Bloomberg Businessweek

January 29, 2018

GOOD FOR THE U.S.

BAD FOR THE WORLD

America's oil boom is disrupting the geopolitical order—and destroying the planet p10


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▲ An attendant with his charge at Shri Krishna Gaushala, one of the largest cow shelters in Delhi

■ IN BRIEF

■ REMARKS

■ VIEW

1 BUSINESS

2 TECHNOLOGY

3 FINANCE

4 ECONOMICS

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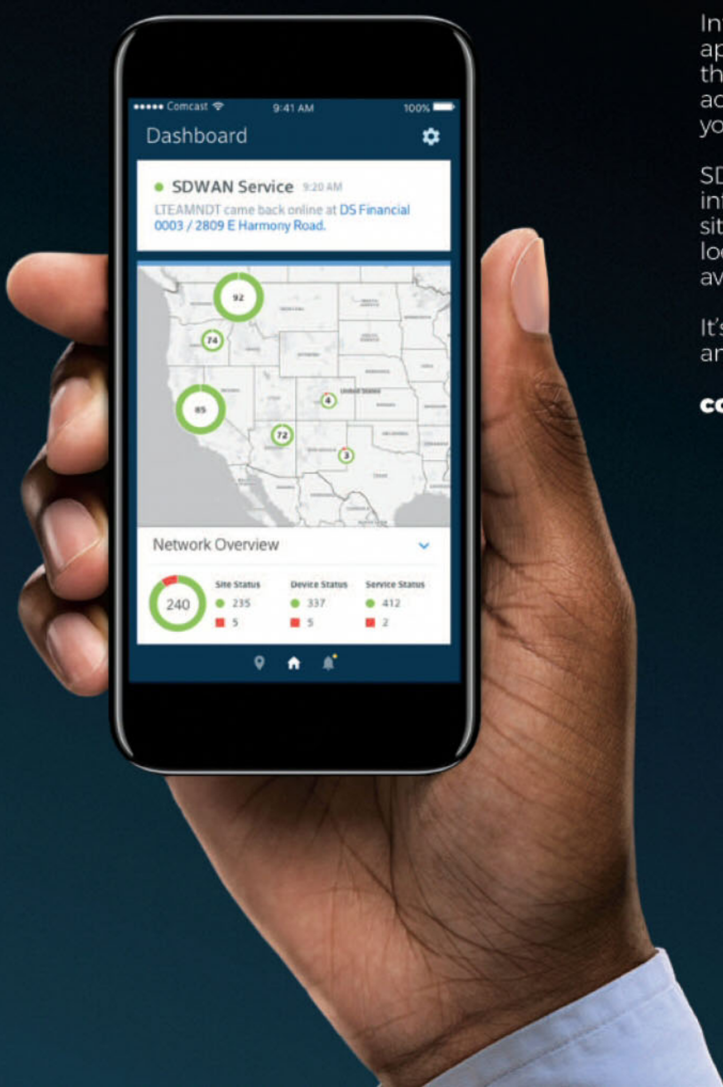

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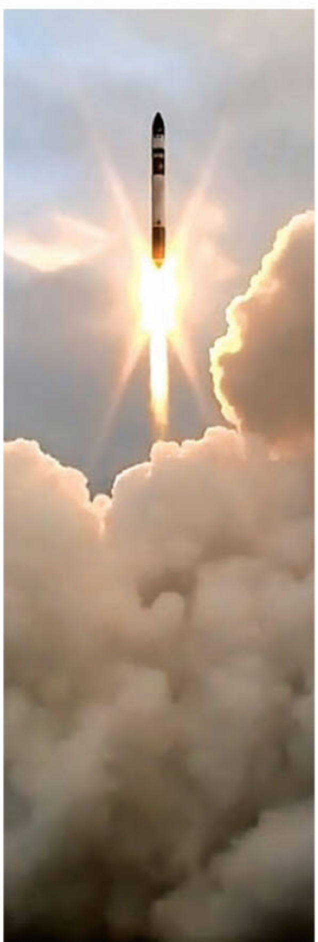
Asia

● "India is removing the red tape and laying out the red carpet."

Speaking at the World Economic Forum in Davos, Prime Minister Narendra Modi promised India would become a $5 trillion economy by 2025.



● Rocket Lab, a New Zealand-based startup, launched ... literally. The company's Electron rocket slung into orbit three small satellites, which would otherwise have had to hitch rides on larger rockets.

● Turkish soldiers streamed into Northern Syria, attacking Kurdish forces backed by the U.S. Having encouraged the Kurds to help defeat Islamic State, U.S. diplomats urged Turkey to stand down.

● Vietnam sentenced Trinh Xuan Thanh, an executive at its state-owned oil company, to life in prison for corruption.

His trial was part of a crackdown that meted out long prison terms to several senior company officials.

Europe

● The Presidents Club Charitable Trust dissolved after a blistering *Financial Times* report detailed numerous incidents of harassment and groping at its annual dinner, held in mid-January.

● French pharmaceutical conglomerate Sanofi agreed to buy Bioverativ, which specializes in a hemophilia drug, for

$11.6b

● French President Emmanuel Macron wooed about 140 Davos-bound tech executives at the Palace of Versailles. The guest list at the opulent economic-development event, dubbed "Choose France," included Facebook Chief Operating Officer Sheryl Sandberg and SAP Chief Executive Officer Bill McDermott.

● The terrorists behind the August 2017 van attack in Barcelona may have been planning a bombing at the Eiffel Tower, according to a report by Spanish researchers.

● Formula One champion Niki Lauda rescued Niki Luftfahrt, a Vienna-based discount airline named after him. The collapse of its parent company, Air Berlin, had left the carrier insolvent.

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● “I do feel it’s a little bit like 2006, when we were all talking whether we’ve solved the riddle of economic crises.”

Barclays CEO Jes Staley warned Davos attendees that markets are getting complacent.

● European Union antitrust regulators fined Qualcomm

$1.2b

for paying Apple to use its chips exclusively in the company’s iPhones and computers. Qualcomm said it strongly disagrees with the decision and will appeal.

Americas

● Kimberly-Clark said it would cut its global workforce by as much as 13 percent, or 5,500 jobs.

The maker of Kleenex tissues and Huggies diapers is closing 10 of its 91 factories as it retools to compete with Amazon.com’s private-label paper products.

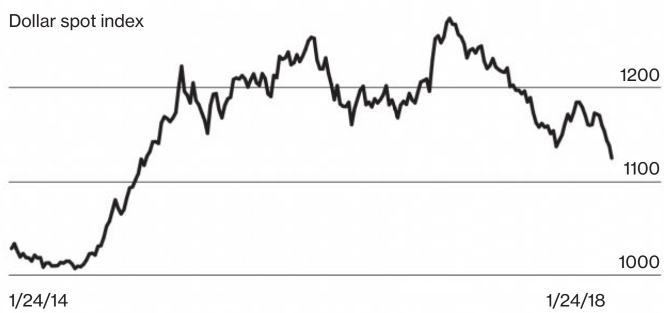
● A Brazil appeals court

upheld Luiz Inácio Lula da Silva’s 2017 conviction on charges of graft and money laundering. The unanimous verdict increases his prison sentence from 9½ to 12 years and significantly complicates the popular former president’s quest to reclaim the office in October.

● Fulfilling a promise to domestic manufacturers, the Trump administration imposed tariffs of as much as 50 percent on imported solar panels and washing machines. ▷ 23

● Meg Whitman, whose last day as HP CEO is Feb. 1, will lead Hollywood superproducer Jeffrey Katzenberg’s mobile video venture, tentatively known as NewTV.

● The dollar fell to its lowest level in three years after U.S. Treasury Secretary Steven Mnuchin told reporters at Davos that he backed a weaker currency in the short term.



Africa

● Egyptian authorities arrested former General Sami Annan, who’d announced he would challenge incumbent Abdel-Fattah el-Sisi in March’s presidential elections.

● Nigeria’s Olympic bobsled team, the first on the continent, has scooped up endorsement deals from Apple, Under Armour, and Visa ahead of the opening of the Winter Games in Pyeongchang.

The New World Order of Energy Will Be American

ILLUSTRATION BY 731

● The U.S. could well become the world's biggest oil producer. That's good for the country. Not for the planet

● By Javier Blas

The last time U.S. drillers pumped 10 million barrels of crude a day, Richard Nixon was in the White House. The first oil crisis hadn't yet scared Americans into buying Toyotas, and fracking was an experimental technique a handful of engineers were trying, with meager success, to popularize. It was 1970, and oil sold for $1.80 a barrel.

Almost five decades later, with oil hovering near $65 a barrel, daily U.S. crude output is about to hit the eight-digit mark again. It's a significant milestone on the way to fulfilling a dream that a generation ago seemed far-fetched: By the end of the year, the U.S. may well be the world's biggest oil producer. With that, America takes a big step towards energy independence.

The U.S. crowing from the top of a hill long occupied by Saudi Arabia or Russia would scramble geopolitics. A new world energy order could emerge. That shuffling will be good for America but not so much for the planet.

For one, the influence of one of the most powerful forces of the past half-century, the modern petrostate, would be diminished. No longer would "America First" diplomats need to tiptoe around oil-supplying nations such as Saudi Arabia. The Organization of Petroleum Exporting Countries would find it tougher to agree on production guidelines, and lower prices could result, reopening old wounds in the cartel. That would take some muscle out of Vladimir Putin's foreign policy, while Russia's oligarchs would find it more difficult to maintain the lifestyles to which they've become accustomed.

President Donald Trump, sensing an opportunity, is looking past independence to what he calls energy dominance. His administration plans to open vast ocean acreage to offshore exploration and for the first time in 40 years allow drilling in the Arctic National Wildlife Refuge. It may take years to tap, but the Alaska payoff alone is eye-popping—an estimated 11.8 billion barrels of technically recoverable crude.

It sounds good, but be careful what you wish for. The last three years have been the hottest since recordkeeping began in the 19th century, and there's little room in Trump's plan for energy sources that treat the planet kindly. Governors of coastal states have already pointed out that an offshore spill could devastate tourism—another trillion-dollar industry—not to mention wreck fragile littoral environments. Florida has already applied for a waiver from such drilling. More supply could lower prices, in turn discouraging investments in renewables such as solar and wind. Those tend to spike when oil prices rise, so enthusiasm for nonpolluting, nonwarming energies of the future could wane.

For now, though, the petroleum train is chugging. And you can thank the resilience of the U.S. shale industry for it.

Shale's triumph seemed impossible a few years ago. In late 2014, Saudi Arabia targeted rivals, including American drillers. Rather than cutting production to keep prices high, Saudi Arabia persuaded OPEC to open the taps, sending prices lower than $40 a barrel in December, down from more than $100 a barrel just four months previous. The Saudis were hoping to starve the shale revolution. At first, they seemed poised to succeed, like they had in the past. U.S. production fell from a peak of 9.6 million barrels a day to 8.5 million barrels a day. Bankruptcies riddled shale patches from Texas' Permian Basin to the Bakken Formation in North Dakota, and tens of thousands of workers lost their jobs.

Rather than declare defeat, shale companies dug in, slashing costs and borrowing like crazy to keep drilling. By late 2016 the Saudis blinked. They persuaded OPEC and the Russians to cut output. Slowly, steadily, West Texas Intermediate, the oil benchmark traded in New York, rose from $26 a barrel in February 2016 to where it lingers today.

What didn't kill shale drillers made them stronger. The survivors have transformed themselves into leaner, faster versions that can thrive even at lower oil prices. Shale isn't any longer just about grit, sweat, and luck. Technology is key. Geologists use smartphones to direct drilling, and companies are putting in longer and longer wells. At current prices, drillers can walk and chew gum at the same time—lifting production and profits simultaneously.

Fracking—blasting water and sand deep underground to free oil from shale rock—has improved, too. It's what many call Shale 2.0. And it's not just the risk-taking pioneers who dominated the first phase of the revolution, such as Trump friend Harold Hamm of Continental Resources Inc., who are benefiting from the surge. Exxon Mobil Corp., Chevron Corp., and other major oil groups are joining the rush. U.S. shale is "seemingly on steroids," says Amrita Sen, chief oil analyst at consultant Energy Aspects Ltd. in London. "The market remains enchanted by the ability of shale producers to adapt to lower prices and to continue to grow."

The results are historic. In October, American net imports of crude and refined products dropped below 2.5 million barrels a day, the lowest since official data were first collected in 1973. A decade ago, U.S. net oil imports stood at more than 12 million barrels a day. "For the last 40 years, since the Arab oil embargo, we've had a mindset of energy scarcity," says Jason Bordoff, founding director of the Center on Global Energy Policy at Columbia University and a former Obama administration official. "As a result of the shale revolution, the U.S. has emerged as an energy superpower."

For OPEC, the emergent superpower presents an unprecedented challenge. If the cartel cuts production, shale drillers can respond by boosting output, stealing market share from OPEC nations and undermining their effort to manipulate prices. The only solution for OPEC is to prolong the limits, as it's doing now, and hope for the best. If cooperation between OPEC and Russia breaks down, it's not impossible that OPEC breaks down, too. ▶

◀ If Shale 2.0 output keeps prices low, Russia would be a big loser. Moscow has used oil revenue to finance aggressive foreign intervention from Ukraine to Syria. The only solution is to continue cooperating with Saudi Arabia on keeping production low—not something the oligarchs relish.

With shale surging, U.S. imports of Saudi oil plunged to a 30-year low last year. The turnabout makes China and Japan far more dependent than the U.S. on the Middle East. It's now possible for the U.S. to argue that other countries should help shoulder the burden of policing the shipping lanes leading to Middle Eastern and North African oil exporters.

Yet not all traffic lights are green for the U.S. It's not immune from the ups and downs of the world market. When the price rises because of, say, political upheaval in the Middle East, it doesn't matter where you are and how much you pump. The price rises in America, too.

There's another problem: Shale 2.0 could hurt refiners. Shale oil is too good. For years, refiners spent billions of dollars on special equipment to process the dense, high-sulphur, low-quality crudes coming from Mexico, Venezuela, Canada, and Saudi Arabia. The quality of shale oil is so high that it yields little diesel, the fuel that powers manufacturing.

Such limitations may be mere speed bumps. But U.S. dominance is far from a panacea. It won't reverse climate change. It won't lessen the political influence of fossil-fuel producers in Washington. Nor will it completely neutralize the political influence of erratic petrostates.

With demand rising despite the emergence of renewables and the development of electric vehicles, shale may struggle to keep pace with global consumption. There's a chance the world will witness that rarest of market loop-de-loops—high oil prices as well as rising U.S. production.

Saudi Arabia and Russia could then remain formidable obstacles to U.S. energy independence. They would be crowing from the top of the hill even as they keep a wary eye on America's shale drillers.

These are troubles that would have been an embarrassment of riches for Americans who had to wait in line to fill up in the 1970s, when the U.S. determining its own energy future was just a dream. Any celebration over this accomplishment ignores the evidence that such dependence on fossil fuels is no independence at all. Ⓑ —*With Joe Carroll*

■ VIEW

To read Justin Fox on the benefits of delaying retirement and Megan McArdle on Netflix's spending problem, go to Bloombergview.com

More Assaults On Obamacare

● Trump plans to attack the core principle of health insurance

The year ahead looks to be dangerous for health-care security in the U.S., as the Trump administration continues to sabotage the law Congress couldn't repeal. New proposals would let many more healthy Americans drop their Obamacare coverage—raising costs for the unhealthy and risks for everyone, sick or well.

First, the administration intends to expand and deregulate association health plans. Under current law, such plans, sold to trade and professional associations, must cover "essential health benefits" such as hospitalization, maternity care, and prescription drugs. Trump wants to increase enrollment in these plans and end the restriction on benefits. This would let insurers create cheap, weak-coverage plans and market them to people who expect no big health-care expenses. Second, the administration wants the duration of unregulated short-term policies to grow from three months to as long as a year, letting some healthy people pay smaller premiums for minimal insurance. Third, Trump would allow employers to offer workers tax-favored "health reimbursement" accounts that aren't paired with health insurance. This would also draw healthy people out of the market.

Why is it wrong to let healthy people opt out? Partly because, as experience before the Affordable Care Act proved, weak-coverage plans often serve their buyers badly. Insurers misled consumers about the benefits, leaving them with astronomical bills to pay. But the more fundamental problem is that opting out defeats the basic principle of insurance, to spread risk. Premiums paid by everyone—young and old, healthy and sick—collectively pay for health care. People in good health today gain the security of knowing they'll be taken care of when the need arises. Keeping this system running well requires that the healthy and not-so-healthy all pay into the same pool and that their insurance covers any care that may be needed.

Trump is attacking this core idea. The split-market problem will be compounded in 2019 by the loss of the "individual mandate" penalty for going without insurance, a change Congress enacted in its tax bill. Facing no penalty, some healthy people will gamble on going without coverage, keeping their premiums out of the pool.

State governments should do what they can to push back—for instance, by creating their own individual mandates, as Massachusetts did long ago and Maryland is proposing to do now. They ought also to place limits on association health plans and short-term plans. Unfortunately, it's safe to assume that not all states will do so. Thanks to Trump and a Congress that's failing the country, many more Americans will soon be left where they were before the ACA—unable to afford decent health care. Ⓑ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- Battery maker Energizer Holdings hosts its annual meeting on Jan. 29 in St. Louis
- McDonald's will release its fourth-quarter earnings report
- German auto giant Daimler holds its annual investor conference in Stuttgart on Feb. 2

Endo's Law: If It Can Go WRONG It Will

● The drugmaker is beset by patient lawsuits, regulatory challenges, and looming debt payments

Opioids. Vaginal mesh. Testosterone. These have become some of the ugliest words in the pharmaceutical industry, telegraphing medical treatments gone awry, in some cases leaving behind disabled customers, epic legal battles, and vast capital destruction. Some of the industry's largest companies have been mired in lawsuits and government probes over these issues. But no company has been haunted by the drug industry's worst nightmares as mercilessly as Endo International Plc.

Just about everything that can go wrong in the world of pharma has gone wrong at Endo, which makes both branded and generic drugs. Through a dealmaking spree largely led by its former chief executive officer, the company amassed debt of more than $8 billion—five times its market capitalization. That might be tolerable for a high-growth company, but Endo faces cratering prices for generic medicines even as it must deal with a slew of litigation involving its products.

The new leadership says the Dublin, Ireland-based company can fix all this; it will just take time. "It's very important to know that we're not running or hiding from our challenges," says CEO Paul Campanelli. "We're well-equipped to handle these types of issues."

That includes writing massive checks to get beyond some of Endo's legal woes. As of ▶

January 29, 2018

Edited by James E. Ellis

Businessweek.com

◀ November 2017 company officials have agreed to pay more than $3.5 billion in settlements in more than 46,000 suits over its vaginal mesh inserts alone. Endo may have to shell out more to resolve all the mesh cases, according to its U.S. Securities and Exchange Commission filings. Analysts say that should largely contain the problems over the vaginal device, but it will still drain much-needed cash.

"This is not a growth story," Gabelli & Co. analyst Kevin Kedra says. "There's significant pressures, mostly stemming from the debt load, and they're probably not going to be able to make a significant dent in that until 2019."

Campanelli has been slashing costs to help keep Endo's finances in check. The company now operates with a staff of around 2,700, down from about 6,000 before he took the job in September 2016. It also stopped marketing its opioid pain drugs at the end of 2016.

Litigation related to Endo's marketing of opioids remains the biggest wild card. The drugmaker faces at least 125 cases filed by U.S. state attorneys general, counties, and municipalities, alleging its salespeople downplayed the health risks of the extended-release version of its painkiller Opana while overstating its benefits, according to SEC filings. Other opioid makers, such as Johnson & Johnson and Purdue Pharma LP, face identical claims. The companies have denied the allegations.

The states and local governments have hired lawyers who helped negotiate the tobacco industry's $246 billion master settlement in the late 1990s to handle the opioid suits. There's no exact figure for the damages sought, and estimates of potential damages vary widely. Bloomberg Intelligence litigation analyst Holly Froum figures the total liability for all opioid makers, including Endo, could be as little as $5 billion or as high as $50 billion. "It's obviously in a very early stage, and these things typically take years to resolve," Campanelli says.

The company has shown it can be proactive when the need arises. Its extended version of Opana became the subject of controversy: The drug has been linked to outbreaks of viral infections like HIV as people abusing it spread diseases by sharing needles. U.S. regulators took the unprecedented step last June of asking the company to take the drug off the market. Endo could have appealed that decision, but Campanelli opted to comply—cutting off a drug that racked up around $533 million in sales in a three-year period starting in 2014.

Campanelli is busy putting out fires that were years in the making. In 2013 the drugmaker hired Rajiv De Silva, an ex-Valeant Pharmaceuticals International Inc. executive and former McKinsey & Co. consultant. At the time, Valeant was blazing a new trail for Big Pharma expansion: buying up other companies, cutting research, and jacking up drug prices. With De Silva as CEO, Endo became a prolific dealmaker, acquiring companies and drug rights—from acquisitions in the hundreds of millions of dollars to vying for assets in the $10 billion-plus range against Valeant. De Silva insisted at the time that Endo wasn't another Valeant, which ran into massive financial and legal troubles, and said he was doing deals to build a company that didn't need to rely on deals to grow. He declined to comment for this story.

De Silva's biggest acquisition was the $8.05 billion purchase of Par Pharmaceutical in May 2015, which gave Endo a large foothold in the generics business. Endo, which assumed Par's debt, financed the deal with borrowings and proceeds from a $2.3 billion equity offering. The Par buyout came at the height of the company's run: Endo's stock price peaked around $96 in April 2015. That was more than triple the level when De Silva took over. But concerns over litigation and debt, as well as post-Valeant angst over specialty drugmakers, conspired to drive the stock down over the following year. Ultimately, Campanelli replaced De Silva. "We said from Day One, we're not fixing this in 12 months," Campanelli says.

"I don't think these state AGs are going to make Endo go out of business"

Another hangover from the De Silva era is Endo's testosterone litigation. The company faces about 1,300 patient suits claiming its testosterone-boosting gels caused fatal heart attacks in some users. How those suits might fare remains uncertain. Two federal court juries in Chicago last year held AbbVie Inc. responsible for injuries suffered by men taking its AndroGel testosterone booster—a product similar to Endo's—and awarded a total of $290 million in damages. But one of those verdicts was later thrown out by a judge. In November, Endo's Auxilium unit won the first case to come to trial over its Testim testosterone gel.

Still, Endo's problems could get worse. The company is likely to face many more Opana suits before any settlement is reached, says Richard Ausness, a University of Kentucky law professor, and Endo may be forced to take extreme measures to pay them out. It could adopt the playbook used by companies sued for selling asbestos-laced products in the 1980s and 1990s by setting up a bankruptcy trust to resolve opioid cases, according to Ausness. That would allow the company to hold down settlement amounts, he says.

"Their debt numbers look terrible. And when you factor in the thousands of opioid suits they may wind up facing, they may have no choice but to ask the bankruptcy courts to help them dispose of those cases," he says.

Campanelli has heard the B-word before. "The use of the word 'bankruptcy'—it's not something that we're contemplating at this point in time," he says. "We're looking to collaborate to deal with the opioid situation. If we ever got to that process, and I'm not saying that we're thinking of it, it would be years and years before we would be addressing it."

It's also possible that any opioid manufacturer settlement could be structured in such a way that Endo doesn't end up underwater. "There could be some giant master settlement—it would just make life that much more difficult for Endo, but I don't think these state AGs are going to make Endo go out of business," says Gabelli's Kedra.

Despite the financial and legal clouds, Endo officials say they're concentrating on expanding the business and working on new injectable drugs. The company is also developing one of its key products, Xiaflex, which is used to treat a hand deformity and curvature of the penis, for new uses such as improving the appearance of cellulite. Cosmetic drugs, such as Allergan Plc's Botox, have turned into powerhouses for pharma companies, and Campanelli has been praising Xiaflex's prospects. "It fits the model of the new Endo," he says. Campanelli, however, still has plenty of problems from the old Endo to fix first. *—Cynthia Koons and Jef Feeley*

THE BOTTOM LINE Generic drugmaker Endo has agreed to pay billions of dollars in settlements for vaginal mesh suits—and possibly faces much more for testosterone and opioid claims.

China's Liquor Giant Needs More Booze

● Moutai, the world's most highly valued distiller, can't make enough of its fiery spirits

You know you're in Maotai when you smell it. The picturesque town of about 100,000 in southwestern China is home to the world's most valuable liquor company—and the soy sauce-like scent of the Chinese grain alcohol *baijiu* made by Kweichow Moutai Co. permeates the main street. But inside the liquor stores along the road, the distiller's main brands are sold out. Lines form wherever bottles are available. The buying frenzy and resulting inventory shortages extend nationwide.

▲ Arranging bottles at Kweichow Moutai's factory in Renhuai

◀ Grain is prepared at the company's distillery in Guizhou

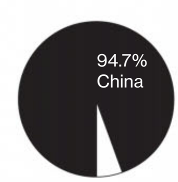
QILAI SHEN/BLOOMBERG; DATA: COMPILED BY BLOOMBERG

Moutai baijiu's fiery flavor and potential to appreciate in price are driving the insatiable thirst. Demand has pushed the company's market value to more than $145 billion, well past that of British whiskey giant Diageo Plc, owner of such popular brands as Johnnie Walker and Smirnoff. The Chinese company sells each bottle of its main Flying Fairy brand to distributors for 969 yuan ($150) and sets a suggested resale ceiling of 1,499 yuan, yet they routinely go for double that online and off. Its website is out of stock. On Chinese e-commerce site JD.com, a 500 milliliter bottle of 80-year-old Flying Fairy is listed for 207,999 yuan.

Chinese buyers say they like Moutai's baijiu for its complex flavor and a purity that prevents hangovers—but the company's special manufacturing process also puts limits on production. The grain and water used to make it must come from Maotai, and the brew must be buried in urns for at least four years before it's sold.

All that gives Moutai's chairman, Yuan Renguo, the difficult task of sustaining growth even as his company literally runs out of liquor. He says the answer will lie partly in introducing more ultrapremium and ▶

● Moutai's 2016 revenue



◀ customized products that capitalize on the brand.

"Two thousand years ago, the Chinese calling card was lions, 1,000 years ago it was Chinese porcelain, 500 years ago it was tea leaves, and now it's local brands with their own intellectual property," Yuan says. "I believe Moutai is one of these."

Baijiu, which means white liquor, can be made from sorghum, rice, wheat, or corn, and may contain as much as 53 percent alcohol by volume. While few outside China buy the liquor, Moutai baijiu is baked into national myth as the drink of choice for Communist Party leaders. It's what Mao Zedong and his comrades used to toast the founding of the People's Republic in 1949. Just four years ago, the distiller was battling a slowdown as an austerity drive in Beijing slashed demand from government officials, who had been buying up bottles for banquets and as gifts for one another. But purchases by ordinary Chinese have more than compensated since then.

Yuan wants to sell more customized bottles, such as the HK$6,000 ($767) ones with the company's label that were created exclusively for a Macau operator of gambling junkets for high rollers. He's added more limited-edition bottles, such as the ones created for the 70th anniversary of China's World War II victory over Japan. Those are listed for 1,999 yuan on the company's website, though they're also sold out. Then there's the opportunity to sell higher-priced "mature baijiu"—the older the baijiu, the more expensive (and profitable) it is. "Since sales volume will stay constant next year, we think we can maintain revenue growth through this strategy," Yuan says, referring to the more premium products. Moutai expects its as-yet-unreported revenue to exceed 60 billion yuan for 2017 and to rise more than 10 percent in 2018.

Yuan, who has worked at the company for four decades, is also attempting to increase production. But he says that, based on the land Moutai controls, it won't be able to produce more than 60,000 metric tons of its baijiu annually. While that is about 41 percent more than the 42,700 metric tons the company estimates it produced in 2017, the numbers suggest a likely cap on expansion.

Analysts at Sanford C. Bernstein & Co. estimate Moutai will have to limit its annual supply growth to 4 percent for the next three to five years to be able to sell the Flying Fairy brand sustainably, without using up too much of its stores of aging liquor. They estimate Moutai boosted supply of Flying Fairy by 38 percent in 2017, implying it borrowed from the future to deliver a short-term result. "Continuing this pace of depletion is not sustainable," says Bernstein analyst Euan McLeish.

To keep the company growing, Yuan is expanding Moutai's finance business deeper

▼ Steamed sorghum is spread before fermentation

into insurance and asset management. He's also weighing public listings of three units: its e-commerce business, an agricultural arm, and one that sells its less-expensive baijiu, known as Xijiu, or Xi Liquor. Still, the surest way to lift revenue is to boost prices on its core brands. An 18 percent increase announced in December lifted Moutai shares more than 8 percent.

Beijing puts restrictions on the prices of high-end liquor, and Moutai, as a state-controlled enterprise, is expected to display a certain public spirit. So relying too heavily on price boosts for its core brands isn't sustainable. The company has said it's asked subsidiaries to keep prices stable and told retailers to prevent hoarding.

As a hugely profitable business in Guizhou, one of China's poorest provinces, Moutai—which is sitting on a massive cash pile of more than 69 billion yuan—also is expected to show a sense of social responsibility. So even as businesses around the country embrace automation, its factory floor remains deliberately manpower-heavy. The ribbons on each Moutai bottle, for example, are still tied by hand. The liquor giant also just opened a nonprofit school, Moutai University, the first in China to offer baijiu distillation as its core degree, to create even more experts on the production of the luxury drink. Wu Yuanjian, 20, who recently enrolled, sees a distillation degree as a ticket into a hot business. "I want to join the sales department of Moutai, actually," he says. "You can make more money there."

Such widespread faith across China about the company's long-term prospects has handed Yuan another difficult balancing act: managing investor expectations. During 2017, Goldman Sachs Group Inc. upgraded its price recommendation on Moutai's shares 14 times, data compiled by Bloomberg show, and other analysts also issued bullish views. Currently there are 26 analysts with buy ratings, three with hold ratings, and no sell recommendations.

Tamping down such enthusiasm is proving difficult. As Moutai's stock price surged last year, the state-owned Xinhua News Agency urged investors to be more cautious, saying the shares should rise at a slower pace. The company issued its own statement saying analysts' stock price targets and valuations in the market were "overly high." After a brief decline, however, shares resumed their ascent. They ended about 109 percent higher for all of 2017. —*Rachel Chang and Daniela Wei*

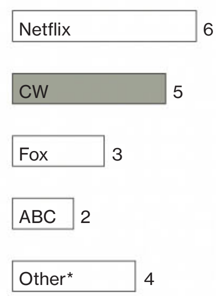
THE BOTTOM LINE Mao Zedong toasted the founding of the People's Republic of China with Kweichow Moutai's baijiu liquor. Decades later, the company can't meet demand for the quaff.

Television | Superheroes

Nearly two dozen superhero shows are on the air via TV, cable, or streaming services. Unlike in movies, Disney's Marvel hasn't conquered rival DC Comics.
—*Christopher Palmeri*

A Crowded Field

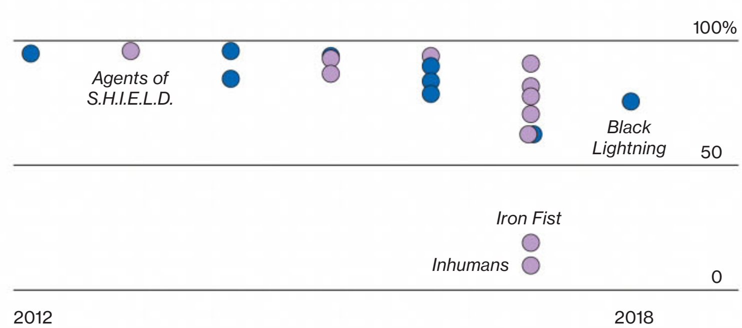
Marvel and DC Comics superhero television shows, by network



Not all superheroes are winners. Marvel's *Inhumans* launched on ABC in September with a former *Game of Thrones* star and big-time special effects. It was a critical and ratings flop.

CW Network, with two full nights of prime time devoted to superheroes—including *Black Lightning* (above)—has shifted its viewers from 70 percent female to half male.

Rotten Tomatoes scores** of television shows based on superhero comics



While older series such as the CW's *Arrow* and ABC's *Agents of S.H.I.E.L.D.* have won high praise from critics on Rotten Tomatoes, newer shows have drawn more mixed reviews.

The Real Attraction

Superhero shows draw a young, male audience that's hard for advertisers to reach outside of sports programming, says the OMD media agency's chief video buyer, Chris Geraci. Because they're based on existing comic characters and can be cross-promoted with other related series, "you sort of have a built-in audience," he says.

MOUTAI: QILAI SHEN/BLOOMBERG. BLACK LIGHTNING: COURTESY THE CW. *AMC, FX, HULU, AND NBC. **SCORES AS OF JAN. 19, 2018; CHARTS DO NOT INCLUDE CANCELED SHOWS, SHOWS IN DEVELOPMENT, OR THE CW'S IZOMBIE, WHOSE PROTAGONIST IS UNDEAD. DATA: ROTTEN TOMATOES

YouTube Tries to Think of the Children

A walled garden for the video site's advertisers makes things tougher for amateur creators

You know things are bad when the engineers show up in suits.

In early January, YouTube's technical chiefs dressed up to meet privately in Las Vegas with several prominent ad agencies. The Google executives in charge of YouTube's ad sales had arranged the meetings to assure advertisers the video site was working to get its problems under control. Months of outrage had followed reports that YouTube had let terrorist leaders continue to post recruiting videos and aired the juvenile blunders of young stars PewDiePie (who cracked anti-Semitic jokes) and Logan Paul (who filmed the corpse of an apparent suicide). The bigger problem for advertisers: bewildering, sometimes grotesque videos appearing on YouTube's dedicated channel for children. Think young kids being force-fed or a knockoff of a popular cartoon pig being tortured in a dentist's chair.

Google's solution was to safeguard a tiny slice of YouTube, one sanitized for marketers, with every video vetted by human moderators. The rest of the familiar YouTube free-for-all would have far fewer channels running ads. Advertisers would have less reason to worry that their pitches might run ahead of Nazi humor or child exploitation. "The human review is fantastic," says Jon Anselmo, chief digital officer with ad giant Omnicom Media Group. "The devil will be in the details."

YouTube has pledged to hire 10,000 people to root out inappropriate clips and train computers to do the same, and it will beef up the rating system for advertisers paying for its Google Preferred premium package. A second tier of YouTube creators will still be allowed to run ads and get a piece of that revenue, but newbies will have to prove themselves. Other details remain elusive. YouTube said in a statement that it aims to "curb bad actors, stabilize creator revenue, and provide greater assurances to advertisers."

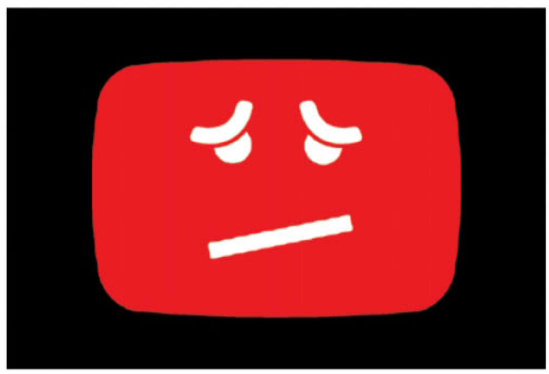


ILLUSTRATION BY KURT WOERPEL

The creation of this walled garden marks a big change for YouTube, which has always presented itself as a playground where any video creator can become popular enough to make a living. Cutting up-and-coming creators out of its ad revenue may threaten its ability to attract and retain talented ones. The shift underlined how eager YouTube is to win back advertisers that have boycotted in the wake of one debacle or another. Royal Bank of Canada estimated that a first wave of defections last year cost the $10 billion site $750 million.

"While there's still more to be done, we're encouraged by YouTube's efforts to fix their brand safety issues," says Marc Pritchard, chief brand officer for Procter & Gamble Co., which previously slashed its ad spending. "This is important, and they're on it." Other ad buyers remain skeptical of the sanitized version. YouTube has never been diligent about purging unseemly content from its site, says one marketing chief who didn't want to be named, so why should anyone take this bit of crisis PR seriously?

With its new restrictions in place, of course, YouTube will have fewer videos to sell ads against, meaning it will likely charge more for each spot. Now no creator with fewer than 1,000 subscribers will even be allowed to run ads on their videos. ▶

◀ When Google announced the changes in mid-January, it said 99 percent of the affected video channels earn less than $100 a year. That didn't soothe many creators, some of whom were already furious when YouTube cut some videos it deemed risqué out of its ad network last summer. "Every time I'm so close to a goal and I'm so close to something @YouTube changes the rules and literally knocks me down," tweeted Tianna Ouellette, a YouTuber who posts makeup and beauty videos.

A few YouTube stars, including Philip DeFranco (6 million subscribers), advised lesser-known video makers to seek donations from viewers on platforms such as Patreon. Phillip Huynh, a director at ad agency 360i, says he expects aspiring YouTube "influencers"—online entertainers with a large, typically young following—to start spending more time on other sites. "You have to be on YouTube, but they won't go all-in," he says.

The first true test for YouTube will come in the spring with the NewFronts, the digital equivalent of the upfronts, an annual gathering where TV networks pitch shows to advertisers. In 2012 at the first NewFronts, YouTube "was the only show in town," says Omnicom's Anselmo. Now, if they don't like what they see, advertisers, like the video makers, have other options. —*Mark Bergen and Lucas Shaw*

THE BOTTOM LINE YouTube is trying harder than usual to win back advertisers turned off by its string of scandals, even at the risk of alienating aspiring video makers.

A Cheaper Way to Tap The Sun

● Even before Trump's tariffs, a U.S. panel maker underpriced Chinese rivals

A year ago, First Solar Inc.'s future looked uncertain. Deeply underpriced by a string of Chinese competitors, the Tempe, Ariz., maker of solar panels laid off hundreds of workers, sold equipment, and shut down its factory on the outskirts of Toledo, its only one in the U.S., as it prepared to gut and remodel the place. That last move, however, has paid off.

The Ohio plant has been reborn as an almost fully automated operation, daily churning out hundreds of solar panels for a fraction of what it costs rivals to make them. The secret: supersize panels made with cadmium telluride, an energy-absorbing metal compound that First Solar engineers figured out how to spray on glass sheets in a thin film. First Solar invested more than $1 billion in researching and developing the cad-tel spray over the course of two decades. Its success upended the business of solar panel production even before the Trump administration announced tariffs on overseas solar hardware on Jan. 22.

Early in the plant renovation process, "when I first saw that empty factory floor, my heart sank," Chief Executive Officer Mark Widmar recalls. He was unsure the automation would pay off. "I thought, What have we done? But we're now in a better competitive position than ever."

Today a visitor to the factory, which reopened in December, looks out over a line of robotic arms guiding sheets of specialized conductive glass onto rollers that snake 3 miles through cleaning, grinding, and spraying machines. A final robot grabs the completed panel, about the size of a large flatscreen TV, and places it in a box for shipment. There are just a few dozen workers scattered about; before the renovation, there were hundreds. The company acknowledges that it's cut jobs, but it says the ones that remain are safer and pay better.

First Solar's patented handful of steps takes just three and a half hours, compared with the three days the leading Chinese solar companies need to make similar-size silicon panels. The conventional process requires more than 100 steps, including fabricating silicon ingots in a furnace, shaving them into wafers, wiring on metal contacts to make cells, and assembling 60 or so of those cells.

● The cost of R&D for First Solar's cad-tel spray

$1b

The panels coming off the new line in Ohio are triple the size of First Solar's previous model and produce 244 percent more power at a manufacturing cost of as little as 20¢ per watt, about 30 percent less than the cheapest Chinese equivalent. The advantage widens in hot, humid, and low-light conditions. "They have a great new product and a significant cost advantage for at least a couple years," says Jay Rhame, a portfolio manager at Reaves Asset Management, which has invested in First Solar.

Using cad-tel for solar energy dates to the 1950s, and companies including General Electric, Kodak, and BP worked on the technology before abandoning it. In the 1990s, First Solar founder Harold McMaster came up with a method for spraying a liquid form of the compound onto sheets of glass. He later sold the company to John Walton, a son

▲ First Solar's robots can make a panel in three and a half hours

COURTESY FIRST SOLAR

of Walmart Inc. founder Sam Walton. The Walton family remains First Solar's largest shareholder.

First Solar was the leading supplier of solar panels a decade ago, but it struggled to make them big enough, or quickly enough, to compete once Chinese companies entered the market in earnest. The new entrants' cheap labor and economies of scale, combined with an 83 percent drop in the cost of silicon, allowed them to slash prices and wipe out much of the U.S. industry. (Remember Solyndra?) First Solar was one of the few survivors, thanks to federally funded contracts in California.

In the past few years, automation has proven the key to success, advancing enough to make bigger cad-tel panels. "Cad-tel is by far the best semiconductor for solar," says Raffi Garabedian, First Solar's chief technology officer. "It's just 3 microns thick, and it's black, so it absorbs all the light."

CEO Widmar has committed an additional $1.4 billion over the next two years to expand production at two new factories in Vietnam and to retrofit four others the company runs in Malaysia. Those factories are exempt from Trump's tariffs, giving the company a further advantage. Wall Street has taken note: While solar stocks have typically remained flat at best over the past year, First Solar shares have more than doubled.

Beyond the short term, though, First Solar will be depending on the success of its Asian plants. It will also have to continue spending to keep pace with further advances. Researchers worldwide are working on a new ultracheap semiconductive material based on perovskites, natural crystals that are easily replicated in labs. In nature, these crystals tend to degrade when exposed to sunlight, but if they could be stabilized, panel makers could leapfrog cad-tel, says Ben Kallo, an analyst at Robert W. Baird & Co. China remains a threat, says Rhame of Reaves Asset Management: "We don't know when their next breakthrough will come." —*Christopher Martin*

THE BOTTOM LINE Some of its jobs are gone for good, but in the space of a year, materials science has made First Solar an industry leader again. It still has to keep an eye on China.

Nigerians Battle Bitcoin Scams

● The country's embrace of the cryptocurrency yields some old-school fraud protections

Depending on your feelings about Bitcoin, it may seem appropriate that Nigeria's love for the cryptocurrency began with a scam. Mavrodi Mondial Moneybox (MMM), a 30-year-long global Ponzi scheme that began in Russia, roped in millions of Nigerians from late 2015 to the end of 2016 with promises of 30 percent returns in as little as 30 days. When the government began to crack down on bank accounts linked to the scheme, MMM's operators cut the banks out and started requiring victims to use Bitcoin. By the time MMM suspended its payouts, shortly before Christmas 2016, it had robbed an estimated ▶

"A lot of people have had their fingers burned"

◀ 3 million people in Nigeria—where the per capita annual income is less than $3,000—of $50 million.

It had also convinced many of them that, the scam notwithstanding, Bitcoin was the future. "It was MMM that made Nigerians understand how Bitcoin worked," says Lucky Uwakwe, co-founder of Blockchain Solutions Ltd., a cryptocurrency consulting firm in Lagos. Today, Nigerians are trading about $4.7 million in Bitcoin a week, Uwakwe says, up from about $300,000 per week a year ago. That's No. 23 globally, according to researcher CryptoCompare—far below the more than $1 billion traded daily in U.S. dollars or Japanese yen, but comparable with the volume of activity in Chinese yuan or Indian rupees. "The growth has been crazy," says David Ajala, who runs NairaEx, one of about a dozen digital currency exchanges in Nigeria. "It took us two years to get 10,000 customers. Within the last year, we've added 90,000."

The scams have kept pace. Phony traders have flooded Nigeria's cryptocurrency exchanges, messaging apps, and even the streets of Lagos and other cities, promising people fast money and disappearing once they've taken theirs. "A lot of people have had their fingers burned," says Adeolu Fadele, founder of the Cryptographic Development Initiative of Nigeria, a group that aims to educate regulators and the public about digital currency.

The scams follow a pattern familiar to anyone who's ever received a message from a supposedly beleaguered Nigerian prince: The target is asked to wire over naira, the local currency, in exchange for Bitcoin. In some cases the scammer uses the name and photo of a real dealer and creates a trading profile on a local exchange that's good enough to pass a cursory background check, a technique known as cloning. Others will make an offer not of Bitcoin, but of "billion coin" or some other nonexistent cryptocurrency. "Everybody I know has been scammed in one way or another," says Bashir Aminu, a digital-security expert and Bitcoin enthusiast in Lagos.

So Nigeria, unlike other Bitcoin hubs, has begun to develop informal groups of traders who take an old-school approach to verifying transactions. After several friends of Aminu's lost thousands of dollars to scammers between them, they set up an informal exchange on the messaging app Telegram, trading among themselves. When other friends sought to join the group, Aminu would review their identification and banking documents—comparing passports and papers with the faces in front of him. Sometimes he'd even act as a trusted broker, holding a buyer's money in escrow until the seller came through with the Bitcoin transfer. Over the past year, he says, his group has grown to almost 800 members. There are dozens of similar networks, Aminu says, with varying degrees of security procedures. Some arrange face-to-face meetings in homes, the backs of small shops, and other private places, where a buyer hands over hard cash and watches the seller make the Bitcoin transfer on a smartphone.

This sort of facilitator is essentially a digital *aboki*, the kind of black-market money-changer who lurks outside high-end Nigerian hotels to swap plastic sacks full of weather-beaten naira for stacks of $100 bills and euros. As these informal Bitcoin-centric networks grow and multiply, Aminu says, they're increasingly populated by people who trade digital currency as a full-time occupation. Because of all this informal trading, the size of Nigeria's market is probably much bigger than what the public exchanges report, says Uwakwe, the consultant.

▲ Oluwadola, a cryptocurrency peddler in the northern desert city of Kano, sits in the hotel lobby where he often does business

TIM MCDONNELL/BLOOMBERG

Aminu says the occasional scammer still sneaks into his Telegram network, and he recently booted more than 100 people he deemed untrustworthy. For many, the potential profit is too good to pass up, says "Ambassador" Smart Oluwadola, a cryptocurrency peddler in Kano, a desert city in the north. In August a friend persuaded Oluwadola to ditch a job hawking health supplements for a suspiciously pyramidal Philippine "business club" and buy a couple hundred dollars' worth of Bitcoin. Now he's an evangelist, with thousands of dollars' worth, a local radio ad urging others to buy Bitcoin, and a series of investing seminars at a local hotel. "If you don't take a risk, you can't get anything," he says. "And if it's going to be the future of currency, then you better start now." —*Tim McDonnell*

THE BOTTOM LINE In Nigeria, a growing number of informal networks of professional Bitcoin traders are doing the work of verifying transactions, sometimes in person.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Weedbot

Tertill is a $300 pie-size, waterproof, solar-powered robot designed to roam your garden throughout the growing season, shredding weeds with a miniature weed whacker.

Innovators
Joe Jones and Rory MacKean

Ages: 64 and 39
Chief technology officer and chief executive officer of four-employee Franklin Robotics LLC in Billerica, Mass.

Origin

Jones, co-inventor of the Roomba, and MacKean, a mechanical engineer, met in 2010 while working at agricultural robot maker Harvest Automation Inc. They left in 2015 to start Franklin and develop Tertill.

Funding

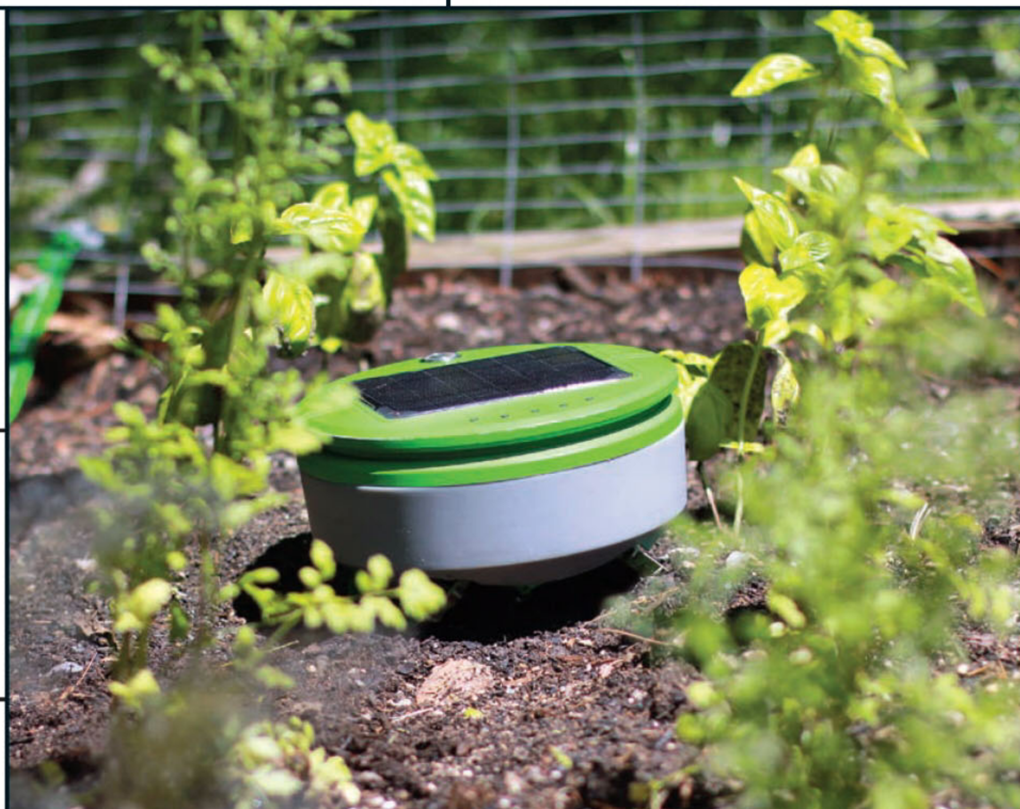
The team has raised about $450,000, mostly from crowdfunding, and is seeking additional investors.

Market

Jones and MacKean are focused on the home market for now, but they envision expanding into landscaping and farming with larger robots.

Rivals

Other, pricier robotic mowers cut down every plant within a preset path, making them unsuitable for gardens.



COURTESY FRANKLIN ROBOTICS

1 Shield

A gardener places protective wickets around the seedlings he or she wants to grow.

2 Sense

When Tertill's shell touches a plant, sensors determine if it's taller than an inch, telling the robot to steer clear. As Tertill runs over smaller plants, sensors underneath activate a string trimmer.

Next Steps

Having completed working prototypes, Franklin plans to ship preorders in May and new orders later in 2018. John Santagate, research director at analyst IDC, says Tertill's utility and low price make it promising. —*Michael Belfiore*

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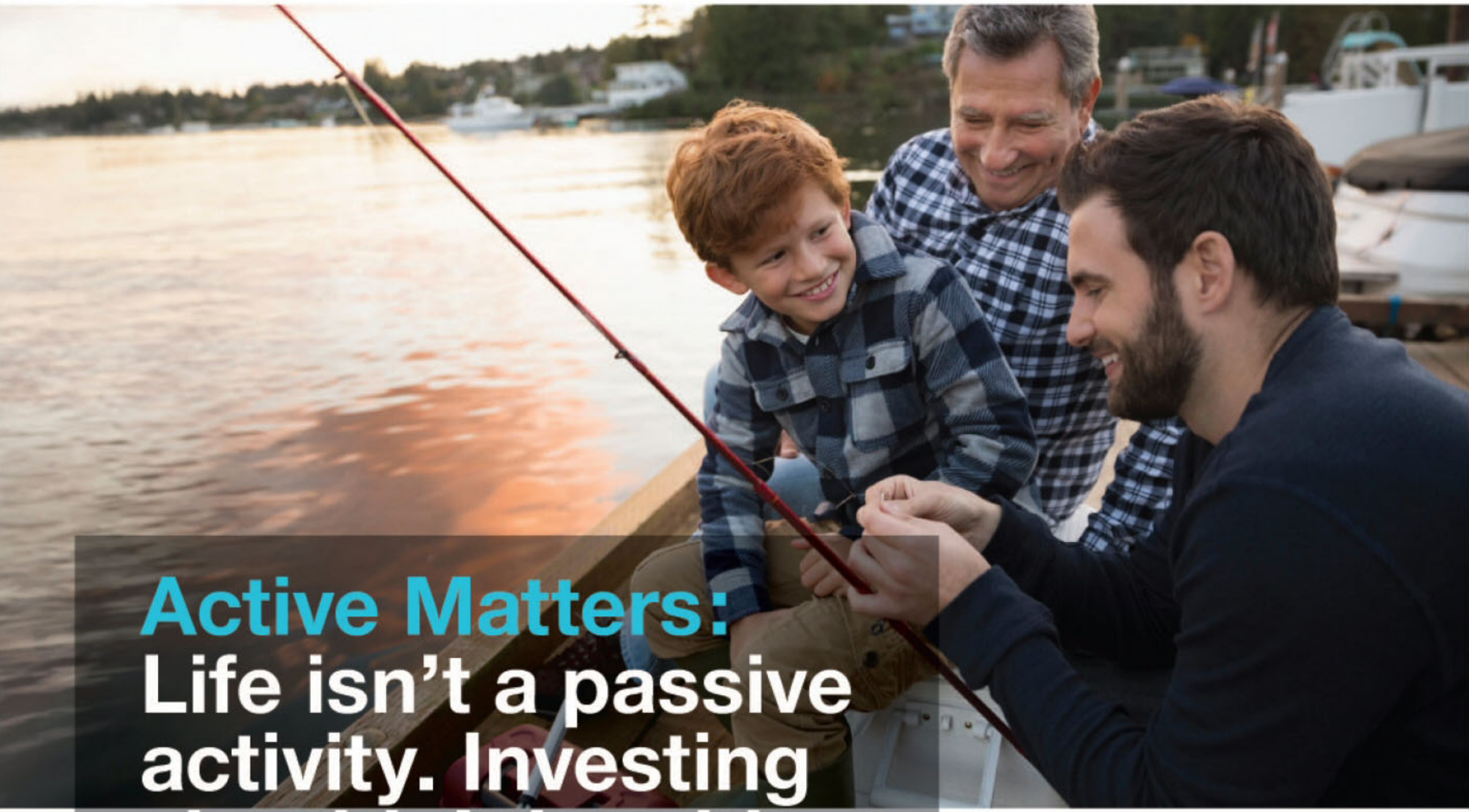


LOOK AHEAD

- The U.S. Internal Revenue Service begins accepting 2017 tax returns on Jan. 29
- Buffalo Wild Wings shareholders vote on whether to be acquired by private equity-owned Arby's
- Switzerland's Dufry is expected to sell shares of Hudson, the airport store chain it owns, in an IPO

All Eyes on Ripple. But What Is It?

● Its plan to create a global payments system for banks got swept up in the crypto craze

Every day, companies and consumers around the world send more than $76 billion in payments through a vast network of banks. Without the flow of money, container ships stay in port, workers don't get paid, and supply chains break down. For the past seven years, Ripple, a tech company in San Francisco, has vowed to use the blockchain wizardry behind Bitcoin to rewire this global circulatory system with what it calls an "internet of value."

That in itself would be a fairly interesting business story. But then Ripple became a part of the great cryptocurrency melt-up of late 2017. The company owns a lot of a digital token called XRP. From late September to early January, XRP saw an astonishing 1,300 percent increase in value, blowing away the gains of rival virtual currencies Bitcoin and Ether and turning its executives into paper billionaires. One rationale for buying XRP is that unlike Bitcoin, the token has one narrowly defined but clearly useful purpose: to help banks move cash from point A to point B faster and more cheaply, especially across borders.

The problem is that banks say they have no interest in using XRP. Current and former executives at seven global banks—some of whom have partnered with Ripple—say there was scant chance they would ever entrust their corporate clients' payments to a cryptocurrency. The executives requested anonymity.

"It's bewildering," says Joseph Lubin, the founder of ConsenSys, a startup that develops applications based on the Ethereum blockchain, the technology used for Ether. "Effectively it's a totally useless token except that it is being used by that company to make a lot of money to fund some of their activities." There are 100 billion of the tokens and, according to Ripple's website, the company holds about 61 billion—with a value of $1.33 each on Jan. 24, or $81.4 billion total. Most are ▶

ILLUSTRATION BY THOMAS COLLIGAN

◀ held in escrow and can be sold only in limited chunks over time to avoid crashing the market. Ripple has sold more than $185 million in XRP since September 2016, according to reports the private company publishes.

Chief Executive Officer Brad Garlinghouse says Ripple is working with more than 100 banks to overhaul the way they handle payments for their clients. "Ripple is trying to be a catalyst to mature a whole industry," he says. "The current system is fraught with friction and is measured by a lack of transparency and speed." There's a difference, however, between Ripple, the company, and XRP, the token. XRP is "absolutely at the core of what Ripple is doing," says Garlinghouse, but at the moment the company's main product, RippleNet, doesn't rely on it.

RippleNet takes on an entrenched competitor, the Brussels-based Society for Worldwide Interbank Financial Telecommunication, or Swift, a messaging system that acts like an air traffic control system for money as it moves across the globe. It connects about 11,000 financial companies. "This is a relatively standard David vs. Goliath Silicon Valley story," says Garlinghouse. With trillions of dollars of asset flows at stake, the competition between the two companies is fierce.

Ripple set out in 2012 to create a streamlined, decentralized payments system using technology inspired by the blockchain. From the outset, it hoped XRP would be an important part of it. For example, the token could be used as a bridge currency—pesos in Mexico City could become XRP, which could then be turned into baht in Bangkok. Having a lingua franca of payment could help banks avoid the hassle and expense of tying up money in different currencies in accounts at other banks.

Banks, however, balked at XRP. They said there was no way they could use an instrument that regulators may never approve, according to an executive in the cross-border payment industry familiar with Ripple's business. Moreover, the real power in the cross-border payment system wasn't banks but the big companies that used it for their cash needs around the world. A corporate treasurer for a Fortune 500 company wasn't going to tell its bank to use a startup with a digital currency, the person says.

So Ripple pivoted away from XRP and focused on RippleNet, which is similar to Swift in that it's primarily a messaging system that tells banks where to send the money. It also has a service that helps banks settle transactions.

Ripple has signed a lot of banks onto its network and sold equity stakes in itself to Standard Chartered Plc and Banco Santander SA. Influential names from Wall Street such as Zoe Cruz, the onetime co-president for institutional securities and wealth management at Morgan Stanley, joined Ripple's board. Of the more than 100 companies, though, Garlinghouse will say only one, Stockholm-based Skandinaviska Enskilda Banken AB, is moving commercial payments over RippleNet. Even investors Standard Chartered and Santander haven't taken the plunge and are only testing the technology.

Which isn't to say it's not working. Santander's U.K. division has been testing an app that uses Ripple technology to send payments internationally from mobile phone apps in just a few seconds. In November, Standard Chartered started a program to send payments between Singapore and India for its corporate clients. Even though neither bank plans to use XRP in these projects, both are optimistic about Ripple's technology.

Ripple isn't the only company trying to innovate payments. Earthport Plc, a London company that manages a payment network in 65 countries used by TransferWise Inc. and other customers, has been steadily building volume. Nor is Swift taking the challenge lying down. It recently rolled out its own major upgrade called Global Payments Innovation, or GPI. It allows banks' corporate customers to make payments in a couple of hours and to track transactions on their journeys the same way FedEx Corp. customers can. "This is a giant leap forward," says Harry Newman, head of banking at Swift. "Is there another giant leap that someone else has made? I don't think so."

Shirish Wadivkar, the global head of correspondent banking products and transaction banking at Standard Chartered, says RippleNet was one of the first entrants to make payments traceable across a network. But GPI does this, too.

As a consortium owned and managed by the world's banks, Swift has a home-field advantage. The one-year-old GPI system, which uses cloud computing but not blockchain, already has 36 banks using it to make more than $1 billion in cross-border payments. Ripple's Garlinghouse says comparing GPI to his company's offerings is like racing a horse and buggy against a car. "What GPI is basically trying to do is use the existing architecture to try to make it go faster," he says. "And can you whip a horse faster to make it go as fast as an automobile?"

As for XRP, it's been used by at least one financial company. Cuallix is a credit and payments processing provider based in the U.S. and Mexico. Since October it's used XRP in 10 to 12

● Garlinghouse

● Value of XRPs Ripple is holding

$81.4b

transactions to send money between the two countries, says Nicolas Palacios, the company's chief financial officer. Each of those has averaged from $500 to $1,000, he says. On Jan. 11, Ripple announced that MoneyGram International Inc. would begin testing the currency for sending remittances. Two more remittance companies have signed on to test XRP since.

XRP has fallen 54 percent from $2.92 in early January. Swift's Newman says such volatility is bound to turn off bankers and their clients. "If the value of a cryptocurrency is going up and down like a yo-yo, this isn't a serious medium of exchange," he says. "It adds unnecessary complexity. The solution is worse than the problem." Garlinghouse says XRP's first adopters won't be big banks, but companies sending money in less common currencies.

The subtleties of the global bank payment system may be lost on traders who just want to get in on anything crypto. "It's important for investors to be aware of the qualitative differences between XRP and other cryptocurrencies," says Angela Walch, a research fellow at the Centre for Blockchain Technologies at University College London. Among them: Ripple's outsize role in XRP.

Ibrahim Alkurd, a university student in Wales, scooped up some XRP at under $1 in December after he heard rumors it would be listed on Coinbase, the big U.S. exchange. That didn't happen, but Alkurd also liked that Ripple had partnerships with banks. The likelihood of XRP "doubling or more when it was at 30¢ was far more probable than Bitcoin doubling," he says. Michael Jackson, a partner at Luxembourg-based Mangrove Capital Partners and a cryptocurrency investor, has a different take on XRP's rise: "I haven't found anyone who gets it." —*Matthew Leising and Edward Robinson*

THE BOTTOM LINE Ripple wants to change how banks move money around the world. That may or may not have anything to do with the digital currency XRP.

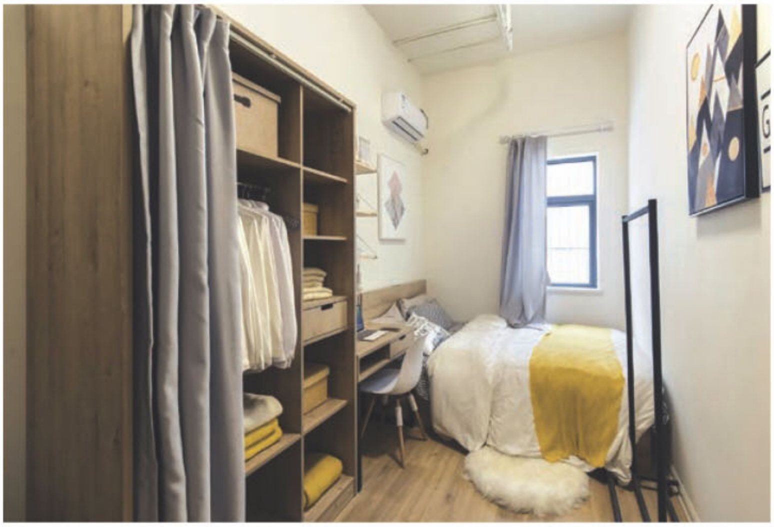
To Pay Rent Is Glorious

● China's government wants to make it easier to put off buying a home

China began to allow private homeownership only in 1998, setting the stage for an historic urban land rush. Now the government is trying to engineer a different kind of transformation: getting more people to rent.

After a public outcry against spiraling housing costs, President Xi Jinping used the milestone 19th Party Congress in October to pledge that the nation will make rentals as important as purchases. City governments from Beijing to Shanghai have earmarked public land to auction to property companies that would develop rental projects only. Developers including Country Garden Holdings Co. have announced plans to build millions of rental units. State-controlled banks are offering large credit lines to developers for financing such projects, and the Shanghai Stock Exchange is encouraging the creation of investment products similar to real estate investment trusts, backed by rental income.

"The push for rental properties shows a new model is starting to emerge," says Shen Jianguang, chief Asia economist at Mizuho Securities Asia Ltd.



▲ A rental apartment in Shanghai

in Hong Kong. It would be something in between the capitalist frenzy that's seen Beijing come to rival Hong Kong, the world's priciest city, for hard-to-afford housing, and the previous communist system where dwellings were allocated by work units. Other measures to calm the market, including a ▶

GARLINGHOUSE: COURTESY RIPPLE. APARTMENT: QILAI SHEN/BLOOMBERG

◀ long-awaited property tax, are poised to unfold over the next several years.

For a development on the outskirts of Shanghai, China Vanke Co. is targeting millennials. Monthly rents for one-room apartments start at $400—not bad by local standards. Rooms range from 161 square feet to 215 square feet. The complex, in a neighborhood dotted with office buildings and car manufacturers, offers dormitory-style common areas, an indoor gym, and vending machines for food and drinks. Some 95 percent of 395 units offered in the initial phases have been rented, mostly to people born after 1985, says Yan Yong, Vanke's Shanghai head for rental business.

In big cities around the world, renting isn't unusual for young people getting a foothold. But in China, people buy young: The average age to buy a starter home is about 30, according to China Securities Co., compared with 33 in the U.S. and 39 in Japan. Homeownership rates in China are among the highest in the world. Parents often help their sons buy a place as a prerequisite for marriage. Rentals, meanwhile, have been a hard sell, in part because of limited tenant rights and the low quality of much of the stock, with some units lacking bathrooms and kitchens.

Vanke's rental projects in Shanghai have broken even. The returns so far haven't been "satisfying," says Yan, who expects future demand to be unleashed as policies become more supportive. In theory, a thriving rental sector would help stabilize the housing market and defuse the risks from "irrational" home prices, says Deng Yongheng, of the University of Wisconsin School of Business. He helped carry out a study that showed a 1,538 percent gain in land prices in Beijing from 2004 to 2016. Price surges, followed by short-lived declines, have reinforced a mindset that property is a bet that always wins.

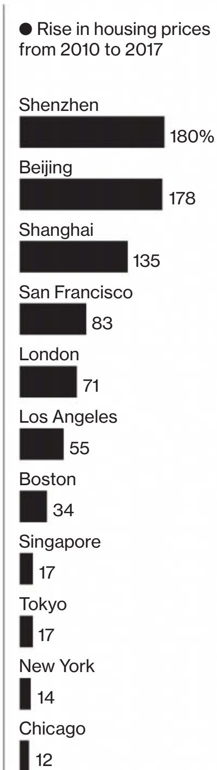
Even if the new policies can help change that thinking, challenges abound. China's leaders have to tame the market without causing home prices to tank and triggering big property-related losses in financial markets. They'll have to balance other factors, such as a glut of unsold homes in some of the nation's smaller cities and lower rates of population growth. And officials will need to drop an old habit of letting prices boom whenever the economy needs a boost.

Still, government backing could help drive annual rental payments to 4.2 trillion yuan ($657 billion) by 2030, almost half of total home sales in 2017, according to estimates from Orient Securities Co. Shanghai has allocated 42.5 million square meters of land for rental homes through 2020, more than for owner-occupied housing. The city of Beijing kicked off a trial of housing owned jointly by the state and private individuals. About 30 percent of new supply in the capital will be designated for rentals by 2021. Office buildings, malls, and factories will be converted to rental units.

To lure tenants to rental projects, the state lender China Construction Bank Corp. devised a "rent loan" in Shenzhen to assist with rent payments. Without collateral, apartment tenants can borrow as much as 1 million yuan for as long as a decade, with interest rates lower than mortgages, according to *Caixin* magazine.

Analysts say it could take years for the changes to take hold in the market, but some point to the resolve of Xi, perhaps China's most powerful leader since Mao Zedong. "When Xi started his antigraft campaign years ago, people didn't expect it to be so powerful, but it proved to be beyond imagination," Mizuho's Shen says. "Now, most people still hold the belief that home prices will never fall, and speculation is rampant. That's one place where Xi hasn't succeeded. And that means policy execution will be heavier until his goal is achieved." —*Bloomberg News*

THE BOTTOM LINE In a country with one of the world's highest rates of homeownership, a shift to rental housing is seen as a way to temper rising real estate prices.



Putting a Grade on Climate Risk

● Bondholders want credit raters to tell them more about environmental risk

Hurricane Maria was devastating for the residents of Puerto Rico. It hurt debt investors, too. Some of the island's bonds plunged more than 40 percent after the storm flooded the island, knocked out its electric power, and clobbered its economy.

Now bond rating agencies such as Moody's Investors Service and S&P Global Ratings are looking at whether they should be including more disaster forecasting in calculating the grades they give to government debt and to companies in industries

DATA: COMPILED BY BLOOMBERG; PHOTOGRAPH: ALEX WROBLEWSKI/BLOOMBERG ranging from insurance to construction. The agencies have looked at these risks for years and issued reports on them, but in recent months they've been working to integrate this research more into individual ratings. In November, Moody's warned coastal cities and states to address their climate risks or face possible downgrades. A month later it issued a report highlighting 18 small islands, from Fiji to the Bahamas, that were "particularly susceptible to climate change." S&P analysts are working with its insurance practice on climate models and scenario research.

In the U.S., costly natural disasters are becoming more common. The National Oceanic and Atmospheric Administration tallied 16 major, billion dollar-plus storms, fires, and floods in 2017, including Maria and Hurricane Harvey, which devastated Houston. That compares with an average of about six a year since 1980. The weather and climate events wreaked a record $306.2 billion of damages, NOAA said. Companies and governments are feeling the brunt. A Moody's study in 2015 found roughly $9 trillion in rated debt exposed to environmental issues such as pollution, carbon regulation, water shortages, and natural disasters. In a recent review of its research, S&P found 717 cases from mid-2015 to mid-2017 in which environmental and climate concerns were factors in corporate credit ratings, equal to about 10 percent of its research updates, says Michael Wilkins, who heads sustainable finance at S&P. That's more than twice as many cases as in the previous two-year period.

Lower ratings can translate into higher borrowing costs for companies, but environmental changes can also help some businesses. S&P found that when it took a rating action based on a climate issue, 44 percent of the time it was upgrading the bond or issuer. That might happen if, for example, it expected higher revenue for a lithium producer because electric car battery demand is rising.

Investors are pushing ratings firms to give them more of a warning about the risks. "The pressure is really mounting," says Carmen Nuzzo, a former senior economist at Morgan Stanley in London. Nuzzo is leading a ratings project for Principles for Responsible Investment, a United Nations-backed organization that brings investors and other market participants together to talk about systematically incorporating environmental, social, and corporate governance factors into the investment process. More than 130 institutional investors—overseeing a combined $23 trillion—and 14 bond grading companies globally are participating.

Debt investors are still not completely clear as to how thoroughly ratings firms have considered these risks, says Jonathan Bailey, head of environmental, social, and governance investing at asset manager Neuberger Berman Group LLC. "We don't know if they're looking at every power plant and their relationship to rising sea levels, and we don't know if they're looking at rising temperatures and their impact on productivity," Bailey says. "We want it to be clear how it's being done." Ratings firms often have better access to information than fund managers, which puts them in a stronger position to weigh in on these risks or compel the issuer to disclose more, he says.

But ratings firms have previously been slow to pick up on risks. Enron Corp. was one of the largest corporate frauds in U.S. history, but bond raters were far behind equity short sellers in recognizing the company's problems: Moody's, S&P, and Fitch Ratings rated Enron investment-grade until four

◀ After Hurricane Maria in San Juan

days before it filed for bankruptcy. A few years after that, bond graders gave top scores to complicated securities backed by subprime mortgages, which helped inflate the mortgage bubble.

In the case of natural disasters, figuring out the potential damage for individual companies and governments isn't easy. Weather and climate are known to mathematicians as chaotic systems, which means small differences in assumptions can have huge impacts on predicted outcomes. It's often hard to know the cost of a climate shock—and who will bear it—in part because government-backed and private insurance can mitigate losses.

"We don't know if they're looking at every power plant"

Still, it's clear that risks are rising, and borrowers should pay attention to them, says Rahul Ghosh, who heads environmental, social, and governance research at Moody's in London. Disasters themselves can wound borrowers, but government policies concerning carbon emissions, for example, can have a big impact on them, too. "These trends will have pretty disruptive credit impacts," Ghosh says. —*Emily Chasan*

THE BOTTOM LINE Last year, climate and weather events did more than $300 billion of damage in the U.S. Often that risk isn't reflected in debt ratings.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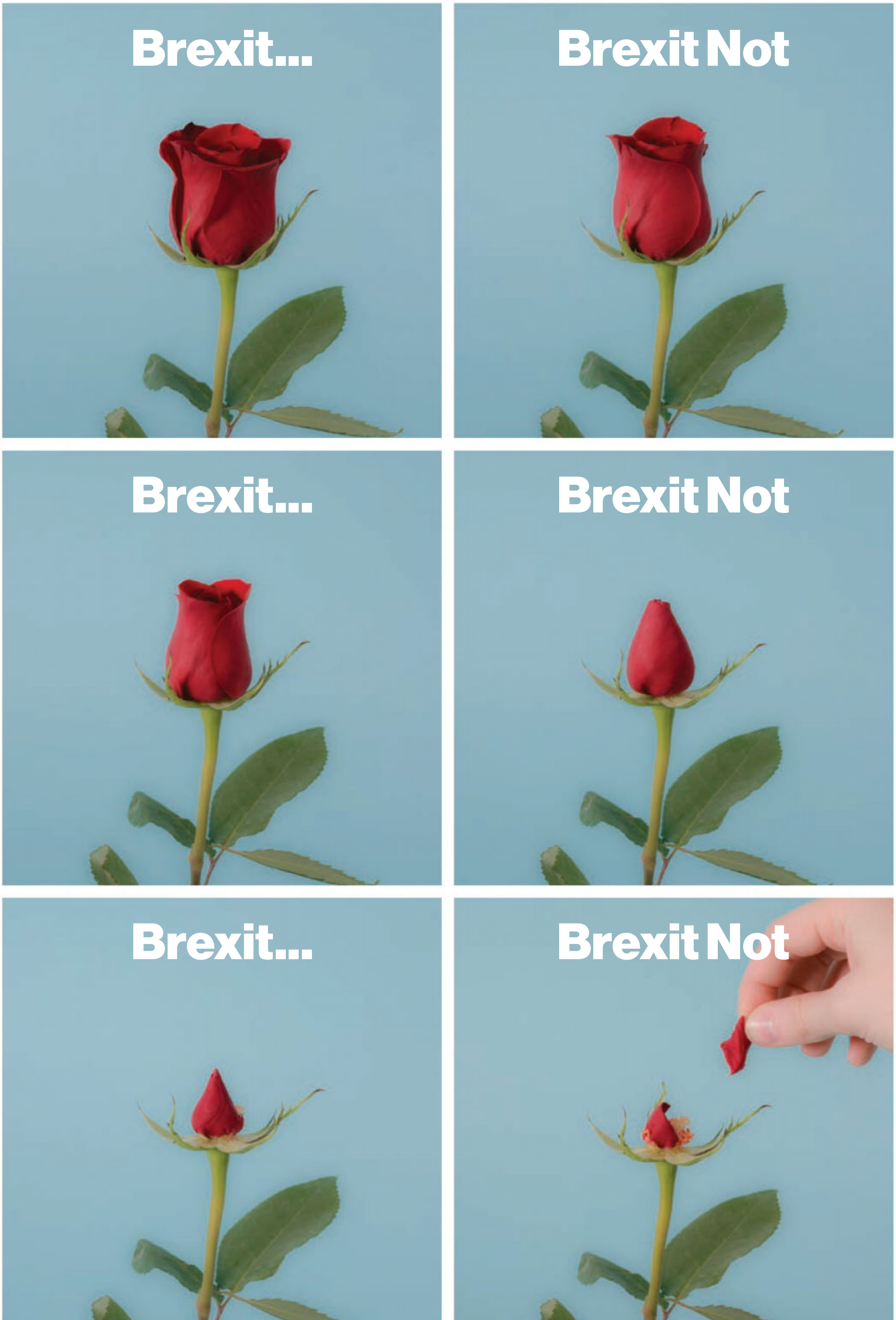
LOOK AHEAD

● Voting in Finland's presidential elections begins on Jan. 28. The incumbent looks like a shoo-in

● On Jan. 30, France, Spain, and Mexico publish fourth-quarter GDP numbers

● Janet Yellen chairs her last meeting of the Fed's rate-setting committee on Jan. 30-31



● As the reality of Brexit becomes clearer, what are the chances that Britain votes again?

PHOTOGRAPHS BY 731

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Edited by Cristina Lindblad and Matthew Philips

Businessweek.com

Nineteen months after Britain voted to leave the European Union, Prime Minister Theresa May still has to assure people that Brexit is really happening. On Jan. 16, Austrian Chancellor Sebastian Kurz asked May directly if Brexit was still on. Then German newspaper *Bild* asked the same question. "*Wir verlassen die EU*," May insisted. "We're leaving the EU."

Brexit is the central, all-consuming policy of May's administration. It has its own government department. She's won all the big Brexit votes in Parliament, although not without the occasional struggle. Still, the feeling, and in some corners the hope, is taking hold that Britain might take it all back in a second referendum. While there are many obstacles to a do-over, it can't be ruled out as the difficulties and costs of Brexit become clearer. Paradoxically, the idea has garnered interest from people on both sides of the debate, as was shown on Jan. 11, when one of the chief campaigners for Brexit, Nigel Farage, former leader of the U.K. Independence Party, said he could see the case for a second vote.

Hanging over everything is the reality that, viewed from across the Channel, Britain doesn't look at all ready for Brexit. In December alone, a deal between Britain and the EU to begin detailed negotiations on trade almost collapsed when it turned out May hadn't gotten key allies on board; her government's secret studies on Brexit turned out to be shallow; and it was revealed that her cabinet had yet to discuss what sort of deal it wanted.

The reason May had until then avoided such discussions is that the government, like the country, remains split on the question. Many of the most senior ministers, including Chancellor of the Exchequer Philip Hammond, have clearly indicated that they believe leaving the EU is a fundamental mistake. For them, the best Brexit would be no Brexit. Given May's unwillingness to say publicly how she'd vote in a future referendum, it's possible she is also in this camp.

On the other side are those such as Foreign Secretary Boris Johnson, who argue that the further Britain gets from the EU, the more it will flourish. Yet even adamant supporters of Brexit are unable to say how they would solve practical issues such as the U.K.'s land border with Ireland. Last summer, EU officials floated the idea that British disorganization was actually an elaborate deception to lull them into a false sense of security. Now they seem to think the chaos is genuine—and a sign that Brexit doesn't mean Brexit. This is a worry for May, whose negotiation strategy depends on being taken seriously. EU diplomats have made clear that the overwhelming priority, more than trade, is the integrity of the union. That's a strong incentive for the EU to make leaving look unpleasant, especially if there's a chance doing so would encourage Britain to do an about-face.

There are precedents in European countries for reversing referendums. The Irish twice rejected EU treaties, in 2001 and 2008, and were asked to think again. The Danes rejected an EU treaty in 1992 only to accept it, with modifications, in 1993. That helps explain why EU Council President Donald Tusk floated the idea that Britain could change its mind. "Our hearts are still open" to Britain, he said on Jan. 16. European Commission President Jean-Claude Juncker echoed the sentiment. These comments have caused frustration in London. "We have been absolutely clear on a number of occasions that we are leaving the European Union," May spokesman James Slack told reporters on Jan. 17. "I'm not sure how much clearer we can be."

Nevertheless, there are those in Britain, including former Prime Minister Tony Blair and former Deputy Prime Minister Nick Clegg, who hope Brexit can be stopped. For them, another vote has an obvious appeal: It takes a referendum to kill a referendum. The problem they face is, if the vote were held again tomorrow, they can't be sure it would go their way. "There is currently little mass support for a second 'in or out' referendum, nor even mass support for a referendum on the terms of the Brexit deal," says Matthew Goodwin, professor of politics at Kent University. Even lawmakers who say Brexit is a mistake argue that they're bound by the result of the referendum. So May's government hasn't said clearly what kind of Brexit it wants, because her ministers can't agree. Nevertheless it's pushing ahead.

"I'm not convinced that the public is absolutely gagging for another Brexit referendum"

After three years of unexpected political developments, it's not difficult to think of ways that a referendum starts to look like the answer to a political deadlock. Opponents of Brexit want a referendum on the final deal that May secures, with a 'no' vote meaning Britain stays in the EU. They say that part of the reason public opinion hasn't shifted is that the prospect of Brexit has failed to cause the predicted economic disaster. Companies are waiting to see what kind of deal May gets before making investment decisions.

Here, the EU may start to help. According to Sam Lowe of the Centre for European Reform, one of the goals of EU negotiators is to push May to explain the reality of Brexit to voters. "The second phase of the withdrawal negotiations, for the EU, is about forcing the U.K. to acknowledge the inherent trade-offs that come with Brexit," says Lowe. "There is a hope that when and if they do come clean, then there will be a moment where the country goes, 'Ah. Do we actually want to do this?' "

Perhaps to head this off, there are increasing signs May could steer toward some sort of Brexit-in-name-only. Brexit Secretary David Davis said on Jan. 24 that the U.K. would stay close to the EU's regulatory regime post-Brexit. It's this prospect that led Farage to propose his own version of a second vote, where the public would be asked to affirm that they really do want to leave the EU, on the hardest terms. He doesn't have the weight to deliver that on his own, but, as with the last Brexit referendum, there's a chance he could get the support of one of the Tories' biggest hitters, Johnson.

The man known universally as "Boris" has recently been making a semi-public push for bigger, bolder ideas from the government. It's definitely possible that he could lead a revolt against May, crying Brexit betrayal. When asked on Jan. 15 about a rematch, Johnson sounded unenthusiastic. "It was something that caused an awful lot of heartache and soul-searching, and everybody went through the wringer on it," he told the *Guardian*. "I'm not convinced that the public is absolutely gagging for another Brexit referendum." But Johnson has shown he's capable of reversing himself. He's looked uncomfortable in the role of foreign secretary. Perhaps what he needs is to reprise his starring role in *Brexit Referendum: The Sequel*. —*Robert Hutton*

THE BOTTOM LINE Theresa May has made public assurances that she's serious about Brexit, yet her cabinet has yet to formulate a plan, raising questions of a second referendum.

Wanted in the Philippines: Workers

● There aren't enough skilled laborers for Duterte's "Build, Build, Build" dreams

Philippine President Rodrigo Duterte's plan to supercharge growth with a $180 billion infrastructure program is running into a roadblock: A lot of the people he needs to build all the roads, bridges, airports, and railways are working abroad.

Under a policy named "Build, Build, Build," Duterte plans to boost infrastructure spending, helped by grants from China and Japan, to 7.3 percent of gross domestic product by 2022, from 6.3 percent this year. First up is a terminal at Clark International Airport—the former U.S. air base north of Manila—that would triple its capacity, to 12 million passengers a year. Other projects due to get under way this year include Manila's first subway and a 102-kilometer (63-mile) railway in Mindanao, an island in the south of the country where government forces are engaged in a long-running battle with Islamic militants.

● Projected cost of the Philippines' infrastructure program

$180b

The challenge will be finding engineers and qualified staff to operate the cranes, earthmovers, and heavy equipment. For decades, the Philippines has relied on money sent home by an army of nannies, maids, mariners, nurses, and construction workers who've left to earn higher salaries. An estimated 10 million Filipinos live overseas—a figure equal to about 10 percent of the population—and more than a million leave the country each year, according to the Philippine Overseas Employment Administration. (As a point of reference, an Organization for Economic Cooperation and Development ranking of countries with the highest share of their native-born population living abroad has Ireland at No. 1, with 17.5 percent.)

"The lack of skilled laborers poses an increasingly large constraint on the sector's growth" resulting in project delays and cost overruns, according to Raphael Mok, senior analyst for Asia at BMI Research in Singapore. The labor gap has caused some delays in the private construction industry, leading to an increase in home and office prices, says Joey Bondoc, research manager at Colliers International Philippines in Manila. Of the 16,200 residential units that Colliers expected to be built in Manila in 2017, only about 7,400 units were completed in the first nine months of the year. The result of the labor shortage will be a bidding war for construction workers, says Budget Secretary Benjamin Diokno. "Companies should be willing to adjust their wage rates," he says.

● Duterte

DONDI TAWATAO/REUTERS

To address the problem, the Technical Education and Skills Development Authority, a state agency, has started to focus on turning out more building workers and engineers. "Tesda in the past six years failed to train construction workers and zeroed in on the service industry, such as hotels, food, and business process outsourcing," says Ibarra Paulino, executive director at the Philippine Constructors Association Inc., a group of about 130 large building contractors.

Some Philippine developers are retraining employees or hiring more laborers from the countryside. Others, such as 8990 Holdings Inc., are setting up their own training facilities for masonry, carpentry, welding, and crane operation.

The Philippines has a lot of regional competition for skilled construction workers. Tokyo, where wages are much higher, is in the middle ▶

◀ of preparations for the 2020 Olympic Games. Singapore is doubling the size of its mass transit system, while Indonesia, India, and Malaysia are all on infrastructure drives to boost growth.

Ultimately, the key to solving the labor shortage will be persuading Filipino skilled workers, managers, and consultants to return home, according to Economic Planning Undersecretary Rolando Tungpalan. "If you offer the right price," he says, "they will come back." *—Siegfrid Alegado, with Norman P. Aquino*

THE BOTTOM LINE Grants from China and Japan will help the Philippines fund $180 billion in infrastructure projects. But builders will have to raise salaries to lure workers back to the country.

Cows Clash With India's Love of Dairy

● Measures to protect the animals may limit the production of milk and crimp farm income

There's a nursing home on the outskirts of New Delhi that offers free food and lodging, a well-resourced hospital, and 300 attendants to cater to residents' every need. Its clients are cows.

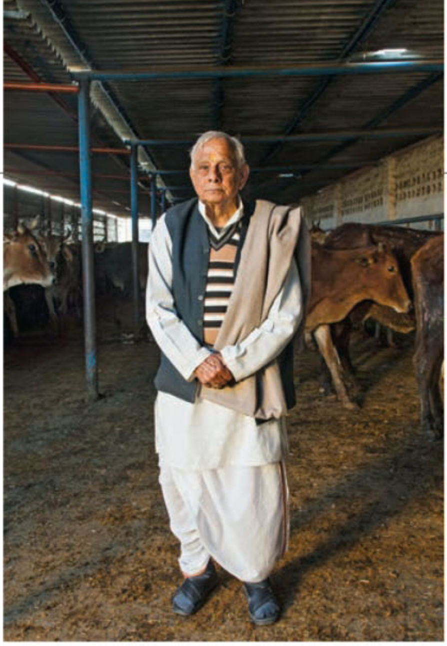
The Shri Krishna Gaushala, a 37-acre sanctuary with a duck pond and a 150 million-rupee ($2.4 million) annual budget, is one of thousands of havens in India for abandoned, sick, and unproductive cows. Their ranks have swelled since Prime Minister Narendra Modi's government moved in May to ban the sale of cattle destined for slaughter at animal markets around the country.

Cows are considered sacred by many in India's Hindu majority. The victory of Modi's Hindu nationalist Bharatiya Janata Party in 2014 national elections has emboldened groups seeking to protect the animals. Although the Supreme Court of India blocked the ban in May from taking effect, so-called cow vigilantes have sought to enforce it anyway. Attacks on cattle traders have multiplied, while several states have tightened restrictions on eating beef.

It's not just slaughterhouses and leather tanneries that are affected. Deprived of the option of turning their spent milkers into hamburgers, the farmers that make up India's 5.3 trillion-rupee dairy industry have less incentive to expand their herds, which threatens government plans to increase the milk supply. "There is no demand for cows in the cattle markets, and if we abandon them on the road, they destroy our crops," says Puranmasi Verma, 62, a dairy farmer from Uttar Pradesh who plans to switch over his small herd entirely to water buffalo, which produce less milk.

Even as Indians' appetite for milk products has been growing at an average annual rate of 4.3 percent for the past two decades, problems are piling up for the owners of the country's 70 million small-scale dairy farms, along with the companies that buy from them. Yogurt maker Danone SA is closing a factory near Delhi and exiting India's market for fresh and long-life milk products to concentrate on its "best-performing" nutrition and infant-formula brands, the Paris-based company said in a Jan. 12 statement.

Sales of milk and dairy products are expected to climb to 10.05 trillion rupees by 2020, according to Sharad Gupta, editor and publisher of *Dairy India*, an industry compendium. "When incomes rise, people spend more on dairy products," says Rattan Sagar Khanna, chairman of Kwality Ltd., a dairy wholesaler based in New Delhi. Modi's government is almost halfway through a three-year national campaign to bolster bovine productivity.



◀ Clockwise, from far left: Families visit the Shri Krishna Gaushala to feed the livestock ● Chhagan Lal Gupta founded the sanctuary with 13 cows in 1995 ● A few of the refuge's 8,100 bovine residents ● A calf chews on freshly cut grass as it falls from a fodder-cutting machine

The $126 million program aims to upgrade the health and genetics of the herd and improve dairy farm incomes. The actions of some of the government's supporters may be blunting the effort. Last year 11 people died in attacks by cow vigilantes—the deadliest year since IndiaSpend, a data-journalism website, began tracking the hate crimes in 2010. "On suspicion that there might have been a slaughter of a cow, all these people who are going about their business legitimately are at risk of being targeted," says Meenakshi Ganguly, South Asia director for Human Rights Watch. Modi has publicly condemned the attacks.

Prohibitions on cattle slaughter deprive farmers of more than 250 billion rupees of annual income collectively and lead to 20 million abandoned cows a year, according to D. John Chelladurai, dean of the Gandhi Research Foundation in Jalgaon, Maharashtra. "Forget about slaughterhouse transporters, even farmers can't take their cows or bulls from one village to the other," says Verma, the farmer in Uttar Pradesh. The state's leadership vowed in November to jail anyone being cruel to cows, a month before calling for a cow census and an expansion of cow sanctuaries, such as the one outside New Delhi.

Some 5,000 shelters have opened nationwide since 2011 to house abandoned cows, according to Pavan Pandit, national chairman of the cow advocacy and protection organization Bhartiya Gau Raksha Dal. He would prefer to see the aging or injured animals remain on the farm. He says traditional beliefs about cows are backed by science: "A cow purifies the environment of a place where it sits. Cows release oxygen." (They don't; the animals do emit methane, a greenhouse gas that contributes to global warming.)

At the Shri Krishna Gaushala, the 8,100 bovine residents receive abundant feed and free veterinary care, thanks to the generosity of the Hindu faithful and Modi's government, which has lavished at least 5.8 billion rupees on the refuges. "This is the government that believes that 'cow is our mother,'" says Chhagan Lal Gupta, the shelter's 81-year-old founder, while making the rounds between covered pens in an electric, three-wheeled passenger cart. "If we don't get funding under this government, we won't ever get funding." —*Anindya Upadhyay, Pratik Parija, Kanika Sood, and P R Sanjai*

THE BOTTOM LINE The Indian government's efforts to expand the dairy supply are being blunted by its Hindu supporters, including cow vigilantes, bent on stopping the sale of cattle for slaughter.

PHOTOGRAPHS BY ANSHIKA VARMA FOR BLOOMBERG BUSINESSWEEK

● President Trump delivers his State of the Union address to a joint session of Congress on Jan. 30

● Russia hosts a summit on Syria in Sochi on Jan. 29-30

● The French government is set to finalize details of a $47 billion project to expand the Paris metro system

IMMIGRANTS AGAINST IMMIGRATION

● The party divide over who gets to come to the U.S. has never been wider. Can it be bridged?

The standoff over immigration in the U.S. Congress that shut the government for three days looks strange to a world that sees the U.S. as a nation of immigrants fighting over immigration. "America was a model for immigration, but that image has collapsed," says Hidenori Sakanaka, head of the Japan Immigration Policy Institute, which promotes more newcomers to insular Japan.

Americans with a sense of history find it odd, too. That's because the deep partisan split over immigration is actually quite new. Anti-immigration sentiment has waxed and waned over the centuries, to be sure. But as recently as 2006, Democratic and Republican voters were only 5 percentage points apart in their favorability toward immigrants, according to Pew Research Center. Back then—just a dozen years ago—business advocates of more open borders found a warmer welcome in the Republican Party. And on the Democratic side, a first-term senator named Barack Obama could write, "When I see Mexican flags waved at pro-immigration demonstrations, I sometimes feel a flush of patriotic resentment."

Bipartisan consensus on immigration feels like ancient history. Today, congressional Republicans spurn the pro-immigration messages of powerful business groups such as the U.S. Chamber of Commerce and the Business Roundtable. While Democrats have gone all-in on liberalized immigration, seeing themselves as a party of inclusion, Republicans increasingly see themselves as defending what it means to be an American.

By last July, Pew found that 84 percent of Democrats and those leaning toward the ▶

January 29, 2018

Edited by Matthew Philips

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◀ Democratic Party preferred the position that "immigrants today strengthen the country because of their hard work and talents." Only 42 percent of Republicans and leaners tilted that way. Understanding why the parties diverged so abruptly is the first step toward developing–or rather, redeveloping–a national consensus on immigration that could produce sensible policies and help avert episodes of political brinkmanship.

The idea of granting green cards to people brought to the U.S. as children was first introduced as a Senate bill in 2001 by Democrat Dick Durbin of Illinois and Republican Orrin Hatch of Utah. The Development, Relief, and Education for Alien Minors Act, or Dream Act, didn't come up for a vote until 2007, when it got the support of 12 Republicans. When it came up again in 2010, it got only two Republican votes. As the bill got less popular with one party, it got more popular with the other. The number of Democrats voting against the act fell from eight in 2007 to five in 2010.

By this year the partisan gap was wide enough to shut down the government. Immigration activists put election-year pressure on Democrats to use the budget as leverage to secure protections for the 690,000 undocumented "Dreamers" registered under Obama's 2012 Deferred Action for Childhood Arrivals program. The chances of that working were never good. Many Republicans consider DACA an illegal usurpation by Obama, and Trump in September ordered the program to be shut down in March while challenging Congress to produce a legislative fix.

Trump has since exasperated both parties by waffling. Senate Minority Leader Charles Schumer, a New York Democrat, complained that striking a deal with the president was "like negotiating with Jell-O." In the end, though, Schumer accepted a deal to fund the government through Feb. 8 in return for a commitment by Senate Majority Leader Mitch McConnell, the Kentucky Republican, to address Democratic demands for restoring protection to the Dreamers. That's hardly the end of it. On Jan. 23, Schumer said his offer to Trump on funding for a wall on the Mexican border was now off the table. And any bill that manages to pass the Senate could still die in the House.

The stalemate dismays longtime participants in the immigration debate. One is Demetrios Papademetriou, who moved from Greece to the U.S. for college, gaining citizenship in 1976 and teaching international relations at the University of Maryland at College Park and other schools. He co-founded a pair of Migration Policy Institutes, one in Washington and one in Brussels. Both help governments develop immigration policies. Papademetriou says Congress has lost its ability to negotiate on the topic. "There was a time when congressional hearings were really honest opportunities to try to figure out what to do," he says. "Now most of them are essentially an opportunity for the majority party to have its message broadcast." While Europeans seek pragmatic repairs to their immigration systems, he says, in the U.S., "we think we know everything we need to know because we reduce the issue to a political agenda."

To Papademetriou, 2000 was a turning point for immigration politics in the U.S. Labor unions had traditionally feared new arrivals would push down wages of native workers. But unions began to realize that keeping them undocumented made matters worse because they worked for a pittance. In February 2000 the AFL-CIO Executive Council called for amnesty and "full workplace rights" for undocumented workers while advocating criminal penalties for employers that "exploit" undocumented workers.

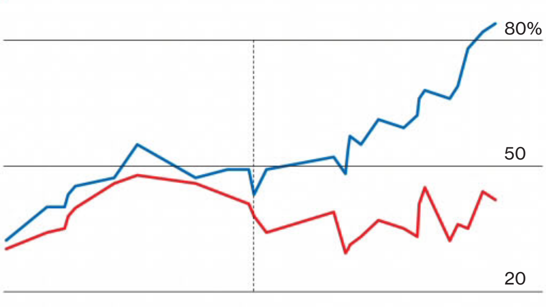
A year later the Sept. 11 terror attacks caused a segment of the population to view immigrants as a threat to their lives, not just their livelihoods. President George W. Bush and President Obama sought to calm those sentiments. President Trump has inflamed them. Concerns about jobs and terror fed into the decades-long realignment of the parties. Democrats noticed the Hispanic population was growing rapidly and calculated that they'd be rewarded for embracing pro-immigration policies. Meanwhile, the white working class took its misgivings about immigration with it as it decamped from the Democratic Party to the GOP. Before the 2016 election, Stanford University political scientist Adam Bonica found that the best predictor of support for Trump was agreement with the statement: "People living in the U.S. should follow American customs and traditions."

A Widening Gap

Share of Americans who say immigrants today strengthen the country because of their hard work and talents

Democrat or lean Democrat

Republican or lean Republican



● Share of **Democrats** and **Republicans** who support giving permanent status to Dreamers

92%

50%

Views have hardened as voters who never gave immigration much thought have taken their cue from party leaders, says Nathan Kalmoe, a political scientist at Louisiana State University and co-author of *Neither Liberal nor Conservative: Ideological Innocence in the American Public*. "The people most likely to be swayed one way or the other are the people who tend to pay less attention to politics," he says.

Ending the stalemate will require both parties to change. Democrats can't blow off Republicans' demands for enforcement of the law, as they've done in the sanctuary cities movement, says Mark Krikorian, executive director of the Center for Immigration Studies, which favors curbs on immigration.

Democrats would also do well to acknowledge research indicating that low-skilled natives' wages fall when a flood of low-skilled immigrants compete for their jobs. Employers often end up having to raise pay when the government cuts back on visas—as it did last summer with the H-2B program for seasonal guest workers. Even some undocumented workers see it that way. If undocumented immigrants were sent home, "they'd have to raise wages for native-born Americans," says Pedro Romero, a 38-year-old undocumented worker who arrived from Mexico 18 years ago and cuts and lays custom marble in Houston. "And see even then if they want to work outside in the sun when it's hot." Support for immigration would also be higher if the government spent some of the tax revenue from the newcomers on aid to displaced workers and—this is crucial—assimilating new immigrants.

Republicans, for their part, need to separate themselves from the race-based rhetoric that some elements of the party have embraced. That's tough considering that some of the basest language is now coming from the president.

The rest of the world is watching. "Your current president is very prominent in German media. It's really astonishing," says Matthias Mayer, project manager for Bertelsmann Stiftung, the foundation that's majority owner of publisher Bertelsmann SE. Germany has gone to great lengths to exorcise its Nazi past. Says Mayer: "That someone would ban persons from specific countries, that is something that would be a right-wing fringe position in Germany." Getting this issue right is essential for global businesses that employ diverse workforces. America has found a path forward on immigration in the past. It can do so again. —*Peter Coy and Sahil Kapur, with Isabel Reynolds and Thomas Black*

THE BOTTOM LINE Democrats and Republicans have moved further apart in their views on immigration over the years, leading to intractable differences over one of the core tenets of America.

FROM TOP: JACQUELYN MARTIN/AFP/GETTY IMAGES; CHESNOT/GETTY IMAGES; DATA: PEW RESEARCH

Saudi Arabia Ends A Ritzy Crackdown

● Government officials expect the kingdom's anticorruption purge will net $100 billion in payments

Around midnight on Jan. 21, the Ritz-Carlton in Riyadh hardly looks like the holding pen for some of Saudi Arabia's most wanted. Since November, some of the kingdom's richest princes, cabinet officials, and businessmen have been detained in the palatial five-star hotel as part of a sweeping anticorruption purge. There are no armed guards visible; only one police car is seen outside the compound. In the well-lit lobby, with Arabic music playing over speakers, government staffers are scattered around cafe tables. There's a buffet, but nobody is eating.

On a couch near the reception desk, Sheikh Saud Al Mojeb, the Saudi attorney general, does a head count of detainees. So far, about 90 have been released, having reached settlement deals with the government. Fewer than 100 remain, including five who are weighing proposed deals. Those who don't reach an agreement will be referred to prosecutors. "The royal order was clear," Al Mojeb says. "Those who express remorse and agree to settle will have any criminal proceedings against them dropped."

● Alwaleed

The Saudi detention plan is winding down, with authorities expecting the Ritz to be cleared of detainees by the end of January. The government sees it as a resounding success. One senior official believes it will net more than $100 billion in settlement deals. That money could be a shot in the arm for the Saudi economy, still struggling to recover from the 2014 drop in oil prices. The payments have been a combination of cash, real estate, stocks, and other assets and will likely be managed by a government committee, according to the official. ▶

◀ The purge, led by Crown Prince Mohammed bin Salman, the 32-year-old son of King Salman, began without notice on Nov. 4, as authorities swept across the country rounding up hundreds of suspects, including some of the most prominent citizens. Prince Alwaleed bin Talal, considered the richest man in Saudi Arabia, was detained, as was former Finance Minister Ibrahim Al-Assaf and Adel Al Fakeih, who was removed as minister of economy and planning on the eve of the arrests. Prince Miteb, son of the late King Abdullah and minister of the powerful National Guard, was held and then released a few weeks later after agreeing to pay more than $1 billion.

News of the purge reverberated across boardrooms, financial markets, and world capitals as bankers, analysts, and diplomats sought to assess its impact on the biggest Arab economy. Stocks in companies owned by detainees slumped. Although Saudi Arabia is trying to become more open, the probe was conducted in a "pretty non-transparent way," Moritz Kraemer, global chief rating officer at S&P Global Ratings, said in a Jan. 22 interview on Bloomberg Television. The probe "could be a step in the right direction, but it could also be a step towards more arbitrary ruling," he said.

Saudi officials say Prince Mohammed had to tackle graft as he tries to revitalize the economy by weaning it off oil. "Corruption had reached epidemic proportions," says the senior official. "It was as if the nation woke up and realized there was good news and bad news: The bad news was that it had cancer. The good news was that it's treatable, but we have to go through surgery, chemotherapy, radiation, and amputation."

One of the biggest mysteries is the fate of Alwaleed. Three people following his case say he's left the Ritz and wasn't in prison—rather, he was held at another location as he negotiates an agreement. Three others, however, say he's still at the hotel. In December two people with knowledge of the matter said Alwaleed was balking at steep financial demands that would force him to give up control of his $9 billion holding company.

Bloomberg was unable to meet with detainees or to verify the attorney general's claims that all of them were allowed access to legal counsel. Two people who've spoken to some of them say not everyone was given access to lawyers or let out of their rooms except for questioning. Al Mojeb denies the suspects' rights were violated and says the antigraft committee wants to exhaust all options that can lead to a settlement before referring anyone to prosecution. Still, the message is clear. "We are in a new era," Al Mojeb says. "The campaign against corruption won't stop." —*Alaa Shahine*

"Those who express remorse and agree to settle will have any criminal proceedings against them dropped"

THE BOTTOM LINE The payments netted in Saudi Arabia's anticorruption purge could be used to help an economy that's been suffering from the 2014 drop in oil prices.

Will Italy Dance Again To Berlusconi's Beat?

● Although the former premier is banned from holding office, he could emerge as the power behind a new government

On a Monday morning just before Christmas, Silvio Berlusconi walked into an elegant salon inside his villa near Milan to complete preparations for a major shift in his political strategy. Beneath a grand oil painting of the Italian aristocrat who once owned this villa in Arcore, Berlusconi advisers huddled around a table discussing social media, according to senior members of his campaign team. Projecting laptop data onto a large screen, the team talked the 81-year-old TV mogul and former Italian prime minister through likes, followers, and potential lines of attack as they put the finishing touches on a three-month project to transform his political operation into a digital-savvy venture aimed at young people.

Six years after he was forced from office at the height of the euro zone crisis, Berlusconi is back. The four-time premier is banned from holding public office, after a 2013 conviction for tax fraud. But that doesn't mean he couldn't return to power. Since last year, Berlusconi has been working behind the scenes to pull together a center-right coalition that has a shot at winning the most votes in Italy's March 4 election. If that happens, Berlusconi could hold sway over the next government, giving him the power to hand-pick a new prime minister and set policy, including cutting taxes and pushing back against European Union rules.

The anti-establishment Five Star Movement party, co-founded by comedian Beppe Grillo, is leading Berlusconi's Forza Italia party, 27 percent to 16 percent in polling. But Berlusconi has assembled a coalition with three other parties to become the biggest bloc, with about 38 percent. His campaign team estimates it could claim a majority if it exceeds 40 percent. "Berlusconi is unbeatable at aggregating everything that can be aggregated," says Roberto Weber, chairman of pollster Ixe Institute. "He is the best campaigner and the most effective communicator."

After dominating Italian politics for decades, thanks in part to his command of TV, Berlusconi is shifting his strategy to focus on digital, taking a page out of the playbook of Five Star. The upstart party didn't exist the last time Berlusconi won an election, in 2008, yet it's risen to the forefront of Italian politics by harnessing the power of social media and mobilizing disaffected voters. "It's true that Five Star beat us to the web," says Sestino Giacomoni, one of Berlusconi's closest advisers. "But we're catching up fast."

Berlusconi has about a million likes on Facebook and 19,000 followers on Twitter, compared with Five Star's candidate for prime minister, Luigi Di Maio, with about 1.1 million and 263,000, respectively. That all pales in comparison to Grillo's social media footprint, with 2 million Facebook likes and 2.5 million Twitter followers. Still, the strategy appears to be paying off for Berlusconi. Forza Italia has gained about 4 percentage points since relaunching his Facebook page in October, according to Bloomberg's composite of election polls.

As a result, Berlusconi is edging aside Northern League leader Matteo Salvini as de facto head of the right. Antonio Tajani, president of the European Parliament, has been touted as Berlusconi's preferred choice as premier, though he might also accept the current center-left prime minister, Paolo Gentiloni, as a compromise. The Northern League is the wild card, with Salvini indicating he could seek a deal with Five Star after the election.

"If anything, from outside, I'll be able to be the director," Berlusconi said in a Jan. 16 interview on Canale 5, a TV station that he owns. "That's a big

◀ Berlusconi

word—I'll make suggestions and above all keep a close watch to ensure the center-right government carries out our program." Berlusconi remains in his element on TV and supplements his social media presence with several talk show appearances a week. When his motorcade arrived at the Canale 5 studio near Rome's Colosseum, he'd already had his makeup done. On air, he joked about how students and seniors visiting the botanical museum at his summer villa in Sardinia had stolen his entire crop of herbal Viagra. "They took it all," he grinned. "They didn't leave even a blade of grass."

But the campaigner who used to draw crowds so big he'd block traffic has cut back on large-scale public events. His advisers, who asked not to be named discussing his strategy, say his age and health, as well as new limits on party financing, were behind the shift. Berlusconi has had a pacemaker since 2006, and he had heart surgery in 2016. Nevertheless, he's been working for 16 to 18 hours a day since campaigning for his party began in January and sleeping only three or four hours a night, according to Giacomoni.

Berlusconi doesn't use a cellphone because, according to aides, his phone has been tapped thousands of times during past court probes. Nowadays, his team uses iPads to show him draft posts for Facebook and Twitter as he looks to position himself as the antithesis of Five Star. He's keen to know which posts generate the most interest—good or bad—and offers constant feedback.

No matter how good Berlusconi gets at learning social media tricks, his appeal to voters will likely be rooted in their memories of the past. "People are going for Berlusconi as a moderate," says Weber, the pollster. "He's the best-known, calmest, most coherent, and most reassuring leader." —*John Follain*

THE BOTTOM LINE Berlusconi is working behind the scenes to assemble a center-right coalition for Italy's March election that could give him the power to hand-pick the next prime minister.

● Latest general election polls

REX FEATURES/AP PHOTO; DATA: COMPILED BY BLOOMBERG

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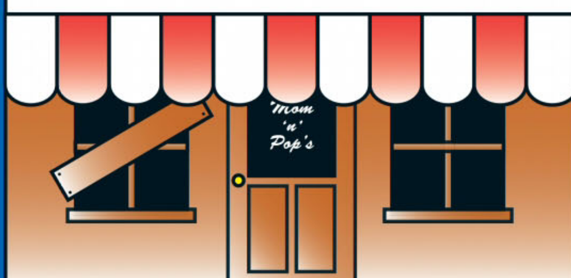
FOCUS

Small Business

Saving Main Street



Formula-business restrictions have helped independent shops across the U.S. survive

Like many elected officials, Jersey City Mayor Steven Fulop talks a lot about the need to support small businesses. Unlike many, he's put policies in place to help owners survive rent hikes, secure low-interest loans, and get expedited business permits. More than 600 small businesses have opened since Fulop became mayor of New Jersey's second-biggest city in 2013. "We're seeing a renaissance," he says.

The mayor's best-known effort is a zoning ordinance that prevents formula businesses—city planner jargon for chains with standardized stores such as Starbucks Corp. and Target Corp.—from occupying more than 30 percent of the ground floor of commercial areas of buildings. The city council enacted the rule in 2015 to preserve the "distinctive sense of place and unique neighborhood character" of downtown, the ordinance states. "You don't want small business owners who've stuck with the city through the bad and the good to get squeezed out," Fulop says. "There's a real risk to the long-term health of the city when you look at where retail is going."

At least 30 cities and towns across the country, from San Francisco to McCall, Idaho, have enacted similar rules. Some ban all chain stores from certain neighborhoods; others cap how many such businesses can move into an area; still others require approval on a case-by-case basis. Stacy Mitchell, co-director of the Institute for Local Self-Reliance (ILSR), an advocacy nonprofit for sustainable community development, says

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Edited by
Dimitra Kessenides
and David Rocks

Businessweek.com

Losing Out to Chains

Retail sales in constant 2017 dollars

the ordinances are "one of the most powerful tools that local governments have to shape the mix of businesses in their cities." A 2016 ILSR report noted that "as recently as the 1980s, independent retailers supplied about half of the goods Americans bought in stores; today their share is down to about one-quarter."

The biggest U.S. city with a formula ordinance is San Francisco. ILSR advised the city on the rule, which was enacted in 2004. San Francisco considers large-scale chain stores—defined as those with more than 20,000 square feet—for most of its commercial districts on a case-by-case basis, weighing factors including how many big retailers operate within a certain neighborhood and whether the goods and services the business offers are already available in the area. The city revised its restrictions in 2014, requiring chains to undergo an economic impact analysis that the planning commission also takes into account. Multiple districts, including in Chinatown and North Beach, prohibit formula retail entirely.

Thanks to the rules, ILSR says San Francisco has more independent businesses and fewer chains per capita than other big cities. "There's a strong anecdotal case that these policies contribute to the creation of new independent businesses," Mitchell says. "There's significant churn in retail, so if you look at a place like San Francisco or another community that's had a policy in place for years, lots of the businesses there opened under the policy, and it would be fair to say that these local entrepreneurs had more opportunity to secure locations because of the policy."

Since last spring, Fulop has been working to revise Jersey City's business restriction. He wants the city council—which last June declined to repeal the current rule, given strong community support—to meet with planners by the spring to discuss a version that he says would be better able to withstand legal challenges. "There's a lack of clarity over who it applies to and what those restrictions mean," Fulop says. As written, he says, the ordinance doesn't clearly define how the city judges square footage, leasable space, and restricted entities.

Fulop's interest in revising the rule comes in part from a lease signed by CVS Health Corp. last January for 20,000 square feet of space in the city's waterfront district. CVS hasn't opened its store, and company spokeswoman Erin Pensa would only say that it's reviewing the city council's moves and evaluating its options.

"It's not only CVS," says Fulop. Similar situations have surfaced in the last couple of months, creating a standoff with some developers who've chosen to leave a space vacant and then "complained again and again," he says. A spokesperson for the mayor declined to comment on whether CVS has complained about the restriction.

Only one formula-business restriction has been overturned in court, according to ILSR. That happened a decade ago in Islamorada, a vacation destination in the Florida Keys. A federal appeals court found its ordinance failed to demonstrate it would help the town preserve its character, noting that Islamorada "has not demonstrated that it has any small town character to preserve."

"The purpose of a formula zoning regulation cannot be to protect existing businesses from competitors, but to protect and support legitimate land-use plans and goals," says Peggy McGehee, a director and land-use lawyer at law firm Perkins Thompson.

The Florida case is an anomaly, says Mitchell: "Courts have concluded that if a city defines a public-interest purpose to its policy and enacts the policy through a fair and open process, then the measure is valid." But the threat of lawsuits can have a chilling effect, she says.

Ariel Zaurov, who owns a 3,000-square-foot pharmacy that he opened in 2005 a few blocks from the would-be CVS, says Jersey City has been "assaulted by chain stores" over the past year. Without the formula rule, he worries, chains will drive small shops out of business and then abandon the city if there's a downturn.

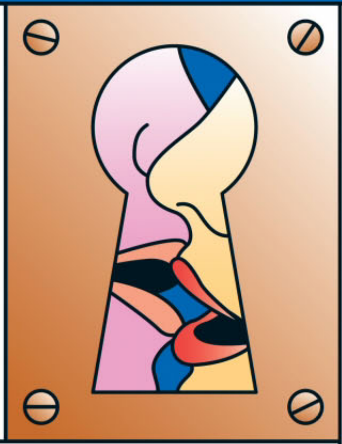
Steve Kalcanides has mixed feelings about the restrictions. As the second-generation owner of Helen's Pizza, a 50-year-old neighborhood fixture in Jersey City's historic downtown, he says the rules are working. As the owner of several properties in the area, he'd like to see the city's rule revised so chain tenants could occupy more space. He admits the current restriction has helped the local economy and given small businesses facing rent and other overhead increases "a little more equal footing."

Says Fulop: "I do understand the landlord's standpoint. They view chains as the best, most stable long-term renter, but from a city standpoint, that's not creating the best urban environment to live in." —*Nick Leiber*

THE BOTTOM LINE Governments from San Francisco to Jersey City are using special zoning restrictions to limit chain stores. Some officials worry big businesses and property owners could challenge the rules in court.

DATA: COMPILED BY INSTITUTE FOR LOCAL SELF-RELIANCE FROM U.S. ECONOMIC CENSUS DATA FOR YEARS SHOWN

Love Is in the Air—and On the Shelves



A bookstore focused on romance aims to make the genre more inclusive and diverse

As startup ideas go, a brick-and-mortar bookstore selling only romance novels doesn't sound particularly promising. Amazon.com Inc., after all, dominates retail book sales, romance fans tend to prefer reading on electronic devices, and the genre isn't the kind of highbrow fare featured at most of America's remaining independent booksellers. Yet two years ago, sisters Bea and Leah Koch opened The Ripped Bodice in a peppermint-pink storefront in Culver City, Calif., piling the shelves with titles such as *Bliss*, *Sweet Revenge*, and *Camelot Burning*. "We get a lot of customers who say, 'I'm not a romance reader,' then they wander around the store and say, 'Oh, I've read that book! And that book!' " says Bea, 28, a graduate of Yale and New York University, where she wrote her master's thesis on historical romance novels.

Romance, the sisters say, has increasingly literary aspirations and can make a serious feminist statement. The genre makes up more than a third of the U.S. publishing market, according to researcher Nielsen BookScan, with sales topping $1 billion annually. And while romance fans are twice as likely as readers of literary fiction to go digital—e-books represented 61 percent of romance sales in 2015, Nielsen says—they're exceedingly loyal. Nielsen says 15 percent buy a new title at least once a week and 6 percent do so more than twice weekly. True fans "will read ten $2.99 e-books, then buy physical copies of the two they like best and put them on the 'keeper' shelf," says Leah, 25.

Bea discovered historical romance as a girl: "I loved any book with a pretty dress on the cover," she says. Leah started reading her big sister's hand-me-downs, though historical novels weren't really her thing. "I was like, Oh, I wonder if these kinds of books exist where the people wear jeans. Turns out there are," she says, sitting next to her sister on the velvet Victorian fainting couch that's a centerpiece of the store. But they could find the novels they craved only at used bookshops, big-box outlets, or online. "We would have rather gone to an independent bookstore," Bea says, "but they just didn't exist."

Two years ago, the pair launched a Kickstarter campaign to fund a shop and soon raised $90,000. Kickstarter "allowed us to immediately connect with people who would be our customers," Bea says. "We still get people coming in who say, 'I'm a Kickstarter funder.' " They rented a concrete-floored location on a commercial strip just across the Los Angeles city line, stocked up on the latest from authors such as Nora Roberts, Beverly Jenkins, and Eloisa James, and in March 2016 opened their doors. One corner is called Fitz's General Store, devoted to merchandise—tote bags, calendars, candles—featuring their Chihuahua, Fitzwilliam Waffles (after Fitzwilliam Darcy from Jane Austen's *Pride and Prejudice*). "He's very popular," says Leah, who posts the hours when the pooch is likely to be in the store so fans can time their visits. The sisters say sales grew about 20 percent last year. About 81 percent of their sales are in-store.

More than four-fifths of romance readers are women, and the Kochs try to foster a sense of community with book signings, writing workshops, and stand-up comedy. Online, they have Facebook and Instagram accounts where they post recommendations and encourage discussion, and their website offers a link where new authors can submit their work. The store stocks stories for all ages: feminist children's books such as *A Is for Activist*; middle-grade offerings with female heroines that highlight girls' emotional lives; young adult titles where things start to get risqué; and novels featuring characters of all ages, such as *Late Fall,* by Noelle Adams, which is set in a retirement home.

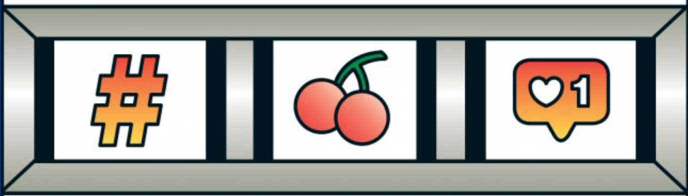
The sisters see themselves as evangelists who can help the romance trade serve a wider spectrum of readers. Last year they conducted a survey that found only 7.8 percent of romance writers are people of color—even though fans are increasingly nonwhite. "Women of color have been reading romance forever," says Bea. Hoping to inspire writers from different backgrounds, the store goes beyond steamy Victorian or Edwardian bodice-rippers and includes what the sisters call "fine smut" in categories such as LGBTQ, Spanish, cowboy, and "bikes and tats." "We have an extremely diverse customer base," Bea says. "More inclusive romances sell better. And we want more of it." —*Amy Benfer*

THE BOTTOM LINE The Koch sisters, who grew up on a diet of romance novels, say they can create a thriving business selling the genre even in the Amazon era.

ILLUSTRATIONS BY 731

Slot Machines For Millennials

Gamblit says its skill-based games will draw younger visitors to casinos



It's one of the big dilemmas facing the $70 billion U.S. casino industry—how to get people in their 20s and 30s to play slot machines as much as their parents or grandparents. Generations raised on video games and smartphones don't have the same interest in plopping themselves in front of screens when they're out on the town. In Las Vegas, the percentage of visitors actually gambling is down, while the share going to nightclubs and other attractions is up. The total number of slot machines in Sin City is off 23 percent from its 2001 peak—the machines make up the majority of gambling revenue in the U.S.

That's why Eric Meyerhofer, an electrical engineer who previously ran a company that made ticket printers for slot machines, co-founded Gamblit Gaming, which builds millennial-friendly gambling devices. The products of the Glendale, Calif.-based company look more like arcade games than slot machines and have been out on the floor of big casino operators such as Caesars Entertainment Corp. and MGM Resorts International for almost a year. They've opened a window into what young players like and don't like about gambling, Meyerhofer says. One thing is clear, it's not going to be an easy sell. "This will take years to evolve," he says.

Skill-based slot machines—some made by Gamblit, others by rival startup GameCo Inc. and established manufacturers such as International Game Technology Plc and Scientific Games Corp.—make up about 500 of the roughly 982,000 gambling devices in the U.S. and Canada, according to market research firm Eilers & Krejcik Gaming LLC. But casino operators say they'll add the games because they're luring new customers. "We believe that these are the games of the next generation," says Rick Hutchins, a senior vice president for slot machine strategy at MGM. While the games require some skill—Gamblit's Into the Dead, for example, involves seeing how many zombies you can blast—the size of the cash prizes is determined randomly, much like traditional slot machines.

Meyerhofer's original vision, back in 2010, was to file patents for interactive gambling devices that he could then license to big manufacturers. The idea was to create skill-based slot machines where players could be rewarded in part for their brains and dexterity and not simply by dumb luck. Manufacturers, however, were slow to embrace his ideas. So in 2016, Gamblit started making the machines itself. Employing about 90 people and with revenue of less than $5 million last year, Gamblit is still experimenting. Another early notion was that its games would work best in bars, where young people hang out. Instead, its devices on the casino floor generate three times as much revenue.

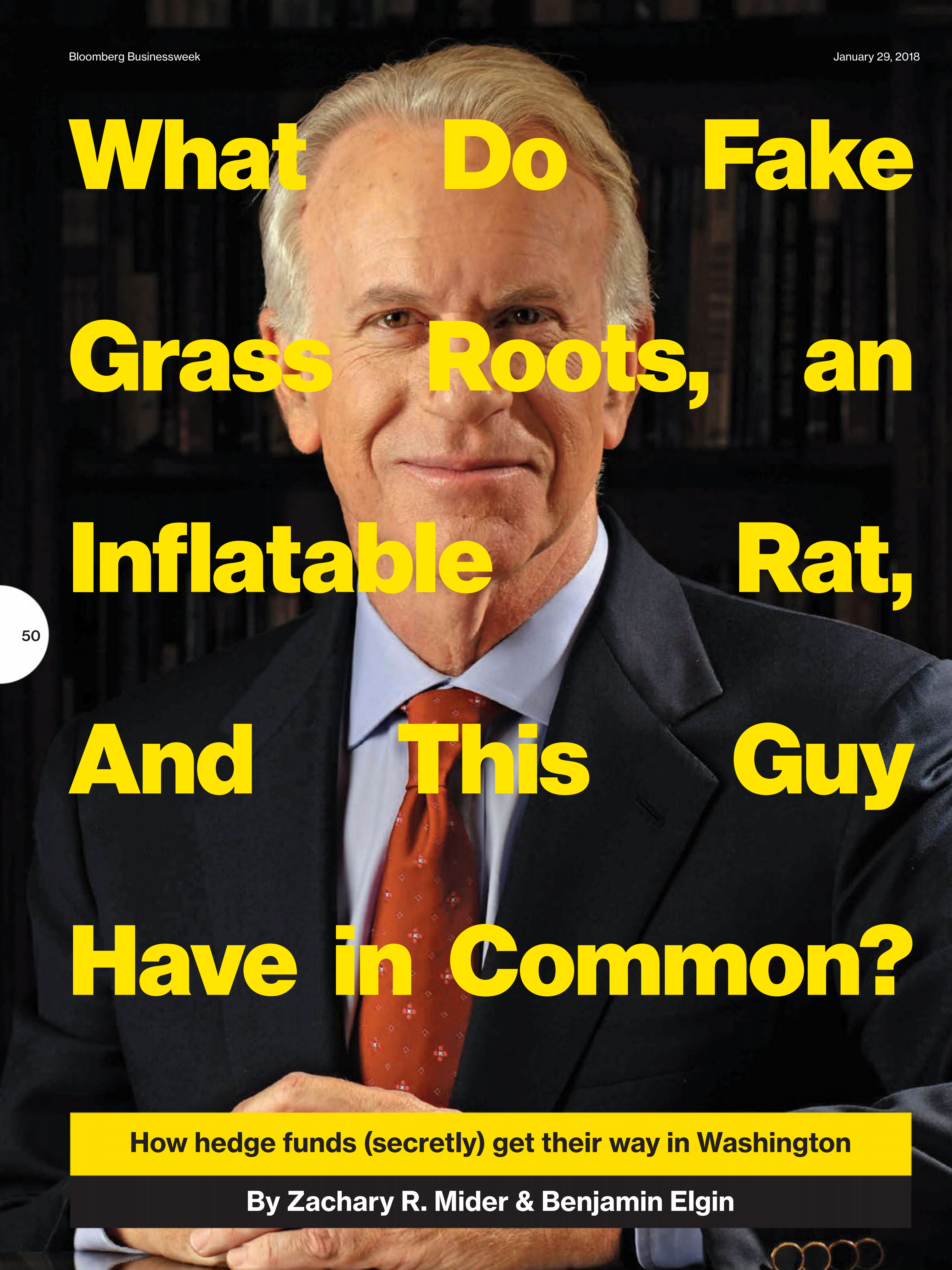
One of Gamblit's signature games is a video poker table where up to four players compete to see who'll be the quickest to grab cards that pop up in the center. The devices have proved popular with groups of strangers. "People enjoy it better when they're playing against people they don't know," Meyerhofer says.

Couples gravitate to Gamblit's single-player games, such as Smoothie Blast, where players match fruits to make a smoothie, and Lucky Words, where the goal is to find words hidden on the screen. The games have been so popular with couples that Meyerhofer is adding benches to his devices instead of single seats. Borrowing from a strategy of traditional slot makers, Gamblit has secured the rights to well-known brands. The company later this year will put out machines based on the classic arcade game *Pac-Man* and the game show *Deal or No Deal*.

Because Gamblit's games take longer to play than slot machines, there's a slower turnaround of bets, 45 seconds for Gamblit vs. about six seconds for a typical slot machine. There have been regulatory issues as well. While skill-based games have been approved in gambling markets such as Nevada and New Jersey, regulators nationwide are still catching up. Caesars removed a Gamblit Poker game from its casino near San Diego, for example, because California regulators considered the four-person device four separate slot machines and state rules limit the number of devices some casinos can operate.

Meyerhofer says he's certain regulators will come to better understand the devices. As many as 70 percent of Gamblit's customers weren't in the casinos' customer databases before, proving his machines are doing what they're designed to do, he says. "The youthfulness of the player, that was an unknown one year ago today," he says. "I have no lack of confidence that this is going to work."
—*Christopher Palmeri*

THE BOTTOM LINE Casinos such as Caesars and MGM Resorts, faced with declining shares of visitors who gamble, are testing interactive slot machines designed to appeal to younger customers.



What Do Fake Grass Roots, an Inflatable Rat, And This Guy Have in Common?

How hedge funds (secretly) get their way in Washington

By Zachary R. Mider & Benjamin Elgin

With swept-back silver hair and a prestigious résumé, James K. Glassman cuts the classic figure of a Washington wise man. He's a former undersecretary of State, think-tank founder, and best-selling author, with a considered opinion on just about any Beltway issue. In July 2014, when a House subcommittee held a hearing on Latin American economies, its members asked Glassman to speak first. "Thank you, Mr. Chairman," he said, and began to testify: "A stable and prosperous Latin America is critical, not just to Latin Americans themselves, but to all of us here in the United States. ..."

Glassman, wearing a dark suit and purple tie, added to the record some very specific ideas. First he charged Argentina with trying to renege on its debt, and then he accused Puerto Rico of the same thing. Then he highlighted a Caribbean tax dispute. Then he gave a shout-out to former bondholders of General Motors Co.

If Washington can be thought of as a factory, opinions like these are the raw materials that get turned into laws, regulations, and public policy. Their provenance matters. Glassman never mentioned it in his testimony, but records show he was then working for an affiliate of DCI Group–a Washington public affairs firm whose client list meshed perfectly with his talking points. One DCI client, a $25 billion hedge fund, was feuding with Argentina. Another was suing Puerto Rico. DCI had also lobbied on the tax dispute and the GM issue.

Glassman, 71, who said in an email that he stands by his testimony, is a key asset in a furtive campaign by Wall Street to bend the political process. Over the past two decades, hedge funds have grown explosively, with a collective $3.4 trillion under management. Not content to make bets and watch from the sidelines, the largest funds increasingly are trying to steer government outcomes–such as negotiations over sovereign debt–so that their investments are likelier to pay out. When billions are at stake on a given wager, a lobbying campaign looks cheap. But hedge funds know that they're politically toxic–portrayed by both parties as overpaid plutocrats–and prefer that much of these offensives be conducted in secret. That's where DCI comes in, providing credible-seeming voices to speak up for the funds' interests–voices like Glassman's. It's not illegal, but it undermines basic principles of transparency and trust.

Since the work is concealed, there's no way to know for sure how many hedge funds are leveraging Washington to benefit their portfolios. But interviewing insiders and scouring public records, *Bloomberg Businessweek* identified six major influence campaigns waged on behalf of investors in a particular stock or bond since 2006. DCI, it turns out, coordinated all six.

The campaigns are remarkably similar. Behind the scenes of official Washington, the company repeatedly crafted narratives portraying investors as victims of corrupt governments. DCI rounded up ordinary Americans who agreed with its clients and marched them into lawmakers' offices to lend a veneer of grass-roots support. Meanwhile, Glassman and other ostensibly independent intellectuals blanketed panels, hearings, and press conferences with the same storyline, without ever mentioning their connection to DCI or the hedge funds. If all went well, the targets of these campaigns–administration officials, media "thought leaders," and lawmakers–didn't know they were being lobbied, much less who paid for it.

It certainly worked at the Latin America hearing in 2014. "If you have other thoughts," Representative Matt Salmon (R-Ariz.) told Glassman, "and if you wanted to draft a memo for members of this committee, I promise you we will put it to good use." Salmon told *Bloomberg Businessweek* this month that he had no inkling of Glassman's links to hedge funds. Filtered into Glassman's pithy remarks, the funds' money had slipped undetected into the Washington supply chain.

Corporations have long used astroturfing—spending money behind the scenes to create the appearance of authentic support–to advance their interests. What hedge funds are up to now builds on the shady practice and almost makes it seem quaint. Big companies have thousands of employees and millions of customers; what's good for them might benefit their stakeholders too, and the companies' priorities are basically stable over time. Hedge funds are different. They employ relatively few people, and much of their economic success accrues to their owners, a tiny group of centimillionaires and billionaires. A hedge fund might be for a given policy today and against it tomorrow, driven by prices on a screen. It's another way in which skyrocketing inequality is giving a few individuals an outsize role in public life.

The financiers' essential partner in this feat is DCI, long a go-to Washington firm for astroturfing. (The corporate field has dozens of competitors, from large public-relations shops to boutiques, some of them started by DCI alumni.) The company was founded in 1996 by three veterans of R.J. Reynolds Tobacco Co., including Thomas Synhorst, whom one left-leaning publication nicknamed "the Johnny Appleseed of astroturf." Synhorst, who along with his company declined to comment for this story, remains one of a small group of partners overseeing more than 140 employees in Washington and Brussels. According to one staffer's LinkedIn page, annual revenue is more than $60 million. For more than a decade, a linchpin of DCI's ability to alter the terms of debate in Washington has been James Glassman.

Raised in D.C., Glassman came up through the media ranks–publisher of the *New Republic*, editor of *Roll Call*–and co-wrote the 1999 book *Dow 36,000*, an instant icon of dot-com cheerleading. The next year, he launched *Tech Central Station*, an online publication focused on technology policy that he called "a kind of watchdog in an area in which few people seem to be doing long-term principled thinking." Before long, *Washington Monthly* revealed that the site wasn't straight journalism but rather a lobbying operation in disguise, controlled by DCI's partners and consistently pushing issues that aligned with clients such as Microsoft Corp. and AT&T Inc. The magazine credited Glassman with inventing a new form of influence peddling: "idea laundering." (In his emailed statement, Glassman declined to discuss his relationship with DCI but said that his writing, speeches, testimony, and other work has been "consistent with my long-held beliefs. ... Decisions ▶

◀ on whether to write something—and how to write it—are my own, and I stand behind what I write.")

Between the *Washington Monthly* exposé and the dot-com crash, Glassman's career might have been over. But D.C. just shrugged. He was soon appointed to a government post overseeing Voice of America, then joined the U.S. Department of State at ambassador rank.

Upon leaving office in 2009, Glassman became president of a DCI front group called World Growth Institute. That spring he turned his attention to GM, criticizing the Obama administration's handling of the carmaker's bankruptcy in a *New York Times* op-ed. His words echoed those of an organization known as GM Main Street Bondholders—in theory a bunch of ordinary investors who were holding rallies around the country. Emails obtained by *Bloomberg Businessweek* show that DCI was organizing the campaign, and in recent interviews, some of the group's leaders said they had no idea who was paying DCI's bills. (A *Times* spokesman declined to comment on Glassman's piece but said the paper always asks contributors to disclose financial interests.)

Over the years, as Glassman has shuttled from one DCI front to another, he's opined on a staggering array of issues, often with a take that coincides with the interests of a DCI client. He's defended the Asian palm oil industry, praised a Congolese mining magnate, and testified before Congress in favor of policies that benefit Nasdaq Inc.—all DCI clients at the time.

One of the longest-running themes in Glassman's commentary has been the plight of Argentine bondholders. After the country defaulted in 2001, most investors accepted a deal to exchange their bonds for cheaper securities. But Paul Singer, the billionaire chief of hedge fund Elliott Management, didn't. He took Argentina to court to get full value—a long-shot move that could generate a huge profit.

For Singer, DCI mounted an influence campaign that would stretch a decade and target all three branches of government, becoming a template for later projects. Tax documents show that DCI earned at least $16 million from its Argentina work in one four-year period. Its job was to reshape official opinion in Washington and Europe, and here Singer had a big disadvantage: Argentina's president was portraying him as a "vulture" investor profiting from the misfortunes of the poor.

DCI worked to shift the focus from Singer. In court, it helped round up briefs from allies to create a sense of broad support beyond Wall Street. It started a coalition, American Task Force Argentina, with dozens of members—including some not usually identified with sovereign-debt disputes, such as the National Grange, a farmers' fraternal order, and the Colorado branch of the American Association of University Professors. (It's not clear that all the members knew of their participation. At least three now say they never agreed to join ATFA.) Separately, a motley consortium—ranging from a Tea Party-aligned group to the National Black Chamber of Commerce—wrote letters to lawmakers and issued public statements.

It sounds almost innocuous. But much of Washington policymaking originates with such activity among wonks: the network of nonprofits, think tanks, and advocacy groups that help the political parties generate ideas, set priorities, and gain expertise. Unlike campaign donations or formal lobbying, money spent here is rarely disclosed. If an idea is suddenly getting attention in policy circles, it's usually impossible to know whether a few well-placed donations from hedge funds greased the way.

According to two former DCI employees who requested anonymity to speak freely about the company, a unit called Strategic Alliances maintains ties with dozens of nonprofits and advocacy groups, regularly contributing money and then requesting their assistance on projects. Another former DCI employee describes joining the company from the ranks of the wonks. Once at DCI, he was awed to learn how many Washington-area nonprofit staffers, policy experts, and even journalists were secretly fed lines by his new employer. He came to see his former colleagues as puppets—and he had become the one with his hand on the strings.

In May 2012, outside a Washington conference where Argentina's vice president was scheduled to speak, a large inflatable rodent appeared, wearing an Argentine flag and holding a sign in its claws: "I'm the rat in the G20." A month later, the same message—that Argentina didn't belong in the G-20 group of nations—appeared in a report published by the National Taxpayers Union, a Washington nonprofit. The report's co-author was Glassman, who publicized it with pieces in the *Wall Street Journal* and *Foreign Policy*. The study and op-eds didn't disclose any connections to hedge fund money. But one person with knowledge of the matter says DCI employees planted the rat and arranged for the NTU to be compensated. (A spokesman for the *Journal* said Glassman has assured the publication he wasn't representing DCI or a hedge fund. *Foreign Policy* declined to comment. Pete Sepp, president of the NTU, said he can't discuss donors but that his organization isn't "a pay-to-play operation, period.")

As the Argentina battle started to tilt Singer's way, DCI pitched its skills to more hedge fund clients. Paulson & Co., run by New York billionaire John Paulson, hired the firm for a campaign supporting his investment in Fannie Mae and Freddie Mac, according to a person with knowledge of the matter. (Paulson declined to comment.) Other funds that owned Puerto Rican debt signed on. The hedge fund Autonomy Capital sought help in a fight over Icelandic bonds, a person with knowledge of that assignment says. In each case, Glassman helped lead the charge.

In 2013, Glassman announced he was joining a consulting firm called Public Affairs Engagement LLC as chief executive officer. Registration records show it was set up by Synhorst and DCI's corporate secretary. According to two former DCI employees, PAE had office space inside DCI's Washington headquarters, where Glassman regularly reported to work.

As Glassman championed more hedge fund campaigns, his advocacy sometimes clashed with his own previous views. In a memo he gave lawmakers at the 2014 Latin America hearing, he recommended that Puerto Rico be allowed to declare bankruptcy. But he insisted the island's electric utility shouldn't;

PHOTOGRAPHS: PREVIOUS SPREAD: COURTESY AMERICAN ENTERPRISE INSTITUTE. THIS SPREAD: CLOCKWISE FROM LEFT: MISHA FRIEDMAN/BLOOMBERG, LARRY MARANO/REX/SHUTTERSTOCK, DANIEL ACKER/BLOOMBERG, ALAMY (3), TONY GUTIERREZ/AP PHOTO (2), PAUL MORIGI/GETTY IMAGES

If You Need a Friend in Washington...

Don't get a dog. Get James Glassman, whose writing often lines up with paying clients of DCI Group

Year	2006-16	2009	2013-present	2014	2015-present	2016-17
Campaign	Argentine bonds	General Motors bonds	Fannie Mae and Freddie Mac shares	Puerto Rico Electric Power Authority bonds	Puerto Rican general obligation bonds	Icelandic bonds (and other assets)
Hedge fund	Elliott Management	?	Paulson & Co.	BlueMountain Capital	Multiple hedge funds	Autonomy Capital
Manager	Paul Singer	?	John Paulson	Andrew Feldstein		Robert Gibbins
	DCI	DCI	DCI	DCI	DCI	DCI
Front group	Investors Action Alliance	World Growth Institute	Public Affairs Engagement	Public Affairs Engagement	Public Affairs Engagement	
Op-ed	Argentina "willfully incurred a massive bond default in 2001 and still owes Americans more than $10 billion." James Glassman, *Washington Times*	"The Obama administration reminds me of an irresponsible third-world regime, skirting the rule of law and handing economic prizes to political cronies." James Glassman, *New York Times*	"In a breathtaking display of greed, the Treasury and the FHFA changed the terms of the original agreement that accompanied the 2008 bailout." James Glassman, Bloomberg View	"The Recovery Act... strips basic rights from creditors... including many small U.S. investors with money in mutual funds—while giving continued protection to other bondholders, many of them hedge funds." James Glassman, *Roll Call*	"Bankruptcy may look tempting as a way to zap public employee unions. But it's a trap, with serious consequences." James Glassman, *Washington Examiner*	"Iceland was moving in the right direction, but degrading a major asset—respect for the rule of law—will be certain to discourage future investment." James Glassman, *Wall Street Journal*

at the time, DCI was representing BlueMountain Capital Management, an owner of the utility's bonds. A year later, he reversed himself, declaring that a Puerto Rico bankruptcy would be a "disaster." Not long after, DCI started a campaign for bondholders that would lose value in such a bankruptcy. (In his statement, Glassman said that "we all strive for consistency, but the facts on the ground in Puerto Rico changed.")

Thanks to a string of court victories, Singer prevailed against Argentina in 2016, earning his fund more than $2 billion in profit. (In a statement, Elliott noted that thousands of bondholders and pensioners also benefited.) Other DCI projects haven't gone so well. Congress allowed Puerto Rico to declare bankruptcy, and Fannie Mae shareholders have failed to get the government to come to their aid. A major obstacle has been Senator Bob Corker, who wrote a bill that would wind down the company. Through a shareholder group that it helped set up, DCI has promoted reports of ethical lapses by the Tennessee Republican. "It's been pretty shocking to me," Corker said at a 2016 hearing, "to see the lengths that some hedge funds will go to try to shape public policy in a manner that might reap huge benefits."

Thanks to DCI—and a lack of rules around disclosure— there are few limits to how far hedge funds can take this practice. One of the company's more incongruous assignments to date was the case in Iceland, where Autonomy Capital went to court in 2016 to challenge the government's treatment of foreign investors. Institute for Liberty, the Tea Party-aligned group that previously advocated on Argentina, set up a website and a Facebook page called Iceland Watch that advocated for the funds' position. Glassman hosted a panel discussion in New York and attacked Iceland's position in the *Journal* and Bloomberg View. (Bloomberg LP, which owns that site and this magazine, said it requires op-ed writers to disclose relevant financial interests.) More voices piped up, most of them recognizable from the Argentina campaign. DCI operatives began showing up at Reykjavik's swankiest hotels and hiring local consultants for political guidance. Before a 2016 parliamentary election, Iceland Watch bought full-page ads in Reykjavik newspapers hinting at misconduct by a central bank official.

The ads, translated poorly, may have done more harm than good. (The only wrongdoing they revealed, one wag commented online, was "a crime against the Icelandic language.") But in the end, Iceland settled with the foreign funds last year on more favorable terms. Autonomy, which took the improved deal, declined to comment, and Institute for Liberty didn't respond to inquiries.

Glassman and the other pundits didn't take a victory lap. They simply went silent. A Reykjavik reporter noticed his DCI contact suddenly stopped returning calls. The Iceland Watch website disappeared, and its social media accounts were erased. The money had done its work, and DCI was off to its next assignment. Ⓑ

What America Pays for Free Speech

As protests and counterprotests proliferate, cities and schools are bearing the financial burden

Photographs by Mark Peterson Text by Susan Berfield

The Women's March in Washington on Saturday, Jan. 20, might have been the 8,701st protest in the U.S. since Donald Trump's inauguration a year ago. Or maybe there were more. Even the Crowd Counting Consortium, run by two university professors, with lots of volunteer help, can't track all the rallies and marches since Trump took office. But they do know that between anti-Trump protests, rallies by white nationalist groups, and counterprotests against both, Americans have been exercising their First Amendment rights at a frenetic pace.

Amid the commotion and disruption, the price of free speech has gone up. The Constitution guarantees freedom of speech in public spaces: It's a civic right with civic costs. The Supreme Court ruled in 1992 that the government can't impose fees on speakers based on the expected cost of security. "Speech cannot be financially burdened, any more than it can be punished or banned, simply because it might offend a hostile mob," Justice Harry Blackmun wrote in a decision prohibiting Forsyth County, Ga., from charging the Nationalist Movement a fee to demonstrate against Martin Luther King Jr. Day.

The result, says David Pozen, a visiting scholar at Columbia's Knight First Amendment Institute, has been that the public now effectively subsidizes the speech not only of peaceful protests like the 200 or so Women's Marches that took place across the U.S. this January, but also that of the most controversial, inflammatory figures, even when they're just looking for a fight. It's the provocateurs' privilege. "The more provocative a speaker, the more costly it is to manage that event and the more ordinary people are going to have to bear those costs," Pozen says.

When a group called the New Confederate States of America planned a rally on Monument Avenue in Richmond, Va., in mid-September, the city spent $570,000 to provide security. The bill included $84,280.85 for body cameras, $14,982 for a chain-link fence around the nearby Arthur Ashe Jr. Athletic Center, and $822.50 for 250 Chick-fil-A sandwiches for police officers. Half a dozen people showed up to march near a statue of Robert E. Lee; many times that number came out to protest. A League of the South rally in Murfreesboro, Tenn., in October didn't amount to much either, except in costs to the city and county, about $350,000 in all.

Berkeley, Calif., has borne a particular burden. "We represent progressive forward thinking, and the white supremacists and hate groups come here to challenge us, provoke us, thumb their nose at us," says Mayor Jesse Arreguin. His office estimates that it spent an additional $1 million for police and fire officers over the past year. "That had a significant impact on our city budget—it's money not available for affordable housing, infrastructure, and crime prevention," Arreguin says. The University of California at Berkeley paid an even higher price for its commitment to free speech in 2017: Five planned rallies and talks—including a Free Speech Week organized by the self-described right-wing troll Milo Yiannopoulos, which was ultimately canceled but still led to violence among those gathered—came to $4.84 million. The university, already tackling a $110 million deficit, spent more than $200,000 on barricades alone.

Even peaceful defiance has had a price. In August the city spent $4,000 to print 20,000 posters that read "Berkeley stands united against hate." (The bill for that was crowdfunded.)

At the center of the controversy over how much the public should have to pay is Richard Spencer, the white nationalist who gave a Nazi salute to a cheering crowd after Trump's election, was punched in the head outside the inauguration, and called the August tiki-torch march

in Charlottesville, Va., "magical." A supporter of Spencer, Cameron Padgett, has sued several public universities that refused to allow Spencer to speak on campus, claiming they were denying his First Amendment rights. In April, Auburn University in Alabama agreed to pay $29,000 in legal costs after Padgett successfully challenged its attempt to cancel Spencer's speech, and Padgett recently brought a lawsuit against the University of Cincinnati for seeking a $10,833 security fee because of the disruption it anticipates when Spencer comes to campus during the school's spring break.

On Oct. 19, Spencer arrived at the University of Florida in Gainesville with a small entourage. He hadn't been invited, and he wouldn't be welcomed, but he had the First Amendment on his side—and a $10,564 contract covering an auditorium rental on the edge of campus and basic security for the venue. Providing some of that security was Ricardo Delbrey, a 33-year-old black Puerto Rican police officer at the University of Central Florida in Orlando who was born on a naval base in Spain and served in Afghanistan.

MARK PETERSON/REDUX

For about a month, local law enforcement agencies had planned how to keep Spencer supporters from around the country—whom they expected to be armed and hostile—separate from the protesters, mostly angry students, and what to do if they encountered one another. The potential for violence was high, and three days before the speech, Florida Governor Rick Scott declared a state of emergency. The night before the speech, Delbrey was told that he would be stationed inside the auditorium, in front of the stage, the last line of defense for Spencer. "It was kind of mixed feelings for me when I found out, being a military man and fighting for rights, for the Constitution, but knowing what he preaches," Delbrey says. "Why am I protecting someone who preaches things I don't believe? I had to keep in mind that this is what I signed up for."

On Oct. 19, a SWAT team was on campus, helicopters were in the sky, and emergency responders stood by. The university sealed off roads, closed buildings, and canceled some classes. Inside the auditorium, students and other protesters shouted down Spencer, who insulted them and left the stage early. The protesters then chased his supporters off campus. Three white nationalists from Texas were arrested after one fired a single shot into the crowd.

Spencer says his talks are supposed to "make a splash," and by that measure he considers the event, such as it was and as expensive as he says it was for him, a success. So does the university: The violence was brief and caused no serious injury. But the school spent far more than Spencer—some $600,000, much of it for overtime for the hundreds of security personnel. That figure doesn't account for the untold hours spent calming anxious students and planning an alternative rally on the other side of campus.

Was it worth it? "Yes," says Delbrey. "Free speech is what the nation is founded on. If we stop him, someone could stop others who are worth listening to. Everybody has the right to freedom of speech. But we have the freedom to listen—or not. He can talk, but youl don't have to listen." B

Charlottesville, Va.

Aug. 12

Many of the 85 or so businesses along the city's eight-block pedestrian mall opened their doors on Aug. 12, even as thousands of white nationalists and militia members marched to nearby Emancipation Park for the Unite the Right Rally. A few minutes after noon, when violent clashes with counterprotesters persuaded Governor Terry McAuliffe to declare a state of emergency, most everyone closed up shop. About an hour later, Heather Heyer was killed and 19 others injured when a white nationalist drove into a crowd.

"We don't have a way to calculate the losses from that weekend," says Joan Fenton, owner of Quilts Unlimited and chair of the Downtown Business Association. The Charlottesville Regional Chamber of Commerce does. It reports that sales tax revenue declined 11.8 percent in September from the year before. "Those creeps invaded our town, hijacked our identity, and caused tremendous damage to our business community and our psyche," says Timothy Hulbert, the chamber's president. Even if the city offers a recovery package, Fenton expects that some businesses will close and that it will be at least a year before Charlottesville recovers. "We've been branded," she says.

$50,347
Law enforcement

$14,176
Police logistics, including:

$2,900
Barriers

$2,414
Lodging

$562
Pizza

SOURCE: CHARLOTTESVILLE POLICE DEPARTMENT, CHARLOTTESVILLE REGIONAL CHAMBER OF COMMERCE

BERKELEY: MARK PETERSON/REDUX

Murfreesboro, Tenn.
Oct. 28

As police prepared for a White Lives Matter march through downtown, David Sproles, a financial adviser at Edward Jones, decided to board up his office and another one nearby. The company sent a crew, just as they would for a hurricane. The cost: $2,890. Another rally took place in nearby Shelbyville; afterward, marchers gathered at a park in Chapel Hill.

$101,237
City personnel

$128,050
Gas masks with voice projection

$24,998
Barricades

SOURCE: CITY OF MURFREESBORO, EDWARD JONES

Berkeley, Calif.
Sept. 24

A Free Speech Week organized by former *Breitbart News* columnist Milo Yiannopoulos turned into a 15-minute appearance at the University of California at Berkeley, where Yiannopoulos signed autographs and posed for selfies. “The most expensive photo op in the university’s history,” spokesman Dan Mogulof called it at the time.

$2.44m
Additional security personnel

$93,178
Campus police overtime

$95,734
Facility rental

$28,883
Van rentals

$111,860
Barricades

$65,062
Hotel rooms

$25,999
Meals

SOURCE: UNIVERSITY OF CALIFORNIA AT BERKELEY

Gainesville, Fla.
Oct. 19

Alachua County reports that it spent $302,184 on security for Richard Spencer's speech at the University of Florida. That doesn't include pay for officers such as Ricardo Delbrey, shown here.

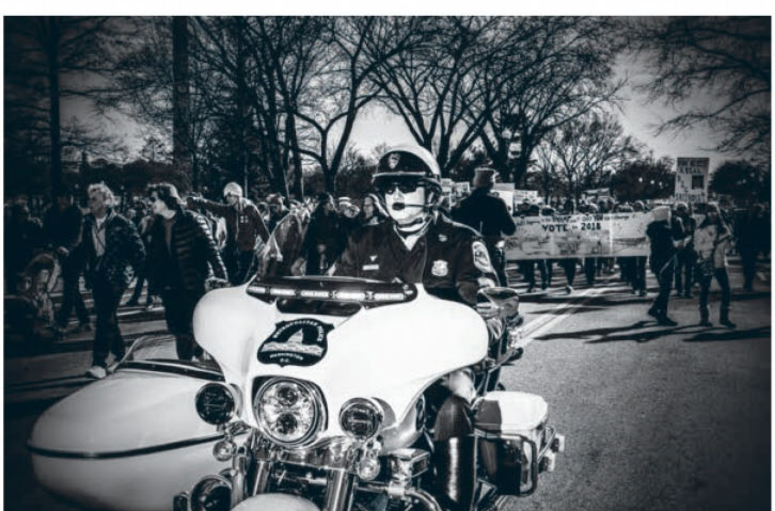
$260,494
Law enforcement

$15,829
Communication services

$19,518
Fire and rescue personnel

$4,918
Jail costs

SOURCE: ALACHUA COUNTY BOARD OF COUNTY COMMISSIONERS



Washington, D.C.

Jan. 20

A year after Trump's inauguration, tens of thousands of protesters marched from the Lincoln Memorial, down 17th Street, and to the White House. Like the 2017 march, the event was relatively peaceful—the organizers' main security concern this year was people walking on the frozen Lincoln Memorial Reflecting Pool as the temperature rose. Even peaceful protests can be expensive, but no official was prepared to estimate the cost of the two Women's Marches. Congress sets aside money each year to help the city cover the costs of First Amendment activities.

$13m

Amount requested from Congress to help the city pay for providing public safety at events in the capital

SOURCE: WASHINGTON, D.C., 2018 BUDGET

Boston
Aug. 19

More than 500 police officers were on duty for a planned free speech rally at Boston Common that wound up attracting the attention of white nationalists. Some 40,000 people showed up to protest the event, leading organizers to abandon it.

$225,131
Police overtime

$10,230
Barrier trucks

SOURCE: BOSTON POLICE DEPARTMENT

Portland, Ore.
Sept. 10

Acting Police Captain Ryan Lee says that when protesters impede a major street in the city, the estimated cost is $234,000 per hour in lost economic activity. Then, “there’s a cascading effect,” he says. “If a restaurant isn’t getting much business, the microeconomics extend to the waiters and waitresses.”

$234,000
Per hour in lost economic activity

SOURCE: ACTING CAPTAIN RYAN LEE, PORTLAND POLICE BUREAU

San Francisco
Aug. 26

Patriot Prayer, a pro-Trump group led by Joey Gibson, abruptly canceled plans for a controversial free speech march and rally at Crissy Field near the Golden Gate Bridge. The National Park Service had granted the group a permit despite objections from the city. According to records obtained by the *San Francisco Examiner*, the city spent $775,000 on public safety and $115,000 on extra buses and traffic control. The mayor’s office says it has requested reimbursement from the federal government.

$890,000
Security and transit

SOURCE: SAN FRANCISCO EXAMINER

PORTLAND, BOSTON, AND SAN FRANCISCO: MARK PETERSON/REDUX

WHAT IF CHINA REALLY IS EXEMPT FROM THE LAWS OF ECONOMICS?

BEIJING SEEMS TO DEFY MATH, AS THE COUNTRY GOES FROM STRENGTH TO STRENGTH. BY MICHAEL SCHUMAN

Over my two decades of writing about economics, I've devised a list of simple maxims that I've found generally hold true. One is that history repeats itself. If one country tumbled into a financial crisis, there is a very good chance another, facing similar conditions, will as well. A second rule: What doesn't work, doesn't work. A policy that failed isn't likely to achieve any better results if tried again. I developed these little rules as a journalist watching what works and what doesn't—from Japan to Russia to Spain—and attempting to understand why things just go so wrong so often, whether during the 1997 Asian crisis or the turmoil that nearly ripped apart the euro zone earlier this decade.

But recently, my faith in this corpus of collected wisdom has been badly shaken. By China.

The more I apply my rules of economics to China, the more they seem to go awry. China should be mired in meager growth, even gripped by financial crisis, according to my maxims. But obviously it's not. In fact, much of what's going on right now in that country runs counter to what we know—or think we know—about economics. Simply, if Beijing's policymakers are right, then a lot of basic economic thinking is wrong—especially our certainty in the power of free markets, our ingrained bias against state intervention, and our ideas about fostering innovation and entrepreneurship.

On the surface, that probably sounds ridiculous. How could one country possibly defy the laws that have governed economies everywhere else? After all, whenever economists and bankers argue that "this time it's different"—such as the dot-com boom or the subprime-propelled U.S. housing market—the good times invariably end in tears. Recall, too, that back in the mid-20th century, some experts were convinced the Soviet Union had created a superior form of economic management, and in the 1980s, it was Japan that had successfully reinvented capitalism. Oops.

Yet as China marches forward, we can no longer dismiss the possibility that it's rewriting the rulebook. Beijing's policymakers are just plain ignoring what most economists would recommend at this point in its development. And, so far, they're getting away with it.

The problems that China confronts today are immense. The easy catch-up growth that fueled the nation's rapid gains since the 1980s has been tapped out, and the costs of doing business are rising, eating away at China's low-cost edge. For its economic miracle to continue, China must become more innovative and competitive, and allocate

TYPE ILLUSTRATION BY BRAULIO AMADO

financial and other resources more efficiently. And it also needs to tackle the flaws created by its previous boom, most of all the mountain of debt that continues to get heavier and potentially more destabilizing.

Traditional economics would mandate that China overhaul its current economic system. Only a greater role for market forces will sort out the country's problems and set the economy onto the correct path for development. That entails withdrawing the state's heavy hand in the economy: stopping meddlesome bureaucrats from messing around with the allocation of capital and credit, opening protected sectors to competition, allowing money to flow more freely in and out of the country, releasing the currency from state manipulation, and reforming or even closing blundering state-owned enterprises.

Officially, that's where Beijing is headed. Its leaders repeatedly stress how China will continue "opening up" and become more "market-oriented." In practice, however, Beijing is charting an entirely different course. Rather than stepping aside, the Communist Party is entrenching itself even more deeply in the management of state companies. Regulators have determined that they, not corporate executives, know best how Chinese companies should invest overseas. Capital controls remain as tight as ever; the currency is still under the thumb of the central bank. The opening of China's market to foreign business is going nowhere fast. Nor does the state allow the market to choose winners and losers. It dominates the financial industry and doles out large subsidies to favored industries and companies. Even its censoring of the internet has intensified, constraining the free exchange of information supposedly indispensable to innovation. In one 2017 study, China was the worst of 65 countries in abuse of internet freedom.

And the result? Nothing like the disaster many of us would expect. Growth, though sharply reduced from the levels of a few years ago, is still powering ahead at almost 7 percent a year, according to official statistics. Incomes continue to rise nicely. Exports are strong. China has sped ahead of the rest of the world in developing an electric car market. And that strangled internet? Not an issue. China's digital economy is exploding, with online shopping, mobile payments, and internet-based financial services advancing at light speed. Whole neighborhoods of startups are popping up in Shenzhen, Beijing, and elsewhere.

About that debt. Yes, it's still rising, to 256 percent of gross domestic product in mid-2017. History tells us that countries that experience a rapid surge of debt like China has over the past decade inevitably stumble into some sort of banking crisis. If my maxims are still valid, history should be repeating itself in China. But it's not. The accepted outlook is that China will avoid the full-on meltdown we've come to expect from debt-gorged emerging markets and instead will peacefully manage its way through the problem with a state-guided process to bring down leverage.

A traditional view would insist none of this should be working. The state is supposed to screw up economies: Japan, India, the entire Soviet bloc—the list seems endless. In China, the state seems to be preventing screwups. When companies have expanded too quickly and possibly taken on too much risk, such as property developer Wanda Group or the mysterious Anbang Insurance Group, the government has played watchdog and apparently pressed them to scale back. State ownership of the financial sector maintains a degree of confidence in the economy that might be lost under similar, debt-heavy circumstances in a freer market. When investors did get spooked by a stock market implosion in 2015 and cash gushed out of the country, regulators tightened capital controls and squelched the turmoil.

In addition to preventing bad outcomes, the government also seems to be engineering good ones. Continued public investment in infrastructure is opening up remote regions of the country to greater business opportunities, expanding incomes in rural areas and small towns, and adding fresh sources of consumer spending. The subsidies dished out by local governments are helping entrepreneurs start companies and create jobs.

Of course, we can't know for certain where these policies will take China. Nor can we tell what's really happening in the economy. Bank balance sheets may not expose the full extent of the financial damage being done by state practices. Nor can we trust government data, which almost certainly fails to represent the country's real economic conditions. And it remains far from certain that China's leadership can successfully transform the country from a factory floor that makes lots of cheap stuff to a center of innovation that generates real technological advances and breakthrough products. Failing to do that will likely make it much harder to keep improving the welfare of China's aging 1.4 billion people, who are still much poorer than those in the most advanced economies. But if things continue as they are, we have to take seriously the possibility that China has found a way to coordinate state action with just enough market influence to target and achieve positive results that a more open economy may not be able to match. Perhaps China really is refashioning capitalism.

Perhaps. I, for one, am still clinging to my maxims. My favorite: You can't escape math. Eventually, the weight of numerical reality has to come to bear. Maybe China can escape a financial crisis others could not, but as debt mounts, it drags down potential growth. And there is an unavoidable cost, too. Someone will have to pick up the tab for the bad loans at Chinese banks, many of them still likely unrecognized because of a lack of transparency. Another downside of continued state meddling is the stunting of productivity gains, without which sustaining healthy growth will prove almost impossible. Maybe my rules of economics will hold firm after all. But thanks to China, I'm prepared to edit them. Ⓑ

PERU'S NEXT STEP

In the Sacred Valley, cultural riches are hiding in the shadows of Machu Picchu. *By Nikki Ekstein*
Photographs by Peter Bohler

Hiking La Veronica

Machu Picchu is one big marketing myth. At least that's how our guide, Leo, puts it as we wander the breathtaking fog-shrouded Inca ruins. First off, he says, the 600-year-old city wasn't hidden: Otherwise, why would there be seven gates to get in? Second, it was hardly the last remaining Inca citadel: There are two others you can see with the naked eye from Machu Picchu when the weather is clear, if you know where to look. Despite the mist, we spot one in the distance.

As we walk through the mazelike ruins, Leo continues his impassioned rant. The Peruvian government doesn't know how to safeguard its resources, he says, pointing to a sundial called Intihuatana—"the hitching post of the sun" in Quechua, the local indigenous language. In 2000 a television crew chipped it while shooting a beer commercial. After that, Leo explains, the government recognized that it needed to regulate the country's most famous heritage site before it could begin promoting any others. It took 17 years. Meanwhile, an expansion of infrastructure brought ever larger hordes to this single, barely protected spot.

Peru received 3.3 million tourists in 2017, a number it aims to double by 2021. International visitors can fly only through Lima, making it the third-most-visited city in Latin America. Beyond Machu Picchu, travelers typically spend two days in the capital and another two in Cusco. Peru travel specialist Marisol Mosquera, founder and president of Aracari Travel Consulting, says only 5 percent of her clients get under the skin of the Sacred Valley—an archaeologically dense 60-mile-long area along the Urubamba River, flanked by Cusco and Machu Picchu.

The Sacred Valley gets its name not from religious mythology but from its agricultural and cultural richness. Here, petite Andinas (the women of the Andes) wear intricately patterned skirts in saturated hues, wide-brimmed ornamental hats, and thick braids. Men work primarily in construction or as shepherds, guiding flocks of fluffy llamas and alpacas through the region's rugged terrain as it morphs from snowcapped mountains to *altiplano* ("high plains") to Andean jungle. The only thing in the shepherds' path is the odd Inca ruin here or there—and there are many of them, from the experimental farming terraces of Moray to the hilltop temples of Písac.

In 2017, Peru's gross domestic product was forecast to increase

A MAN WORKING IN THE SALT PONDS OF MARAS

4.1 percent, making it the fastest-growing of the major Latin American economies. International tourism revenue was projected to rise 8.5 percent from a year earlier, better than any country except Egypt, according to the World Trade & Tourism Council.

But while the nation has seen drastic economic improvement, little of that benefit has made it to the Sacred Valley, where houses are generally made of adobe and only some have electricity. Finding well-paying work opportunities often means moving to Cusco or Lima, far from a traditional life. Mass tourism (think buses and backpackers) goes only so far to change the tide; it's sensitive tourism that brings consistent jobs, encourages long-term investment, and makes culture a valuable asset. Without it, urban migration threatens to imperil the heritage that's hiding in the long shadow of Machu Picchu.

In July the Decentralized Culture Bureau of Cusco started regulating visitation to Machu Picchu, helping mitigate the site's crowds. Now visitors must buy tickets and be accompanied by a licensed guide. And just as Leo preached, the new management plan—however rudimentary—gave way to another announcement: Four months later the government began an international marketing campaign featuring the country's "wealth of experiences," with ads promoting sites far beyond Machu Picchu.

Take Choquequirao. It's a lost city fewer than 40 miles from Machu Picchu and three times as large but receives only one or two dozen tourists a day. That's because it's accessible only via a tough, five-day hike across a river and a wide canyon. Late last year the government revealed a $62 million plan to develop the site, including a cable car that could whisk travelers there.

Grants such as these can be a blessing and a curse. "In developing countries like this one, the money from tourism won't go to the right places unless you educate rural communities on how to meet the needs of their potential clients," says Aracari's Mosquera. "These are humble people that aren't being given the proper toolkits to succeed." For example, the mass-produced trinket vendors and quick-service cafes of Aguas Calientes, the town below Machu Picchu, cater only to a high-volume, low-cost style of travel. To foster economic growth, locals must create experiences that encourage visitors to spend more than a few Peruvian soles. That's where several small companies, Peruvian and otherwise, have stepped in to help.

THE EXPLORA SACRED VALLEY LODGE

The local hotelier Inkaterra, for one, operates three luxury properties throughout the region. The mostly food-focused activities include studying medicinal herbs and learning to make the local corn beverage, *chica de jora*. Mountain Lodges of Peru, G Adventures, Aracari, and others have also made a name on their high-quality cultural exchanges.

New to the area is Explora, a family-owned adventure-tourism outfit based in Chile. The company opened its first lodge in the tiny Sacred Valley town of Urquillos in July 2016; it's the area's first property combining intense hikes with extreme comfort. (Rooms for two guests start at $3,500 for three nights, including meals and excursions.) From Cusco's airport, the ride to the lodge takes almost two hours in a Mercedes shuttle van, past tin-roofed buildings, fields of corn that look like pointillist paintings, and turnoff signs for obscure Inca ruins.

Suddenly, like an oasis, the resort appears: a low-lying, whitewashed structure with terra-cotta roof tiles and a latticed shell of angular beams fashioned from local timber. Inside, the blond-wood rooms are minimalist and Wi-Fi-free, relying on the panoramic windows overlooking violet-hued quinoa fields for drama—and alpaca throws for comfort.

Since Explora was founded in 1993, its guiding principle has been to take guests as far off the beaten path as they're willing to go, almost always on their own two feet. In addition to its newest outpost in Peru, the company has three five-star properties in Chile—in Patagonia, in the Atacama Desert, and on Easter Island—and it's been recognized as a standard-bearer in each of its destinations. At the hotel in Peru, 90 percent of the employees are from local communities.

Working with Explora has become a badge of honor, says Jose Rosemberg, the general manager. The company offers its guides year-round employment instead of the seasonal contract work that's typical in the industry. ▶

◀ They're also enrolled in a three-month guide school and an 80-hour first-responder wilderness training course, both of which provide invaluable certifications.

At check-in, our guide, Felipe Sumire, who's twig-thin and dressed in head-to-toe khaki, introduces himself as an *explorador*. "This is a center of exploration," he says. "Not a hotel."

Sumire and his team work with guests to gradually build the intensity and altitude of their hikes, starting at the elevation of the lodge, 9,500 feet above sea level, and reaching to 15,500. I get dizzy at the thought of it.

Hikes start between 6 a.m. and 8 a.m. All are fully guided, and some begin with an intimate cultural exchange. One features a visit to a small weavers' collective that sees a handful of customers on a good day. On the wide patio, a half-dozen women in traditional dress—their faces dark and creased from the sun—teach visitors to spin alpaca fiber into yarn and transform it with natural dyes made from cochineal (a common insect), tree bark, and leaves from the *chilca* plant, a leafy shrub. Others nearby sing songs in Quechua as they work, waiting for the demonstration to end so they can showcase their wares. My husband and I buy a soft, red-striped rug for our tiny Brooklyn living room.

Afterward, we grab our hiking poles from the van and begin gently winding up and down hilly farmlands called *mesetas*. The path—worn in only by alpaca feet—leads to lakes that act like a mirror for the canary-colored mountains. At one we stop for an impromptu picnic: a light quinoa salad and soup made from the area's famously large corn kernels.

"Some people say the name Chinchero means 'the place where rainbows appear,'" Sumire later says as we make our way down a pastoral trail and toward this town of roughly 10,000 people. Despite its name, Chinchero isn't especially colorful: It's a pastiche of brown tones, with its adobe buildings and cobbled walkways. Neighbors traditionally become "godparents" of newlyweds' homes, christening their houses with crosses and paired terra-cotta bulls that sit like wedding cake toppers on their rooftops.

Here in rural Peru, the poverty rate is about 44 percent—this, in a country where the monthly minimum wage is about $250. Walk into Chinchero's church, however, and you're blinded by gold. Paintings here contain no European faces—Jesus is dark-skinned

A SERIES OF SWITCHBACKS LEADS THE WAY TO THE GLACIER-TOPPED LA VERONICA, WHERE EXPLORA FACILITATES A MEMORABLE HIKE

WOMEN CREATE NATURAL DYES AT A WEAVERS' COLLECTIVE NEAR THE TOWN OF CHINCHERO

and dressed in a colorful Andean wrap.

Driving back to the lodge after our full-day hike, Sumire tells us that an international airport may soon come to Chinchero—a way to get more travelers to the Sacred Valley. Peru's president, Pedro Pablo Kuczynski, laid a symbolic cornerstone for its building in February 2017, but then the public-private funding partnership fell apart. (The project still seems likely to move forward.) Word is starting to get out that there's more to Peru than Machu Picchu, whether or not the residents of the Sacred Valley are ready to receive tourists by the busload.

For now, there are still places where it's possible to have a secluded experience: just you, a guide, and the open world. An unforgettable sight for tourists lucky enough to catch it is the snowcapped peak of La Veronica. (Those tourists should also be warned: Along the switchbacked drive up to 14,500 feet, their water bottles could explode from the change in pressure.)

It's not just the altitude that steals your breath at the top. To the north, tiny specks that turn out to be macaws swoop in and out of a tangled green valley. In front of me, in the near distance, sheets of chalk-white ice cling to ash-black rock, ringed with swirls of cloud that look like the manifestation of an Andean god. And to the south, a razor-thin mountain ridge, which we will walk like a balance beam before dropping into a glacial valley.

"The kind of thing we do, walking and trekking in the mountains, nobody did it before us in the Sacred Valley," says Pedro Ibáñez Jr., who sits on Explora's board. Rather than work to protect the company's monopoly, its training methods, he says, are intended to create a boomlet of similar outfits—and a rush of sustainable tourism development. "Our guides will leave and take elements from our ideas as they adapt them for their own businesses."

Joining their ranks is chef Virgilio Martínez, whose Lima flagship, Central, ranks fifth on the World's 50 Best Restaurants list. In February he'll open Mil, a 20-seat spot near the Inca terraces of Moray in the Sacred Valley. His goal is to spotlight local producers and ingredients such as salt from Maras, cacao from Quillabamba, and indigenous roots. At $145 per head, Mil represents the area's rising star. "The people of the Andes are deeply connected to Mother Earth," Martínez says. "Food is just another understanding of life in the Sacred Valley." B

Members Only

London-style private clubs are opening around the globe
By Tom Metcalf

To the uninitiated, the block of 18th century town houses in London's Shepherd Market doesn't look like much. But behind the maroon doors and Georgian façade lies 5 Hertford Street, one of London's most fabled–and secretive–members clubs.

Inside are private dining rooms with roaring fires, a bar encrusted with seashells, and a cigar shop featuring a custom walk-in humidor where Davidoff Dom Perignon and other rare stogies are available.

The club was opened in 2012 by Robin Birley, son of Mark Birley, founder of five-decade-old Annabel's nightclub. Today, the waiting list includes more than 3,000 applicants eager to pay the roughly $2,700 annual fee, not that the club would ever boast about such things. Birley's 21st century take on the British institution is distinct from traditional outlets such as White's, which doesn't admit women as members.

Its modern spin on the members-club concept includes Loulou's, a Rifat Ozbek-designed nightclub in the basement, which has a dance floor with psychedelic patterns beneath a starlit ceiling and a stuffed giraffe's head that marks the entrance to your own private Oz. And the club's commitment to privacy and exclusivity makes the dance floor even more freewheeling–a who's who of the well-connected. Says Charles McDowell, a luxury real estate broker who's joined: "5 Hertford Street is the best place to network in London."

Birley is now expanding to New York and is in talks to take over a space near Union Square in Manhattan. The London club is popular with Americans–several hundred of its members hail from the U.S. and use the location as a place to set up homes-away-from-home in the quiet alcoves that dot the property. Charlie Methven, a spokesman for Birley, says Americans have urged him to cross the Atlantic: "Many have been suggesting to him that New York would welcome a Birley club."

Groucho Club, a London venue established in 1985 that's favored by art and media insiders, is also in discussions with a landlord for a New York location, according to managing director Matthew Hobbs. Soho House, a competitor that already runs two popular outposts in New York, has additional locations planned for Brooklyn and Hong Kong.

The flurry of developments reflects the continued demand for a members club that combines the age-old desire for exclusivity with a more relaxed atmosphere tailored to contemporary lifestyles–a club very different from the stodgy spots lining London's Pall Mall or clustered near New York's Central Park South. "A new generation is converting to the idea of clubs," says Methven, whose PR firm Dragon Advisory has consulted on six openings in the past five years, including clubs in Dallas and Shanghai.

The Battery, which occupies a former warehouse in San Francisco, has grown to more than 4,600 members since it opened in 2013. They roam Ken Fulk-designed interiors and attend free events featuring performers such as Snoop Dogg and the Chainsmokers.

Birley told *Vanity Fair* in 2012 that 5 Hertford Street cost $50 million to open. His backing in part comes from the billionaire Reuben brothers, who own the property. Soho House's expansion has been fueled by Yucaipa Cos., a private equity firm owned by Ron Burkle, another billionaire, who bought a 60 percent stake in the group for about $375 million in 2012. For investors, members clubs provide immediate cash flow–day-to-day operations tend to quickly become profitable–while the properties offer a real estate bet in the world's most desirable markets.

The clubs are seeing some competition from high-end, hybrid co-working spaces. Mortimer House, from hotelier Guy Ivesha, opened in December in a six-story art deco building in central London. It features four floors of workspaces and a living room, den, loft, and gallery for members. A gym and pilates studio occupy the basement. Although his outlay on the property alone was $39 million, Ivesha had little difficulty attracting interest from financier Cain International. Ⓑ

ILLUSTRATION BY PING ZHU

Simpler Times

The latest streamlined trend: one-hand watches. *By Justin Mastine-Frost*

MeisterSinger Salthora Meta X, $3,200

Van Cleef & Arpels Heure d'ici & Heure d'ailleurs, $28,300

Reservoir GT-Tour, $3,670

Speake-Marin Velsheda, $11,950

Enthusiasm for mechanical watches, much like the hand on a timekeeping device, tends to run in cycles.

After a multiyear decline in watch exports, Switzerland, the traditional home of the industry, saw single-digit growth in exports over the course of 2017, indicating a recovery for a market stung by changes in Swiss monetary policy, a crackdown on political gifting in China, and growing enthusiasm for smartwatches.

Although the oldest and most famous horological houses in the world, such as the Richemont group (which owns Cartier, Van Cleef & Arpels, and Montblanc), are surging, it's not necessarily their best-known watches that are leading the recovery.

"Brand names just aren't selling watches the way they used to," says Leon Adams, owner of Cellini Jewelers, one of New York's premier destinations for luxury watches. "People are craving individuality, whether through scarcity or through new product design."

One unusual take on timekeeping that's been ticking up serious buzz is the one-handed watch, sometimes called a single-hand watch. It can come in a variety of configurations: Sometimes, a lone hand points to both the hour and fractions of the hour on a sleek dial. In some cases, the minute and hour indicators are separated, with a hand only for the minutes and a small window telling the hour off to one side. These timepieces offer a singular aesthetic that's both eye-catching and functional; it takes only one hand to inspire a second look.

The German brand MeisterSinger has made a business of selling reasonably priced, colorful watches such as these. Its latest offering, the Salthora Meta X ($3,200), is a dive watch with the company's signature large minute hand and a bubbled aperture at 12 o'clock displaying "jumping hours." (The plate bearing the numerals changes at the strike of the hour rather than slowly rotating.)

Meanwhile, the Octo Maserati GranSport ($12,800) from Bulgari is a compelling new step from an Italian jewelry house whose watches have been evolving since it brought its movement-making in-house in 2013. The sporty number has a jumping hours indicator and a retrograde minutes hand that counts out the 60 minutes and then leaps back to zero with each passing hour. Reservoir, a new brand from Switzerland, made its debut with a range of one-hand watches last year. Its GT-Tour (from $3,670) tells time in almost the same way as the GranSport but on a dial that takes its inspiration from the odometer of a race car.

Jeweler Van Cleef & Arpels has offered a one-hand watch for a few years, but noting the uptick in the style's popularity, it will this year release a rose-gold version of its Heure d'ici & Heure d'ailleurs ($28,300), which tracks the hour in two different time zones with separate hour displays.

These watches tend to be inspired by other clever tools: Loosely modeled after a marine compass, the Speake-Marin Velsheda ($11,950) remains one of the most appealing one-hand watches on the market. Available in seven variants in polished titanium or red gold, featuring a lacquered or enamel dial, the Velsheda strikes a balance between traditional craft and unconventional design.

While these watches can be lovely, be warned: Learning to read time from a single hand takes a period of adjustment—and often requires a concession that minutes, like spare pennies, matter only in quantities of five or more. Ⓑ

COURTESY VENDORS

As You Like It

Prestige television meets the *Sleep No More* format in HBO's *Mosaic*. *By Steve Rousseau*

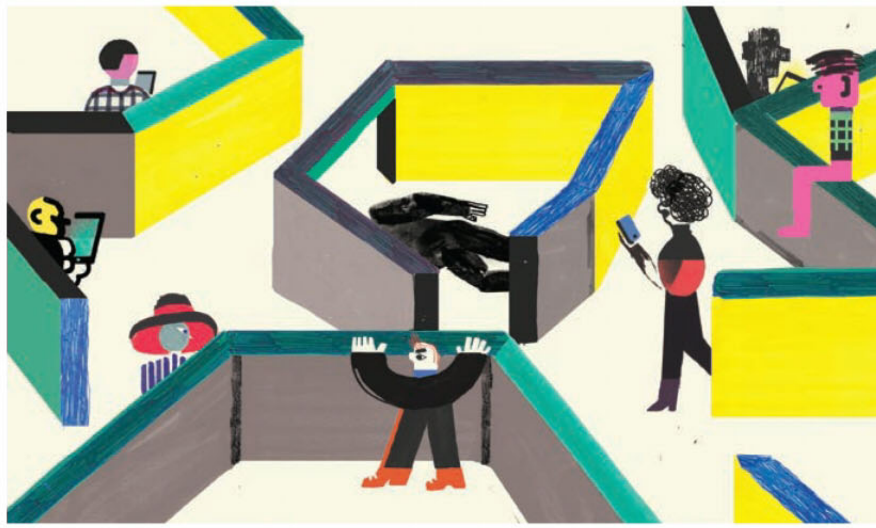
If you know how this one ends, turn the page. In 1969, on his commute home, Edward Packard, a lawyer for RCA Records, penned a story with an inventive twist: The reader would decide the plot turns. A decade later, Bantam Books picked up the concept in earnest, and the choose-your-own-adventure craze began.

Since then the concept of an interactive narrative has had as many branching paths and dead ends as its namesake (and copyrighted) format. Video games have evolved to feel like participatory movies, and 2016 brought us *Late Shift*, the "world's first interactive cinematic movie." Since 2011 the theater production *Sleep No More* has lured audiences for repeat viewings by offering viewers the chance to see new aspects of the story each time.

Mosaic, a miniseries from director Steven Soderbergh, is the latest, a rare attempt in Hollywood to relinquish control to the audience. It began as a free app in November and premiered on HBO on Jan. 22.

The app explores the small-town murder of children's book author Olivia Lake (the slinkily excellent Sharon Stone), a woman surrounded by questionable love interests and friends. The narrative is built around 15 "nodes" split among the points of view of key characters—a con artist (Frederick Weller), a handsome lover (Garrett Hedlund), a slimy best friend (a gleeful Paul Reubens in his element), and a local detective (Devin Ratray) seemingly in over his head. The *Rashomon*-like tale tugs on themes familiar to the whodunnit setup: There are no truths, only perspectives.

Watch one node, and you're given a choice: Continue down the path with



this character, or switch to a new one and gain another perspective. As you go, you'll unlock supplemental "discovery" information in the form of documents, web pages, and voice mails, as well as other storylines you may want to go back and explore. On the surface, it feels as if you should be able to hop around endlessly from person to person, but given that each node can be 15, 25, or even 60 minutes long, unraveling the mystery of Olivia Lake can feel plodding—a deconstructed season of television. Scenes can repeat two or three times; completionists, beware.

Yet something magical happens about two-thirds of the way in: *Mosaic* offers the potential that you'll come to the end in a way that is unique to you. The emotional ups and downs feel like your own creation. It's easy to forget Soderbergh is stringing you along.

When viewed on HBO in its six, Soderbergh-edited episodes, it's clear that *Mosaic*'s innovations don't quite subvert the suspense genre. Without choices, it's another passive, of-the-moment crime drama you'll either come to love or loathe. That basic-ness is likely a product of the setup—to achieve the complexity of the app's nonlinear storytelling, the story itself had to remain straightforward. (Similarly, Netflix Inc.'s attempt at interactive plotting started with a simple kid's cartoon, *Puss in Book*.) In style, *Mosaic* falls somewhere between Soderbergh's gleaming *Ocean's Eleven* and the more auteur-ish *Full Frontal* or *The Girlfriend Experience*. It's only in the app that *Mosaic* becomes unlike anything you've come to expect from prestige TV.

In the story, Olivia Lake's magnum opus is a book which, read one way, features a ferocious bear out to get a hunter. Read another way, it's about a fearsome hunter out to get a defenseless bear. Lake was so infatuated by the concept that she constructed a "story trail" on her property. When two characters, Joel (Hedlund) and Petra (Jennifer Ferrin), visit the trail for clues, Petra asks which way they should take. "Well, it's a circle," admits Joel, who lives on the property. "They both end up at the same place." Ⓑ

ILLUSTRATION BY SARAH MAZZETTI

Breville Oracle Touch

The easiest way to make perfect espresso drinks at home

Photograph by Ted Cavanaugh

THE CHARACTERISTICS
In its native Australia, Breville is synonymous with toasters. But since expanding to the U.S. in 2002, the company has been quietly unsettling a wide field of established brands with durable, high-performance induction burners and food processors. Its latest coup is in the automatic espresso market: The Oracle Touch uses an intuitive touchscreen to prepare—and re-create on command—your favorite espresso drink. An integrated conical burr grinder removes guesswork, and a steam wand, powered by a dedicated boiler, textures milk to your taste without requiring a doctorate in coffee science.

THE COMPETITION
Although it looks like an industrial-grade machine, the $2,500 Oracle Touch is meant to help java fiends make cafe-quality drinks at home. Jura Inc.'s $5,500 Giga W3 offers 31 espresso drinks, compared with the Oracle Touch's five, but Breville's precise temperature control produces more balanced espresso. The $3,000 Prima Donna S from De'Longhi SpA also has a double boiler to heat water, an integrated burr grinder, a self-cleaning milk wand, and a memory function to store preferences, but only the Breville regulates water pressure to prevent bitterness and get an even extraction.

THE CASE
The Oracle Touch's exacting technical standards for temperature, timing, pressure, and steam are the highest available to non-baristas. Once you load the commercial-style portafilter, all the tricky functions—grinding, dosing, and tamping—are automated. The dedicated steam boiler creates ideal milk temperatures for silky lattes. The machine's big selling point, though, is the color touchscreen that lets you customize and save favorite drinks, whether you like to add more foamy milk for a dry cappuccino or an extra shot (or two) for a potent Americano to kick-start the day. *$2,500; brevilleusa.com*

PROP STYLIST: CHLOE DALEY

Mounir Zok

The master sports technician getting America's Olympians on the podium. *By Eben Novy-Williams*

SOME OF THE MOST ADVANCED sports technology on the planet isn't being created at a shoe lab in Oregon or a moonshot factory inside Google. It's coming out of a guy's house.

Mounir Zok, the biomedical engineer in charge of the U.S. Olympic Committee's tech and innovation, brainstorms products and training aids from his home in Cupertino, Calif. Together with his team of engineers and specialists, he's produced, among other training gear, a set of connected glasses for the U.S. women's cycling pursuit team that projects performance data directly onto lenses. "Just like a butterfly can never be a caterpillar again," Zok says, "once an athlete starts using technology to peak when she wants to peak, limit injuries, and maximize performance, she can never go back to just intuitive training." The team used them to prepare for the 2016 Summer Games and won a silver medal.

Zok was born in Lebanon and studied physics at the American University of Beirut. He earned a doctorate in biomedical engineering from the University of Bologna and was working on a couple of tech startups, including one with various Italian Olympic teams, when the USOC called. Zok jumped at the job offer, moving his family in 2012 to the USOC's home in Colorado Springs. Four years later he was named director for technology and innovation and relocated to Silicon Valley. The move brought him closer to people who speak his language; in interviews he references the IoT (internet of things) far more than the IOC (International Olympic Committee).

For the Winter Games in Pyeongchang, Zok and his team built virtual-reality ski-training software and analyzed different ice types to determine which kind of skate blade is fastest in varying conditions. They also developed a skin suit that doubles as a full-body sensor, helping athletes get a more holistic view of their heart rate, skin conductance, speed, and muscle fatigue.

That level of wearable tech is likely years away from being available to consumers. Zok won't say who his partners were in the development process or even which athletes are using the suits; any hints might tip off Olympic engineers in other countries, erasing the USOC's advantage. "I call it the 1 percent question," he says. "Olympic events typically come down to a 1 percent advantage. So what's the one question that, if we can provide an answer, will give our athletes that 1 percent edge?" B

b. 1976, Beirut

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Once played bass in a band, because, he says, he wasn't good enough to play guitar

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Has been making his way west since birth, living in Lebanon, Cyprus, Italy, Spain, Colorado, and now California

ILLUSTRATION BY SAM KERR


Overview
Options
Portfolio
Depth
Profile
171.75
171.75
171.78
Sell
Buy