyout funds: in other words, top performers tend to continue to do well. This suggests astute FOF managers who can identify top-tier VC firms can deliver a higher level of return that helps offset the increased fees. Established VC FOFs also likely deliver added value by being able to access VC managers whom other investors would be unable to invest with on their own.

And in the current research, the researchers find that VC FOFs tend to offer more diversification, with an average of 28 individual funds within FOFs, compared to an average of 21 for buyout FOFs. “The evidence suggests that VC FOF managers who can identify top-tier VC firms can deliver a higher level of return that helps offset the increased fees. Established VC FOFs also likely deliver added value by being able to access VC managers whom other investors would be unable to invest with on their own.”—Carla Fried

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Business and computer science majors are low cost for schools and lead to high salaries.

As US college tuition has soared, students, parents, and policy makers have pressured universities to demonstrate the value of a college degree. One way to show the benefit of a diploma is to report graduates’ earnings, which vary by major and the prestige of the school. The emphasis on future salaries may be one reason fewer students are earning humanities degrees.

Whatever the return on investment for students, gauging the ROI on taxpayers’ investment in higher education requires measuring not just salaries, but the cost to schools of educating students. Though undergraduates often pay the same tuition rate whether they’re taking a philosophy seminar or a chemistry lab, the cost of educating individual students can vary widely depending on their major.

Engineering degrees, for example, tend to provide high financial returns to graduates and also cost universities a lot to produce, according to research by Yale’s Joseph G. Altonji and Chicago Booth’s Seth Zimmerman. Other majors, such as business and computer science, have relatively low costs for schools while offering relatively high future salaries for graduates. Understanding the typical costs and outcomes for different majors could give additional guidance to public universities that are weighing how to maximize their budgets, given shrinking funding from state governments.

Altonji and Zimmerman reviewed publicly available information on the costs of producing graduates in various fields from the Florida state system of 12 four-year universities for the 1999-2000 through 2013-14 academic years. They also analyzed administrative records of educational and early-career outcomes for 57,711 people who enrolled in the state university system in the year after their high-school graduation. The researchers tracked the earnings of those who remained in Florida through early 2010, when the oldest students in the sample were 32 years old, and the youngest were 26.

The degrees that performed best in early-career salaries, on a per-dollar cost basis, were business and computer science, the researchers find. Graduates from these fields in their first year out of college earned 60-80
percent more than students with education degrees, who served as a baseline. It was also relatively cheap for schools to educate business and computer-science majors: it cost a university in the Florida state system an average of $31,482 to provide a business degree, compared with $62,297 for engineering. The average total degree cost was $39,184, including student payments and state appropriations.

The college degrees that performed worst in the study were architecture and art, which “are fairly expensive and have relatively low earnings” in the first 5-10 years after graduation, the researchers write. Students with degrees in that group earned 20–30 percent less than education majors.

Altonji and Zimmerman interpret their results cautiously, given that their data cover only the early stage of graduates’ careers. “Two majors with similar average earnings over the immediate post-college period could have different long-run trajectories,” they note.

To estimate a longer-term view, they turned to a nationally representative sample covering 2009-12 from the US Census Bureau’s American Community Survey, which analyzed college graduates’ earnings to age 45. Here, the patterns were similar: business and computer-science degrees still provide a relatively strong value when comparing earnings to costs. But engineering, math, and health sciences appear to provide a better value than those majors did in the Florida data.

The findings could provide guidance for college administrators who have considered whether to vary tuition rates by major.

Altonji and Zimmerman point out that there can be intangible social benefits to fields that don’t produce large salaries. Financial rewards are not the only way to assess the value of a degree—but they are perhaps the easiest to measure. —Amy Merrick

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Return on taxpayers’ investment in higher education
Calculating the cost to produce graduates and assessing their early-career salaries, the research identifies the most cost-effective fields.

*Universities’ costs per student and graduates’ earnings from age 26 to 32
By college major (US dollars more/less than an education major)*

Dollar amounts are calculated as “present day” values from the perspective of a student just starting college.
New-product launches are fraught with danger. Aside from facing potential manufacturing, logistics, and marketing flops, companies risk losing millions of dollars if what is expected to be a hit disappoints.

In recent years, businesses have been tapping the internet to cheaply and simply survey a large base of potential customers. This “crowdvoting”--a spin on crowdfunding and crowdsourcing--allows companies to ask self-selected website visitors to vote on which prospective new products they would buy.

But while asking your customers’ opinions might seem simple and straightforward, crowdvoting requires astute decision making by market researchers, according to Victor Araman of the American University of Beirut and Chicago Booth’s René Caldentey. Among other things, the voting process can take time, a consideration companies have to weigh against the appeal of getting quickly to market.

Araman and Caldentey developed a model to help businesses choose when to end a crowdvoting campaign. For many companies, this means closing the polls either by a certain date or at a set number of votes. But the model—which takes into account that some crowdfunded systems get into crowdfunding territory, allowing voters to essentially vote by preordering products—suggests that a rolling target based on a variety of factors can help some businesses pinpoint the optimal time to launch, or abandon, a product.

Some companies may already have a strong sense of how many people might buy a new product, or may be looking for confirmation of what they think they...
Timing of New Product Introduction,” Working paper, Victor Araman and René Caldentey, “Crowdvoting the weeks or months earlier.—Rose Jacobs

forget to buy the product they’d voted for increasing the chances that customers will launch and revenues that come with it and ability to forecast market potential, or preselling opportunities and reducing the decision either too soon, diminishing when to launch a product to make a date or number of votes may lead a recommends. 

There are also cases in which demand is unclear but opportunities for preselling are high. Oculus VR, a virtual-reality-headset maker, used the crowdfunding platform Kickstarter early in its life, collecting votes in the form of preorders at $300 or more. Over the course of one month (August 2012), the company raised almost $2.5 million from 9,522 people, 10 times its goal. Facebook acquired Oculus in 2014. 

Oculus set a deadline for voters. The researchers didn’t study this case, or any other in particular, but their model suggests that a dynamic stopping rule determined by factors that change as the polling progresses can significantly increase crowdvoting’s effectiveness in certain scenarios, such as the one Oculus faced. For example, as votes accumulate, they may push up or down the company’s expectations of a product’s market potential. This in turn might change the date, or vote tally, at which it makes sense to cease voting and launch the product. If voting, by contrast, signals diminishing risk that the product will flop, delay reduces immediate revenue potential. Accounting for different levels of risk yields different recommendations. 

On the other hand, relying on a fixed date or number of votes may lead a company that’s trying to decide if and when to launch a product to make a decision either too soon, diminishing preselling opportunities and reducing the ability to forecast market potential, or too late, needlessly delaying the product launch and revenues that come with it and increasing the chances that customers will forget to buy the product they’d voted for weeks or months earlier.—Rose Jacobs

BIG-DATA TECHNIQUES CAN HELP CONSTRUCT HEDGE PORTFOLIOS

INVESTORS CAN USE portfolios of assets to hedge risks. And the job of countless finance professionals is to understand how much investors should pay to offload their risks onto other investors in the market. To do this, it’s crucial to isolate the risk in question from all the other risks in the economy, which is tough. For example, if a trader is concerned that a drop in market liquidity will make it difficult to get out of a large stock position, how can she hedge that risk? There’s not a market-traded derivative she can buy or sell, so how much should a bank or speculator demand to take on that risk, and only that risk? 

Researchers and practitioners typically rely on models for guidance, but “most asset pricing models are too stylized to explicitly capture all sources of risk in the economy,” write Yale’s Stefano Giglio and Chicago Booth’s Dacheng Xiu. Rather than exclude some important risk factors from the analysis, Giglio and Xiu are using big-data techniques to help isolate risks so they can be measured and traded. 

The risk premium is how much compensation investors can obtain in exchange for bearing certain risks. If professionals and academics exclude important risk factors while trying to estimate the risk premium of the factor they are trying to hedge, it can severely bias the estimate. Therefore researchers typically add a few arbitrary factors as “controls,” even when those factors are not explicitly predicted by a model, hoping that those additions correspond to the risk factors investors actually care about. 

For example, it is common for researchers to add the market return as a factor in an analysis even if a theoretical model doesn’t include it because it is reasonable to assume that investors care about market risk. 

Giglio and Xiu instead propose a three-pass method to estimate risk premia that uses big-data techniques to address the potential omitted factors. Their solution marries the well-known Fama-MacBeth two-pass regression, an important tool contributed by Chicago Booth’s Eugene F. Fama and the late James D. MacBeth, with principal component analysis, a statistical technique that can be used to extract factors from a large panel of asset returns. The key of the methodology lies in an econometric theory guaranteeing that even if the true risk factors that drive asset prices are not known, the factors extracted using PCA are equally effective in controlling for the other risk factors—and therefore in isolating the risk factor of interest—for the purpose of estimating the risk premium of the factor of interest. 

Giglio and Xiu apply this technique to a large panel of equity and nonequity portfolios and find that properly controlling for omitted risk factors has an economically and statistically significant effect on the estimates of risk premia for many factors. They find that many macroeconomic factors do not carry any risk premium, while factors related to financial frictions such as liquidity command high risk premia. 

The method has implications for practitioners trying to hedge or trade any arbitrary factor, such as market liquidity or the number of words in Federal Open Market Committee statements, for which there isn’t a tradable insurance contract or a hedging portfolio. Giglio and Xiu’s method indicates whether the factor carries risk compensation—and constructs a portfolio that allows investors to trade away this risk.—Michael Maiello

The challenge for finance pros is to isolate a single risk from all other risks in the economy.

A global measure of uncertain economic times

Uncertainty about a nation’s economic policies can influence both politics and financial markets, and the effects often spread beyond the country’s borders. Building on his research with Northwestern’s Scott R. Baker and Stanford’s Nick Bloom measuring policy uncertainty in the world’s major economies, Chicago Booth’s Steven J. Davis has constructed an index that combines data from 18 countries to provide a global measurement of uncertainty from 1997 to present. Starting with each country’s index, which mines local news reports for keywords that indicate a level of concern from businesses and households about economic policy, Davis assembles a GDP-weighted average that shows how worldwide qualms have intensified over the past decade. The research team keeps the indexes up to date at policyuncertainty.com, where they expect to add data from more countries, including Israel, Malaysia, Mexico, and New Zealand.

The 18 countries that make up the global index 1997–2017, except where noted

Proportional highs and lows:
- Global index
- Country index

Australia: 100.8
Brazil: 137.1
Canada: 131.2
Chile: 107.1
China: 135
France: 153.7
Germany: 126
India: 97.3

Global Economic Policy Uncertainty Index
Higher value = greater uncertainty

Average: 108.6

For more on investors’ behavior when they don’t know the government’s next move, see “The price of policy uncertainty” (Fall 2016).
A global measure of uncertain economic times

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—CB/R.alt

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Ireland: 107.5
Italy: 109.3
Japan: 110.7
Netherlands: 96.9
Russia: 114.6
South Korea: 120.5
Spain: 111.7
Sweden: 91.4
UK: 161
US: 116.1

*Global financial crisis*

*European immigration crisis*

*Asian and Russian financial crises*

*Invasion of Iraq*

*Eurozone crises, US fiscal fights, Chinese leadership transition*

*Political turmoil in Brazil, France, South Korea*

*Global Economic Policy Uncertainty Index*

Higher value = greater uncertainty

For more on investors’ behavior when they don’t know the government’s next move, see “The price of policy uncertainty” (Fall 2014).

The loss of good-paying employment caused massive political shocks around the world. What can be done?
You wouldn’t know it from current politics, but the US manufacturing sector is doing great. Manufacturing’s contribution to GDP grew from $1.8 trillion in 2008 to $2.2 trillion last year. Average hourly earnings have risen 25 percent in the past decade. Productivity, measured as output by hour, is up 10 percent over that time period. Workers are making more things than they were 10 years ago, and they’re making more money doing it.

But there are fewer workers. Two decades ago, close to 18 million people worked in US manufacturing. Now, despite the fact that the sector has created almost 1 million jobs since 2010, employment in manufacturing is closer to 12 million.

Plenty of jobs still exist in the US economy, but plenty have been lost. And the jobs that have vanished were good jobs, middle-class ones—the kind that helped families buy houses, cars, and college educations for their children. Many of the jobs were available to immigrants and workers without college degrees, and allowed them to work toward the American dream.

These job losses, which extend beyond manufacturing, represent a seismic economic shift, and how to replace them is a conundrum with which economists and policy makers are struggling. “We’re so accustomed to not dealing with this question, frankly, as is the government, that we’ve come to a point where people are upset about the quality of the jobs,” says Anthony P. Carnevale, director of the Georgetown University Center on Education and the Workforce.

Politicians have come up with plenty of proposals. President Donald Trump promises that an America-first policy will bring jobs back, including in coal mining and manufacturing. In February 2015, President Barack Obama announced an initiative to make community college free nationwide, but it went nowhere in Congress. In her presidential campaign, former Secretary of State Hillary Clinton proposed a job-retraining program, including tax credits for businesses that hire apprentices.

Would any of these work? If not, what should policy makers do to create middle-class jobs? We posed the latter question to a number of leading academics, who had a variety of suggestions for how to rebuild the middle-class job base—and, by extension, the middle class itself.
Create incentives to work and hire

Steve Kaplan
Chicago Booth

F or the world, technology and globalization have been largely positive. In 1980, roughly a third of the world’s population lived below subsistence; today that number is less than 10 percent.

This means there are literally billions of people who are no longer starving. But these forces have put pressure on developed countries and particularly the middle class.

To offset this pressure, you want to make it easy and attractive for employers to hire and for people to work. If you make it expensive, a business is going to use technology or outsourcing to make it less expensive.

Raising the minimum wage in the face of this technological change is not smart—doing so reduces employers’ incentive to hire people. Many people who enter the middle class have to start somewhere, and that's often with entry-level jobs.

Anything else that mandates costs on businesses raises the cost of hiring people and the cost of being able to fire people. The Affordable Care Act mandates that employers provide health insurance for employees when the company reaches 50 employees. This creates a strong incentive for small businesses not to reach 50 employees. The ACA also creates incentives for people not to work because those going from not working to working end up losing some health insurance.

Take, as another example, the overtime rule. This tends to apply to managerial-type jobs and jobs held by younger people. If these workers are not treated or paid well, they can move. I would just as soon let the market take care of that. In terms of a cost-benefit analysis, it seems like there are huge costs to putting in the rule—and not a lot of benefit.

Over the last several years, the United States has become more rigid in its labor markets as Germany and Spain have gone in the opposite direction. President Emmanuel Macron is pledging to make France’s labor markets more fluid. Given that other countries are moving in the direction of more-friendly labor markets, it would be a good idea for the US to do so as well.

Rebuild roads, bridges, neighborhoods

Eric Zwick
Chicago Booth

T here are a lot of middle-class, blue-collar workers who are having trouble finding work because of changes in the economy. There are jobs in infrastructure that are very much in the manufacturing and building vein, but we have not had major investment at the federal, state, or local level in infrastructure. Bridges, roads, public transportation—all this stuff is old relative to the infrastructure in most other developed countries. Infrastructure investment could create a lot of employment, and having better infrastructure could create more attractive places for businesses to open up. It could reduce commute times and increase productivity in a lot of ways. It could also help generate demand for the kinds of jobs that the middle class has been losing.

Another way to increase demand for middle-class labor is to reexamine the land-use and urban regulations governing what kind of structures we’re allowing and how quickly we’re allowing people to develop. We see this regulation in a lot of cities, with increasing prices in both housing and commercial real estate as a result. Land-use regulations benefit people who live in the cities already and who own, but at the expense of people who can’t afford to rent or use that land, and also at the expense of people who might want to move in. A lot of the jobs that go into building these structures—electrical, plumbing, roofing, tiling, HVAC—are high-skilled, blue-collar jobs that are nontradable. You can’t get a plumber from China or Mexico to do the work of a plumber here. Robots can’t do these jobs.

On the supply side, there’s room for training people to do this kind of high-skilled, high-wage work in and around real estate and development. There are also a lot of high-skilled, white-collar professionals, such as dentists, health practitioners, doctors, and nurse practitioners, who rely on either computers or some kind of advanced training.

At the state level, supply restrictions, such as occupational licensing, have increased over time to protect these professions from having too many people enter. There’s more demand for their services than there are people doing the jobs, which is why we have to wait so long to get an appointment with a doctor. These restrictions also contribute to the high cost of health care. If we eliminate some of these supply restrictions, I could see more people moving into those professions.

An increasing number of people don’t have access to decent education, and that closes the door to a lot of these professions that I’ve been talking about. Students need a certain amount of reading, writing, and math to enter professional schools or apprenticeships. There seems to be increasing disparity in access to education early on, so we could expand our investment in education, make it more accessible, and deal with some of the drivers of high costs. Perhaps we could relax tenure restrictions to make it easier to replace underperforming teachers, and raise wages for teachers, to encourage higher-skilled people to enter into teaching.

I don’t think we’re going to return to a world in which manufacturing is 25 percent of the economy in terms of value added. It’s going to be done mostly in other countries. So we need to be investing in the skills to provide the kinds of middle-class blue-collar and white-collar jobs that are not as tradable.
The average real wage of US workers hasn’t increased in more than 30 years. With the exception of seeing modest wage growth in the mid-1990s, the average US worker hasn’t received a pay raise (in real, inflation-adjusted terms) since the early 1980s. Instead of asking how to create jobs, we need to start asking why wages aren't going up.

There are two types of growth in the economy: productivity and wages. Until 1980, these two types of growth tracked each other well. For every increase in productivity, wages went up one for one. But starting in 1980, the two started diverging. Workers continue to produce more and more each year, but their wages aren’t increasing.

My research suggests that the culprit is a decline in competition. Over time, industries are becoming more concentrated. In industries in which the largest four firms have increased their market share, there’s a growing gap between what workers are paid and how productive they are.

In 2014, an average worker produced more than $100,000 in goods and services. Some of that was paid to workers, some covered paying for investment and maintaining existing capital, and the company was left with $17,000 in profits. Over the past 30 years, more and more of workers’ productivity gains have gone to profits instead of wages. Productivity has gone up, wages have been flat, and companies have pocketed the difference.

The data indicate that if competition were to increase, wages would go up by about 20 percent. These gains to workers would be broadly shared; high-skill and low-skill workers would see their wages increase.

We need a better understanding of competition before we are able to recommend policies to address the problem. At the same time, there are potentially large gains to workers if we could figure this out.
an incentive to ship profits and intellectual property overseas. Unfortunately, a VAT is anathema to doctrinaire antitax partisans. Ironically, they view it as undesirable precisely because it’s so efficient—and hence does not evoke their desired level of antitax sentiment.

This is by no means the only distortion on the tax system. Tax codes usually start out simply but become a Swiss cheese on the tax system. Tax codes usually start precisely hence does not evoke their desired level of antitax sentiment.

Fixing the tax code would create more investment in the US, which would spur employment growth, and this would have the effect of raising incomes. All jobs become more “middle class” when the labor market is tighter. Economic growth solves many problems simultaneously: raising incomes, addressing budget shortfalls, creating employment, enabling investment. The problem is that growth is not a lever that we can just pull. Growth primarily comes from private-sector activities. But good tax policy—alongside good human-capital policy—is one of the most critical ways the government can abet rather than deter economic growth.

Aside from distortionary taxes, one of the most egregious economic errors we are currently making— at the state level—is de facto defunding our state university systems. These systems are the backbone of American higher education. They provide a disproportionate share of the high-quality, reasonably priced postsecondary education in the US, and they have a high rate of public and private return. Starving them of funds so they become second-rate and inadequate has a high negative return. It’s as if for every dollar you don’t spend, you lose another $5 in return.

There are other areas that offer good long-term returns on public dollars: basic science research, targeted skills training, modern infrastructure, etc. Investing in these areas will boost productivity, wages, and employment—though not instantaneously.

when a factory closes, people need to move, and new factories need to move in. The disincentives of social programs, especially those tied to one place, and the regulatory barriers to new investment get in the way.

Not every problem is the fault of policy makers, to be sure. But before looking for new fixes to new, vaguely understood problems, it’s always wise to examine the things one is doing that are making the problem worse, and fix those first.

Are “middle-class jobs” vanishing from technology? I don’t think so. It certainly is not happening now. Unemployment is low, and productivity is growing slowly. If robots were destroying jobs, we’d see high unemployment and dramatic productivity gains—in output per hour—from the few remaining workers. So it is a worry about the future.

Labor-saving technology has come in wave after wave, ever since Og first attached a stone point to the end of a piece of wood and created a spear. Over and over again, technology has created great prosperity.

There have been losers too. Technology “I don’t see any reason that today’s automation will not create more opportunities, just as it has every time in the past. typically gives unskilled workers more opportunities, because unskilled workers are not particularly specialized. The losers have been skilled workers with specialized skills, not easily transferable to other jobs.

Think of the looms of the Industrial Revolution. They brought unskilled people in from the misery of the farm to the not-quite-so misery of the factory, and everyone got cheaper clothes. Medium-skilled weavers lost out. Their children moved on to better things.

I don’t see any reason that today’s automation will not create more opportunities, just as it has every time in the past. Yes, innovation is a tumultuous process, and certain people with specialized skills will lose out. We have a social help system, and it is entirely appropriate to cushion the blow.

Special transition help is often proposed. But why should we worry more about somebody who lost a $100,000 job and now has to work for $50,000 than about someone who’s never had a job and can barely work for $25,000? Why should we target people who have lost out to politically charged events, such as jobs that move overseas, and not help kids from the slums in Chicago who never had an opportunity in the first place? I would rather see a system of social help that helps everybody who needs it and doesn’t try to figure out who lost jobs to technology.

But most of what our government does to appear to help is to slow things down, to preserve the status quo. To bring back those supposedly great jobs from the 1950s. As Uber came in, city governments tried to prop up the taxi monopoly, to not let Uber drivers unlock the value of their cars and unscheduled free time and give us much better transport services. (For more from Cochrane, see “History offers a reassuring message on automation,” page 68.)
The students who graduate from Chicago Booth make a lot more money than they did when I started teaching. Why? It’s because their skills have become scarce. There’s a lot of demand for these folks. They tend to find jobs pretty quickly after business school, and they’re just the tip of the iceberg. If we look at graduates of four-year colleges, on average they have been earning a much bigger wage premium than they did in the past, which indicates that their skills are scarce. These are the kinds of people and the types of skills we need more of, but right now our educational institutions, at least for men, are not keeping up.

The current administration talks a lot about infrastructure, but one specific form of infrastructure is often neglected: reliable, high-speed internet. My parents visited from Germany a few weeks ago, and they were surprised by the slow speed of the internet, the unreliability of phone connections, and the fact that a lot of the electricity cables are still above ground. This can lead to major disruptions during natural disasters such as tornados.

I am originally from Baden-Württemberg, in Germany, which is well known for its car industry—Porsche and Mercedes. The majority of jobs there are, however, in small and medium-sized enterprises, so-called SMEs. These SMEs are typically headquartered in rural areas but have access to excellent infrastructure. The Autobahn is one type of infrastructure, but more crucial in the current high-tech environment is what I would call the data Autobahn.

You can do many things that would make access to four-year colleges more affordable, but the long-term solution is going to be to make sure that people in the pipeline are prepared to go on to college. Part of the constraint we’re seeing now is that the people forgoing four-year college may be doing so because they’re not trained well enough in high school and at home.

When you increase the number of skilled people, you do two things: you move people from low-skilled to high-skilled work, which has a direct effect on their earnings, and you make skilled people a little bit less scarce and less-skilled people a little bit more scarce. At the same time, that’s going to raise the wages of all the people that got left behind.
I'm a labor economist, and when thinking about this problem, I like to consider both labor supply and demand. Labor supply means looking at workers and employees, and looking in particular at the skills they have. On the labor-demand side, it means looking at companies and their willingness to create jobs. Two of my three policy solutions have to do with labor supply, and one with labor demand.

Number one, use technology to fight technology. New technologies are replacing workers in middle-class jobs, so we should use technology as a response. You have to think about how to best match the training that workers receive with the skills that are in demand.

I looked recently at community-college students, who often do a lot of training that is short and intended to be useful. Surprisingly, we find that these students have little information about labor-market outcomes. But nowadays we have more and more data. We can use these data, together with machine-learning technology, to help students make an informed decision and better take into account the labor-market outcomes that they’re likely to have. This is something that can be thought of on a big scale.

Technology can create more jobs if we facilitate the meeting of workers and companies and make sure that workers have the right skills for the jobs. Thanks to technology, we have more detailed data on what jobs are out there and what skills they require, as well as detailed data on course work. So by linking these, we can make sure that workers have the right skills and that they know where to look for a job with those skills. Companies tend to create more jobs when they can easily find workers, because it’s costly to have a vacancy that isn’t being filled.

Second, if you look at other rich countries, in a survey of adult skills, US youths rank the lowest in terms of numeracy and problem solving. You need to double down on the financing of elementary and secondary education in order to push for math, science, and problem-solving skills. We have to have a workforce that is already prepared in K-12 with the right skills to go further.

Third, today’s labor market is more and more dominated by megacompanies. And what is interesting is that they pay low wages. There seems to be a link between concentration and the availability of good-paying jobs, and that’s a problem. This represents a fundamental change in the labor market. There used to be a company-size premium, meaning that workers in bigger companies would make more, but nowadays we have a company-size penalty. It seems that market power in the product markets is associated with market power in the labor market. These companies, when they have a bigger share of the product market, can impose worse conditions on workers.

Another trend involves noncompete clauses. More and more workers are made to sign noncompete clauses, so that if they leave one employer, they can’t work with employers in the same industry, which means workers are banned from accessing a lot of good-paying jobs and are at a disadvantage in the labor market. To address this, we need to think about policies that encourage competition and discourage monopoly.

In addition, many of these SMEs are hidden champions. You and I, we have never heard of these guys, but they are world market leaders—highly skilled, highly successful, highly specialized companies—and a big part of that success is due to the peculiarity of the German education system. Think of it like vocational training. It’s a combination of university education and, crucially, some on-the-job training. Students typically spend three to four years in university, but attend classes only three days a week, with the remaining time spent directly working in a company. This form of education offers students not only the sound theoretical foundations they need later in life, but also the skills they can apply in their day-to-day jobs.

Lastly, the car industry in Germany is an excellent example of why we should not choose new tariffs or start a trade war. BMW is headquartered in Bavaria, but its largest factory is in South Carolina. Last year alone, BMW exported cars worth more than $10 billion from the United States, more than any other car manufacturer in the US. Funny enough, many of those cars went to China. So it looks like the car industry is creating and generating exactly the type of middle-class jobs President Trump says he wants. It’s a good sign that every other car on 5th Avenue is a German car, as Trump observed, because most of these cars are actually produced in the US. It’s not that the US loses at the expense of Germany or China. Instead, if it’s done properly, the pie gets bigger for everyone.
Unemployment is not just an economic issue; it’s also a psychological one. For most of human history, people have had to work to accumulate enough to survive. Now that productivity is so high, we don’t need to work as hard and we don’t need as many people to work. In this sense, unemployment is what human beings should be proud of, not ashamed of. But unemployment creates idleness. And idleness makes people unhappy—even if they receive social welfare from the government—and may even breed social unrest. As Hippocrates noted in *On Decorum*, “Idleness and lack of occupation tend—nay are dragged—towards evil.”

Since there isn’t enough work, research suggests the government should not just give idle people social welfare, but engage them in “futile busyness”—create something for them to do, even if the work is not necessary. I wouldn’t go so far as to suggest paying one group of idle people to build a bridge and paying another group to take down the bridge; but the government could, for example, pay people to engage in arts-and-sports competitions—have people burn their energy. It will make them happy and our society safe.

When passengers get off a plane, it will usually take time for their luggage to arrive at the baggage claim. Instead of making passengers wait for their bags, some airports create an unnecessary detour so that passengers have to walk a long way to get to the baggage claim. This futile busyness makes passengers happier and reduces potential airport unrest. We may do something similar at the societal level.

Increase productivity growth with research and investment

The biggest impediment to economic growth right now is slow productivity growth, so if you want to increase growth, that’s got to be a priority area. The problem is, we don’t have a dial that reads “Productivity growth” that we can turn up and down. It’s hard to move that number. There are some things we know can work, however.

Basic science research is important. That’s an area for policy that could use renewed attention and priority.

We also know that there is an increasing gap between the efficiency levels of the most- and least-productive companies. And we know that workers’ earnings are closely tied to the success of the company the workers are at. This would suggest that if we can figure out how to get the best practices employed at the most-efficient companies to be adopted successfully by more-typical companies, we both get productivity growth and perhaps increase the earnings of people throughout the pay scale.

One other area where there’s some potential for productivity growth is in investment, and one type of investment that’s closely tied to policy decisions is infrastructure. There’s a good argument that we would increase productivity growth if we invested intelligently in infrastructure. There are political considerations that sometimes mean infrastructure decisions aren’t necessarily allocated as well as you’d like them to be. But if carefully considered and thought out, infrastructure investment could raise productivity.

The sectors that would be most involved in putting this into place—construction and manufacturing—are areas where traditionally you have middle-class jobs that pay well. During this period of an infrastructure-investment ramp-up, you’d have more of these jobs available. And not only would this employ people who might not otherwise be employed at these pay rates, you would also be laying the foundation for more productivity growth in the future.
CUT REGULATION!
Part of the challenge facing the US economy is the number of regional labor markets that have been taking it on the chin for a couple of decades now. Once regions start to turn south and high-skilled workers leave, it’s hard to regenerate economic activity. And you get workers who aren’t mobile for any variety of reasons—because of personal circumstance, because of what’s going on in their families, because they feel tied to a particular part of the country— who find themselves in a location where opportunities are bleak.

Economists are not exactly sure what we do to turn around places such as southern Ohio. How do we regenerate job growth? We know that places that do better in the longer run are places with universities, places that attract younger skilled workers, but it’s not as though creating a university is a viable policy option for many parts of the country.

We could move the needle by making the United States a more attractive place. Multinational companies every day are thinking, where do we build the next office? Where do we locate our headquarters? Do we want it to be in Europe, the US, Mexico, or China? The more skilled US workers are, the more attractive the US will be as a location for skill-intensive manufacturing operations.

You can offer IBM all the tax breaks in the world, and it’s still not going to locate in many parts of the Midwest that have seen job collapses in the last couple of decades. The labor force is just not there to support the sort of business operations that are part of IBM’s current workforce. The same goes for the big five technology companies. You see where they’re located, in cities that have an abundant supply of highly skilled workers.

It would behoove us to engage in thoughtful policy experimentation, where we think about what it would take to get workers who seem to be immobile to take advantage of job opportunities elsewhere, and what it would take to attract firms to create employment in locations where few economic opportunities currently exist. We haven’t done a lot of that sort of experimentation in the US. It requires coordination between the federal and state governments. It requires Congress to free up some money. It requires business and government to work happily together.

We can see in the country a tremendous amount of anxiety about the current state of the economy. Not on the coasts, but in the center of the country, this anxiety has led to political turmoil. It’s upended the state of affairs in our country—and if we don’t help identify sensible answers, there are going to be folks who come along to provide answers that aren’t all that sensible.

In elder care, there are many empathetic, compassionate individuals who cannot perform various simple medical procedures, such as the insertion of an IV, because they don’t have the skill set. Some are currently restricted by rules set by Medicare for reimbursement of home-health-care workers. Their pay, as a result, is lower than it would be if their skill set could be upgraded. Anytime elder-care patients need an IV or catheterization or another simple medical procedure, they have to get someone other than their home-care worker to do it. If these home-health-care workers completed a training program and became certified to do minor skilled procedures, their wages would increase. It would lift the prospects of a large number of providers, be a benefit to patients, and save resources in the health-care system.

A lot of what I’m referring to would involve changing certain rules to make them more reasonable, cost-effective, and convenient for patients. The home-health-care worker, moreover, could instantly call on other health-care professionals if need be. Let’s say I were a newly trained home-health-care worker, and something happened that I was not equipped to deal with. I could, through Skype, connect instantly with

"A lot of what I’m referring to would involve changing certain rules to make them more reasonable, cost-effective, and convenient for patients."

Claudia Goldin
Harvard
It is now the case that higher education is what creates the middle class. We spend $500 billion a year on postsecondary education and training. And at the moment, it's a big institution with no real operating system or accountability system—at least one that connects it to economic opportunity. Eighty percent of students now say the primary reason they go to college is to get a middle-class job. That was somewhere around 35 percent in the 1970s. There’s a demand for increasing accountability for delivering on economic outcomes, for getting people good jobs.

The easy decision is, let’s give education to everybody so they can compete for the good jobs. On the other hand, we know that means a lot of people will not compete—they won’t get the education they need, for a variety of reasons—and many of them will compete and lose. I mean, 20 percent of people with college degrees get wages commensurate with what you’d earn with just a high-school diploma. Forty percent of people with bachelor’s degrees make more than people with graduate degrees now, depending on the field of study. And 30 percent of people with two-year degrees make more than people with bachelor’s degrees, depending on the field of study. If you get an associate’s degree in engineering, you’ll make more than most college graduates. More and more, we’re publishing data that tell students, if you major in humanities, you’re much less likely to get a job than if you major in engineering, for instance. The university or the college matters less and less.

Seventy-five percent of the growth in wage inequality in America is due to differences between people who go to college and people who don’t. College is our workforce-development system. We see strong, bipartisan support in state legislatures and Congress for moving toward a system in which institutions that provide education after high school provide the data showing that their programs help move people toward a middle-class lifestyle and earnings. (For more on education, see “The cost of an engineering degree (to the college),” page 18.)
An astonishing number of professions require a license or certification from the government—to be a manicurist, for example. Of course, there are some areas where you certainly want to regulate who is doing what. We wouldn’t want just anyone to be a doctor. But do you really need that for a manicure?

Many states have extensive requirements making it difficult to get a job in other industries as well. Look at security guards. In Michigan, it can take up to three years of training to be able to qualify to be licensed as a security guard. In many other states, it requires only a few weeks of training.

The data show that where there are skilled people, there are jobs. People create jobs for themselves—they don’t just sit around; they have to find work to do. The question is, what is the nature of that work? The higher a person’s skill set, the more productive she is going to be in the labor market.

Roll back regulations

Eugene F. Fama
Chicago Booth

Over the last 20 years, we’ve seen a big decline in the number of listed companies and a big drop in the rate of business formation. I think that has a lot to do with the layering on of regulations that make it hard to start a business and keep it going. I would like to see a big rollback in the level of regulation—federal, state, and local—so that it becomes easier to do business and have a business.

I’ll give you an example. Chicago Booth takes its name from a gift from David Booth, who founded Dimensional Fund Advisors. I was with him when he started the company, and we had little capital. There was no compliance group because we were dealing with large institutional investors, and there wasn’t, at that point, thought that there was any need for one. Since then, you cannot be in the investment management business without a big compliance group, because you’re dealing with regulators all the time. What that means is you can’t go into business unless you have a large amount of capital. A company such as Dimensional couldn’t come into being today. It just wouldn’t have enough capital to support a big compliance group. So you can’t really be in the business unless you’re already in the business.

There are great economies of scale in compliance, so the big guys have a leg up. This is just one instance in which regulation detours economic activity in a hurtful way. There are many more.

Enhance vocational training

Edward Lazear
Stanford

The data show that where there are skilled people, there are jobs. People create jobs for themselves—they don’t just sit around; they have to find work to do. The question is, what is the nature of that work? The higher a person’s skill set, the more productive she is going to be in the labor market.

Harmonize licensing regulations

Randall S. Kroszner
Chicago Booth

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Many states have extensive requirements making it difficult to get a job in other industries as well. Look at security guards. In Michigan, it can take up to three years of training to be able to qualify to be licensed as a security guard. In many other states, it requires only a few weeks of training.
I have a particular view on this, and it comes from spending a good bit of time in Europe, as well as having studied the German labor market. One of the things that Germany does well relative to the United States is vocational training. It has a good vocational-training system, coupled with apprenticeships. People here usually associate these jobs and training programs with manufacturing jobs. It’s certainly true in manufacturing, but it’s also true throughout the service sector.

For example, I ran into a few kids once who were in a vocational-training program as physicist assistants. Essentially, when they graduated, they would become lab technicians. At 15 and 16 years old, they were taking calculus, advanced chemistry, and physics classes. This is the kind of stuff that we might associate with academic training. But when you look at the lower 70 percent of German workers, almost all of them have some vocational training. The difference in earnings between the bottom and top of Germany’s workforce is much smaller than is the case in the US.

We’re not just talking about the poor. We’re talking about a significant fraction of our workforce. About 50 percent of Americans entering the workforce now go to and graduate from college, but most of the evidence says that only about three-fifths of these workers benefit significantly from college. Even among those who are going to college, the lowest two-fifths are not doing so well.

Obviously, you shouldn’t train for something that doesn’t exist in a modern economy. If you train to be a blacksmith, you might become a highly skilled blacksmith, but you’re not going to command a high price. It’s not sufficient just to get training; the training has to be adaptable and suited to the modern economy. But the market takes care of that pretty well. People understand what the market wants and what it needs, and they tend to move into those occupations.

These are good, solid jobs, and we should try to harmonize the regulations across the states. We should use cost-benefit analysis in comparing requirements across states and outcomes to see what level of regulation makes sense.

Most studies analyzing the consequences of occupational licensing generally find that, first, licensing tends to raise prices because it restricts entry and effectively creates a cartel. Unfortunately, the second thing that most of the studies find is virtually no improvement in outcomes. Quality is no better, and the variety of services that are offered is no better. If you look back to the 1950s, about 5 percent of workers were required to obtain some sort of occupational license. That number has grown fivefold, and it’s not clear that we’ve gotten much, if any, benefit.

There can be a lot of sympathy at the local or state level for particular groups that may be well organized and able to lobby in favor of occupational licensing. I think that’s been a force, so recognizing this at the national level is important.

First, licensing tends to raise prices because it restricts entry and effectively creates a cartel. Unfortunately, the second thing that most of the studies find is virtually no improvement in outcomes.

This is not a partisan issue. Many people on the Republican side have talked about this, and in the last year of the Obama administration, the Council of Economic Advisers put out a paper on exactly this issue.

There’s a win-win situation here. Reduce unnecessary barriers to allow more people to come in so that you can create more jobs, and provide these services at a more competitive price so that demand will increase for them.

Another policy that can help to reignite middle-class job growth is tax reform. We have a tax system that makes it difficult for companies to invest, and that taxes labor heavily. A lot of these burdens fall on the middle class.

When tax rates go up, you tend to see lower labor-force participation. If you want to generate more jobs, you’ve got to get more people interested in being on the job market. Reform the tax system so people feel that they can get the fruits of their labor.

It’s not just on the labor side. We have this crazy tax system in the United States in which major companies keep between $2.5 and $3 trillion offshore. Again, this is not a partisan issue. Even if it isn’t easy to get everyone to agree on the specifics, the general idea is to undertake tax reform that will encourage companies to bring that money back home, thereby encouraging more investment in the US, and that will help to generate more jobs, generate productivity growth, and increase wages.
In the United States, many people are underemployed or have dropped out of the labor force entirely. But there are ways to better link employers who have jobs with qualified people who want them.

BY HOWARD GOLD

While the US workforce-participation rate languishes near historic lows, many employers complain they are having a tough time finding qualified workers to fill open positions, and not only in the “glamour” field of information technology.

The Solar Foundation reports that two-thirds of solar-energy installers can’t find qualified job applicants. Health-care providers of all kinds worry there won’t be enough trained people to serve an aging population.

Throughout the country, manufacturers are desperate to hire skilled welders. According to Monster.com, carpenters, electricians, mechanics, and plumbers are among the jobs employers have found most difficult to fill.

Meanwhile, in many areas across the US, people say they’re desperate to find good work. “I will be the greatest jobs producer that God ever created,” Donald Trump proclaimed in January, shortly before taking the presidential oath of office. But four months later, a worried factory worker from Racine, Wisconsin, told a CNN reporter that his job is moving to Canada and he might lose his house. Almost 15 million people are looking for full-time work.

Economists say this is a labor-market mismatch. Companies want workers, and workers want jobs, but they’re not in sync. What could help? Education and training is the primary answer given by many economists. But also something else: data.

Wanted: Good jobs

From the numbers, the US looks close to or at full employment, according to many economists. The economy has added 15.8 million jobs since October 2010, posting a record 80 consecutive months of gains. The unemployment rate was 4.3 percent in May, its lowest in 16 years. Even wages are rising again: after years of stagnation, average hourly wages rose 2.5 percent over the 12 months ending in May.

“The job market has almost totally recovered from its devastating decline during the Great Recession,” Harry Holzer, former chief economist of the US Department of Labor, told the Atlantic this past January. “Significant wage growth, which was lacking early in the recovery, has returned.”

Federal Reserve Chair Janet Yellen struck a similar note in March. “The economy has essentially met the employment portion of our mandate, and inflation is moving closer to our 2 percent objective,” she told a meeting of the Executives’ Club of Chicago. Since then, the rate-setting Federal Open Market Committee has twice raised the federal funds rate by a quarter point. At a news conference following the FOMC meeting in March, Yellen declared, “The simple message is the economy is doing well.”

But the picture described by Holzer and Yellen, and seemingly supported by unemployment and wage data, is incomplete. There are millions of people...
who are underemployed, or who have dropped out of the workforce entirely.

A better picture of the labor market emerges when you consider another set of data from the Bureau of Labor Statistics, called U6, which includes the officially unemployed, people who are working part time but would prefer to work full time, and “marginally attached” workers who have looked for work over the year but grown discouraged. In May, the U6 stood near 8 percent, almost double the official unemployment rate.

Furthermore, some economists are alarmed by the labor-force-participation rate, which the BLS defines as the percentage of the total population aged 16 and above that is either employed or officially unemployed. That plummeted from a peak of about 68 percent in April 2000 to a low of 62.5 percent in November 2015, and hasn’t climbed much since. It indicates that an aging population aside, many able-bodied individuals have simply left the labor market.

According to the Organisation for Economic Co-operation and Development, the US ranked 39th in labor-force participation for prime-age workers in 2015, the latest year for which data were available. In this measure, the US trailed even the much smaller economies of Greece, Bulgaria, and Romania. And Maximiliano A. Dvorkin and Hannah Shell at the Federal Reserve Bank of St. Louis found in 2015 that the US was the “only country in our sample experiencing a recent decline in the aggregate labor force participation rate.”

The US is “doing much worse” than advanced European countries including France, Germany, and the United Kingdom, says University of Pennsylvania’s Ioana Marinescu. Even though France, for example, has a much higher unemployment rate than the US—10 percent, as of January 2017—“more people are working in France as a percentage of the prime-age population than in the US, and to me that shows there’s something really worrying about the US economy.”

For years, many believed they were seeing a cyclical problem, the result of a deep recession that trailed a financial crisis. Ben Bernanke, then chairman of the Federal Reserve, initially accepted the classical Keynesian explanation that high long-term unemployment and low labor-force participation were caused by a huge shortfall in aggregate demand.

Toward the end of his tenure, however, he worried that structural factors were playing a big role and that high unemployment and underemployment “damage the productive potential of the economy as a whole by eroding workers’ skills and . . . by preventing many young people from gaining workplace skills and experience in the first place.”

In retrospect, we can see that the housing boom masked the structural change. When manufacturing was shedding jobs, boomtowns such as Las Vegas, Phoenix, Miami and Tampa in Florida, and California’s Central Valley put people to work in construction. But when 2 million construction jobs disappeared from August 2006 to July 2010, it revealed the weakness in the labor market, especially among relatively unskilled workers who hadn’t gone beyond high school. “Employment rates for prime-age workers are well below historical levels, and for the men they’re at historically low levels,” says Chicago Booth’s Erik Hurst.

The statistics and data affirm the message voters collectively sent politicians last fall: many people want jobs, and better ones.

Needed: Skilled workers

Meanwhile, on the labor-demand side of the economy, the situation looks entirely different. There were 5.5 million job openings nationwide this past December, according to the BLS. Even in manufacturing, the sector that has suffered the biggest job losses, employers complain of a dearth of prospective employees with the requisite skills. A 2015 report by the Manufacturing Institute projected that retirement among skilled workers and lack of training among younger ones will leave 2 million manufacturing jobs unfilled by 2025.

Companies are willing to pay well to fill open positions—if people have the requisite skills.

The wages of low-skilled or unskilled workers have stagnated or fallen, but “individuals near the top of the wage distribution enjoyed rapid and sustained wage growth,” write Chicago Booth’s Kevin M. Murphy and Robert H. Topel. In fact, “market fundamentals favoring more skilled workers are the driving force behind rising inequality.”

What you see is a skills mismatch. Jobs are available, but a sizable percentage of the population lacks the skills, education, and training needed to do them. When Chicago Booth Review surveyed economists about jobs, the skills gap came up repeatedly, and the economists offered a number of recommendations to address it, including offering vocational training, making college more accessible, and improving and investing in elementary and secondary education. (See “How to create middle-class jobs,” page 24.)

Yet data could also better help employers and workers find each other. Online personals have united couples, and online job searches have united workers with adoring, or at least approving, human-resources departments. Research indicates that this labor-market matchmaking could be far more widespread and effective, and researchers are developing tools and data sets that could help.
A better picture of the labor market

The official US unemployment rate excludes some notable segments of the working-age population.

- **U6 unemployment rate**
  Includes part-timers who would prefer to work full time and longtime unemployed people who have quit looking for jobs

- **Official unemployment rate**

![Chart showing the difference between the official unemployment rate and the U6 unemployment rate from 2000 to 2017, with an average difference of 5.8 points.](chart)

US Bureau of Labor Statistics

Learning from job postings

For starters, labor-market data as currently collected can give only a high-level picture of the situation and need more specificity to be useful to hiring managers. So some researchers are turning to online job postings.

The most-authoritative data on the labor market come from the BLS, which gathers and disseminates key statistics on pricing, productivity, wages, and employment. It tracks employment trends in industries going back decades and drills down to the state and metropolitan-area level. Its most widely watched and influential report is the monthly jobs report, which can move markets and shape monetary policy.

But while researchers consider the data gathered through it and other surveys and publications to be critical, these and other BLS data sets have limitations, especially if you’re looking for particular information that could perhaps guide corporate decision making. “Our current statistical infrastructure is not well suited to inform us about granular details of the labor market on the demand side,” says Chicago Booth’s Steven J. Davis. “It doesn’t tell us exactly what kinds of jobs employers find easy to fill, what kinds they find hard to fill, and why they find them easy or hard to fill.”

Hence Davis and University of Chicago PhD candidate Brenda Samaniego de la Parra are building a database of online vacancy postings. Thus far their database includes 9 million job openings posted since January 2012, along with 76 million applications for those jobs. The researchers worked with DHI Group, a New York-based company that owns several career and recruitment sites in industries such as technology, health care, finance, and energy.

The data, principally from DHI’s largest site, technology-oriented Dice.com, allowed Davis and Samaniego to drill down to the functional level, such as “software developer” or “project manager,” and even to specific skills, such as “JavaScript” or “Linux programming.” The database provides second-by-second tracking of job postings that let the researchers follow the volume and flow of job applications. (Davis is also a senior research advisor to DHI, and both he and Samaniego were compensated by the company to develop and analyze the database.)

The researchers also developed two new hiring indicators. First is the DHI-DFH Vacancy Duration Measure, which tracks the average number of working days it takes to fill a position. Based on methodology developed by Davis, the Federal Reserve Bank of Chicago’s R. Jason Faberman, and University of Maryland’s John Haltiwanger, the measure uses the BLS’s Job Openings and Labor Turnover Survey to estimate the average number of days it takes to fill open positions each month. The DHI-DFH Recruiting Intensity Index uses JOLTS data to quantify the intensity of employers’ efforts to fill vacant jobs.

Analyzing the Dice.com data, Davis and Samaniego make some observations that illuminate the situation for companies and job seekers, and may help change the way employers view hiring. (See “How to hire, and get hired,” page 43.) But Davis says the data sets he and Samaniego are building could also help illuminate issues that keep employees and employers apart—such as skills and location.
Imagine, for example, an employer looking for a Cisco programmer. The DHI data set and tools can help assess if there’s a surplus of these programmers in one part of the country and a shortage in another. “There are jobs and there are workers, but the workers may not be located in the same place as the jobs,” Davis says. “We’re building a machine to put out statistics every month so they can inform our understanding of labor markets not just two or three years after the fact but in near-real time.”

Other researchers are also using job postings to make observations. Marinescu and University of Toronto’s Ronald Wolthoff looked at all the vacancies posted on CareerBuilder.com for Chicago and Washington, DC, in early 2011, and find that job titles explained more than 90 percent of the variance in posted wages between jobs. “The words in the job title communicate important information about a position, and workers use them to direct their search,” they write, observing that titles say more than BLS occupational classifications do about wages and applications. As job titles appear to be the decisive factor in wage differences between posted positions that disclosed salary data, employers seeking workers should pay more attention to job titles.

Moreover, workers want jobs that are local. Marinescu and University of Warwick’s Roland Rathelot, also using CareerBuilder.com data, find that job seekers were 35 percent less likely to apply to a job 10 miles away from their zip code of residence because they “dislike applying to distant jobs.” While Marinescu and Rathelot call geographic mismatch “a minor driver of aggregate unemployment,” economists have become concerned about the macroeconomic impact of declining geographic mobility in the US. The percentage of the working-age population that moved to another state has halved since the 1980s, and fell below 1.5 percent in 2010.

**Large-scale matchmaking**

But solving the greater mismatch problem involves more parties than job seekers and employers. Consider all the workers-in-training, students trying to decide what course of study to pursue. There’s

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**Data behind job vacancies**

Two indicators offer insight into the state of the hiring market, based on open positions and what companies are doing to fill them.

**DHI-DFH Vacancy Duration Measure**

*Average number of days taken to fill vacant positions in the US*

**DHI-DFH Recruiting Intensity Index**

*Higher value = greater effort by US employers to fill vacant positions*

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Davis et al., 2013; DHI Group
a movement to give students more data to help them make more-informed education decisions by letting them know how much they can expect to make by graduating with a degree in, say, engineering rather than education.

What if students picked what to study based on not only outcomes but also specific, local workforce needs? “Maybe you have enough skills, but if you only added one additional skill, you’d be in a perfect position for a really in-demand job,” Marinescu says. “That’s something that, with the proper understanding of the landscape and algorithm, we can say, ‘Here’s the skill or couple of skills you’re missing to round out your résumé. And here’s a college where you can get a certificate.’”

Moreover, what if the schools responsible for educating the present and future workforce had data to help them decide which courses they should offer? Community and four-year colleges do talk with local employers, but what if they shared detailed information about their hiring needs?

Marinescu is involved in a project to construct a powerful labor-market database through a partnership between the Labor Department, the National Economic Council, and the Center for Data Science and Public Policy at the University of Chicago. Supported by a grant from the Alfred P. Sloan Foundation, the Workforce Data Initiative will create a database that, according to the university, will “integrate data from national administrative sources . . . with privately held data from job websites, employment agencies, human resources management software,” and other sources. When it’s completed, the new data set—called the Skills Cooperative Research Database—may become a public resource akin to the Human Genome Project, containing the elemental information behind every job in the country.

“I think what’s really useful is to have a clever crosswalk between all the sources of data, so they can all be leveraged at the same time either for research or practical purposes,” says Marinescu. “That’s really the ambition. And the reason computer scientists can be so useful is there are lots of complexities involved in merging and matching all these disparate sources of data.”

This is the kind of process that could help fix the bifurcated US labor market, and could significantly scale up localized efforts to match employers with employees. BMW’s plant in Greer, South Carolina, set up a BMW Scholars Program with two technical colleges and a local community college, to give students specialized training in advanced manufacturing, as well as part-time employment and help with tuition. At the end of last year, 107 graduates of the program had been hired for jobs with BMW.

Data could help such efforts grow and be far more impactful. BMW’s 107 jobs may not change the state of the state or national labor markets, but 10,700 or 107,000 could start to do so. Such large-scale matchmaking would put people to work, grow business, and produce economic growth that everybody would love.

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Go to Review.ChicagoBooth.edu to see citations for research mentioned in this article.
Should we stop the ‘revolving door’?

The movement of people between industry and government is a political talking point, but how big a deal is it? Research is starting to quantify the extent of the problem.

BY BRIAN WALLHEIMER  ILLUSTRATIONS BY THE PROJECT TWINS
When US President Donald Trump took office, addressing the “revolving door”—the movement of people between industry and government—ranked high on his agenda. In his second week, with members of his staff steps away, he signed new ethics rules while saying, “Most of the people standing behind me will not be able to go to work or do anything adverse to our wonderful country. Five-year ban. It’s a two-year ban now and it’s got full of loopholes.”

But the revolving door proved too irresistible not to push. The Trump administration hired former industry lobbyists for prominent jobs, and several cabinet positions came straight from corporate America. Even before Trump had a chance to sign the ethics order, which critics complained had its own loopholes, his former campaign managers had set up a lobbying shop.

Despite years of political bluster, policy makers haven’t been able to keep the revolving door from spinning. This is partly because critics of the regulator-industry churn are basing their concerns largely on anecdotes, as there’s more innuendo than empirical evidence of a big problem. But this is changing as researchers analyze data to learn more about the revolving door and its cousin, “regulatory capture.” Research is establishing just how many people are actually moving between government and industry (and back) and what effects their movement has had on regulators’ actions. The findings are also producing some disagreement about how concerned the public should be—and whether the door should continue to spin unabated.

The problem: Regulatory capture

Behind the revolving door is the idea of regulatory capture. Forty-six years ago, the late George Stigler described how a regulatory body tasked with protecting the public interest would ultimately be “captured” to serve the interests of the regulated industry.

Chicago Booth’s Sam Peltzman expanded on this theory, arguing that regulations come about through a balancing act involving politicians and interest groups, which can be companies or other affected parties. Politicians seek support from companies seeking more or less regulation in exchange for campaign contributions, and from voters who will trade their votes in exchange for the policies they want. According to Peltzman, a politician will lean in favor of the interest group that keeps her in office.

Couple these theories with allegations of capture. In Japan, critics of nuclear power suggest that regulators, who are sometimes offered lucrative jobs as plant operators, allowed industry too much influence when writing safety and inspection rules, contributing to the Fukushima Daiichi nuclear meltdown in 2011. The United Kingdom’s customs authority has also been accused of having too cozy a relationship with accountancy firms, causing an unwillingness to crack down on tax avoidance and evasion that save multinational companies billions of pounds in taxes.

But anecdotes, however suggestive, aren’t proof that regulators are shirking their duties. The US Securities and Exchange Commission dropped an inquiry against Deutsche Bank in 2001, and SEC enforcement director Richard H. Walker took a job at the bank a few months later. Are those two events related? In Rolling Stone, writer Matt Taibbi found it concerning, pointing out a decade later that former SEC personnel continued to be well represented in the private sector.

The circular nature of the case illustrates the revolving-door dynamic that has become pervasive at the SEC. A recent study by the Project on Government Oversight found that over the past five years, former SEC personnel filed 789 notices disclosing their intent to represent outside companies before the agency—sometimes within days of their having left the SEC. More than half of the disclosures came from the agency’s enforcement division, who went to bat for the financial industry four times more often than ex-staffers from other wings of the SEC.

But there’s been no proof of *quid pro quo*. Now the Brattle Group’s Haris Tabakovic and Chicago Booth’s Thomas Wollmann say they’ve found such proof—in the US Patent and Trademark Office.
Examining the patent examiners
The USPTO is one small part of the government bureaucracy. Its examiners issue patents, granting exclusive, if temporary, use rights to inventors who have come up with the latest process, machine, or other such thing that can be legally patented. The office has 8,350 patent examiners, who review patent applications. A good number of them move on to jobs in industry.

So did the examiners who moved to industry behave any differently from the rest? Analyzing the data, Tabakovic and Wollmann find these examiners granted more patents than their peers, particularly to the companies that eventually hired them.

Tabakovic and Wollmann combed through patent applications retrieved from the Patent Examination Research Dataset. These documents list the name and unique identifier of each patent examiner, the name and address of the company applying, and the outcome of the process. Using a roster with names of people legally allowed to file for a patent on behalf of a company, the researchers determined which examiners left to work in industry, as well as whether they wound up working for a company for which they had previously granted a patent.

The data set from 2001 to 2015 included more than 10,000 patent examiners and over 1 million applications, of which 63 percent were approved. During these years, about 1,000 patent examiners left the USPTO to become patent practitioners, and those who left were 10 percent more likely to grant patents. The revolving-door examiners granted 10–16 percent more patents to companies for which they went to work.

Pennsylvania State University’s Jess Cornaggia and Kimberly Cornaggia, and University of Texas at Dallas’s Han Xia find a similar pattern at credit rating agencies, the private companies and quasi regulators tasked with grading corporate debt. Like patent examiners, employees at credit rating agencies often move on to industry. And the researchers find that credit analysts who left ratings agencies inflated the ratings of the companies they went to work for by between 0.18 and 0.23 notches, or grades, on average. Equity analysts may be affected too: in the year leading up to their departure for industry, analysts gave the companies they went to work for more favorable forecasts and recommendations, according to research by UC Irvine’s Ben Lourie. They even went so far as to downgrade competitors.

But what about intent?
These patterns suggest a link between the revolving door and favorable decisions made toward companies. However, these patterns alone don’t suggest intent. While Lourie sees his data as evidence of capture, he says he can’t say that it approaches *quid pro quo*. “If you are interviewing, the company knows your opinion on them. If your opinion isn’t bullish, why would they hire you?” he says. Although there’s a possibility that an analyst could purposely inflate forecasts to curry favor, there’s no definite connection.

Favoring their future employers
In credit analysts’ last year on the job, some partiality emerges.

Difference in credit ratings given to companies that would later hire one of the rating agency’s analysts

<table>
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<tr>
<th>Credit-rating levels vs. another rating agency</th>
<th>Quarter of analyst’s departure</th>
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<tr>
<td>Better for the company being rated</td>
<td>1</td>
</tr>
<tr>
<td>Worse</td>
<td>2</td>
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Quarters before analyst’s departure After

“The fact that there is this opportunity is probably causing the analyst to change behavior, even if it’s innocuous,” Lourie says. “That’s the problem with the revolving door.”

Back in the patent office, it’s impossible to say from these data alone whether examiners approve more of a company’s patent applications because they hope to secure a job with that company. It’s entirely possible that an employer who has a good experience with an examiner can develop a high opinion of that person. It’s also possible that a high-performing examiner may want to work for a company that is successful.

In an attempt to tease out intent, the researchers looked at areas where they assumed examiners might want to live, using where they previously lived as a proxy for this. Tracking where patent examiners had gone to college, the researchers find that examiners were 10 percent more likely to grant patents to companies located near their alma mater—and to companies close to the places the examiners wound up taking jobs.

Wollmann views these patterns as evidence of favoritism—the kind that causes people to lose trust in regulators. “I don’t think
that when you start at the patent office, one of the firms calls and says, ‘if you grant our patents when you see them, we’ll have a job for you on X day,’” he says. More likely, he suggests, there’s simply a norm that develops where patent examiners learn to keep their future career aspirations in mind when making decisions. “It starts out a bit benign,” says Wollman, but it ends up turning into corruption.

The Cornaggias are less convinced that something nefarious is going on. They conducted research with Michigan State University’s Ryan Israelten and find, as Tabakovic and Wollmann did, that the analysts favored institutions from where they used to live. The researchers employed the first three digits of analysts’ Social Security numbers (available from public-records databases) to determine where an analyst was likely raised. They confirm state of origin using the analysts’ alma mater, obtained from LinkedIn résumés.

Analysts from ratings agencies who reviewed municipal-bond issuers from their home state rated them higher than those raised elsewhere. It’s not that the higher-rated analysts simply knew more about their home state: comparing analysts living in the state of the issuer to analysts who had moved away, the researchers find those still in the state rated the issuer more harshly, while those who moved away were more lenient.

They draw a benign conclusion, however. They interpret the pattern as evidence that regulators lose objectivity, but for reasons that could be unrelated to the promise of a job. “If I leave, I have what the psychology literature refers to as ‘memory bias.’ I remember happy things about the place,” Kimberly Cornaggia says. “It’s possible it’s fraudulent quid pro quo, but I don’t think that’s the case.”

Or maybe the revolving door is useful
Here’s another wrinkle: not all research conducted finds evidence of regulatory capture, much less intent. Some findings suggest that regulators are actually tougher on potential employers—and get hired because private-sector companies want to employ talented people who know the ins and outs of the regulatory system.

The Federal Reserve Bank of New York’s David Lucca, Stanford’s Amit Seru, and University of British Columbia’s Francesco Trebbi used a networking website to build a data set of the career paths of more than 35,000 banking regulators, spanning 1988 to 2013. They find a movement of employees between banks and the government that is based on the ebb-and-flow cycles associated with the sector. When the banking sector is under stress, regulators hire workers. But when banks are booming, they’re the ones hiring.

The appeal of accuracy
Investment banks tend to hire ratings agencies’ better analysts.

<table>
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<tr>
<th>Percentage of analysts at credit rating agencies who will get hired by investment banks</th>
<th>Sorted into four groups by accuracy of their credit ratings</th>
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<tr>
<td><strong>Most accurate</strong></td>
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<td>Most accurate</td>
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Kempf, 2017

Moreover, rather than offering lax regulation in the hopes of a job, regulators who head to the private sector are more likely to be tougher on the companies they oversee in the time leading up to their career transition, according to the research. These banks could be simply hiring away the most-capable regulators, who make life difficult for the banks, to weaken government oversight, Seru says. “But companies also want to hire good people. If I’m a good regulator and you’re in the private sector, you hire me. There’s nothing wrong with that.”

Chicago Booth’s Elizebeth Kempf observes a somewhat similar trend in credit analysis. She finds that credit analysts who left for investment banks were more accurate than their peers, in the sense that they needed their ratings adjusted less. She says the data suggest analysts are hired away by companies because they produce more-accurate work, not as a reward for favors granted. There’s also some evidence that analysts perform better when investment banks are hiring more intensively, consistent with the idea that the revolving door may compel analysts to work harder.

There is evidence that the departing analysts were less accurate in one area: at the companies where they eventually went to work. But Kempf notes that there were few examples of analysts rating their soon-to-be employers. To her, the few examples of deficient work fail to negate the positive outcomes. “It seems to me that the benefits may outweigh the costs,” Kempf says. “On the one hand, you might want to help your future employer, but you also want to build your reputation.”

In a study of SEC lawyers, University of Washington’s Ed deHaan, Rutgers University’s Simi Kedia, Nanyang Technological University’s Kevin Koh, and Columbia University’s Shivaram Rajgopal find that lawyers who left the agency for private law firms were more aggressive than their peers, as evidenced by settlements. DeHaan says that instead of a quid pro quo, those lawyers fall under the human-capital hypothesis.

“They’re the most aggressive and get the toughest settlements,” deHaan says. “They’re signaling their talent. The

Regulators who head to the private sector are more likely to be tougher on the companies they oversee.
law firms hire the best people from the SEC. By being excellent at their job, the SEC lawyers get jobs at these private law firms.”

**More good than bad?**
The research findings, then, are far from settled. The finding that analysts and lawyers who left for industry performed better rather than worse puts it at odds with the research by Wollmann, who wonders if results are affected by whether a regulatory agency is privately or government run. Ratings agencies could go out of business if companies stop buying their reports, whereas government employees have no such market imperative. Meanwhile, Kempf says she finds it unlikely that companies are willing to hire less-qualified employees, even those that have been nice to the company.

While deHaan finds that lawyers who left the SEC were more aggressive with their cases, he says it’s also possible these attorneys cherry-picked cases that looked the easiest to win in order to bolster their résumés. Or they could have decided against prosecuting certain companies. Data on case selection and case appointment aren’t available.

“These are difficult issues to grapple with. It’s difficult to get empirical data to measure performance,” he says. “Opacity is the friend of corruption. And with the SEC in particular, we have a difficult time getting data on their enforcement processes.”

But the opposing findings demonstrate how challenging it is to draw policy conclusions, even though the suggestion of impropriety continues to inspire rules and orders. Several one-year bans, known as cooling-off periods, prevent some US federal employees from working in specific jobs for a year after leaving government. One specifically applies to SEC auditors. Other, stricter rules include lifetime bans on “switching sides,” or representing a private party in a matter in which the employee has previously represented the government. (Those rules apply to specific circumstances and affect few federal employees, allowing most government employees to freely take jobs in the private sector.)

US Senator Tammy Baldwin and Representative Elijah Cummings in July 2015 proposed the Financial Services Conflict of Interest Act, which would ban bonuses paid to private-sector employees who leave to work for the government; increase the lobbying ban to two years and expand the definition of lobbying, as well as which federal employees are covered; and force financial regulators to recuse themselves for two years on actions that would “directly or substantially benefit” former employers or clients. That proposal remains in committee.

The researchers caution that policies aimed at stopping or slowing the revolving door could have unintended consequences, for example by making it difficult for the government to attract talented employees. “In terms of financial regulators, a cooling-off period might be detrimental because you might be hurting their employment opportunities,” warns Kempf. Wollmann generally supports actions that seek to slow the revolving door, but he agrees that if the government attempts to draw legal expertise from only its own ranks, “you’re not going to have a large pool to draw from.” What are the consequences of letting it continue to spin? Time, and more evidence, will tell.

Go to Review.ChicagoBooth.edu to see citations for research mentioned in this article.
Good start-ups have great networks

Research into Chinese entrepreneurs is revealing some global truths about business success.

BY ALINA DIZIK ILLUSTRATION BY SEBASTIEN THIBAULT

In Zhejiang, a province just south of Shanghai on China’s east coast, two brothers launched a textile business, hoping to take advantage of the region’s affordable, well-trained labor pool. They used their family savings to start their business. But neither brother had industry experience, and sales were slow.

Then one of the brothers sent a son to the Middle East, on a trip that they hoped would help them spot trends and better understand the competition. While there, the son met with an old friend who specialized in marketing and offered some recommendations for how to expand sales channels. Spurred by the friend’s advice, the textile business set up subsidiaries across the Middle East—and prospered.

Given the brothers’ lack of experience and the company’s sluggish start, the reversal of fortune may appear to be an aberration. But its success fits a pattern emerging from entrepreneurship research.

For those who make their living recognizing winning start-ups—such as the venture-capital firms of Silicon Valley—the perpetual search for the next big thing may include considering a start-up’s business model and management, its market, any referrals, and quantitative analysis, among other things. But anyone trying to spot a successful start-up, or to build one, can glean some tips from a long-term study that includes the Zhejiang textile company and hundreds of other ventures in China’s Yangtze River Delta. The findings from this and other studies highlight how entrepreneurial networks in China share important traits with those in other countries—and how the Chinese networks could hold some lessons for entrepreneurs the world over.
A unique entrepreneurship laboratory

Networks are a topic well known in start-up circles, and in sociology. For the past four decades, researchers have been studying social networks to figure out, among other things, what in a network gives some people an advantage over others. They have looked at the importance of strong versus weak contacts, and at who is connected and what is to be gained by bridging gaps between different clusters of people. (For more, see “Networking differently could increase your salary,” Fall 2016.) Most of these studies have been conducted in the United States and Europe.

China’s history of formal entrepreneurship is relatively short, making the country an unlikely place to study start-ups. Though Chinese citizens have long tried to accumulate extra income, for many years there was a gray area when it came to launching private enterprise in the country. But in 2004, China adopted a constitutional amendment that said private enterprise was as important as state enterprise. Two years later, Lund University’s Sonja Opper and Cornell University’s Victor Nee began gathering data about 700 entrepreneurs from in and around Shanghai, Hangzhou, and Nanjing, areas that collectively make up a fifth of the country’s GDP. The researchers interviewed company founders every three years to learn about their key contacts and family members. They tracked changes in social ties as the new businesses grew and experienced significant events.

The original focus of the data collection was on CEO and company data. Because 80 percent of the company founders interviewed are still with their companies, a higher percentage than is typically seen in the US or Europe, the Chinese data provide particular insight into what it takes to get a venture off the ground, says Opper.

But in addition, the data lent themselves to the study of networks, which attracted Chicago Booth’s Ronald S. Burt, a sociologist who provided the network instrument and analysis for the 2012 survey. Because the Chinese companies don’t have much external support from banks, the government, or venture capitalists, researchers can more clearly decipher initial business decisions and ties. “We looked at how these entrepreneurs built up their support system,” Burt says. By applying social frameworks devised from his earlier US and European research, he and his coresearchers make several findings that would seem to apply globally.

Trusted contacts are vital

Most entrepreneurs see value in having a wide range of contacts they can call on when building a business. Chinese entrepreneurs, just like their Western counterparts, can avidly collect business cards and LinkedIn contacts. But some connections and contacts are particularly helpful, and according to the Chinese data, business owners obtain significant value from their most-trusted ties, especially from people they’ve known for a long time and those who are somehow unbonded from other people in the owners’ networks.

_Guanxi_, a traditional Chinese concept, refers to longtime acquaintances who have a relationship defined by intimacy, obligation, and a high level of trust. In a business context, the _guanxi_ are a family-like, deeply trusted circle of people who can help grow a business—as opposed to a larger, more professional network where trust and longstanding relationships are not necessarily always present. A _guanxi_ network, says Burt, shares some similarities to what in the US is called the “old boys’ club.”

The networks are alike in that when one member of the network is in trouble, other people in that network can lose face. And while _guanxi_ is a neutral term, it too can be characterized by negative or unethical behaviors, just like the old boys’ club, which for many people carries negative connotations associated with excluding people who don’t fit a particular description.

In China, intricate _guanxi_ networks play an important role in business, providing the kind of support that formal institutions offer elsewhere. In a study by Burt and Katarzyna Burzynska of Radboud University Nijmegen in the Netherlands, two-thirds of participants’ most-important contacts qualified as _guanxi_, as the researchers defined it.

These relationships can help give entrepreneurs an edge during critical moments, by forming a bridge to other networks, according to the research. Say a businesswoman turns to _guanxi_ to get an electronics business off the ground. She may turn to a computer wholesaler she knows, who may provide support in the form of product supply, but also, crucially, information. Tapping a family-like contact at a key point could help the entrepreneur form ties to and acquire valuable knowledge from other networks, through a behavior sociologists call “brokerage.”

“Much of an entrepreneur’s brokerage potential lies beyond his or her current network—in strong, trusting connections with people who helped the entrepreneur through a significant business event,” they write.

Contacts can help overcome early challenges

One _guanxi_ contact is not enough. Say the founder of the electronics business turns first to a longtime contact to be a supplier, but then to another _guanxi_ contact to provide the first international contract. In the process, she creates a core network of trusted individuals who can help the business succeed.

Entrepreneurs who turned to two loosely connected people rather than just one contact to successfully deal with their first two significant events were more likely to succeed, the researchers find. In the case of the Zhejiang textile company, the founder’s son’s friend provided access to information, and then funding for expansion came from another _guanxi_ contact, a former neighbor who ran a bank.

Moreover, these individuals can help the founder tackle challenges that could sink a business, particularly early on. The researchers were surprised by the importance of early milestones and the way founders used their networks to, for example, secure equipment or tax advice. Researchers call these associates “event contacts,” as they help steer founders through events rather than day-to-day operations.

Disparate-yet-trusted contacts allow company founders to create weak ties across their business networks, which increases the chances of success when these contacts are deployed during these early milestones, according to Burt and Opper. “Those entrepreneurs had two or more mutually supportive contacts in
Early on, trusted contacts matter

Chinese entrepreneurs’ reflections on milestone events in their business’s history suggest that establishing a loose network of highly trusted contacts is important for success.

Length of entrepreneurs’ relationship with key contacts who helped at significant moments in business’s history

Number of years

Year when events occurred

All events during year 10 and beyond

Entrepreneurs’ relationship with key contacts who helped at significant moments in business’s history

Share of contacts cited with each characterization

- Trust: High
- Emotional connection: Especially close
- Family

Year when events occurred

Entrepreneurs’ relationship with key contacts who helped at significant moments in business’s history

Share of contacts cited with each characterization

- Trust: High
- Emotional connection: Especially close
- Family

Early on, trusted contacts matter

Their core network, one helpful at founding and the other helpful with the first significant event.”

People who helped a company early on acquired lasting importance. When Chinese entrepreneurs were interviewed in 2012, they identified people who had been valuable to their business dealings. A person who helped an entrepreneur jump-start a business, perhaps by securing her first overseas contract, typically appeared on her list of contacts in every interview.

People who were the most helpful were often the people the entrepreneurs had known the longest—but were usually not family. That’s an important distinction, as many scholars say that family is the origin of many Chinese ventures. Although family is often one source of early help, longstanding relations beyond the family are the more usual source. Ultimately, “entrepreneurs see all of their relations with event contacts as guanxi ties,” the researchers write.

Similarities between entrepreneurs the world over

How applicable are lessons learned in China to entrepreneurs outside of the country? Very, say the researchers, who observe in Chinese entrepreneurs some of the same trends and behaviors they’ve documented elsewhere.

For example, some entrepreneurs face what sociologists call “character assassination,” where a person is disparaged by his business contacts. Burt’s previous research—which studied European and American managers—suggests that people who limit themselves to close-knit groups are more likely to badmouth colleagues. In that research, entrepreneurs who made a connection with a key contact in a close-knit group are more likely to badmouthing. More recently, Burt and Tsinghua University’s Jar-Der Luo find identical behaviors in Chinese networks.

There’s also evidence of guanxi in countries other than China. As part of their study, Burt and Burzynska reanalyzed some research Burt had previously conducted at a large US-based financial organization and say there were elements of guanxi among analysts and bankers. Banking can be a tumultuous field, and few relationships in that study lasted two years or longer, but those that did met the researchers’ criteria for guanxi. Although just 10 percent of the bankers’ relationships—versus two-thirds in China—qualified as guanxi, analysts and bankers in the financial organization turned to guanxi-type connections during critical times of growing a business.

Opper is now comparing Chinese entrepreneurs to Swedish ones. Shanghai and southern Sweden are roughly 7,700 kilometers away from each other, and look in many ways like very different places. But according to Opper, both regions were late adopters of entrepreneurship. While Shanghai is a major financial center, many people there were long focused on state-owned rather than private enterprise. And until the mid-2000s, Swedish entrepreneurship was centered in Stockholm rather than the country’s industrial south. Ventures in both countries are used to a significant amount of government support. To dig more deeply into how early networks affect later success, Burt and Opper have a more-detailed China survey going into the field this fall.

Go to Review.ChicagoBooth.edu to see citations for research mentioned in this article.
Every What down in Whatsville liked Christmas a lot...

But these two academic researchers did not!

Oleg Urminsky, Booth professor of marketing, read papers on gift giving; felt his mood darkening.

National University of Singapore’s Adelle Xue Yang got tchotchkes and baubles she had to exchange. Let’s look at the studies that made all the difference:

WHY ADELINE AND OLEG DIDN’T STEAL CHRISTMAS!
We asked lovers which they would buy for their beaut:
   A bag full of cookies? A basket of fruit?
   A bouquet or a bonsai, which would she like?

The bonsai and fruit would be best in the long run.
   But flowers and cookies would make her smile; they’re more fun!

The Whats down in Whatsville ask “what” but not “why.”
   When giving a present they like you to cry,
   “It’s perfect. I love it! For this have I waited!”
   They want your breath bated, to see eyes dilated.
   This gift-giving motive we call “smile seeking,”
   and ’cause of it Christmas has always been reeking
   of sweetness and cuteness and petty distractions.
   Gift givers neglect our long-term satisfactions!
Oleg and Adelle asked the Whats which wedding gift they’d choose: a mug that was useful but a bit of a snooze, with ergonomic handles that were easy to hold that kept hot drinks hot and cold food, well, cold, 

Or a second whose selling point was much more tame: it was personalized with the new couple’s names.

When Whats were asked which mug they’d like to get the ergonomic one was the more solid bet. But when they were asked which mug they’d like to give, they chose the one that was commemorative!

We asked the Whats to remember past presents; Which ones brought lasting joy? Which were just pleasant? The gifts they liked getting were useful and long-lasting. The gifts they liked giving were cute, sure, but not worth amassing.

Throughout it all, then, the message was clear: the motive for gift giving is the smiles we hold dear.
“But wait!” cried young Tim-Tom, “Don’t steal Christmas, please! There’s plenty more reasons for gift giving, see!”

“Some parents give money for their kids’ educations, though they’d get more gratitude funding vacations! There are bribes and there are swindles, there’s losing a bet. Bring a hostess gift for someone you haven’t yet met! There is disposing evidence of your shoplifting, and then there’s the age-old offense of regifiting!

Some people give gifts to make up for a spat, and others give gifts just to get cool gifts back!

So tell us, could it be really so bad to give your friends presents to make them look glad?

If the most utilitarian gift were a smash, wouldn’t you have to give your friends cold hard cash?

So here’s to the smile seekers, bless their kind hearts, even if smiling is joy’s smaller part!”

Did Oleg and Adelle’s hearts triple that day? The truth is their frustration was all for play. Their research was meant to give us some clues for understanding “interpersonal” and “intrapersonal” values. The findings show affective reactions’ import, and pave the way for more research of the gift-giving sort!
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Local communities are driving global politics

We live in a strange time. Countries are more prosperous than ever before, new technologies that promise to solve our most intractable problems are on the horizon, and yet there is widespread unhappiness in some of the richest countries in the world. White males of working age in the United States are killing themselves through alcohol, drugs, and suicide at a rate that is as if 10 Vietnam Wars were raging simultaneously. The immediate reason appears to be economic despair, as moderately educated workers lose jobs because of trade and automation. But workers lose (and gain) jobs regularly. Why are even well-educated workers, holding decent middle-class jobs, so disheartened now? What should we do?

What we are seeing is a consequence of the information-technology revolution that started in the early 1970s, magnified by trade. Every past technological revolution has been disruptive, prompted a societal reaction, and eventually resulted in societal change that helped us get the best out of the revolution. We have felt the disruption of the IT revolution, which has sometimes been punctuated by dramatic episodes such as the 2007-10 global financial crisis; we are

ILLUSTRATION BY GIACOMO BAGNARA

RAGHURAM G. RAJAN
now seeing the reaction in populist movements of the extreme left and right. What has not happened yet is the necessary societal change, which is why so many despair of the future. We are at a critical moment in human history, when wrong choices could derail human economic progress.

Why have we not reacted more effectively to the economic disruption? I would argue there are two related reasons. First, the effects of trade and technological change have been experienced unevenly within industrial countries: some communities have been hit hard while the centers of governance, such as capital cities, have escaped largely unscathed and perhaps have even benefited economically. Much of Washington, DC, is booming, and people there do not come face to face with the hollowing out of towns such as Granite City, Illinois, in the US midwest; nor do Londoners see what is happening in Hartlepool in northeast England.

Second, the spread of markets and government has also weakened communities and their ability to react to change. As markets have expanded across countries and the world, government functions, too, have centralized, in an attempt to provide uniform regulations and a level playing field to market participants. Somewhat contrary to traditional views on the left or the right, markets and government are symbiotic, feeding on each other.

For instance, in many countries, transactions that used to be done entirely within a local community, and that were governed by that community, have now moved into more-anonymous markets, governed and regulated by an arm's-length government. As a result, people have more and often better choices. Neighbors used to midwife a new baby into the world, and still do so in poor, underdeveloped communities—but in the developed world, most women give birth in a professional hospital, attended by medical personnel they will probably never see again. They trust the hospital because it is well regulated by agencies of the government, and the delivery is probably much safer as a result.

The local community, however, is diminished. The social ties between members of the community are no longer fortified by economic interactions. The supplanting of Main Street shops, first by big-box stores, and then by online stores, continues this erosion of the role of the local community in economic transactions. Television and the internet push us further into our personal cocoons. Furthermore, political power and financing has moved out of the community into state capitals, national capitals, and even international centers.

All this would not matter if the local community were irrelevant today. However, for people to be willing to participate in the market, some community functions continue to be essential. People need to be equipped with the education, skills, and attitudes that will help them be successful in their jobs. They also need a safety net that protects them against destitution when they are unsuccessful.

There are good reasons for the government to undertake these functions, but that still leaves important work for the community to do. Unlike the market, which relies on explicit arm's-length contracts requiring an equal exchange of value, or the government, which is bound by a constitution and rules, the community is more flexible, and its actions are determined by empathy and social ties. According to the economic theory of incomplete contracts, which won its proponents—Harvard’s Oliver D. Hart and MIT’s Bengt Holmstrom—the Nobel Memorial Prize in Economic Sciences in 2016, a strong community will fill in the holes left by the market or the government. For example, it will nurture children before they are of school-going age (which, Nobel laureate James Heckman of the University of Chicago shows, can make them for life), monitor teaching in local schools, help teachers with additional funds for extracurricular activities where necessary, and provide mentoring and role models to put wayward kids back on track.

And when government-provided safety nets such as unemployment insurance run out, the community will become a support of last resort—in much of southern Europe, workers have endured years of unemployment without revolting only because they have moved back into the uncalculating embrace of their extended families. Robust, prosperous communities benefit their members significantly; one study...
finds that children in the US whose families were given vouchers to move from high-poverty housing projects to low-poverty neighborhoods when they were young had a 31 percent higher income on average in their mid-20s than their peers who did not move.

In sum, the despair we see across the industrial world is the effect of new technologies, transmitted via trade across the world, having devastated entire communities, which have little capacity to cope. When the only large local employer closes down and lays everyone off, there are few sources of economic activity left in the community, and the community disintegrates. Social ills mount, and the capable and mobile people leave. Not only does the hollowed-out, dysfunctional community that remains ensure a miserable present for its members, deteriorating schools and an eroding learning environment condemn the community’s children to a worse future in an ever more competitive world.

There is growing anger in these communities because people feel powerless and ignored, flotsam at the mercy of global waves. Unlike small towns dependent on single industries, big, dynamic cities—which is where the government and the governing elite are located—have been buoyed by the IT revolution and trade. In Washington or San Francisco, people seemed to be largely unaware of the hostility building in the newly disadvantaged, largely rural flyover communities in the US midwest and south, until the results of the 2016 presidential elections served as a wake-up call.

In this environment, the populist nationalists offer an attractive alternative to the disintegrating local community. To alienated citizens of the majority group, they propose an exclusive nationalism—a safe, imagined community that consists of people like them, excluding migrants, minorities, feminists, and climate-change advocates. The technocratic elite are particularly despised because they have been pursuing policies that have not at all helped the disaffected.

That the elite have overlooked the problems of large segments of the population does not mean that reversing their policies will make the disaffected constituencies better off. The populist-nationalist movements advocate erecting barriers to markets—

to the flow of immigrants, trade, and finance across nations. Not only will this fail to create jobs for the currently unemployed; it will create unhappy, rapidly growing minority and immigrant groups, and this will be enormously problematic in the future when the aging majority group has to rely on young members from these groups for economic and political support.

The populist nationalists and the extreme Left understand the need for reform, but they have no real answers as they resort to the politics of anger and envy. The mainstream establishment parties, unfortunately, don’t even admit to the need for change. We need better answers. Instead of making fun of people who have been hurt by change, and of the people they have elected to stick a thumb in the eyes of the elite, we have to figure out a way to draw people feeling powerless back into the mainstream so that they regain economic opportunity and social respect. It would also be appropriate to give an equal measure of attention to historically disadvantaged urban communities, such as the ones that surround the University of Chicago’s neighborhood of Hyde Park, which governments seem to have given up on. Markets are the greatest means of economic progress that man has invented, but they work best and are politically sustainable only if everyone has an ability to participate in them.

This work matters to the whole world because if rich countries turn against markets, it will destroy the ladder that poor countries have used to climb out of poverty, ultimately impoverishing rich countries too. How do we restore economic opportunity and hope to those who have neither? We all have work to do; we must try to figure out the answer—

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This essay is adapted from Rajan’s address at the 528th Convocation at Booth this past June.

HOW CAN POLICY MAKERS RESPOND TO POPULISM?

It is not the case that the source of the problem is trade. Few people will tell you that they are against the gains from trade. They will tell you that they are against the negative consequences that trade may impose on some segments of society, but it is our responsibility to tell them that the solution to these problems is in fiscal policy and trade-adjustment assistance.—Frenkel

Many of the things that we read in the media are now being discounted. Everyone has his own truth. And what’s yours? It’s the truth of the people you are associated with on social media. And what is the truth of those people? We are all associating with people who are like us, and therefore we think we are in the majority and are surprised when our view is not reflected in the outcome. But there are other groups that also think that they are in the majority.—Frenkel

In the US Rust Belt, more than half of people in their early 30s earn less than their fathers did at the same age. It’s not just wage stagnation, but people experiencing something less than they had expected by extrapolating from past mobility. That’s the stylized sociological fact, and it leads to grave disappointment.—Rajan

Because the impact has been localized, while authority is more concentrated in the areas that have actually benefited from globalization—whether it’s London, Washington, New York, San Francisco, or Paris—we’ve been able to overlook the building anger. The anger had not been voiced until the disgust with the system reached a peak and led to the popular support of politicians such as Donald Trump and Marine Le Pen.—Rajan

What else did they say?
A longer version of the panelists’ discussion is available at Review.ChicagoBooth.edu.
It takes proactive strategies. Help everyone losing their job get another one. Help them reskill and upskill. Some countries, some cities, have done it better than others, which means there are lessons to be learned. It’s what my colleagues and I spend time on—finding the best way to close skills mismatches, through traditional educational institutions and new, flexible, and often untested programs. That’s a good part of how we cope with globalization and technological change.

—Tharman

Expertise is a liability rather than an asset now. Experience is viewed as something that is bad, because experienced people have failed. It’s amazing that we are willing to give the keys to people [with no experience]. You know, if you boarded a plane and the pilot announced, “This is my first flight, and I hope you will be fine. I don’t know yet exactly how to pull the lever, but please fasten your seatbelts,” you would jump out of the plane. But that’s the reality now.

—Frenkel

The cities that have done best creating new jobs to replace old jobs are those with a strong sense of partnership—between the mayor, educational institutions including technical colleges, employers, and often the unions. It is not about whether the cities are Democrat- or Republican-led, but about people being in a community of learning. There’s a way in which the social compact enthuses everyone.

—Tharman

Different countries have different views on what makes more sense. Some countries are trying to prepare their labor force for the future, and there’s a lot to gain from doing that. Others seem to be a little more pessimistic about this and are focusing on redistribution or universal basic income as the solution. The guys who are focusing on universal basic income certainly are reacting to the social cost of having unemployed [people] in the short run, but potentially they are giving up too quickly on the possibility of preparing them for new, potential jobs and may be creating a trap. If you give up too quickly and say that we just have to pay people off to do nothing, you may entrench a kind of structure that is hard to get out of. On the other hand, implementing the kind of training that small countries such as Singapore and Sweden are able to provide may not be that easy for a large country, so there is a question of what the transition path is and how you navigate that.

—Rajan

Why didn’t this happen in Scandinavia? Well, Scandinavia and many countries have somewhat more flexible systems. Because they’ve been so open to trade in the past and because they’re small, they can deal with some of the problems of trade dislocation.

—Rajan
If director Oliver Stone and I had a nickel for every time someone uttered the words ‘greed is good,’” screenwriter Stanley Weiser noted near the end of 2008, “we could have bought up the remains of Lehman Brothers.” The two men had collaborated on Wall Street, the film that introduced the world to Gordon Gekko and gave that impish expression—greed is good—the tendentious twinkle of immortality.

The movie celebrates its 30th anniversary this year, and remains a favorite among the heroes of high finance, primarily for the infectious appeal of Gekko and his unapologetic pursuit of greenbacks. Of course, it is the very same behavior that makes the character’s name an enduring libel for outrageous efforts to engorge one’s bank account. S.A.C. Capital scapegrace Steven Cohen was dubbed the “real” Gordon Gekko by the Guardian in 2014, after eight of his former employees pled guilty to charges related to insider trading, while “Pharma Bro” Martin Shkreli was dubbed a “hipster Gordon Gekko” in the pages of the New York Times when he was indicted for securities fraud a year later.
Such fishtailing between icon and public enemy is a testament not only to Michael Douglas's Academy Award–winning performance and a collective soft spot for shameless villainy, but to an abiding irony at the heart of capitalism, a moral ambivalence that sees us not knowing whether we should wipe the grin off Gekko's face or mirror it.

For those who haven’t recently included *Wall Street* in their Netflix queue, the film is something like the financial sector’s *Faust*, with Gekko a Mephistopheles in made-to-measure suits. It tells the story of a young stockbroker, Bud Fox (played with a careful mix of innocence and moxie by a 20-something Charlie Sheen), who longs for just a few minutes to pitch “Gekko the Great,” notwithstanding the friendly warning from a colleague that his idol is the type of guy who “had an ethical bypass at birth.” By endless bluster, charm, and finally a birthday bribe (a box of Gekko’s favorite Cuban cigars), Fox gains an audience and soon learns that the only stocks tips Gekko’s interested in are those of an illicit variety. “The public’s out there throwing darts at a board, sport,” he tells Fox. “I don’t throw darts at a board. I bet on sure things.”

Just before he is about to leave Gekko’s office, his hopes dashed, Fox blurts out a bit of inside information he has thanks to his father, a union rep at a small airline. Gekko takes a chance on the tip and turns a quick buck. Pleased by the profitable outcome and seeing something of an apprentice in young Fox, Gekko decides to draw him in, fully appreciating that those susceptible to venal sins are typically corrupted by degrees—by small compromises, shiny baubles, and sweet assurances of much more.

And so Gekko spins his web. He rewards Fox with a first-class lunch, a trip to his tailor, and a rendezvous with a lady of dubious intention. He also plies him with money and the promise of a lot more. “I’m not talking about some $400,000-a-year working Wall Street stiff,” Gekko affirms. “I’m talking about liquid, rich enough to have your own jet. Rich enough not to waste time. Fifty, a hundred million dollars, Buddy. A player—or nothing.”
Bud Fox is not exactly what you’d call a man of conscience, so the pangs of guilty misgivings are brief and fleeting. (“All right, Mr. Gekko. You got me.”) He makes a second career harvesting inside information for Gekko and spends his free time sampling the spoils—superficial relationships, art he doesn’t understand, and hobbies whose enjoyment seems inversely proportional to their expense—of his new life of white-collar crime.

Ultimately, Fox gets his comeuppance when the Feds catch on to the clairvoyant tendencies of his broker’s account, and having ridden Gekko’s coattails throughout most of the movie, in his fall, Fox grabs hold of his cashmere hem and pulls Gekko down with him. The turn of events, stylish if somewhat predictable, led Vincent Canby to dismiss the movie in the New York Times as “a gentrified Everyman, an upscale morality tale to entertain achievers who don’t want to lose touch with their moral centers, but still have it all.” Canby’s review seemed to suggest that, as a work of social criticism, the movie came up short by favoring character defects over a flawed culture. If viewers had seen Gordon and Bud as apogees, rather than unseemly aberrations, of an era defined by decadent consumerism, they might have been more inclined to have second thoughts about their own behavior.

Maybe so, but such reservations fail to reckon with the frightening logic of the film’s most famous scene and the declaration within it that saw Wall Street transcend the middling standards of a fairly effective potboiler to become a defining cultural moment.

A sermon on the mount for those with Swiss bank accounts, Gekko’s “greed is good” speech interrupts the stale pageant of an annual shareholder’s meeting. It begins as a conventional broadside against a tumorous class of complacent middle managers at Teldar Paper, a company Gekko’s targeted for a hostile takeover. He goes on to suggest that the company’s circumstances are emblematic of a more pervasive phenomenon. “The new law of evolution in corporate America seems to be survival of the unfittest,” Gekko observes. “Well, in my book, you either do it right, or you get eliminated.”

Dubbing himself a “liberator” of companies rather than their “destroyer,” and noting the generous returns his takeovers have afforded shareholders, Gekko commences the homily that has made an enduring mark on the moral psychology of modern capitalism.

The point is, ladies and gentleman, that greed—for lack of a better word—is good.

Greed is right.

Greed works.

Greed clarifies, cuts through, and captures the essence of the evolutionary spirit.

Greed, in all of its forms—greed for life, for money, for love, knowledge—has marked the upward surge of mankind.

And greed—you mark my words—will not only save Teldar Paper, but that other malfunctioning corporation called the USA.

Gekko’s call to arms is something like the St. Crispin’s Day speech of contemporary capitalism—and similar to that celebrated address by Shakespeare, it too was inspired by an historical figure. In 1986, Ivan Boesky gave a now-legendary commencement address to business-school graduates at University of California at Berkeley. In it, the white-maned rapscallion of risk arbitrage trading anticipated Gekko’s war cry, albeit with counsel that seems restrained, even cautious, by comparison. “Greed is all right, by the way,” he told the graduates. “I want you to know that. I think greed is healthy. You can be greedy and still feel good about yourself.”

Having just begun shooting a movie whose working title was Greed, Oliver Stone took note of the address by Boesky, who would be sentenced to three years in prison for insider trading just days after Wall Street was released. Importantly, however, Stone and Weiser would convert Boesky’s counsel from advice aimed mainly at preserving the self-esteem of strivers (and those who had already successfully striven) into an impenitent ethics of gross acquisition.

The change helps to account for the difference between the guilty pleasure afforded by some of the most charming villains in cinematic history and the peculiar admiration reserved for Gekko. At the time of Boesky’s homage to mammon, Newsweek noted, “The strangest thing, when we come to look back, will be not just that Ivan Boesky could say that at a business-school graduation, but that it was greeted with laughter and applause.” Such a titillating response seems consistent with reactions by movie audiences to highly charismatic criminals such as Hans Gruber, Hannibal Lecter, and Keyser Söze. But, as opposed to these and others on the list of the American...
Film Institute’s 100 greatest villains, it is Gordon Gekko alone at No. 24 who is at once a miscreant and a role model.

The reason for this is that Gekko embodies a moral irony that, motivationally speaking, has been the mainspring of capitalism at least since Adam Smith. As Smith famously said in *The Wealth of Nations*, even though every commercial agent “intends only his own gain” in his daily affairs, by “directing that industry in such a manner as its produce may be of the greatest value,” he “necessarily labors to render the annual revenue of the society as great as he can.” In other words, notwithstanding the fact that he “neither intends to promote the public interest, nor knows how much he is promoting it,” by “pursuing his own interest[,] he frequently promotes that of the society more effectually than when he really intends to promote it.”

This, of course, is the logic and labor of Smith’s “invisible hand,” and the moral irony of the mechanism is well illustrated by an infamous episode that surely won’t be included in the “Greatest Hits” reel at the retirement party for Goldman Sachs CEO Lloyd Blankfein.

In fall 2009, Blankfein opened the doors of his investment bank to a reporter from the *Times* of London. For decades, Goldman had been famously press shy, but the financial crisis had thrust it into the spotlight, largely because the bank seemed to be thriving amid a global recession it helped create.

If, by granting a business-friendly publication privileged access to the investment bank, including interviews with a litany of top executives, Goldman hoped it might produce a lengthy and largely favorable profile that would turn public opinion in its favor, the effort was only partially successful. The eventual profile was indeed quite lengthy (nearly 7,000 words), but one did not need to read beyond the title—“I’m doing ‘God’s work’.”

To his seat amid the enamored applause that implicate the integrity of one’s character. Thirty years after the movie was first released, a tribute to the power of the invisible hand, which depends on separating the ethical upshot of primary aims from secondary effects. The common good comes about not because of the express intentions of commercial agents, but despite them.

Such a mechanism is morally confusing and may be likened to a rabid dog that takes a chunk out of our thigh, removing a malignant mole. On balance, we might be grateful for the hound’s service, but that wouldn’t keep us from putting him down. The bite still hurts, and we know he had no intention of preventing skin cancer.

This is the challenge of “greed is good” logic, especially in its most extreme incarnations, for it forces us to weigh broader material benefits against the consequences of behavior that is inhospitable, unseemly, and even occasionally dangerous.

It’s a worthy struggle, as Gekko’s grin acknowledges, and it’s a shame that so many young people who love *Wall Street* seem to miss it. Screenwriter Weiser says he meets them all the time. “The movie changed my life,” he says, describing the response he so often gets when he tells someone his connection to the film. “I wanted to be like Gordon Gekko.”

As Weiser wrote in the *Los Angeles Times* in 2008, such exchanges make for strange and morally discomfiting moments: “The flattery is disarming and ego-stoking, but then neurons fire and alarm bells go off. ‘You have succeeded with this movie, but you’ve also failed. You gave these people hope to become greater asses than they may already be.’”

Among the fears that should guide one’s behavior, that of being an ass is a pretty good one, as is the concern that a credo that seems so morally convenient—“greed is good” might actually involve serious trade-offs that impair the integrity of one’s character. Thirty years after the movie was first released, a tribute to the power of *Wall Street* is that this simple insight is so often overlooked. F. Scott Fitzgerald famously said that “the test of a first-rate intelligence is the ability to hold two opposed ideas in mind at the same time and still retain the ability to function.” One can embrace the irony of the invisible hand, and Gordon Gekko’s grin, while still abiding a second voice: Yes, greed is good, but can’t we do better? —*

*More from John Paul Rollert* Read more from this author at Review.ChicagoBooth.edu.

John Paul Rollert is adjunct assistant professor of behavioral science at Chicago Booth.
I am often asked to opine about whether automation will destroy all the jobs. Yes, we talk about tractors, which brought farm employment from something like 70 percent in the United States at the beginning of the 20th century to about 3 percent today. And about cars, which put the horse drivers out of business. And about trains, which put the canal boats out of business.

A more recent case has occurred to me, however. It’s the one represented by the photo at the top of this page. It may look unfamiliar to some today, but this is what offices looked like in the 1950s and 1960s. Specifically, the photo shows a typing pool, and there used to be basketball-court-sized rooms that looked just like this, all over the place, staffed almost exclusively by women.

Then along came the copier—many of these women are copying documents by typing them over again with a few sheets of carbon paper—the fax machine, the word processor, the PC. And that’s just typing. Accounting involved similar ranks of women with adding machines. Women by the roomful used to operate telephone switchboards, now all automated.

This memory lives on in the architecture of universities. All the old buildings have empty hutch for secretaries.

If you were prognosticating in or around 1970, and someone asked, “What will happen now that women want to join the workforce, but office automation is going to destroy all their jobs?” it would be a pretty gloomy forecast. But

**Business changes, and the workforce grows**

Women poured into the labor market despite automation destroying their old office jobs.

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US Bureau of Labor Statistics
Who’s in, who’s out
As women’s participation in the workforce has increased over the decades, the proportion of men working has declined.

**US labor-force-participation rate**
*Percentage of civilian population age 16 and older*

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US Bureau of Labor Statistics

here’s what actually happened: the female labor force increased from 20 million to 75 million. The female participation rate increased from below 35 percent to 60 percent. Women’s wages relative to men’s rose as female workers moved into activities with higher productivity than retying the same memo a hundred times. Businesses expanded. And no, 55 million men were not out on the streets begging for spare change.

It is true that the male labor-force-participation rate did decline, from 87.5 percent to 70 percent. That’s a big, worrisome decline. But it’s 15 percentage points, while the women’s increase was 25 percentage points. Also, the male labor force expanded from 45 million to 82 million.

But even if women were moving in and men moving out of employment, it would just show that you can’t make predictions simply by looking at who has what jobs now that are threatened by automation. The typing pool got better jobs.

This is all a simplification, of course. There were surely some people with specific skills—shorthand, for example—who could not retrain and didn’t do as well as others. There are real problems with the labor market and real concerns for American workers, whatever the color of their collars.

But will automation mean that all the jobs vanish? In the case of the office-technology revolution, even combined with a large expansion in the number of people wanting to work, it did not.

John H. Cochrane is a senior fellow of the Hoover Institution at Stanford University and distinguished senior fellow at Chicago Booth. This essay is adapted from a post on his blog, The Grumpy Economist.
One of the most common questions I hear from entrepreneurs is, how should we allocate equity across our founding team? This question is difficult to answer—so much so that entrepreneurship scholars and practitioners debate it continually in books, blog posts, and articles. A Google search on the term “allocating founder equity” offers 400 results. Questions include: Is splitting equity equally across team members fair, or just a shortcut to avoid important but uncomfortable decision making? Can you allocate equity dynamically? When in the start-up process should entrepreneurs tackle this question?

One solution to this problem was featured in the most-recent issue of Chicago Booth Review, in an excerpt from The Slicing Pie Handbook: Perfectly Fair Equity Splits for Bootstrapped
Startups, by Chicago Booth’s Mike Moyer. (See “How to split equity without drawing blood,” Summer 2017.) The idea, as I see it, is that all equity is earned dynamically by creating value for the company through cash, sweat, connections, and resources. Each of these is translated into a dollar value and tracked over time. At any given moment, the equity owned by a team member is proportional to the fair-market value of that person’s contributions. Sounds fair, right?

Yes, if everyone can agree on a fair-market dollar value for ideas, introductions, resources, and each person’s time and risk level—and, and, this is the biggest problem with the model, if you only need a capitalization table to allocate profit sharing or the proceeds of an exit. A capitalization table, or cap table, details who owns a company, how many shares each entity owns, whether those shares are common stock or a preferred class that has specific privileges and rights, and how many shares are outstanding in the company at a specific moment in time. (See “A prototypical executive team’s stakes,” page 72.)

I disagree with Mike on a basic premise of his methodology: founders are not slicing pie. Slicing pie implies that something exists to slice up, but early in a start-up’s existence, when founders have to wrestle with the emotional and critical question of equity allocation, often a business doesn’t really exist. Without a fully developed product, enough revenue to cover expenses, and someone willing to buy the business, the economic value of the company in question is zero, or even negative. And mathematics tells us that you can divide zero into as many slices as you want, but you will still have zero.

Mike acknowledges that his model is for companies that are bootstrapping or self-funding growth and, for this scenario, Slicing Pie provides an innovative and creative way for small companies to think about equity. But, for companies that need to raise outside capital: at the point when investors require you to submit a current cap table, they don’t want an equity allocation that is about rewarding the past—they are looking for one that will motivate the best people to build value moving forward. Mike says that at this stage, the current cap table is produced and the Slicing Pie allocation technique should be discontinued. However, inevitably for an early-stage start-up with a first-generation product and a handful of customers, a Slicing Pie cap table will overcompensate those involved in product development—which constitutes the majority of what’s required at the beginning of starting a company—but undervalue the very necessary skills, connections, and experience of the people responsible for generating revenue or the human resource, organizational, and management expertise needed for the company to scale.

What about other methodologies for founders’ equity allocation specifically aimed at start-ups seeking venture-capital financing? Various academics, experts, and venture capitalists have created online calculators or offered formulas to guide founders through this process with an eye to creating an initial cap table that is forward looking—designed to use equity as a tool to build future value rather than to reward sunk costs and past contributions. The online calculators that have appeared from foundrs.com, Gust, Founder Solutions, and other websites are designed for starting the equity discussion in the context of building future value, but, caveat emptor, they aren’t perfect. In the tech-biased world of Silicon Valley, the technical talent and development work needed to create a product, or enable a service, or underpin the dual-sided network are also weighted more heavily than the business-building skills and activities required later in the process. (Dual-sided networks, a common business model these days, require a tech platform to do matchmaking and enable transactions.)

To test these calculators, I modeled a three-person founding team based
on a common profile of my Booth students: first-time entrepreneurs with some start-up experience as employees at early-stage companies. The CEO is responsible for originating the idea, bringing the founding team together, and leading the charge to raise funds. The CTO builds the product and manages the development team, and the CMO/sales lead has the market expertise, user insight, connections with influencers and journalists, and primary responsibility for bringing on early customers. In my model, all three founders forgo good-paying jobs to work full time for the start-up, and all contribute equally to the initial capital.

I plugged these assumptions into three calculators designed to allocate equity. The most-extreme case of tech bias, overrewarding the person with technical expertise, came from Gust, which awarded the CTO 47 percent, the CEO 29 percent, and the go-to-market leader 24 percent of equity. Foundrs.com and Founder Solutions offered a more balanced split, giving the CEO some bump for coming up with the idea. Foundrs.com suggested 43 percent to the CEO, 35 percent to the CTO, and 21 percent to the CMO/sales lead. Founder Solutions’ mix was 40 percent/31 percent/29 percent for the CEO, CTO, and CMO.

But these tools had some quirks. Founder Solutions’ calculator asks four questions about start-up experience but only one question about experience in the relevant industry. It asks about prior founding experience, the biggest success of that prior start-up, past employment in a start-up, and participation in an accelerator. (Although really, is participation in an accelerator a metric that indicates anything meaningful about creating value in a new venture moving forward?) Meanwhile, foundrs.com doesn’t ask about industry experience at all, and neither site’s calculator factors in previous management experience. Further, since they assume that technology is at the core of your value proposition, the sites are even less useful if you are starting a retail, product, or service-based company.

So all these prescriptive methodologies are fundamentally flawed—because business is not one size fits all. A better framework might start with what market data tell us in retrospect about the allocation of founders’ equity. But here entrepreneurs will find a dearth of good data. The one data set specific to this subject I’ve found is from 2007,

A prototypical executive team’s stakes
Data collected by Brad Feld and Jason Mendelson of the Foundry Group paint an interesting picture of well-funded companies that have gone through multiple rounds of outside funding and moved management team salaries into market-competitive ranges.

<table>
<thead>
<tr>
<th>Executive Team</th>
<th>Equity</th>
<th>Cash Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CEO</strong></td>
<td>9%</td>
<td>$200k/$225k</td>
</tr>
<tr>
<td><strong>President/COO</strong></td>
<td>5%</td>
<td>$225k/$200k</td>
</tr>
<tr>
<td><strong>CTO</strong></td>
<td>4%</td>
<td>$160k/$160k</td>
</tr>
<tr>
<td><strong>VP/Sales</strong></td>
<td>3.5%</td>
<td>$175k/$175k</td>
</tr>
<tr>
<td><strong>VP/Business development</strong></td>
<td>3%</td>
<td>$170k/$175k</td>
</tr>
<tr>
<td><strong>VP/Marketing</strong></td>
<td>3%</td>
<td>$160k/$175k</td>
</tr>
<tr>
<td><strong>CFO</strong></td>
<td>2.5%</td>
<td>$150k/$160k</td>
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</tbody>
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Deutsch, 2017
I recommend that founding team members sit down over a round of their favorite adult beverages to hash out allocations.

was collected by Brad Feld and Jason Mendelson of the Foundry Group, and is published on their blog, Ask the VC. Feld and Mendelson say the data come from their experience as well as from industry metrics they track, and represent companies from early stage to more mature; however, they do not specify the number of companies their data points represent. Nevertheless, the data paint an interesting picture of the compensation, in both cash and equity, of founding teams. The data are clearly from well-funded companies that moved management team salaries into market-competitive ranges, well beyond what’s paid in the take-no-salary, sweat-equity days.

For our prototypical team of CEO, CTO, and CMO, the data reveal results that are a little different from the percentages spit out by the online calculators. The CEO had more than twice the CTO’s equity and three times the CMO’s. The market values leadership and management over technology, but technology over marketing and sales.

Feld and Mendelson also share data for people who didn’t found the company. We see that when an executive joined the team at a later stage, cash compensation for some roles increased slightly, but equity plummeted.

These numbers represent ownership percentages after some rounds of investment that, over time, dilute both founders’ and management equity. When working backward from a successful exit, what percent of a company should founders expect to own when all is said and done? Sammy Abdullah of Blossom Street Ventures collected the S-1 filings for 79 tech companies that had an initial public offering, and looked at how much equity the founders had been able to retain. He published his findings on the Blossom Street Ventures blog. While some notable outliers such as Facebook’s Mark Zuckerberg and Workday’s David Duffield owned more than 50 percent of their companies at the time of their IPOs, Abdullah finds that the average total ownership stake of founders was 17 percent, with venture investors owning an average of 56 percent of the company, and smaller investors and employees holding 27 percent. In such a scenario, 17 percent founders’ equity split across our three-person founding team might mean something like 8 percent for our CEO, 5 percent for our CTO, and 4 percent for our CMO/sales leader—more or less in line with the relative shares shown by Feld and Mendelson.

What about the future employees of our start-up team? If the team goes down the typical venture-capital path, the founders will be required to dilute their own stakes to create an options pool to help them acquire top talent. How will this pool be spent? AngelList, a website for start-ups, has an enormous data set of jobs offered by growth companies, and the site allows users to evaluate open positions by the cash compensation and salary being offered. Looking at critical skill sets such as technology development, sales, marketing, and business development, founders can acquire clues for how they will end up allocating the options pool as the company grows—and how much they will pay employees. I compared job opportunities across three cities—San Francisco, Chicago, and New York—to look at the implications of geography on both cash compensation and equity participation. Early-stage employees seemed to command between half a percent and 1 percent of a company, with the notable exception of developers in Chicago, who secured on average nearly 2 percent equity, much more than their peers elsewhere. In fact, early-stage employees seemed to trade off cash compensation for equity in Chicago across the board, while, unsurprisingly, salaries are highest in San Francisco.

What does this have to do with allocating founders’ equity? These employment data again validate the trend that as companies mature, they’ll have to use equity to compensate talent—and in particular, technical talent, as opposed to business talent.

Hash out allocations together, over drinks
So, what is the best way to allocate founders’ equity? All of the data point to a framework that, first, rewards the creator of the idea and the CEO more than the other founders. Beyond that, it values technology talent over other contributions, and it awards meaningful stakes to all full-time members of the team. Divisions such as 65 percent for the CEO/idea guy, 30 percent for the CTO, and 5 percent for the finance, business development, sales, or marketing expert (and I see proposals that reflect initial founder
Committing to a start-up is more art, passion, and vision than science, ratios, and rationality.

venture is less than 18 months old, you need to require a one-year commitment from anyone who will own founders’ equity. At the end of one year, everyone owns one-quarter of their founders’ shares. Thereafter you earn one thirty-sixth per month. Entrepreneurs who hope to raise capital from professional investors should get used to this, since those investors will institute a vesting schedule. Having one in advance of raising funds makes for a clear conversation with an exiting team member about how much founders’ equity he has earned and how much remains with the company.

The second tool is the options pool, shares that are set aside by the company to be awarded to employees as part of their compensation packages. Your founders’ shares are not necessarily the only equity you will have in your company. Four or five years into a venture, as founders vest their initial equity, investors often want to increase incentives for key members to stay committed to and engaged with a company. To motivate founders, the board of directors can decide to grant new shares from the options pool to rebalance allocations. This is an effective way to make sure that as people add more value, they are appropriately compensated. Options are not the same as founders’ shares. They come with a price tag—the strike price—and are only meaningful if the team is increasing the value of the company and thereby the per-share price of the stock. But for high-growth companies that raise a lot of outside capital, substantially diluting initial founders’ stakes in the process, options pools are a good way to allow founders to keep earning equity.

I am convinced there is no one right way to award founders’ equity. You cannot use a calculator or a formula—committing to a start-up is more art, passion, and vision than science, ratios, and rationality. You and your team members will make mistakes, so be open to adjustments. But ultimately, you must choose other founders whom you trust, respect, and admire. With a team like this—one that puts the needs of the company above the needs of each individual—allocating equity becomes a process that can help establish the ground rules for how you want to work together and the values you want your company to reflect—

Waverly Deutsch is clinical professor of entrepreneurship at Chicago Booth.
What were Adam Smith’s biggest failures?

A look at the ideas that did and did not influence his peers—and posterity

BY GEORGE J. STIGLER

There is a game I sometimes play with children; I call it “Three Questions.” I promise a million dollars if all three questions are answered correctly; no doubt the Securities and Exchange Commission will eventually prohibit the game, or the Federal Reserve System will make it viable. The first two questions present no difficulty: perhaps the number of brothers and sisters the child has, and the city in which he or she lives. The third question is a different matter. Once I asked, “Who was Adam Smith’s best friend?” The reply from the child was, “You are, Uncle George.” I had someone such as David Hume or James Hutton or Joseph Black in mind, but I have long been a good friend of Smith. Still, I do not believe that my friendship distorts my ability to make a fair estimate of his triumphs and failures, and perhaps sufficient time has now passed—200 years since the appearance of The Wealth of Nations—to permit that estimate.

I’m not talking about the uninteresting task of praising or blaming Smith. The triumphs of any scholar are those of his doctrines that he persuades his contemporaries and successors to heed carefully. When David Ricardo or John Stuart Mill or Robert Torrens adopted a theory of Smith’s, it did not necessarily mean that they accepted it without qualifications, but that their work and thoughts were directed by the formulation of Smith. Smith’s failures were, correspondingly, those theories that his successors either ignored or rejected out of hand. It is the judgment of the science that is decisive in judging a scholar’s achievements.

The successes that deserved their success

A success or triumph is a proposition in economics that becomes a part of the working system (the so-called paradigm) of contemporary and subsequent economists. They accept and use the
The famous paradox of value concerning diamonds and water would deserve attention in any lesser man’s work.

Every individual is continually exerting himself to find out the most advantageous employment for whatever capital he can command. It is his own advantage, indeed, and not that of society which he has in view. But the study of his own advantage naturally, or rather necessarily leads him to prefer that employment which is most advantageous to the society.

This application of price theory was, again, a corollary of the main proposition, but its development was so extensive and its success so great that it clearly deserves to be called Smith’s third major triumph.

There is a fourth considerable success to be credited to Smith: the formulation of the wages-fund theory. This theory explained the short-term level of average wages by the ratio of funds for the payment of labor (the wages-fund) to the number of laborers employed. It was saved from being a tautology by the implicit condition that over moderate periods of time the wages-fund was approximately constant in size. Putting aside the question of whether it was a useful theory, there is no doubt that it dominated the next hundred years of English economics. The uncertainty is how clearly Smith formulated the theory. He definitely asserted the essence of the theory, but he did not explicitly define the contents of the wages-fund.

I am painting with a wide brush: insights and arguments of lesser scope, which would be a source of fierce pride to lesser economists, do not deserve inclusion here. The famous paradox of value concerning diamonds and water, for example, which posed in inescapable form the central problem for the marginal utility theory, would deserve attention in any lesser man’s work. But the first three of these four successes I distinguish have become a permanent part of economics.

The successes that should have been failures
An improper success is an error or an infertile and undevelopable subject or method of analysis—but one that is influential with contemporaries or successors. Most demonstrable errors, one hopes and believes, are soon ferreted out, but the analysis that somehow fails to identify and organize and exploit a useful body of knowledge can only be discovered with time.
I would propose only one significant topic in Smith’s work that meets this description: his theory of productive and unproductive labor.

There is one sort of labour which adds to the value of the subject upon which it is bestowed: There is another which has no such effect. The former, as it produces a value, may be called productive; the latter, unproductive labour. . . . (The) labour of the manufacturer fixes and realises itself in some particular subject or vendible commodity, which lasts for some time at least after that labour is past. It is, as it were, a certain quantity of labour stocked and stored up to be employed, if necessary, upon some other occasion. . . . The labour of the menial servant on the contrary, does not fix or realise itself in any particular subject or vendible commodity. His services generally perish in the very instant of their performance.

The purpose of the distinction is clear: if we identify productive labor by the characteristic that its product can be accumulated, capital formation can take place only out of the product of productive labor. The difficulties with the distinction are two. Even if Smith is correct, the extensive employment of productive labor merely permits the accumulation of capital, and the actual formation of new capital requires a wholly independent act of saving. Since most tangible products are not accumulated as capital but currently consumed, there could be the loosest of connections between the share of labor that is productive and the rate of capital growth.

There is a second difficulty: there are investment acts that are not the result of productive labor. Investments in what we now call “human capital” do not become incorporated in a tangible saleable commodity as commonly understood. Unless we include instruction and training as productive labor—and Smith lists “men of letters of all kinds” as unproductive labor—the existence of productive labor is not even necessary to capital formation.

The failures that rightly failed
Smith’s failures to persuade economics were, like his successes, of two sorts: failures that were proper, and failures that should have been successes. We consider first the proper failures. A proper failure contains an analytical error, or it presents an empirically trivial or mistaken view of the world.

The most conspicuous of Smith’s proper failures was the hierarchy of employments of capital presented in “Of the Different Employments of Capital.”

A capital may be employed in four different ways: either, first in procuring the rude produce annually required for the use and consumption of society; or secondly, in manufacturing and preparing that rude produce for immediate use and consumption; or thirdly, in transporting either the rude or manufactured produce from the places where they abound to those where they are wanted; or lastly, in dividing particular portions of either into such small parcels as suit the occasional demands of those who want them.

Although all four activities are essential to one another or to “the general convenience of the society,” capital is more productive—that is, sets more labor to work, and augments more the annual produce of the society—if applied earlier in this sequence of operations than if applied later. The argument is simple: the capital of a retailer employs only himself and possibly a clerk—the remainder of the capital goes to purchase the goods he sells, and therefore to replace the capitals of earlier stages. At the other end, Smith says, “no equal capital puts into motion a greater quantity of productive labour than that of the farmer,” for all of his capital goes to support labor, and in addition the fertility of nature is enlisted.

That Smith was in error is unequivocal. He allowed a system of financing to conceal the facts of economic life. If the consumer, instead of paying the retailer for the corn, had paid the farmer for raising it, the millwright for grinding it, the ship’s captain for transporting it, and the retailer for stocking it, everyone’s capital would have gone exclusively to the direct support of production, but nothing essential would have changed.

That Smith had really incorporated this error into his theoretical system, the effects would have been disastrous: as one important example, the argument

That Smith was in error is unequivocal. He allowed a system of financing to conceal the facts of economic life.
for private control over investment would have been damaged beyond repair. But it remained a local blemish.

A related error, and one to which Smith attached greater importance if measured by the number of times it recurs in The Wealth of Nations, is the assignment of a hierarchy of social usefulness to domestic trade, foreign trade, and the carrying trade for foreign nations. The internal trade, he argues, by the act of buying Scottish manufactured goods, carrying them to London, selling them, and buying English corn to return to Edinburgh, replaces two British capitals, whereas the foreign trade replaces only one British capital and the carrying trade none. In addition, the returns of local trade are quicker than those of distant trade. At this level of discourse, Smith is surely mistaken. If these various trades are yielding equal annual rates of return on capital, a shift from foreign to domestic trade would reduce aggregate national output (although the export of capital can of course affect wages). This error received no greater approval from Smith’s successors.

A very different error, and possibly not an error at all, is Smith’s measure of value—which came from the same source as that which may have led him to overvalue agriculture. Smith was acutely sensitive to the instability of monetary measures of value, and an appreciable fraction of The Wealth of Nations is devoted to the chronicle of currency debasement and inflation. He proposes as the ultimate measure of value the disutility of an hour of ordinary labor:

*Equal quantities of labour, at all times and places, may be said to be of equal value to the labourer. In his ordinary state of health, strength and spirits; in the ordinary degree of his skill and dexterity, he must always lay down the same portion of his ease, his liberty, and his happiness.*

*The price which he pays must always be the same, whatever may be the quantity of goods which he receives in return for it... Labour alone, therefore, never varying in its own value, is alone the ultimate and real standard by which the value of all commodities can at all times and places be estimated and compared.*

Smith’s error, if indeed it is an error, is to assume that the psychological cost of performing an hour of labor is more stable, in its significance to a person, than the psychological pleasure from the consumption of some bundle of goods. The instability of labor disutility arises from at least three circumstances:

1. It varies with the conditions of technology—for example, the lifting of heavy weights has been almost eliminated in a modern society.
2. It varies with the degree of training of the worker: the disutility of acquiring labor skills must be added to that of performing the work, and this addition was already increasing secularly with the progressive division of labor.
3. It varies with the hours of labor, and hence with income.

The corresponding view of a bundle of consumer goods yielding constant satisfaction as the unit of value is free of the second difficulty, possibly free of the first (depending how one views new commodities), but of course not free of the third.

Smith’s rejection of consumption in fixing on a measure of value is attributable to his belief that luxuries are frivolous and yield illusory pleasures that vanish in the act of realization. That Smith should attribute to almost all economic factors an illusion that greater wealth yields greater satisfactions, an illusion that is perhaps never pierced, is one of his greatest idiosyncrasies.

Smith’s third error, and again perhaps we should label it a misdirection, is his monetary theory, as presented in “On Money.” Smith believes that there is a fixed demand for money in a society, in the special sense that only a certain quantity of money will circulate and excessive sums will be exported (if the money is gold or silver) or be presented for redemption in gold (if the money is bank notes). The theory is tenable as a first approximation if, as Smith assumes, the foreign exchanges are fixed, and the paper currency is fully convertible: the theory, then, is implicitly a simple purchasing power parity theory.

The complaint about Smith’s theory is not that it is formally erroneous but
that it represents a retrogression from the generality and predictive power of the monetary theory in Hume’s essays.

The failures that should have been successes
There remain the successes that Smith should have achieved, but did not. It will appear paradoxical that Smith’s immense prestige and vast powers of persuasion should have failed to obtain acceptance of ideas that were correct, profound, and fecund.

The first of these superior theories was a rejection of the subsistence theory of wages. Smith, it will be recalled, gave four explicit reasons for believing wages were not generally at subsistence level in Great Britain:

1. Summer wages exceed winter wages, but the cost of subsistence varies inversely.
2. Subsistence varies substantially in cost from year to year, but some wages change very slowly.
3. Subsistence varies substantially from place to place, but wages vary less by place.
4. Variations over time and place in the cost of subsistence are often inverse to those of wages.

All of these proofs, particularly the first two, suffer from a concentration on short-term correspondences of wages and the cost of subsistence, but they carry considerable weight. In addition, Smith offers the powerful long-term example of the differences in real wages between England and the American colonies, an example whose persistence made it stronger with each passing year.

A second of Smith’s theories took slightly more than a century to achieve currency—it was his theory of rent. He consistently treated the rent of land as it should be treated: any one use of land had to pay a rent, which was a cost of production, to draw the land away from other uses; whereas for all uses combined, rent was a residual. This theory is present in “The Rent of Land,” with hardly any ambiguity but with hardly any explicitness. It is difficult in retrospect to see how the many recognitions of the alternative cost theory received so little attention, as when Smith says:

“As an acre of land, therefore, will produce a much smaller quantity of the one species of food (meat) than of the other (corn), the inferiority of the quantity must be compensated by the superiority of the price. If it is more than compensated, more corn land would be turned into pasture; and if it was not compensated, part of what was in pasture would be brought back into corn.”

Unlike the other theories of Smith under discussion, the correct theory here is only partly explicit, and it was fragmented in presentation, so Smith, rather than his successors, deserves the larger blame for its neglect.

The last of Smith’s regrettable failures is one for which he is overwhelmingly famous, the division of labor. How can it be that the famous opening chapters of his book, and the pin factory he gave immortality, can be considered a failure? Are they not cited as often as any passages in all economics? Indeed, over the generations they are.

The failure is different: almost no one used or now uses the theory of division of labor, for the excellent reason that there is scarcely such a theory—no standard, operable theory to describe what Smith argued to be the mainspring of economic progress. Smith gave the division of labor an immensely convincing presentation: it seems to me as persuasive a case for the power of specialization today as it appeared to Smith. Yet there is no evidence, so far as I know, of any serious advance in the theory of the subject since his time, and specialization is not an integral part of the modern theory of production.

Smith was successful where he deserved to be successful—above all in providing a theorem of almost unlimited power on the behavior of man.

George J. Stigler was the Charles R. Walgreen Distinguished Service Professor of American Institutions at Chicago Booth. He died in 1991.
IF ROBOTS TAKE OUR JOBS, WILL THEY MAKE IT UP TO US?

As technology evolves, it requires less and less imagination to foresee how robots, computers, and artificial intelligence might drastically improve productivity in many industries—and displace human labor. So how concerned should workers be about robots coming for their jobs? To find out, Chicago Booth’s Initiative on Global Markets consulted its European Economic Experts Panel. The panelists were divided about whether increasing use of robots and AI would lead to a substantial uptick in long-term unemployment rates in advanced countries. A majority of the panelists did agree that the benefits of automation are likely to be large enough to compensate workers whose wages suffer—but as some point out, whether those workers will actually be compensated is another question.

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: Holding labor-market institutions and job training fixed, the rising use of robots and AI is likely to increase substantially the number of workers in advanced countries who are unemployed for long periods.

Jordi Gali, Pompeu Fabra University
“Must be true in the short run, unless it takes place in the context of expanding aggregate demand, which would facilitate reabsorption.”
Response: Agree

Luigi Guiso, Einaudi Institute for Economics and Finance
“Robots may be accompanied by other innovations that can absorb the workers laid off, but [the] extent of this is uncertain.”
Response: Uncertain

Christopher Pissarides, London School of Economics
“Jobs will be destroyed in some sectors but created in other sectors. Sectoral shifts are common without large unemployment hikes.”
Response: Strongly disagree

Question B: Rising use of robots and AI in advanced countries is likely to create benefits large enough that they could be used to compensate those workers who are substantially negatively affected for their lost wages.

Pol Antràs, Harvard
“It seems pretty clear that the potential gains would outweigh the losses.”
Response: Strongly agree

Agnès Bénassy-Quéré, Paris School of Economics
“In theory, yes. However, the workers want jobs, not transfers. Very difficult during the transition.”
Response: Agree

Richard Portes, London Business School
“The question is not whether they could be compensated, but whether they will. Experience suggests not.”
Response: Agree

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Does not add up to 100% because of rounding.
HOW CAN START-UPS ATTRACT INVESTORS?

Chicago Booth’s Steve Kaplan and Ira S. Weiss, with Katherine Wanner of Abundant Venture Partners, discuss how venture capitalists approach finding and analyzing potential investments.

What does research tell us about what venture capitalists are looking for in start-ups?

Kaplan: In a recent paper I wrote with Harvard’s Paul Gompers, Stanford’s Ilya Strebulaev, and Will Gornall at the University of British Columbia, we surveyed more than 800 venture capitalists. There are three things that stand out as most interesting about their answers.

We asked the VCs, of the three key things that you do—sourcing deals, selecting from the deals you source, and offering help to your portfolio companies—what’s most important? Surprisingly (at least to me), they said that selection was the most important.

Second, we asked them what was most important in the deals that succeeded or failed, and also what was most important in the selection process. We basically gave them a choice between management or the business itself. Maybe not an overwhelming majority, but certainly the majority felt that the team was more important than the business. So that’s finding two.

And finding three, we asked what metrics they used to evaluate the business and to scan the cash flow. I guess it wasn’t surprising that they didn’t use discounted cash flows, and instead tended to use multiple of invested capital. What’s surprising is some fraction of the early-stage people, 10–20 percent, said they didn’t use anything at all.

Wanner: Sometimes there’s a very big idea that might not fit a defined market that currently exists. There really aren’t metrics that you would typically find in a finance course that would be applicable to analyzing an opportunity like that, so how an investor performs analysis depends on the opportunity she’s going after. Now, if it’s a late-stage venture fund making investments in a company that exists already—so it has metrics, it has revenue, it may have no cash flow to speak of, but there are things that you can measure—that might be an example where you could actually use metrics. It depends on what business you’re evaluating.

What about this idea of the team being more important than the idea itself?

Weiss: At the early stages, it generally feels like the team is the most important thing, because without a really good team, you’re just not going to be able to get their
idea to go anywhere. As time goes on, as the business matures, the original team becomes less important. Following on some of the research that Professor Kaplan has done on the jockey versus the horse, early on it feels like the jockey is super important, and later, the horse is really important, and it's a little bit easier to switch out the team.

Kaplan: In that paper, I looked at the early business plans of a number of companies that eventually went public—for each company, it was the business plan that the first venture capitalist funded. With one exception, when the companies went public, they were all doing what they started out doing. Take Grubhub: What was it doing at the time it entered our business-plan competition? What it does today. eBay started out doing what it’s doing today; Facebook is the same. You can go on and on: Whole Foods, Starbucks. That led me to say, “OK, you better get the business right or you’re not going anywhere.” That’s why, when VCs say they’re focusing on the team, I’m a little bit surprised. I’m more of a business/horse person in that if I don’t like the idea and I don’t think it’s going anywhere, I won’t touch it.

Wanner: There’s a delicate balance between the team and the idea. I do believe that you have to demonstrate some kind of value proposition and articulate your idea clearly. That’s what weeds people out pretty early. But at the end of the day, you’re giving the capital to people to go execute on their idea. So it does not surprise me that folks feel like the idea is second to the people executing it.

Does this mean that it’s truly important to put on a good performance in the pitch meeting?

Weiss: The pitch is a piece of it, but at the really early stages, investors want to dig into the founders’ backgrounds: How successful have they been at the other things they’ve done? Where did their idea come from? How effective are they? Can they attract really good talent? I would say the pitch is a less-important piece than the founders’ backgrounds and the success they’ve had before.

Kaplan: The VCs in our survey said the two most important attributes were having the industry experience to know where the problem is, and second of all, having the ability. Now we didn’t define ability, and it can mean many things, but if the founder can’t attract people, then he or she is going to fail too.

If you had a substandard idea, could a really good team pull it off, maybe by changing the idea slightly?

Weiss: I actually think that’s true as long as the market is strong. An “A” team with a “B” idea is better than a B team with an A idea. There are a few high-profile cases, companies such as Slack and Twitter, and even locally Groupon, where the original idea was in many ways completely different from the really successful thing that came out of the founding team, and it would have been hard to do that without a special founding team.

Wanner: For an investor, the odds of success probably vary depending on where the company is in its life cycle. So if the company’s already been operating and has operational inefficiencies that just make it really difficult to compete, or there’s just some subtle nuance to the business that makes it difficult to execute, there might not be any team that’s good enough to run that. But if you’re coming in earlier, you can sort of tweak it and point it in directions that encourage success even though the idea didn’t start off so great.

How is it possible that a significant minority of venture capitalists use no financial metrics when they do their investing?

Weiss: I was almost surprised that that number wasn’t higher at the early stages. VCs over time develop intuition about the size of a market and the opportunity for success and then kind of back into what needs to be done. So if it’s a software company, everyone knows you want to have 90 percent software margins, and once you know the market size itself, you can back into concluding, this will be a large success if it ends up with X percent of the market.

Kaplan: That would have applied to Facebook when it started going viral. You could say, I’m going to invest in this because I know it’s going to be worth something, without many of the numbers. And as Kathy said earlier, the later-stage investors do use numbers.
**Wanner:** And let’s face it, every management team that comes through the doors is the most optimistic set of folks that you’ve ever met. Even if you do metrics off of the numbers that they share with you, you often have to apply a little bit of a discount. Entrepreneurs are eternal optimists by nature, and you often see that in the projections and the business plans. Investors who already have expertise in the relevant industry have an advantage. There’s no spreadsheet or a model you need to build: if you’ve spent your whole life in a particular vertical, you have a good intuition and sense for what’s going on and what makes a business work there.

**Weiss:** On the entrepreneur’s side, even if 10–20 percent of the VCs don’t use these evaluation metrics, I would still create and update my own model, no matter how detailed. Sometimes you start a company, and maybe you don’t realize how small the market size is, or how profitable the company can be, or what the margins will be. I do think it’s important for the entrepreneur to build these things themselves, at least enough to know that they’re going after something attractive.

**Kaplan:** I tell entrepreneurs, put together a business model, understand how your business works, make forecasts. You want to have a sense of how much cash you’re going to need and how big you can get. But clearly there’s some minority of people who don’t do that and are successful.

**Wanner:** I would say the analytics and the business model are an opportunity for the venture folks and the entrepreneur to calibrate on valuation. It’s not unrealistic, even though the market doesn’t exist, to put something on paper, as Ira has suggested. It provides a road map for the way forward.

Folks raise money for a company, and then they have to come back for more money because they didn’t quite get to a point where they’re making money yet to sustain the business. A business plan and analytics keep the entrepreneur and the venture folks honest and able to say, these are the things that we agreed to early on. There’s a role for analytics beyond just predicting what the returns will be.

**Wanner:** I’ve participated in some of Steve’s classes where students are presenting business plans, and he often reminds them, say what you’ve already learned as you’ve executed your idea. Are there customer experiences, are there technological experiences that are relevant to the decision? Because they only lend more credibility to your story. Often entrepreneurs assume everyone in the room knows what they know. But speaking about what you already have experienced can really create confidence that you know what you’re talking about, you know where the company is going, and you know what the problems are.

**Kaplan:** One thing that is clear is you’ve got people such as Kathy and Ira who really focus on the founder(s). If you are a founder going to talk to them, you want to be buttoned up, in the sense that you want to convince them that you are the person to run your company. You want to come across as prepared and optimistic and you want to make them understand that in addition to having a good idea, you’re going to get it done.

**Wanner:** Every venture capitalist believes they have proprietary deal flow. That’s a fancy way to say deals come in through their network. Again, it depends on where a company is in its life cycle; but for the most part, a warm introduction is definitely the way to get the most attention from an organization in terms of the time that it will take to read through the materials and to reach out and respond.

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For more on how venture capitalists approach investing, watch the conversation online, and see “What are venture capitalists looking for in start-ups?” (Summer 2017.

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"You want to make them understand that in addition to having a good idea, you’re going to get it done.”

—STEVE KAPLAN
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Companies can use “crowdvoting” to learn about a prospective product’s market potential and to accept preorders to raise money for the launch. The size of these benefits can help businesses determine the best time to end an online crowdvoting campaign, according to research by Victor Araman of the American University of Beirut and Chicago Booth’s René Caldentey. Companies can choose to end voting by a certain date or after reaching a set number of votes. But in some cases, they’re better off without a preset target, the researchers find. If companies have little idea of potential demand but think the likelihood of converting voters to buyers is high, they can get the most out of a crowdvoting platform if they choose an end date as the poll progresses. Learn more about the model on page 20 of this issue.
UPCOMING EVENTS
September to November 2017

Worldwide Booth Night: Mumbai, India

SEPTEMBER 11–22
The Executive Development Program, Chicago. Prepare for general management responsibilities and develop skills to lead cross functional teams. ChicagoBooth.edu/EDP

SEPTEMBER 14
Worldwide Booth Night, locations worldwide. Alumni and current students join the Booth community for a global celebration of Booth pride and the values that make the community unique. ChicagoBooth.edu/WBN

SEPTEMBER 25
Collaboratorium Networking and Pitch Event, Chicago. The Collaboratorium unites University of Chicago students with researchers, technologists, and faculty who want to explore the commercialization opportunities and business applications for their work. Polsky.UChicago.edu/page/collaboratorium

SEPTEMBER 25
Collaboratorium Networking and Pitch Event, Chicago. The Collaboratorium unites University of Chicago students with researchers, technologists, and faculty who want to explore the commercialization opportunities and business applications for their work. Polsky.UChicago.edu/page/collaboratorium

OCTOBER 4–6
Big Data and Marketing Analytics program, Chicago. Acquire marketing-analytics frameworks to increase ROI and improve your decision-making process. ChicagoBooth.edu/BDMA

SEPTEMBER 31
Meet the Dean, London. The Chicago Booth Alumni Club of the United Kingdom and Booth Alumni Relations host an evening for alumni with new dean Madhav Rajan. This is one in a series of welcome events worldwide for the dean. ChicagoBooth.edu/alumni/clubs/uk

OCTOBER 3
On Board, New York. Looking to join a nonprofit board or to give back better? Join Chicago Booth alumni and nonprofit leaders for an all-day conference on nonprofit board service and strategy. ChicagoBooth.edu/onboard

OCTOBER 4–6
Big Data and Marketing Analytics program, Chicago. Acquire marketing-analytics frameworks to increase ROI and improve your decision-making process. ChicagoBooth.edu/BDMA

OCTOBER 13
Booth Women Connect Conference, Chicago. This conference, open to all, brings together professionals of diverse backgrounds and a range of experience levels with a common desire to grow personally and professionally. ChicagoBooth.edu/BWCC

OCTOBER 10
Entrepreneurship through Acquisition Conference, Chicago. One of the first events of its kind, this conference brings together search-fund entrepreneurs, students, investors, and others to share experiences in this rapidly growing area of entrepreneurial investment. ETAconference.com

NOVEMBER 3
On Board, New York. Looking to join a nonprofit board or to give back better? Join Chicago Booth alumni and nonprofit leaders for an all-day conference on nonprofit board service and strategy. ChicagoBooth.edu/onboard

NOVEMBER 6–10
Strategic Business Leadership program, Chicago. Learn to manage cross functional relationships, build social capital, and create strategic partnerships. ChicagoBooth.edu/SBL

NOVEMBER 10
Entrepreneurship through Acquisition Conference, Chicago. One of the first events of its kind, this conference brings together search-fund entrepreneurs, students, investors, and others to share experiences in this rapidly growing area of entrepreneurial investment. ETAconference.com

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