

● Babies = economic indicator 31

● Should you fear \$100 oil? 29

● 10 leadership speed-reads 66

# Bloomberg Businessweek

May 28, 2018 • SPECIAL DOUBLE ISSUE

## The New Volvo



[t.me/velarch](https://t.me/velarch)

How China's 36th-best car company saved  
the iconic Swedish brand 40

# When the Chips Are Down

**China's homegrown chip industry rallies in the face of the U.S. ban on ZTE** By Zhou Xiaoyan

Amid already fierce trade frictions between China and the U.S. are signs of a technology war between the world's two largest economies, with a leading Chinese telecom equipment maker caught in the crossfire.

On April 16, the U.S. Department of Commerce (DOC) imposed a seven-year ban on ZTE's purchase of crucial U.S. technologies, commodities, components and parts, including chips, for its alleged violation of the terms of a sanctions settlement.

On April 20, at a news conference in Shenzhen, in south China's Guangdong Province, ZTE Chairman Yin Yimin stated that ZTE will safeguard its legitimate rights and interests through all available legal means. On the same day, the DOC granted ZTE's request to submit more evidence. In a filing to the Shenzhen Stock Exchange on May 6, ZTE said that it had submitted an application to the DOC requesting the suspension of the business ban and had provided additional material at its request.

Since ZTE mainly imports microchips, a key component used in telecommunications equipment, from its U.S. suppliers, industry insiders predict that the company's production will come to a halt once its current chip inventory is used up. It remains to be seen whether the company can find a way back from this seemingly insurmountable setback.

One thing, however, is certain: The U.S. ban has brought into focus China's over-reliance on chip imports and the stagnant development of its domestically produced chips, especially for high-end products. Many in China are now calling for the country to speed up plans to develop and patent domestic chip technologies. The stock prices of Chinese chip makers rallied

on the news as more resources will likely be diverted into the sector amid a national bid to gain self-reliance in this and other key technologies.

## Laggard development

China is the world's largest market for integrated circuits (ICs), accounting for more than half of total consumption globally.

However, the country mainly relies on imports for most IC products. According to data from the General Administration of Customs, China has been importing over \$200 billion worth of microchips a year since 2013, with this figure reaching a record high of \$260.1 billion in 2017, roughly double the value of China's crude oil imports.

Data from the CCID Research Institute, a think tank under the Ministry of Industry and Information, show that 13 of the top 20 semiconductor manufacturers are U.S. companies, with sales of around \$180 billion in the Chinese market in 2017. Leading U.S. chipmakers Qualcomm, Broadcom and Micron realize half of their global sales in China.

Gu Wenjun, Chief Analyst with ICwise, a leading provider of market research and advisory services to China's semiconductor and electronics industry, said that the reason why China relies so heavily on chip imports is because domestic producers lag behind their global peers in almost every way, and that everyone has a share in the blame for this shortcoming.

"Chip users prefer global suppliers over domestic chip-makers, unless domestic ones have the same performance as global chips but cost less. They even use domestic companies as a bargaining chip when negotiating with their global sup-

pliers," Gu told *Beijing Review*, explaining that this has significantly narrowed the profit margin of Chinese chip makers.

"Things are the same when it comes to the chip-makers. They too prefer global suppliers over domestic ones, and continuously squeeze their suppliers' profit margin," Gu said.

Yuan Lanfeng, an Associate Researcher with the University of Science and Technology of China, said in an interview with Guan Video that the ZTE fallout has raised social awareness of technology self-sufficiency and could present a precious development opportunity for Chinese chipmakers.

Yuan said that the chip industry is extremely capital-intensive, requiring substantial investment to make technological breakthroughs.

"Chip users and chip producers have to cooperate from the very beginning—customizing chips according to user demand, testing chips in a real environment and finally starting production. The expenditure on developing and testing one kind of chip can easily run into the tens of millions of yuan before production," Yuan said.

"China has invested too little in the chip-making industry. China established an IC Fund in 2014, which accumulatively invested 81.8 billion yuan [\$12.9 billion] in the sector from 2014 to 2017. But Intel invested \$12.7 billion in 2016 alone," Yuan said. "You cannot expect Chinese researchers to achieve more with less funding than their global peers."

"The more we spend on research and development now, the more we'll save in the future," said Yuan.

## Seeking a new edge

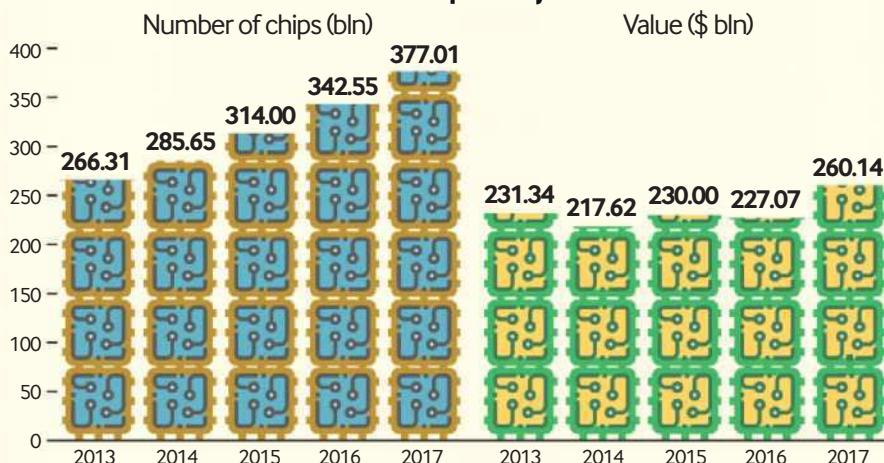
Experts predict that the domestic chip sector will enter a new phase of development as a result of the U.S. ban.

According to Yuan, the keys to development of the chip industry are more investment and luring more talent.

"Once more and more chip users realize that they cannot rely on foreign products, they will start using Chinese chips. Building a production line requires considerable investment. But once production starts, the marginal cost of producing more chips will be lower as shipments increase," Yuan said.

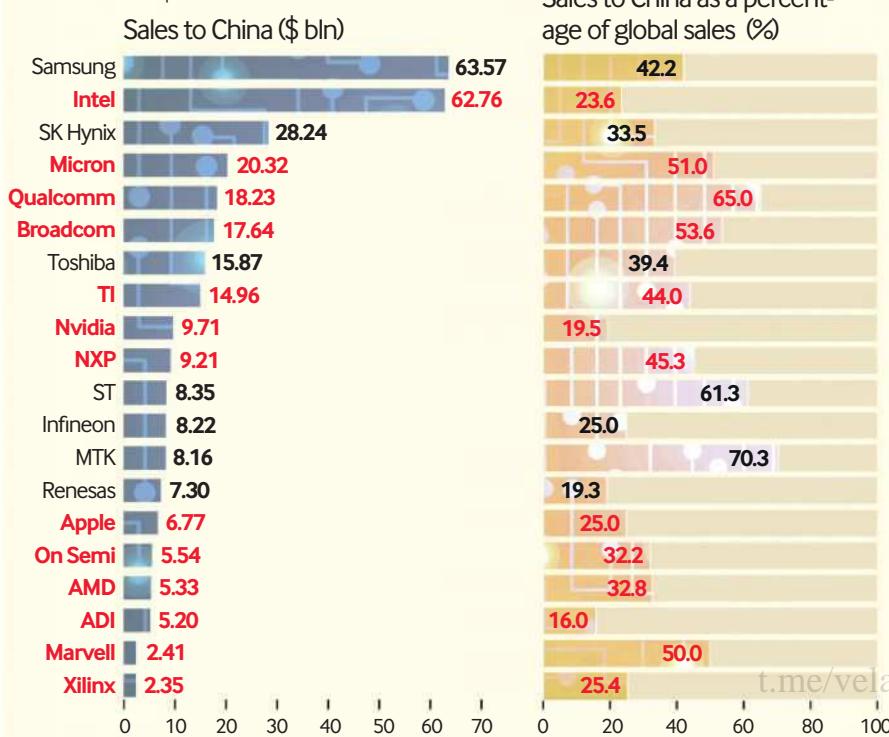
"Also, if we use China's market size to collectively negotiate with foreign suppliers, we could create more favorable conditions and a development miracle in which China

### IC Product Imports by China



### World's Top Semiconductor Companies' Sales Revenue in China (2017)

Red indicates U.S. companies.



Sources: General Administration of Customs, CCID Consulting. Designed by Pamela Tobey.

leapfrogs its competitors, as happened with China's high-speed railway sector," Yuan said.

The rapid growth of domestic chip-makers depends on a supportive environment from chip buyers—one in which they are willing to spend time, energy and

resources to grow together.

"Chinese companies should strengthen internal control, intensify investment in R&D and attach greater significance to core competitiveness," said Gu. "Chinese telecom equipment manufacturers should support domestic suppliers and not only

rely on foreign chips for convenience and lower costs. They should diversify their supply structure and give domestic suppliers a chance," he said.

In June 2014, China released guidelines on the development of the domestic IC industry, predicting that its annual revenue will reach 870 billion yuan [\$137.3 billion] by 2020, with technologies in key areas expected to reach leading global levels and materials and equipment entering the global supply chain. A fund has also been set up to support the industry's development.

"The training of talent and the stricter protection of intellectual property rights are also necessary. Moreover, China's homegrown chip industry should be integrated into the global industrial chain, and an atmosphere of cooperation should be created," Gu suggested.

### Tech giants chipping in

According to industry experts, artificial intelligence and the cloud-based Internet of Things are two major areas where China's homegrown chips stand a good chance of being able to compete with global players.

China's e-commerce giant Alibaba Group announced on April 20 that it had acquired IC design house Hangzhou C-SKY Microsystems in a bid to increase its own chip-making capacity.

Alibaba has previously invested in five chip manufacturers, including U.S. AI chip designer Kneron, and Barefoot Networks.

Alibaba's new research institute, DAMO Academy, is now developing a neural network chip to be used in artificial intelligence. The cost performance of the new chip is reportedly 40 times that of similar products currently on the market.

In addition to Alibaba, China's search engine giant Baidu is sparing no effort in the development of new-generation chips. In March 2017, Baidu released the DuerOS smart chip and began strategic cooperation with domestic and foreign chip producers, and in August 2017, Baidu launched a new type of chip in collaboration with U.S. chip maker Xilinx.

According to Gu, the growing presence of tech giants in the sector will definitely boost the domestic chip industry's development.

"But it will still take time and require diligent work," he said. ■



You could settle for 60 days  
of free trades.  
But you know better.

500  
commission-free online trades  
**for two years**

See how Schwab compares.



Competitor firm information obtained from respective websites as of 5/10/18.  
Offers are based on qualifying deposit of \$100,000. Competitor offers subject to change without notice.

Schwab is the **better** place for traders. [me/velarch\\_official](http://me/velarch_official)



[schwab.com/trading](http://schwab.com/trading)

*Own your tomorrow.*

Enroll in the offer and make a qualifying net deposit of \$100,000 to earn 500 commission-free online trades. Limited to one account per client. Trades are good for two years and include only base equity, ETF, and options commissions and option fees up to 20 contracts. Restrictions apply. See schwab.com/trading or call us for terms and conditions. Offer may be changed or terminated at any time without notice.

©2018 Charles Schwab & Co., Inc. All rights reserved. Member SIPC. (1017-70FG)



▲ J.M. Stuart Station, Adams County's biggest employer, is scheduled to close in June

[t.me/velarch\\_official](https://t.me/velarch_official)

## FEATURES

- |    |   |
|----|---|
| 40 | <b>How an Unlikely Marriage Rescued Volvo</b><br>Geely, once China's lowest-rated automaker, saved the day      |
| 44 | <b>A Big Merger Gets Jammed</b><br>What happens when Xerox, Fujifilm, and Carl Icahn get together               |
| 50 | <b>No One Is Coming to Save Adams County, Ohio</b><br>Why do Americans stay when their community has no future? |
| 58 | <b>When Harry Met Donald</b><br>An Indonesian mogul learns that Trump deals come with complications             |

■ IN BRIEF	7	Maduro declares victory; the China-U.S. trade war cools	How to Contact Bloomberg Businessweek
■ AGENDA	8	What's on the menu at Netflix's annual meeting	Editorial 212 617-8120
■ THE BLOOMBERG VIEW	8	Yes, the Volcker Rule needs simplifying. But be careful	Ad Sales 212 617-2900
<hr/>			
■ REMARKS	10	Why the Kim dynasty is skittish about economic reform	731 Lexington Ave., New York, NY 10022
<b>1 BUSINESS</b>	14	Baojun, GM's Chinese brand, is pedal-to-the-metal	Email bwreader @bloomberg.net
	16	An app pays for drinks, and twentysomethings love it	Fax 212 617-9065
<b>2 TECHNOLOGY</b>	18	Electric shocks treat pain without opioids	Subscription Customer Service URL businessweekmag.com/service
	20	Crypto scams are rampant. Just ask two of our reporters	Reprints/Permissions 800 290-5460 x100 or email businessweekreprints@theygsgroup.com
	21	Man vs. Machine: Botnik uses AI to generate funny	
<b>3 FINANCE</b>	23	House hunting? Bad credit? Angelo Christian is your man	Letters to the Editor can be sent by email, fax, or regular mail.
	27	Smart-beta funds aren't looking so smart	They should include the sender's address, phone number(s), and email address if available. Connections with the subject of the letter should be disclosed. We reserve the right to edit for sense, style, and space.
<b>4 ECONOMICS</b>	29	Higher oil prices don't sting the way they used to	
	31	The economy is back. Birthrates aren't. What's going on?	Follow us on social media
	32	Turns out coffee plants aren't just about the beans	
<b>5 POLITICS</b>	35	Mick Mulvaney works to de-Elizabeth Warren the CFPB	Facebook facebook.com/bloomberg/businessweek/
	38	U.S. sanction power may have reached its limit	Twitter @BW
<hr/>			
■ PURSUITS	63	Flat-track racing is plenty dangerous, and plenty exciting	Instagram @bloombergbusinessweek
	66	Critic: Ten leadership books, whom they help, and how	
	68	Travel: Want seclusion? How about your own little island?	
	70	Drinks: Vermouth, long gathering dust, is top-shelf again	
	71	The One: A telescope that puts galaxies on your phone	
	72	Game Changer: Proactiv's Katie Rodan and Kathy Fields	



Cover: Photography by Benjamin Rasmussen for Bloomberg Businessweek



TURKISH  
AIRLINES

# SEE MORE

WITH THE AIRLINE THAT FLIES TO  
MORE COUNTRIES THAN ANY OTHER



[TURKISHAIRLINES.COM](http://TURKISHAIRLINES.COM)

STAR ALLIANCE MEMBER



# BY CHOOSING SPAIN YOU WILL HAVE INVESTED IN STABILITY

There are many ways of writing the future.  
Ours is written in *future perfect*.

That's why it is the moment to invest in a country  
that looks ahead as one of the main economic engines in the eurozone.  
The moment to invest in a country full of opportunities.

More info: [www.tesoro.es](http://www.tesoro.es)

---

VALORES DEL TESORO: LETRAS | BONOS | OBLIGACIONES

---

● The Democratic Republic of Congo rushed to fight an Ebola outbreak, using an experimental vaccine from Merck.

Development of the treatment was spurred by the outbreak that killed more than 11,300 people across West Africa beginning in 2014.



● Venezuela's neighbors refused to recognize the result of its presidential election, in which fewer than half of voters cast ballots. Incumbent Nicolás Maduro declared victory.

● The U.S. House approved a sweeping bipartisan bill to roll back regulations on small and midsize banks levied after the 2008 financial crisis. The Senate had passed the legislation in March.

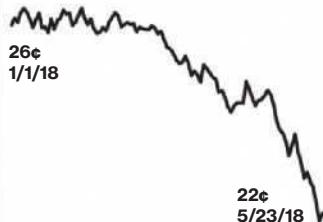
● Stacey Cunningham was named president of the New York Stock Exchange. Cunningham is the first woman to lead the organization in its 226-year history. Two of the three major U.S. exchanges are now led by women: Adena Friedman was appointed CEO of Nasdaq last year.



● The Vegas Golden Knights advanced to the Stanley Cup Final in their first year as an NHL franchise. Sports bookies initially laid 500-to-1 odds against their success, so the Knights could deliver some bettors a major windfall.

● China agreed to reduce its tariff on imported vehicles to 15 percent from 25 percent, while the Trump administration said it would no longer block U.S. tech companies from selling to mobile phone giant ZTE. Treasury Secretary Steve Mnuchin told Congress that this was "not a quid pro quo," and talks are ongoing.

● Turkey's central bank reversed its stance and raised interest rates on May 23 after the lira slid to a record low of 22¢ vs. the dollar.



● Sony said it would pay **\$2.3b** for a 60 percent stake in London-based EMI Music Publishing, which controls the rights to 2 million songs from artists including Queen, Carole King, and Kanye West.

● Four years into an aggressive turnaround attempt, J.C. Penney CEO Marvin Ellison agreed to take the top job at Lowe's, another embattled retailer.



● “What can I say? There are a lot of things I wish we had done differently over the last years.”  
t.me/veracruz\_official

Wells Fargo CEO Tim Sloan talked to Bloomberg Television about rebuilding trust with the bank's customers.

- Tiffany & Co. raised its profit forecast after a play for younger customers yielded 7 percent growth in same-store sales.
- Companies raced to comply with the EU's stringent General Data Protection Regulation, which took effect on May 25.
- French railroad workers soundly rejected President Emmanuel Macron's proposed overhaul of the state-owned system.
- In Georgia, Democrat Stacey Abrams became the first black woman to win a major-party primary for governor in the U.S.



## ► You Just Got Netflixed

At the streaming service's annual meeting on June 6, investors will focus on two key figures: subscriber growth, of course, but also spending on original content. The more Netflix produces, the harder it becomes for smaller services to compete.

► Investors in businesses associated with sanctioned Russian billionaire Oleg Deripaska must withdraw money by June 6 or risk U.S. sanctions themselves.

► Karim Baratov, who pleaded guilty to illegally accessing user information for hundreds of millions of Yahoo! email accounts, will be sentenced on May 29.

► The New Jersey Legislature is expected to pass a bill legalizing sports betting on June 7. Governor Phil Murphy hopes to sign it into law that day.

► The American Society of Clinical Oncology hosts its annual meeting from June 1-5, with most of the world's major pharma companies in attendance.

► Toshiba completes the \$18 billion sale of its memory chip unit on June 1. The buyers are a group led by Bain Capital.

► On May 29, Starbucks will close all 8,000 of its company-owned stores in the U.S. to conduct anti-bias training with its staff.

## ■ THE BLOOMBERG VIEW

# Volckerdämmerung?

- Simplify the rule, but focus on outcomes rather than trying to get into traders' heads

The Trump administration is drawing up a proposal to simplify the Volcker Rule, one of the most controversial pieces of the 2010 Dodd-Frank Act. This could be a desirable development, as long as it doesn't weaken a crucial safeguard against gambling with taxpayers' money.

The Volcker Rule has a worthy goal: Limit government subsidies to financial institutions. When authorities bailed out banks during the 2008 crisis, they found themselves propping up activities—including outright bets on securities and derivatives—that had little to do with providing credit. To narrow the scope of what taxpayers support, the rule largely prohibits deposit-taking institutions from speculating.

Congress, however, left regulators to define what speculating, or “proprietary trading,” actually meant. This was difficult, because legislators also agreed to exempt two activities hard to distinguish from it: market-making and hedging. Both involve buying and selling securities and derivatives, in the first case on behalf of customers, in the second to mitigate risks.

Regulators tried to put the burden of proof on banks. Positions held for fewer than 60 days are presumed to be proprietary trading unless a bank can prove otherwise, in

part by producing a slew of trading metrics. The idea was that examiners would learn to divine traders' intentions from the data. But they haven't. Worse, each agency can interpret the data in its own way. It's a mess.

The various regulators—the Federal Reserve, the Federal Deposit Insurance Corp., the Office of the Comptroller of the Currency, the Securities and Exchange Commission, and the Commodity Futures Trading Commission—are close to proposing changes. Bloomberg has reported that they plan to drop the 60-day presumption, allowing banks more leeway to decide how to comply.

This could make sense, but not if it leaves the basic question—what is speculation?—unanswered. Banks still won't be sure how to comply. And taxpayers could find themselves back in the business of subsidizing proprietary trading.

A better way might be to focus on outcomes, not intent. Speculative trading differs from market-making and hedging in seeking to profit from price movements. That makes it prone to big gains and losses. Setting a conservative threshold for volatility, typically lower than that of the broader market for the relevant assets, would draw a bright line. Breach it, and you'd have to explain yourself.

Granted, some speculative activity might slip through, just as now. But the key is to limit risk to taxpayers while lifting the burden of reporting and compliance, which this would do. The stringency of the rule would depend on where regulators set the threshold: Done right, simpler could even be stronger. ■

## ABU DHABI IS BUILDING THE LARGEST REFINING AND PETRO-CHEMICALS SITE IN THE WORLD. THIS IS WHY.

**W**hile oil and gas remain essential to fuel the global economy, sharp growth in new energy demand is coming from manufacturers of refined products such as petrochemicals and polymers, which are used to make everything from pharmaceuticals, food packaging and car parts to cosmetics, pipes and paints.

To meet this demand, Abu Dhabi National Oil Company is transforming to become a major global downstream player. At the heart of its downstream expansion strategy is an investment and development program at the Ruwais Industrial Complex, which will grow to become the largest refining and petrochemical site in the world.

## RUWAIS: A \$45 BILLION OPPORTUNITY

Ruwais leverages Abu Dhabi's cost and quality advantages: abundant, high-grade raw materials, on-site integration with best-in-class infrastructure, and its position at the center of global trade.

The world-class, world-scale refining and petrochemicals hub will include one of the world's largest mixed-feed crackers and an aromatics unit to produce a full range of petrochemicals; an ecosystem to support the development of new downstream industries; and a comprehensive investor package.



CREATION OF RUWAIS DERIVATIVES & CONVERSION PARKS



TRIPLING PETROCHEMICAL CAPACITY BY 2025



DOUBLING CRUDE REFINING CAPACITY BY 2025



RUWAIS CITY EXPANSION



CREATING 15,000 + JOBS BY 2025 (DIRECT & INDIRECT)

As the new Ruwais Industrial Complex projects come to fruition, the population of Ruwais City is expected to more than double to 55,000 and will benefit from planned new infrastructure including housing, schools, hospitals, parks and other community facilities.



CREATING NEW PARTNERSHIPS & OPPORTUNITIES

Partners and investors can participate by bringing operational expertise, financial acumen, technology or market access. They will benefit from Abu Dhabi's reputation as a safe, reliable and trusted long-term partner and its stable and investment-friendly business environment.



ENABLING ACCESS TO NEW MARKETS

By 2040, worldwide energy consumption will expand by at least 25%, driven by fast-growth economies such as China and India. OECD countries will account for more than 70% of global demand. More than two thirds of the demand for downstream products will come from markets east of Abu Dhabi.

[t.me/velarch\\_official](https://t.me/velarch_official)



CONTRIBUTING 1% TO ANNUAL UAE GDP GROWTH

ADNOC's in-country value strategy aims to significantly increase the company's contribution to the UAE economy by sourcing goods and services locally; increasing opportunities for international and local businesses; creating employment opportunities in Ruwais; and supporting the UAE's Emiratization initiative by localizing critical parts of its supply chain.



For information about **ADNOC's** downstream strategy visit [www.adnoc.ae/en/strategy2030](http://www.adnoc.ae/en/strategy2030)

## ■ REMARKS

**Now You See Kim...**



## ● The communist dynasty's fits and starts stem from an economic Catch-22: Reform may prove suicidal

● By Marc Champion

Back in 1989, as the communist bloc began its tumultuous collapse, North Koreans were more than twice as wealthy as their comrades in China. Then came the Chinese economic miracle, offering the most successful formula for transition from poverty to prosperity in recorded history. Across the border in Pyongyang, however, the ruling Kim dynasty resolutely declined to follow.

Just why successive North Korean leaders—not only Kim Jong Un, but also his father Kim Jong Il and grandfather Kim Il Sung—were so reluctant to embrace change is an enduring puzzle. The Beijing model, after all, managed to pull off a rare trick, delivering market-led growth, integration with the global economy, and entrenched Communist Party rule all at the same time.

As recently as 2016, in a party congress speech, Kim still championed his country's heroic, guns-over-butter resistance to the “wave of bourgeois liberty and wind of ‘reform’ and ‘openness’ around us”—a thinly veiled rebuke to China.

His more recent comments suggest a shift. He has charmed South Korea with talk of opening up for investment, at least in restricted economic zones. And he's talked of switching focus from the development of North Korea's nuclear arsenal to concentrate full time on a more China-like “socialist economic construction.”

Whether that represents a true change of heart, or just a tactical retreat in the face of sanctions that reduced trade with China by more than 60 percent in the first quarter, is impossible to know for sure. What's clear is that Kim and his family have long seen the opening up of the state they so ruthlessly isolated from the rest of the world as a severe risk to the legitimacy of their rule.

That perception helps explain the sometimes-bizarre frailties of the North Korean economy, which the government sustained with coal, textiles, narcotics, counterfeit greenbacks, and more recently cybertheft rather than submit to reform. It may account, too, for some of Kim's hot-again-cold-again approach to his planned June 12 summit with Donald Trump, which the Korean leader first proposed and then threatened to cancel. In one sense, the Kim regime's reluctance to embrace change is brutally simple: “Had the government instituted Chinese-style openness and reform 25 years ago, the top leadership would either be dead or in prison,” says Andrei Lankov, a regular visitor to the North who studied in Pyongyang as a Soviet citizen.

It's a fate that could yet await Kim—as John Bolton, Trump's

national security adviser, reminded him earlier this month when he demanded that North Korea accept a nuclear deal modeled on the one former Libyan dictator Moammar Qaddafi signed in 2003. (Qaddafi was butchered in the streets of the city of Sirte eight years later, following a Western military intervention against him.) When Pyongyang then threatened to call the summit off, Trump warned Kim that he could also end up like Qaddafi if he doesn't negotiate an end to sanctions. Whatever the wisdom of U.S. megaphone diplomacy, it described perfectly the Catch-22 Kim faces.

Both the cult of personality that surrounds the dynasty and North Korea's rare condition as one-half of a divided nation have made the seemingly obvious solution to the country's transition unappealing, according to Lankov, now a professor of history at South Korea's Kookmin University. In China, he says, the Politburo could declare Mao Zedong 70 percent wrong and embrace private property. But any acknowledgment of imperfection in Kim Il Sung—the “Heavenly Leader” who North Korean school kids are taught almost single-handedly defeated the Japanese in World War II—remains an untouchable live wire. Kim can't afford to question the wisdom of his father or grandfather in what has always been as much a monarchy as a communist state.

South Korea is twice as populous and holds an equal claim to govern the peninsula should reunification take place. That makes the success of the South, achieved without the blessings of the Kim family's leadership, potentially destabilizing for the North and dangerous to the dynasty. The gap in gross domestic product per capita between North and South is probably the widest between any two neighboring countries on Earth—a multiple of 22 in 2016, according to the Bank of Korea. Opening the borders would not only reveal the threadbare nature of the Kim regime's legitimizing mythology but could also trigger mass migration and economic colonization. “The new capitalism in North Korea wouldn't be built by North Korean officials, but by the managers of Samsung and Hyundai,” says Lankov.

It isn't that nothing has changed in North Korea since 1989. A lot has. A market economy has been growing from the bottom up, ever since a famine—mislabeled the “Arduous March” by the government—cratered the old system in the 1990s. Parts of the economy, including textile mills, have become low-cost parts of the Chinese industrial supply chain. More recently, Kim has begun not only to tolerate the de facto private economy but also to support it in small ways, such as giving more decision-making freedom to the managers of state-owned businesses. Reliable data on North Korea's economy are scarce to nonexistent, but recent visitors to the North say they saw few outward signs of economic distress from the latest sanctions. Pyongyang is now home to a mini-construction boom, as well as a burgeoning middle class and the cafes to serve them.

Still, China's GDP per capita is about eight times as high as North Korea's. Private property and enterprise remain nominally illegal, cohabiting uneasily with the remains of a broken command economy. And despite the North's high levels of literacy and education, the strides China has made ►

## ◀ in artificial intelligence and robotics are a distant dream.

"It wouldn't be correct to say they have taken no steps to reform, there were initiatives," says Benjamin Katzeff Silberstein, a Korea specialist and associate scholar at the Foreign Policy Research Institute, a Philadelphia think tank. But the leadership hasn't been willing to take the risks needed to make those policies transformative. Nor is it clear the leaders are willing now to do more than take what they see as free money and limit foreign investment to special economic zones, he says.

What is clear is that the challenges posed to Pyongyang by systemic reform and a Chinese-style opening to the global economy haven't gone away. They will remain rational constraints on Kim's decision-making if and when he meets Trump on June 12.

The roots of the Kim dilemma lie in the brutality of the 1950-53 Korean War, during which as much as a quarter of the North's population was killed. The U.S. Air Force bombed urban centers until, in 1951, Major General Emmett O'Donnell could testify to the Senate Armed Services Committee that there were "no more targets in Korea." No peace treaty was signed, and Kim Il Sung retained the military discipline of the war to mobilize his population for a peacetime recovery.

The North Korea that emerged was more Stalinist than Stalin's Russia. Kim Il Sung, however, didn't die until 1994, more than 40 years after the Soviet leader who had engineered his installation in Pyongyang. Wartime rationing and bans on private business were never lifted, producing a virtually cashless economy under tighter political control than in other postwar communist countries. That worked, just, until the famine.

Faced with starvation, the population began freelancing outside the broken state system to survive. What emerged since the 1990s "is a very peculiar economy, about half-planned and half-market," says William Brown, who spent a career analyzing North Korea for the U.S. Central Intelligence Agency. He now lectures on East Asian economies at Georgetown University in Washington, D.C. Workers at the state-run Pyongyang textile mill earn about 3,000 won per month, a street value of about 40¢, says Brown. They also pay nothing for their housing or utilities and receive food rations from the state. Factories that export their products are allowed to pay their workers up to 30,000 won a month in exchange for reduced benefits, he says. Meanwhile, Chinese-owned mills are allowed to pay 300,000 won, although their workers receive no state benefits at all. "People try to arrange it so that one of a husband-and-wife team works in the state sector, so they get free rent and power, and the other is out in the market economy earning cash," says Brown.

The effects of this hybrid system are most obvious in the energy sector. In the old economy, coal produced from North Korea's mines would be allocated to the nation's power plants, which then distributed electricity to the

population at virtually no cost. That's still supposed to happen, but at least until sanctions hit, the temptation to export power to China for hard currency was strong. Plant managers distributed bribes all the way up the system to make it possible, according to Brown. Power from the grid remained cheap in theory, but unreliable for ordinary people in practice because the coal to produce electricity was going across the border. North Koreans responded by buying Chinese solar panels to power their homes. In recent photographs these can be seen attached to rooftop masts, to discourage theft.

A third, "court" economy, meanwhile, secures hard currency for the elite by trafficking illegal goods abroad. According to numerous accounts, this business is run by an agency known as Office 39. In *Illicit: North Korea's Evolving Operations to Earn Hard Currency*, a 2014 study by the Washington-based Committee for Human Rights in North Korea, Sheena Chestnut Greitens used data from contraband seizures and defector testimony to trace the regime's criminal ventures back to the 1970s. That's when about a dozen North Korean diplomats were expelled from Scandinavian countries for smuggling alcohol, cigarettes, and hashish, using their diplomatic pouches as a distribution network.

Later, according to the study, the government switched to using foreign organized crime syndicates to sell heroin, manufactured from state-mandated poppy farms, methamphetamines, and counterfeit cigarettes and pharmaceuticals. The U.S. government has also accused North Korea of producing the world's most sophisticated counterfeit dollars, known as "supernotes," beginning in 1989.

North Korea's government has dismissed such claims, and some analysts also question the data, much of which comes from governments keen to discredit Pyongyang. The study found that since 2005, intercepts of North Korean smuggling have fallen sharply, even as claims of cybertheft—including North Korea's alleged ties to 2016's \$81 million cyberheist from the Bangladesh central bank—have risen.

At next month's summit, Kim may just be looking to defuse military tension with the U.S. and forestall the inevitable financial squeeze as a rising current account deficit caused by sanctions burns through the nation's foreign currency reserves. China accounted for 83 percent of North Korean exports by 2016, and its decision to join a series of United Nations sanctions last year as North Korea tested intercontinental ballistic missiles and a powerful nuclear weapon appears to have been decisive. Questions remain about how strictly China implements the sanctions, but by November, Chinese customs data showed no exports of oil products to North Korea at all, as well as sharp cuts to shipments of corn and rice.

It's also possible, however, that Kim sees the summit and nuclear talks as an opportunity to do what he and his predecessors have never dared before: to push the hermit kingdom onto a path of much broader, Chinese-style economic reform that would make it a more normal if still authoritarian state. If so, says Katzeff Silberstein, "politically, that's going to be very difficult to do." ■

# EARN 60,000

## AMERICAN AIRLINES AADVANTAGE® BONUS MILES AFTER

spending \$3,000 in purchases within  
the first 3 months of account opening.

LIMITED-TIME OFFER



Olympic National Park, WA

CITI® / A ADVANTAGE® PLATINUM SELECT® MASTERCARD®

DOUBLE DOWN ON ADVENTURE WITH:

**2X** MILES AT  
RESTAURANTS  
NEW!

t.me/velarch\_official  
**2X** MILES AT  
GAS STATIONS  
NEW!

Apply today at **citi.com/adventure1**

American Airlines reserves the right to change the AAdvantage® program and its terms and conditions at any time without notice, and to end the AAdvantage® program with six months notice. American Airlines is not responsible for products or services offered by other participating companies. For complete AAdvantage® program details, visit [aa.com/aadvantage](http://aa.com/aadvantage). American Airlines, AAdvantage and the Flight Symbol logo are trademarks of American Airlines, Inc.

Citibank is not responsible for products or services offered by other companies. Cardmember benefits are subject to change. ©2018 Citibank, N.A. Citi, Citibank, Citi with Arc Design and Platinum Select are registered service marks of Citigroup Inc. Mastercard and the Mastercard Brand Mark are registered trademarks of Mastercard International Incorporated.



● With models starting at \$6,000, its Baojun brand targets buyers in China's less affluent interior

For much of the past decade, sales of global automakers were buoyed by demand from China, whose residents have eagerly snapped up locally produced versions of pricey foreign cars such as Daimler's Mercedes-Benz, Volkswagen's Audi, and BMW's namesake sedans. Yet General Motors Co. has not only fared well with its premium-priced Buick line, it's killing it with Baojun, a made-for-the-mainland brand that sells for as little as \$6,000.

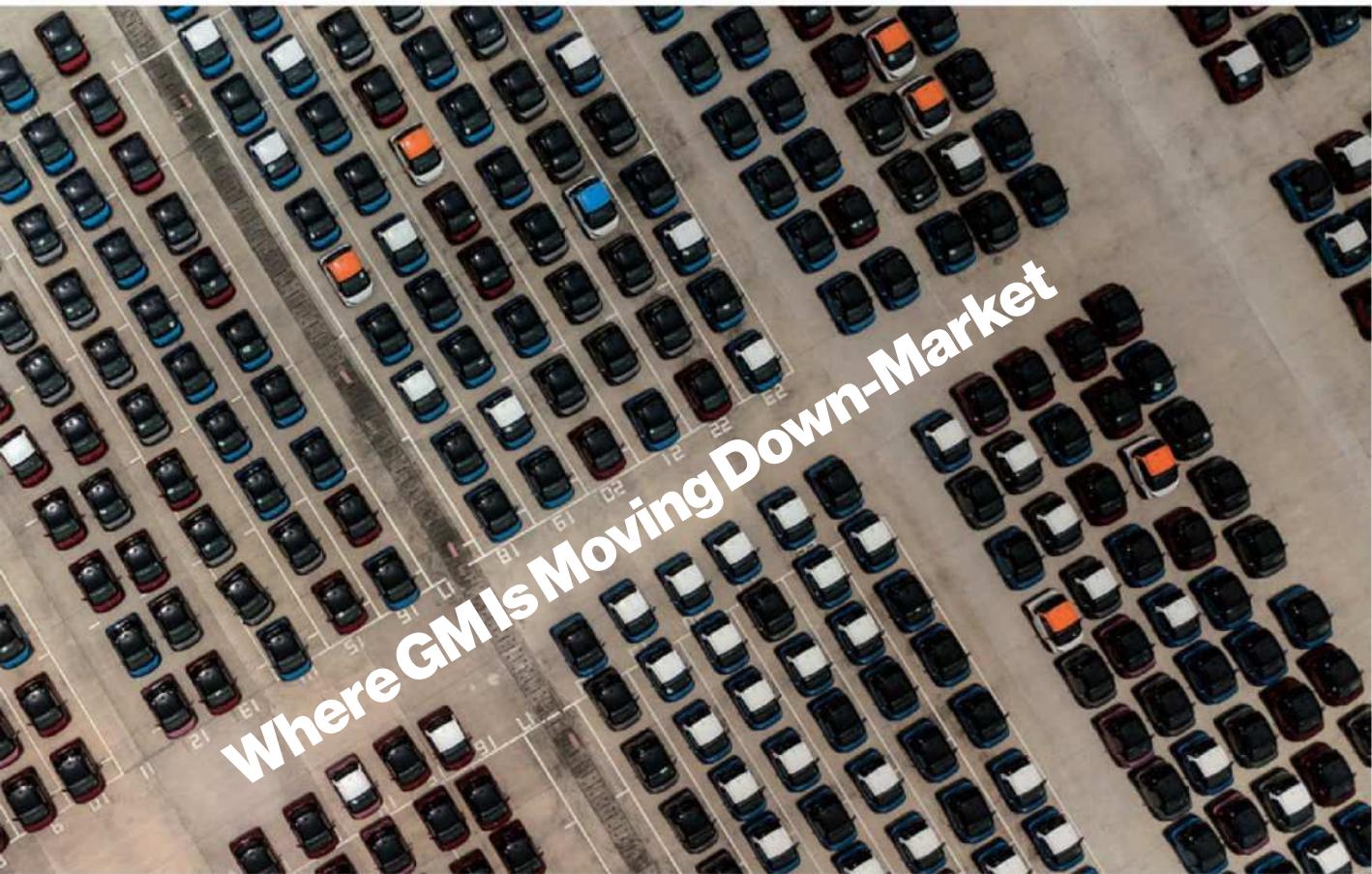
There was a method to the down-market move. GM figured the next wave of car buyers in China would come from the smaller cities, especially in the interior of the country, where the middle class is growing and people are buying more cars. Baojun sales are up tenfold since 2013, to 1 million cars last year, more than Chevrolet and not far behind Buick.

GM rode the postwar economic boom in the

U.S., when legendary company Chairman Alfred Sloan Jr. had a brand for "every purse and purpose." Chevrolet was the entry car, with wealthier buyers moving on to Pontiac, Oldsmobile, Buick, and eventually Cadillac. GM is making a similar play in China, with Baojun as the Chevy. "If the smaller cities are growing faster than major cities, we're positioned for it," says GM President Dan Ammann. "We're the only major carmaker there with our own brands and a local brand."

Growth in China is vital for GM because the company has retrenched in or left several other large markets. In 2017 it ended almost 90 years in Europe, having lost close to \$20 billion there since 1999; last year it also left India, where its profit margins were low; it fled Russia in 2015 in response to political and economic instability.

It's a far different story on the mainland. GM and its partners sold 4 million vehicles in China in 2017, about 1 million more than the automaker sold in the U.S. General Motors China Inc. earned about \$2 billion last year, about 18 percent of its parent's global profit. Annual auto sales in China are expected to increase by 5 million vehicles in five years, to more than 34 million, says researcher LMC Automotive Ltd.



## Where GM Is Moving Down-Market

Since a lot of that growth will be in less expensive cars, Baojun has been building out its dealerships in midsize cities and even pushing into Beijing and other larger cities. The brand markets itself under the tag line “Your Reliable Partner,” to underscore Baojun’s proposition of offering reliable cars for a low price, says Matt Tsien, president of GM China.

The tiny Baojun 310 hatchback sells for less than \$6,000. The 560 full-size sport-utility vehicle goes for about \$11,000, and the 730, a seven-person van, tops out at \$18,500. Chevrolet models tend to start where Baojun prices peak, Tsien says.

The cars aren’t stripped down, Tsien insists. They have air conditioning, power windows, and large touchscreens for infotainment systems. Still, they usually have manual transmissions and lack advanced features such as automatic emergency braking, lane departure warnings, heated steering wheels, and OnStar connectivity.

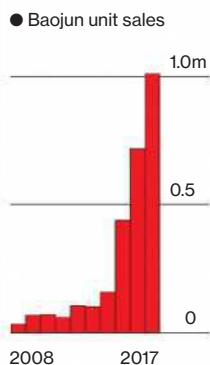
Baojun has been around only since 2010. Its roots come from GM partner Wuling Motors, which is known for small, cheap commercial vans and trucks that many consumers bought as family vehicles. GM and another Chinese partner, SAIC Motor Corp., formed a three-way joint venture with Wuling in 2002 to make more commercial vans.

When Chinese domestic brands such as Chery International, BYD, Geely Auto, and FAW Group began growing a decade ago, GM decided it needed a local brand to reach burgeoning markets that are far from the prosperous coastal cities. So GM and its two joint-venture partners created Baojun, which means “treasured horse” in Chinese. Its focus: low-priced rides.

To spur growth, Baojun has more recently been making bigger vehicles that cater to middle-class families, especially those with more than one child, says Luo Guifeng, sales director of Longsheng Junda Car Sales Service Ltd., a dealership in Beijing. “Baojun’s consumers are becoming younger,” he says. “The proportion of middle-class families is growing, while before migrant workers were our main consumers.”

Qian Weijin, 41, who runs an ad agency in Liuzhou, bought a Baojun E100, the brand’s electric car, which has a list price of \$14,000 but cost Qian only about \$5,200 after government subsidies. He said the design is “cute,” and he liked that it came in a variety of colors. The brand is already seen as reliable, so the better styling is getting people to take a look, he says. “It is definitely not some premium brand, but it’s a good value,” Qian says. “It ►

▲ Newly built Baojuns lined up at GM China’s factory in Liuzhou



◀ won't allow you to brag, but it won't make you ashamed of it either."

As Baojun cars get bigger and more expensive, their prices will climb into Chevrolet territory, Tsien says. But a Chevy that seats seven passengers will have more features and elbow room and a higher price than a Baojun that carries the same number of people. Says Tsien: "We don't see overlap happening for a good long time."

Tsien says that despite its lower prices, Baojun is a solidly profitable business. That's because its plant is new and efficient and the wages are lower than on the coast, where GM builds its other brands. In Liuzhou, autoworkers make \$5 to \$7 an hour, compared with \$10 an hour in Beijing or Shanghai, says Ron Harbour, a senior partner with consulting firm Oliver Wyman in Detroit.

That will fatten the bottom line as Baojun makes bigger vehicles that sell at heftier prices. Since 2017 the brand has started selling three of its models for at least \$10,000, and two of them get closer to \$20,000 with options.

In China's largest cities, the government is limiting car sales to control congestion. So Tsien says that China's "smaller" cities—those with just several million residents—will be where much of the auto industry's growth is centered. Take Liuzhou, where the Baojun plant is located. It's tiny compared with

Beijing and Shanghai, but the metro area has close to 4 million people. That's bigger than Seattle, providing plenty of potential demand as local incomes rise.

GM will eventually need the financial bump from Baojun as well. Its U.S. business is a cash cow, but it isn't gaining many new buyers. Even in China, Buick sales fell by almost 40,000 vehicles last year, to just under 1.2 million. Chevrolet sales rose to 560,000 last year, but they're down 100,000 from their peak in 2014.

"Buick has reached critical mass and will be about flat this year," says Jeff Schuster, senior vice president of forecasting for LMC Automotive. Baojun will grow from about 1 million vehicles a year today to 1.5 million by 2023, he says. That would make it bigger than Buick in China.

For now, sales increases at Baojun and Cadillac are making up for the static sales at Buick and Chevy. Together, those brands are the main reason GM saw profit in China rise 18 percent in the first quarter, to almost \$600 million. "We've seen the first chapter of growth in China," Tsien says. "Now we're ready for the second one, and there is plenty of opportunity to grow." —David Welch, with Yan Zhang

**THE BOTTOM LINE** Sales of GM's Baojun brand have increased tenfold since 2013, thanks to a successful bet that an expanding middle class in China's interior would spend heavily on cheap rides.



● The E100, Baojun's inexpensive electric two-seater

## This Round's on My App

● Drinki offers free cocktails to consumers—and a marketing boost to liquor producers

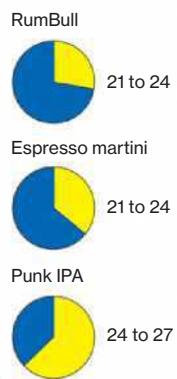
As offices in London's financial district clear out on a Friday evening, workers and students shoulder their way into Shoreditch Grind, a landmark of London hipsterdom in a once-gritty industrial zone. Some come for the hip-hop and indie-rock soundtrack, some for the burgers and smoothies. And this evening, many have come for a free cocktail courtesy of an app called Drinki. "It's helped me discover so many new drinks and places," says Alice Tuck, a 23-year-old psychology student who uses the app frequently on nights out. "It's an absolutely great incentive to discover London without busting your wallet."

About 250,000 people use Drinki, which has signed up spirits makers such as Pernod Ricard and Diageo. For millennials, it's catnip: Those willing

to disclose their age, gender, and email address get free cocktails at more than 100 pubs across England. They simply show the bartender a code and rate the drink when it's bottoms up. Bars like it because distillers often foot the liquor bill and the patrons typically stick around and buy another round or two before moving on. And for producers in the \$1.5 trillion alcohol trade, Drinki offers a wealth of data on hard-to-track millennials, helping to hone their product lineups and promotions. "We've seen some really good results," says Sophie More, U.K. marketing chief at Scottish beermaker BrewDog Plc, which is working with Drinki to offer samples of its Punk IPA at 25 London pubs. "We want to get people out and trying their first pint" of the company's flagship brew.

● Gender split and average age of London drinkers, by drink

■ Female ■ Male



Former bond trader Tariq Aris and ICAP Plc broker Sophie Abrahamovitch co-founded Drinki Ltd. in 2014, and Paul Walsh—chief executive officer of Diageo Plc for 12 years—serves on the advisory board. Liquor producers pay the app maker for information such as how much time customers spend in a bar and what they consume at other Drinki promotions. With subscriptions growing more than 20 percent per month over the past year, Drinki expects to reach profitability by next spring. Aris says the business is raising £500,000 (\$675,000) in a funding round that values it at about £5 million. “For the drinkers and the brands using the platform, Drinki’s a mutual benefit,” Aris, 38, says, sipping an espresso martini, the app’s offering for the evening.

For alcohol producers, data from the app helps drag an advertising model based on billboards and television spots into the modern era. These days word-of-mouth is more potent than conventional campaigns—smartphone-addicted millennials are hard to reach via traditional media, and health regulators are increasingly cracking down on liquor promotions. Offering people “a destination to start the night out gives Drinki an emotional and very powerful role in the customer’s social life,” says Michelle Du-Prat, co-founder and strategy director at branding agency Household.

Brands using the app have included Pernod Ricard’s Beefeater gin, Diageo’s Hop House 13 lager, and Heineken’s Czech brew Krusovice. Distiller William Grant & Sons Ltd. last year partnered with Drinki to promote its Drambuie whisky liqueur at London bars, offering a Drambuie Collins cocktail made with mint leaves, lemon juice, and soda. Energy-drinks giant Red Bull GmbH, seeking to diversify from being a simple vodka mixer typically consumed in the wee hours, has hired Drinki to promote cocktails such as the RumBull: rum, bitters, Amaretto, and tropical-flavor Red Bull. The app limits free drinks to one a night, but brewers and distillers can offer discounts on follow-up rounds, letting them track whether customers stick with their brand or switch to something else.

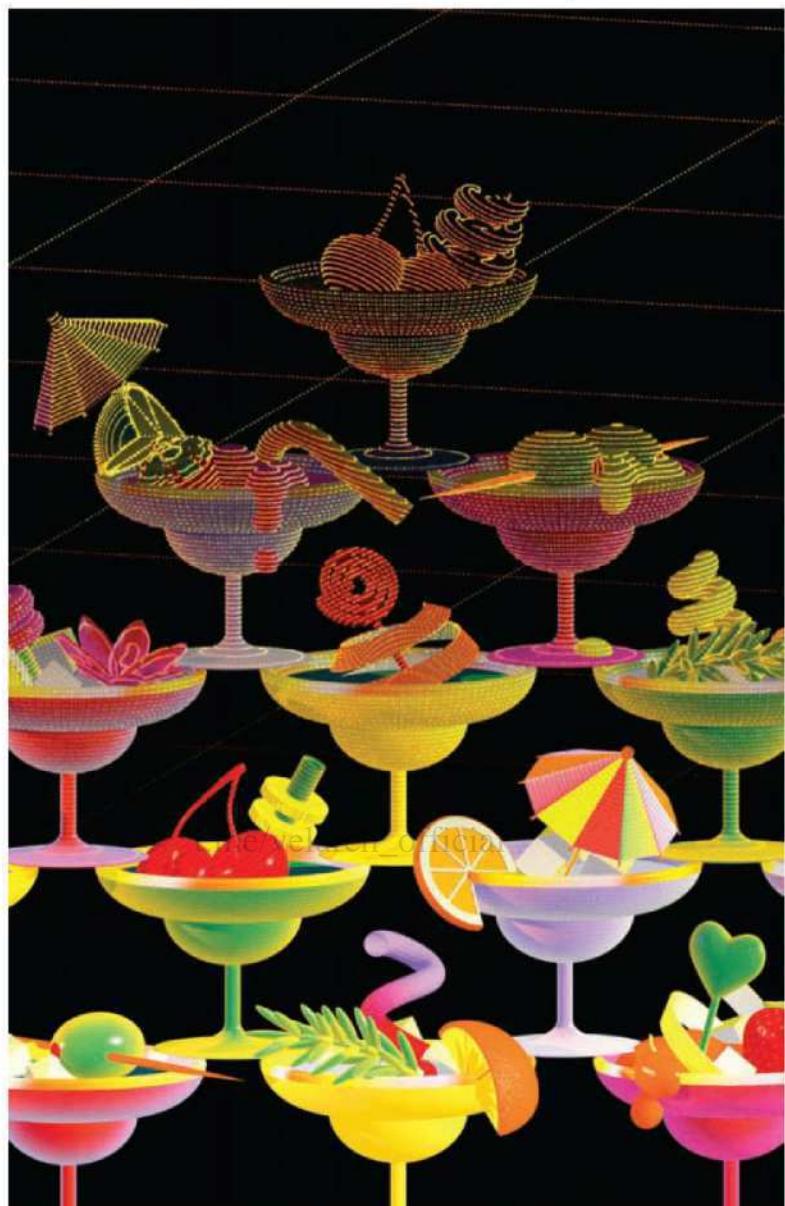
Drinki faces a growing roster of rivals with equally goofy names such as Pubster, Frynx, Chug, and Sluggr. Hooch Inc., a New York company that launched in 2015, has raised about \$8 million and includes doom-and-gloom economist Nouriel Roubini as an investor. The app, which costs \$10 a month for free drinks at selected bars, has signed up more than 500 venues in the U.S. and Hong Kong.

Aris says he’s not worried about the competition, as many rivals charge subscription fees, vs. Drinki’s model that’s totally free to consumers. He

has agreements with several pub chains, providing potential access to thousands of venues across the U.K.—currently his only market while he irons out any kinks. He aims to eventually expand abroad and expects within the next year to put the app’s data to use in other areas of nightlife, for instance letting subscribers signal other users that they’re single. “Drinki wants to help the customer with everything they do at night, whether finding the right venue, viewing the drinks menu, and ordering drinks, all the way to socializing,” Aris says. “These are the basic needs everybody has on a night out, and we want to use technology to facilitate that.”

—Thomas Buckley

**THE BOTTOM LINE** With freebies from Diageo, Pernod Ricard, and other liquor makers, Drinki has signed up 250,000 people. The number of users has grown 20 percent monthly for the past year.



## TECHNOLOGY

## A Good Kind of Shock

Patients who once relied on heavy narcotics to treat their suffering are turning to costly surgical implants instead

Like millions of people caught up in America's opioid crisis, Rick Surkin used to take a pill just to get out of bed in the morning. Until last year, the former firefighter relied on thrice-daily doses of the powerful painkiller OxyContin to numb the agony from a ruptured disc in his back. "You can take enough pills to mask the pain, but they take over your life," he says. He's been able to get back on his surfboard, and into the California surf shop he manages, because a medical implant sends 10,000 pulses of low-voltage electricity through his spine per second.

<http://me/vefurch> official

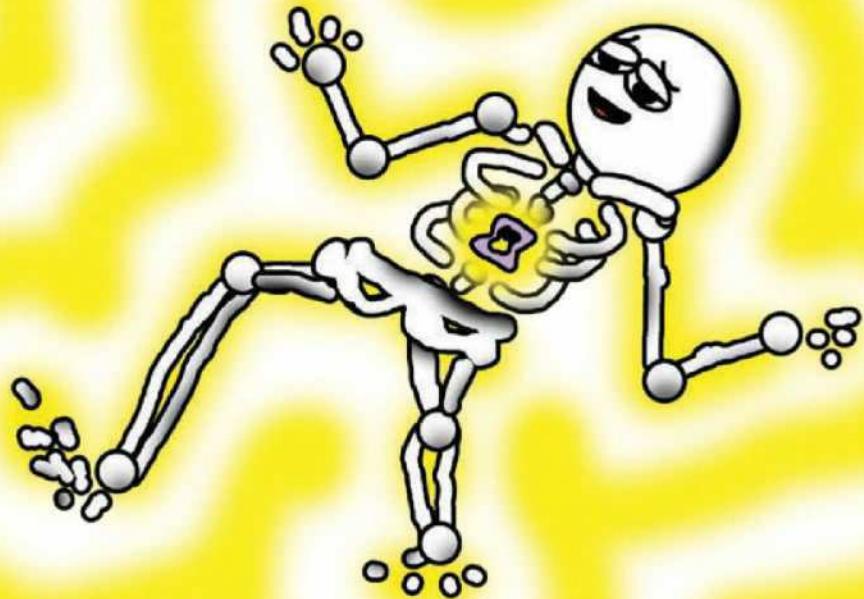
The series of tiny shocks, known as neuromodulation, has kept Surkin comfortable enough to ditch Oxy. "There is a lot more time I'm pain-free now," he says. That allowed the 64-year-old to resume his outdoorsy lifestyle, and the benefits are more than just physical: His increased energy and better moods have helped revive his relationship with his wife. "I'm back to the person she married," he says.

After a half-century on the fringes of medical science, neuromodulation is becoming a mainstream alternative to painkillers for those who

May 28, 2018

Edited by  
Julie Alynwick and  
Jeff Muskus

Businessweek.com



can afford it. Sales of spinal stimulators, used mainly to soothe nerve pain in legs and backs, rose 20 percent, to \$1.8 billion, in the U.S. last year. Doctors see potential for similar therapies to treat migraines, neck pain, and other ailments that afflict millions. "Particularly as opioids are being limited, you want physicians to have an option that gives this sort of an impact," says Rami Elghandour, chief executive officer of Nevro Corp., the maker of Surkin's implant.

The idea dates to Roman times, when people applied controlled shocks from electric fish such as the black torpedo to treat everything from migraines to gout. The first modern spinal implants arrived in 1967, adapting the technology used in pacemakers. Those early devices were touchy: An errant shrug could deliver an unexpectedly large shock, rendering everyday tasks such as driving off-limits.

Surkin injured himself while training with other firefighters in his hometown of Huntington Beach, Calif. He grabbed a 35-foot extension ladder the wrong way and ruptured a disc. His distress persisted through four major surgeries and seven procedures over 15 years, keeping him away from such outdoor passions as golfing, waterskiing, and driving off-road vehicles. "I went from being 100 percent to being down on my knees," he says. "I suffered from chronic pain from that point on. It never went away."

As physical therapy failed and his prescriptions got stronger, Surkin turned to more innovative options. His first attempt at upgrading his operating system, a spinal cord stimulator implanted in 2010, turned out to be a bust. The first-generation device caused paresthesia, a tingling similar to what one feels after hitting a funny bone, and pulsing vibrations. In 2016 he heard about the Nevro HF10 from his doctor and waited for more than six months for insurance approval. "When you live in chronic pain, you get desperate for relief," he says. "Anything that could improve my life, I was willing to try."

The \$30,000 implant sends waves of electricity through the spinal cord to dampen errant signals from damaged nerves. A thin wire called a lead, with an array of electrodes attached, is threaded along the spine. That's connected to a device that includes a battery and a neurostimulator, typically implanted in the lower back, that emits high-frequency pulses, unlike the slow, steady waves of older models.

At that price, about 60,000 people a year are getting spinal cord stimulators. But 820,000 a year are candidates for the implants, creating a \$20 billion

market, says Jason Mills, a medical technology analyst at investment bank Canaccord Genuity. "Everyone is looking at spinal cord stimulation for other areas," Mills says. "That could further expand the opportunity."

Even widespread adoption of the devices wouldn't do away with the need for opioids. A patient seeking temporary relief after surgery, for example, would still look to a pill instead of an implant. And many of the most at-risk patients probably won't be able to afford them, says Molly Rossignol, an addiction medicine specialist. "I worry about the number of people who are going to be able to access it based on what insurance they have," she says. Still, she says, going straight to neuromodulation could help save many chronic-pain patients from spending years on drugs.

Abbott Laboratories is among the biggest companies exploring the technology's potential. Its implant, the DRG, stimulates a spot in the spine known as the dorsal root ganglion. There, a clump of sensory nerves coalesce and, when damaged, can form an unrelenting pain conduit to the brain. Allen Burton, Abbott's medical director of neuromodulation, compares it to a fuse box with a short circuit, triggering signals that cause pain far away. "For the first time, we are learning to adapt to the language of the nervous system," he says.

Chef Tony Lawless uses Abbott's DRG to help treat his chronic pain, caused by years of rheumatoid arthritis that eventually led him to have his left foot amputated. During that time, he took anything he could to function, at one point relying on a dozen Vicodin pills a day, plus alcohol. When that didn't work, his doctors transitioned him to morphine. A New Englander with a fondness for skiing, he took to using a monoski—essentially a chair and a footrest perched atop a single ski—because he couldn't bear standing on his prosthesis for the few minutes it took to get down a run.

His doctor suggested the DRG. He did a test run with a temporary implant, a feature of many of the newer devices, and took a five-mile hike around Central Park in New York. He hadn't walked that far in a decade. "This was like a miracle for me," says Lawless, 58. "The next day both my legs hurt, but it was muscle pain. I felt so free." The following winter, he was back on his conventional skis. While the pain isn't gone completely, the DRG allowed him to reduce his self-medicating. Now a single prescription of Norco, a combination of the narcotic hydrocodone and acetaminophen, can last months depending on how hard he pushes himself on the slopes. ▶

● Sales of spinal stimulators in the U.S. in 2017

**\$1.8b**

Until now, that degree of freedom hasn't really been available to other sufferers of chronic pain. Many aren't even aware of the treatment options. With opioid prescriptions falling (the legitimate ones, at least), it's critical to have something that offers relief, says Alexander Taghva, a surgeon who specializes in neuromodulation.

And there's a growing pile of data suggesting that spinal cord stimulators ought to be high on the list. Nevro said in its 2016 clinical trial that after two years about three-quarters of patients using

the HF10 reported a 50 percent reduction in pain. Surkin's results resembled those of Nevro's best cases: He has no tingling or awareness of the device at all. He's among the 40 percent of patients using the device who've been able to stop taking opioids entirely. The former firefighter says surfing is his drug now. "I'm back to what I used to be able to do," he says. —*Michelle Cortez*

THE BOTTOM LINE Thanks to advances in the underlying technologies, spinal implants that deliver electric charges are the medical industry's new favorite alternative to opioids.

# We're the New Face Of Crypto Scams

- Crooks spoofed the Twitter accounts of two Bloomberg reporters to try to separate their followers from their money

If you wanted proof that crypto scams have gone mainstream, look no further than our Twitter accounts, @LilyKatz and @olgakharif. During the first three weeks of May, fraudsters copied our pages, including profile photos, to push Ether swindles onto our 17,000 collective followers. And in spite of multiple requests to Twitter Inc. to have them removed, at least one of our doppelgängers—and a host of other bot-driven fakes targeting individuals and companies—are still out there offering unbelievable deals. "Setting up a bot is easy-peasy," says Roger Kay, president of Endpoint Technologies Associates. "The sign-up probably takes longer than the programming."

Twitter is a hotbed of crypto gossip and one of the preferred places for promoters to hawk their products, so it makes sense that scammers are crowding onto the platform. We discovered @LilyKatz5 first, after the impostor tweeted at the real account's followers with a promise of up to 100 Ether to anyone who sent in a small quantity of cryptocurrency. Twitter shut down the copycat once Lily uploaded a photo of her passport as proof of her identity, but that's a step many privacy-minded users don't feel comfortable taking.

Then the digital grifters got smarter: Two weeks later, another fraudster using Lily's photo and name, with the handle @subidetu4692, first blocked her so she wouldn't see the tweets, then spammed her followers with too-good-to-be-true Ether offers. Lily

didn't know about the tweets until a fellow reporter alerted her. A quick look at the blockchain suggests that the scammer has made progress; the account linked to @subidetu4692 received Ether in 10 separate transactions over the past couple of weeks, typically in amounts of 0.5 to 1.

Olga discovered her evil twin on May 10, when @olgakharif tweeted at her to try to reach her followers, touting Ether offers. She twice notified Twitter on its website but didn't feel comfortable sharing personal documents online to prove her identity. Neither did Lily on her second go-round. We've both since worked with Twitter to become verified without having to share our private documents. Twitter suspended the second counterfeit Lily account on May 22, about a week after it first tweeted scams targeted at her followers. Olga's spoof account was still up as of that date.

Elon Musk and Ethereum co-founder Vitalik Buterin are among the more prominent public figures targeted by the bot army. Since cryptocurrencies have grabbed the public's attention, Twitter has become a free forum for people to hype their offerings, says the Texas State Securities Board's Joe Rotunda, whose enforcement division is cracking down on scammers. "Promoters of cryptocurrency offerings typically don't employ a sales force," he says. "The business model simply doesn't contemplate boiler rooms and call centers, where telemarketers frantically dial for dollars."

**"Setting up a bot is easy-peasy"**

**Man vs. Machine****Comedy**

As day traders and newbies sift through posts to try to find the next coin that will surge 1,000 percent in a week, screaming headlines can grab them, and the fear of missing out may lead to poor choices. And unlike credit card transactions or most other payments, coin transfers usually can't be reversed, says Luke McNamara, a principal analyst at FireEye Inc. "This is a space where individuals are responsible for their own security," he says. "That's why we've seen so many bad actors gravitating into this space." There isn't much hard data to quantify the extent of the spoofing, but Lex Sokolin, global director of fintech strategy at Autonomous Research, estimates the rate of phishing likely reaches up to 5 percent of all crypto-related conversations on Twitter.

Twitter says it's aware of the problem and is working on fixes, according to an email from a spokesman. Over the past few months the company has cracked down on bots by limiting users' ability to perform coordinated posts across multiple accounts, which could mean a bot is at work. At the Consensus 2018 conference in May, crypto entrepreneur Elizabeth Stark jokingly warned Twitter Chief Executive Officer Jack Dorsey onstage that she wasn't giving away any free Ether. He promised her the company is "trying to fight scams."

Individuals are doing their part, too. Buterin has since inserted a disclaimer into his handle stating he's not giving away Ether. Many cryptocurrency exchanges, including Coinbase, have also issued warnings. But some observers say Twitter, looking to hold onto its average 336 million monthly active users, may not have enough incentive to dump the fakers. "My impression is that Twitter could do much more," says Endpoint Technologies' Kay. "The problem is that cleaning up the platform is detrimental to its business model." To address problems of spam and bots, Twitter has made more than 30 changes to its product, policies, and operations in the past 16 months, and its systems are already identifying and reviewing more than 6 million suspicious accounts per week, said an email from the company.

People like Zooko Wilcox want to see more help from Twitter in the war on bots. "It's not something we can solve ourselves," says the founder of Zcash Co., which supports the network running the Zcash token. He too has been impersonated by scammers, and as he sees it, the process for getting rid of them is too invasive and time-consuming, and it's too easy for them to create more bogus handles. In the meantime, don't send anyone Ether on our say-so; it's definitely a scam. —*Olga Kharif and Lily Katz*

**THE BOTTOM LINE** Impostors hijacked our Twitter profiles to fleece the gullible out of their cryptocurrency. We've asked to have the fake profiles taken down, but at least one is still active.

Botnik is creating an unusual predictive keyboard—suggesting words based on what's been typed—to generate everything from scripts for new episodes of *Seinfeld* to funny Valentine's Day recipes. The results are by design weird as hell.

**The Benefit**

Art created by artificial intelligence has become a reliable success in the finicky world of viral content, resulting in everything from eerie cat drawings to dadaist punk music. Botnik's interactive keyboards let anyone create surreal rearrangements of familiar words.

**Innovators**

Jamie Brew, 27, is the former head writer of the *Onion*'s sister site ClickHole, and Bob Mankoff, 74, is the humor editor at *Esquire*.

**Origin**

At the *New Yorker*, Mankoff created the caption contest, spawning a huge data set mined by Google. This piqued his interest in AI, and he got in touch with Brew, who'd been exploring the topic by sending texts on the iPhone's predictive keyboard. Botnik made its debut in 2016, then landed a \$100,000 contract from Amazon.com Inc. to help make its Alexa AI assistant sound more human.

**Deployment**

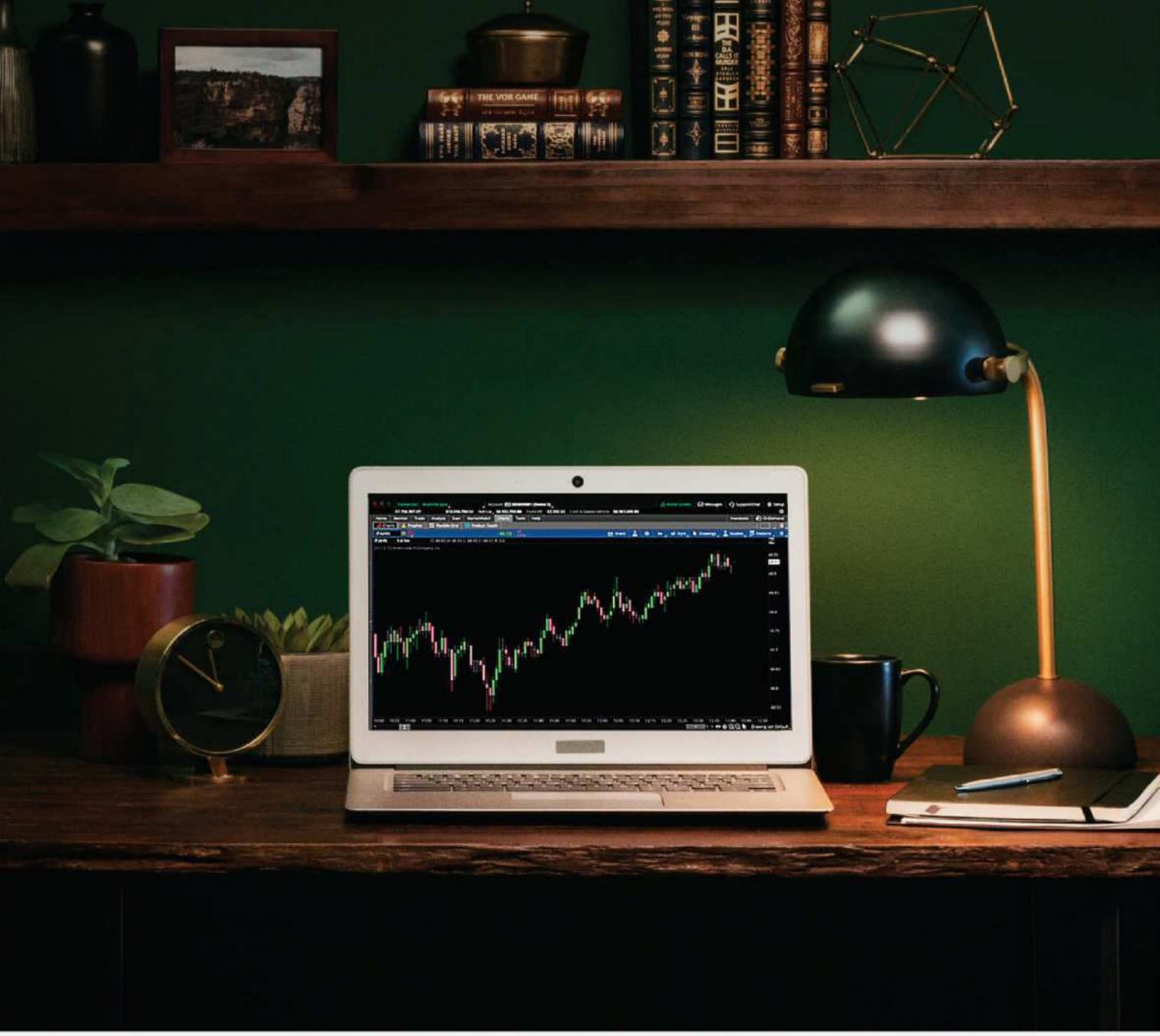
Comedy writers, programmers, and designers collaborate on a workplace chat service, leading to viral hits such as a fake banner for the Coachella festival (headliners include Lil Hack and Horse Choir).

**Goal**

Ultimately, Brew looks at the content created by the broader Botnik community as advertisements for the real product: the virtual keyboards themselves, which roughly 1,000 people per day play around on. Two full-time programmers have been working on a broader platform evolved from the keyboards, to be unveiled this summer. Eventually, Brew and Mankoff hope to charge for access to the platform.

**The Verdict**

Mankoff and Brew look at Botnik as an agent for creativity, flying in the face of other utopian ideas about AI. The goal isn't to automate writing, they say, but to collaborate with AI to make strange new forms of it. "Humans need to be part of it," Mankoff says. —*Clayton Purdom*



## Goodnight, normal trading hours.

Say hello to 24-hour trading, five days a week. TD Ameritrade is the first retail brokerage to offer around-the-clock trading on select securities.<sup>1</sup> The future of trading has arrived.

Get up to \$600 when you open and fund an account.



Visit [tdameritrade.com/trade24-5](http://tdameritrade.com/trade24-5) to learn more.

Extended hours trading is subject to unique rules and risks, including lower liquidity and higher volatility. Extended hours trading not available on market holidays. See [tdameritrade.com/600offer](http://tdameritrade.com/600offer) for offer details and restrictions. This is not an offer or solicitation in any jurisdiction where we are not authorized to do business. TD Ameritrade, Inc., member FINRA/SIPC. © 2018 TD Ameritrade.



◀ Angelo Christian

## How to Look Great and Make a Killing in Mortgages

Banks walked away from people with weak credit or low income. Here's who makes those loans now

May 28, 2018

Edited by  
Pat Regnier  
[Businessweek.com](http://Businessweek.com)

In his corner of American finance, where hard selling meets hard luck, Angelo Christian is a star, and he looks the part. He's wearing black caiman shoes and a Bordeaux-red silk shirt, tight and open wide at the chest. His dark widow's peak is slicked high with gel. He has 180,000 Facebook followers and a budding YouTube network, where he shares original videos such as "How to Master Your Mind," and "How to Manage a \$50 Million Pipeline."

Each time Christian sells a home loan, the company he works for, American Financial Network Inc., takes as much as 5 percent—\$12,500 on a \$250,000 loan, to be distributed among his staff, corporate headquarters and, of course, himself. As he and his team chase more than 250 leads a week, they're on pace to close 50 a month. Christian says he has a Lamborghini on order to go with his Mercedes.

On a recent afternoon in a suburban Houston office park, he leans back in his swivel chair, iPhone glued to his cheek. A TV projecting to a screen behind his desk pounds music videos, keeping his adrenalin flowing. He calls back a customer who's spent hours watching his sales videos: "Bad Credit, I Can Help," "Fresh Start: Credit Boost," and "Go For Your Dreams." This would-be homeowner has a 596 credit score, putting him in the subprime range. His car has been repossessed, something that would likely disqualify him at the Bank of America branch next door.

"Usually a repo that's like three years old, we're not really going to sweat that," he assures the caller. "We're pretty lenient here." He steers his prospect to several \$400,000 homes with swimming pools. "Have your wife check that out," he says, referring to a remodeled kitchen with granite countertops. "She's going to love it."

Many of Christian's customers have no savings, poor credit, or low income—sometimes all three. Some are like Joseph Taylor, a corrections officer who saw Christian's roadside billboard touting zero-down mortgages. Taylor had recently filed for bankruptcy because of his \$25,000 in credit card debt. But he just bought his first home for \$120,000 with a zero-down loan from Christian's company. Monthly debt payments now eat up half his take-home pay. "If he can help me, he can help anyone," Taylor says. "My credit history was just horrible."

Christian can do this kind of deal because he is, in effect, making the loan on behalf of the federal government through its most important affordable housing program. It's a sweet deal: He gets his nearly risk-free commission. Taylor puts no money down. If things go south, the government ultimately bears the risk.

This kind of lending echoes the subprime

mortgage boom that preceded the credit crisis of 2008. Then, as now, independent mortgage companies, the so-called nonbanks, dominated the business of making loans to people with blemished credit and low incomes. In the pre-crash years, companies such as New Century Financial Corp. helped spur the crisis with their shoddy underwriting standards. Using a line of credit from a major bank, they would offer mortgages essentially to anyone with a pulse. They would then quickly resell them into a market that repackaged them into high-risk securities that were destined for failure, infecting the financial system and requiring a government rescue.

No one is saying the system is close to another collapse. Yet nonbanks, more loosely regulated than the JPMorgan Chases of the world, are bigger players today than during the last mortgage bubble, according to a Brookings Institution report. They're making almost half of new loans, compared with 19 percent in 2007. As before, many are companies you've never heard of, like American Financial Network, a closely held firm based in Brea, Calif. A few are better-known, such as LoanDepot, Freedom Mortgage, and the industry leader, Quicken Loans, with its ubiquitous Rocket Mortgage television commercials.

For first-time purchasers, many nonbank lenders rely on the government's affordable financing, backed by the Department of Veterans Affairs, the Department of Agriculture, and, most of all, the Federal Housing Administration. Lending under these programs differs in some important ways from the subprime mortgages of the aughts. Unlike the usurious loans of the past, federally backed mortgages can charge low rates—often less than 5 percent—and require documentation of jobs and income. Jonathan Gwin, American Financial Network's chief operating officer, says delinquencies are low for these kinds of loans. And overall, it's still difficult for many people to get a mortgage. (Only 3.5 percent of new loans are to people with credit scores below 620, compared with 15 percent in 2007.)

Nonbank mortgages make up about 80 percent of the loans for borrowers insured by the U.S. government. The banks have largely abandoned that market because of tighter scrutiny. As before, lenders use lines of credit to fund the loans, which are packaged into securities—in this case, Ginnie Mae bonds, common in mutual funds and pensions. In the subprime debacle, private investors risked losses if borrowers defaulted. Now, as long as lenders follow the rules for writing loans, the government guarantees FHA mortgages.

To protect taxpayers, FHA borrowers are

● Share of income FHA borrowers are spending on debt payments

**43%**

supposed to make small down payments, equal to 3.5 percent of the home's purchase price. But many FHA borrowers put nothing down at all. They often get cash from down payment assistance programs, typically run by housing finance agencies or nonprofit groups. The Department of Housing and Urban Development's inspector general says some of those programs violated HUD rules by having borrowers pay for the assistance in the form of higher rates and fees.

In civil fraud complaints, the Department of Justice has accused many companies, including Quicken and Freedom Mortgage, of improperly underwriting FHA loans and then filing claims for government insurance after borrowers defaulted. In 2016, Freedom Mortgage settled for \$113 million, without admitting liability. Quicken is fighting the Justice Department in court. "This is nothing more than a shakedown," says Quicken Vice Chairman Bill Emerson, who adds that the company makes prudent loans under FHA guidelines. He says multiple state and federal agencies regulate nonbanks.

There are other worrisome signs. Even in a strong economy, recent FHA loans are souring faster than those made years ago when the industry had stricter credit standards, the Mortgage Bankers Association says. About 9 percent are 30 days or more past due, manageable by historical standards and well below the high of 14 percent in 2009. But the FHA itself is concerned that, on average, borrowers are spending 43 percent of their income on debt

payments, the highest level in at least two decades.

Many borrowers "are living paycheck to paycheck and, if they lose their jobs, they go into default immediately," says John Burns, a housing consultant based in Irvine, Calif. The government requires these customers to buy insurance, including an upfront premium of 1.75 percent of the amount of the loan, in case they can't repay. In the last crisis, the insurance collections couldn't cover all the losses. Last year the FHA's capital reserves barely met the legal minimum the government must set aside for bad loans.

Dana Wade, acting FHA commissioner, says concern is growing within the agency, which is studying the riskiness of its portfolio. If too many loans sour, she says, the FHA could end up financially weakened and unable to extend help during the next downturn. "Borrowers are stretching more," she says. "We're concerned about it from a borrower perspective and a taxpayer perspective."

One reason more borrowers may be stretching: Real estate prices are soaring again. Bidding wars are back in many cities. That's only making it harder for first-time and lower-income borrowers. Without the New Deal-era FHA program and other subsidized loans, nonbanks and affordable housing advocates say, the U.S. would increasingly be a place where homes are reserved for the well-to-do and are out of reach for many minorities. Homeownership has fallen from its 2004 peak of 69.2 percent to 64.2 percent in the first quarter. ►



◀ Christian at work in suburban Houston

► Rents are skyrocketing, too, pricing some families out of any shelter at all. “The homeownership deck already is stacked in favor of the haves,” says Julia Gordon, executive vice president of National Community Stabilization Trust, a nonprofit in Washington. “But you still want to give people a chance to get their first foot on the ladder.”

Offering that leg up can be enormously lucrative for mortgage companies. That’s especially important now because interest rates are rising, so the refinancing business is drying up. Pitching government loans, top mortgage officers can make millions a year, according to Jim Cameron, senior partner at Stratmor Group, a mortgage industry advisory firm.

Brian Decker works at LoanDepot in Riverside County, Calif., where he sold more than \$200 million worth of home loans last year. Based on typical rates, he could have earned as much as \$2 million in commissions. (Decker declined to comment on his income.) Christian, as one of American Financial Network’s top-producing branch managers this year, could make up to \$500,000, according to COO Gwin. Christian says he thinks he can pull down twice that.

Christian grew up poor in Houston. His mother worked as a waitress at Olive Garden. His father, a restaurant manager born in Iran, dropped in and out of his life. His mother frequently couldn’t scrape up enough money for rent. He says the family sometimes slept in her Chevy Suburban before it was repossessed. Christian says he sought comfort in binge-eating, weighing 400 pounds at age 17. The teenager reinvented himself after seeing *Rocky IV*. He slimmed down, jogging seven miles each way to his after-school job while listening to the 1985 movie’s soundtrack album: “Rising up straight to the top, had the guts, got the glory.”

After graduating from the University of Houston with a finance degree, Christian worked as a loan officer at Ameriquest Mortgage Co., a subprime lender that sold its lax underwriting standards in its slogan: “Don’t judge too quickly—we won’t.” The company collapsed in the credit crisis.

In 2007 he started making government-backed loans, working for various firms before signing on last year with American Financial Network. Married and with three children, he lives in a five-bedroom house with a swimming pool. He starts each day at 6:30 a.m., meditating first and then doing paperwork while exercising on his treadmill desk before heading to the branch, where he calls customers late into the evening.

From the outside, his office looks like any bank branch. It’s next to a busy highway and down the street from a Whataburger outlet. Inside, the vibe is harder-charging. “Do or do not. There is no try,”

read the words on a wall, a quotation from Jedi Master Yoda. On a whiteboard, Christian has scribbled: “If the customer does not buy from us, it’s your fault, not theirs.... BE OBSESSED.”

His crew of assistants, including a former car salesman and a van driver, is working the phones, hoping to stay in Christian’s good graces. A computer screen keeps a live ranking of the number of calls each staffer makes. “Are you calling the new leads I gave you?” he shouts as workers stretch their arms between calls. “Stay focused, bro.”

Around 2 p.m., he heads to the studio upstairs to tape his three-per-week video podcasts. The décor sends a message. There’s a green toy Lamborghini and a collection of his favorite books, including Dale Carnegie’s *How to Win Friends and Influence People*. The topic today is down payment assistance, or, more to the point, how to buy a home without any savings. Christian says he recommends making down payments if possible because the terms of the loan are better for the customer.

The videos are part of his growing online operation. He charges \$50 a month or more for his Millionaire Mortgage University, which aims to help loan officers make six-figure pay after six months of training. He also offers a free credit recovery program.

Downstairs at the office, Christian checks in with Mike Howard. In his job as an underwriter, Howard must make sure the loans will pass muster with the government. His boss has handed him a tough case. The customer is a self-employed maintenance worker in Arizona who makes \$910 a month. He wants to buy a townhome with no money down.

When Christian was working for Ameriquest, he tells Howard, he could have put the customer in a loan. No more. “If you’re like, ‘Hey man, I can close this loan,’ you’re smoking crack,” he says. “Back in the day, that was a golden nugget, man. Now it’s not going to happen.”

A second borrower, a construction worker, has a 578 credit score. He also has a tax lien on his house and has filed for bankruptcy. For good measure, he’s late on his current bills. In this case, Christian isn’t giving up. He suggests Howard tell the laborer to open up a secured credit card. It requires borrowers to have money in an account before making purchases. That way they can rebuild their credit. “Let’s try it in six months—always end on a good note,” Christian says. “Most lenders aren’t going to call this guy. But, one day, he will buy a house, and you want him to buy with us.” —Prashant Gopal

**“Borrowers are stretching more. We’re concerned about it”**

# Maybe Smart Beta Isn't So Clever

● A twist on index investing is all the rage on Wall Street, but skeptics think it's been overdone

A few years ago Vincent Deluard was a cheerleader for smart-beta exchange-traded funds. Beta is Wall Street jargon for index investing; smart beta is marketing jargon for strategies that are supposed to do indexing one better. The idea is that if you look at market history, you can identify certain factors—such as high dividends or low volatility—that predict which stocks are likely to perform better. Smart-beta ETFs track new indexes tuned to those factors.

They've become a huge business. Assets under the smart-beta umbrella in the U.S. have tripled since 2012, reaching about \$700 billion in 2017, according to data compiled by Bloomberg. Since 2017, issuers have launched 67 new smart-beta ETFs, according to BlackRock Inc. Now Deluard, the global macro strategist at INTL FCStone Financial Inc., is arguing that the popularity of smart beta is making it harder for the strategy to succeed. "If everyone's doing it, it's not going to work anymore," he says.

He set out to prove it by building his own "dumb" portfolio. In November 2016 he created an index of stocks rejected by some of the most popular smart-beta strategies. He looked at the holdings of five ETFs, one for each of these factors: low volatility, high dividends, consistently growing dividends, high quality of earnings, and momentum. About 200 stocks in the S&P 500 were left out of those portfolios—a collection of comparatively risky stocks with modest dividends and weak price performance, showing signs of spotty profitability. Deluard ranked them by market value to create his hypothetical portfolio.

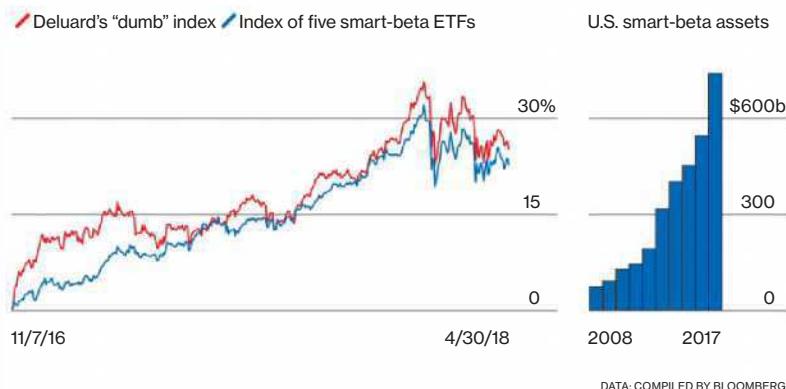
From the experiment's start through April, the most recent period for which data is available, the dumb portfolio beat an equal-weighted portfolio of the five smart-beta ETFs by 2 percentage points. Deluard's collection of market riffraff benefited from positive exposure to financials, which made up about 30 percent of the holdings, as well as its positions in stocks with low prices relative to profits.

Before you try this at home, there are caveats. A year and a half isn't a long record to go on. And the dumb portfolio, with its cheap stocks, may be capturing another classic factor—the value effect. At the same time, holding equal parts in five other factors doesn't really mimic the smart-beta strategy,

say its proponents. They say different factors work in different environments, so an investor probably wouldn't want equal exposure to them at the same time. "These strategies go in and out of favor," says Melissa Brown, managing director of applied research at Axioma Inc.

Looking at each strategy separately, Deluard's dumb portfolio wasn't the top performer. The big winner was momentum investing—favoring stocks that are already going up—as represented by iShares Edge MSCI USA Momentum Factor ETF. Of course, if a factor only works some of the time, investors are left to decide how to time moves in and out of it. And that defeats the point of traditional index investing, which is based on the idea that trying to outguess the market is futile—and the more guesses you make, the more likely you are to be wrong.

## Battle of Wits



Another reason investors might go with a smart-beta fund is that it might suit a particular need; for example, a dividend-based ETF could be attractive to investors looking for income. But Deluard says his experiment shows investors should be skeptical about claims that a new kind of index fund will have a performance edge. "The more I've seen this become mainstream, and the more I see how easy it is to fool people with facts—some long-term backtests, short-term stats—you realize quickly you can really prove anything." —Sarah Ponczek

**THE BOTTOM LINE** A strategist created a hypothetical portfolio of stocks rejected by some popular smart-beta funds. Turns out that the rejects did better—at least over the short run.



Thank you to our **Sound the Alarm** corporate partners and their employees for their generous support to help prevent home fire tragedies.

Together we're making a difference in at-risk communities across the U.S.

*Thank you*



Learn more at [SoundTheAlarm.org](http://SoundTheAlarm.org)

ECONOMIC

# Who's Afraid of

The world economy is better poised to weather higher prices

The price of a barrel of oil fell below \$100 a barrel in 2014 and has stayed below that psychologically important threshold since. However, Brent crude, the international oil benchmark, is up 46 percent in the past 12 months, and in recent days has been testing \$80. Part of the increase is explained by a resurgent global economy: The International Monetary Fund expects global growth to pick up to 3.9 percent this year, the strongest since 2011. What's worrying, though, is that supplies are more constrained than they've been in years, so disruptions to output can quickly reverberate from the wellhead all the way to the gasoline pump. Here's a look at the impact higher prices could have on a variety of important actors.

## 1 WHAT'S THE EFFECT ON THE WORLD ECONOMY?

While it's true that higher oil prices are generally

a drag on growth, the so-called oil intensity of the global economy continues to decline. A recent analysis by UBS Group AG found that the world economy needs 7 percent less oil to produce the same amount of gross domestic product than it did in 2007. Of course, the impact will vary from country to country: Those that rely on imported energy will be squeezed as costs go up, while at exporters, government coffers will get a fillip.

**2 WHAT'S THE FALLOUT FROM THE U.S. PULLING OUT OF THE IRAN NUCLEAR DEAL?** Oil prices have risen 18 percent this year—half of that increase reflects stronger global demand, a Bloomberg Economics model suggests. The rest is likely due to what's known as supply shocks. Approximately 1 million barrels of crude per day are at stake from Trump's decision to reinstate sanctions on Iran, but the market effect might ►

May 28, 2018

Edited by  
Cristina Lindblad  
Businessweek.com

◀ be mitigated by increased pumping elsewhere, according to the analysis.

### ③ WHO WINS FROM HIGHER OIL PRICES?

The most obvious beneficiary is Saudi Arabia, the OPEC heavyweight whose agreement with Russia to curb output has played a role in nudging up prices. Oil supplied more than one-fifth of the kingdom's GDP in 2016. Other winners could include Nigeria and Colombia, where the increased revenue from oil exports should bolster shaky government finances and allow state-run oil companies to ramp up investment.

### ④ WHO LOSES?

Net oil importers such as Egypt, India, Turkey, and Ukraine. Having to pay more for oil will cause current-account deficits to widen, exposing these emerging markets to the risk that rising U.S. interest rates will trigger an exodus of foreign money. Europe is also vulnerable given that the pace of growth and industrial activity are moderating.

Surprisingly, Russia, which vies with Saudi Arabia and the U.S. for the title of world's top oil producer, might be hurt from the runup in prices because it will have to borrow in now pricier rubles as it makes foreign currency purchases in compliance with a budget rule.

In Venezuela, a lack of investment and the loss of technical expertise amid the economic chaos gripping the country have dragged oil output down to its lowest level in 30 years. It could fall further: The Trump administration has been debating whether to impose an oil embargo on the country to force regime change. Meanwhile, ConocoPhillips Co. is maneuvering to seize stocks of Venezuelan crude held in Caribbean storage depots as compensation for assets that were expropriated by the government of newly reelected President Nicolás Maduro.

### ⑤ WHAT DOES THIS MEAN FOR THE U.S. ECONOMY?

Pricier oil poses a lot less of a risk to the U.S. economy than it used to, thanks to the boom in shale oil production. The old rule of thumb among economists was that a sustained \$10-a-barrel rise would shave about 0.3 percent from the country's GDP the following year. Now, says Mark Zandi, chief economist at Moody's Analytics Inc., the hit is about 0.1 percent. And that would all but disappear in subsequent years as shale oil production ramped up in response to the higher prices. The Baker Hughes U.S. rig count, a leading indicator for

America's oilpatch, is already at a three-year high.

Other forecasters are less sanguine. Gregory Daco, the U.S. chief for Oxford Economics Ltd., estimates if prices for West Texas Intermediate crude average \$70 a barrel this year, U.S. growth will lose half the 0.7 percentage-point gain it would otherwise earn from tax cuts passed in late 2017.

Oil-producing states such as North Dakota, Texas, and Wyoming should benefit from higher extraction activity, though Daco warns that labor-saving productivity enhancements could limit the upside. Poorer households across the U.S. have the most to lose. They spend about 8 percent of their pretax income on gasoline, compared with about 1 percent for the top fifth of earners.

### ⑥ WILL MORE EXPENSIVE OIL LEAD TO HIGHER INFLATION?

The answer depends largely on how big a weight energy costs have within a country's consumer price basket. For instance, the category claims a double-digit share in Indonesia, Malaysia, and New Zealand, according to tallies by RBC Capital Markets LLC.

China, the world's biggest importer of oil, could see an uptick in inflation—prices already are expected to increase 2.3 percent in 2018, from a rise of 1.6 percent in 2017.

In the U.S., the pass-through from oil prices to inflation is less than it used to be, according to Tom Orlik and Justin Jimenez of Bloomberg Economics. That's partly because oil's share of the energy mix has diminished and there's still a degree of slack left in the economy.

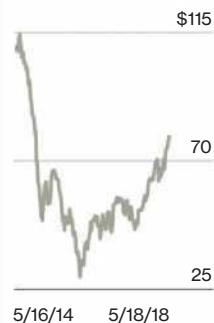
### ⑦ WHAT DOES IT MEAN FOR CENTRAL BANKS?

If stronger oil prices substantially boost inflation, central bankers, on balance, will have one less reason to keep monetary policy on hold while the Fed moves ahead in its tightening cycle. Forecasters are anticipating that the Reserve Bank of India will have to advance its schedule of interest rate increases as the country's biggest import item becomes more expensive.

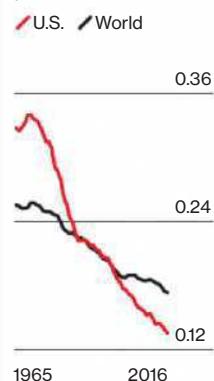
### ⑧ WHAT IF OIL RISES TO \$100 A BARREL?

The impact won't be the same as in 2011, which marked the first time Brent averaged more than \$100 a barrel over an entire year. The main reason is shale, according to Orlik and Jimenez: "Without the shale revolution, \$100 oil would trim 1.3 percent from U.S. GDP in 2020 relative

● Price per barrel of Brent crude oil, weekly



● Energy consumption per unit of GDP



to the baseline of oil at around \$75. With shale, we estimate it will shave off just 0.4 percent." With the U.S. still firing on close to all cylinders, the rest of the world would also suffer less, they say. —*Enda Curran, Rich Miller, and Michelle Jamrisko, with Karl Lester M. Yap, Jessica Summers, and Dan Murtaugh*

**THE BOTTOM LINE** Supplies of crude are tight, which means oil prices are more volatile. For all but a few countries, the economic pain will not be as severe as in times past.

## Birds, Bees, But Not Millennials

● Hard times for young Americans continue to depress birthrates

It made perfect sense when American women reacted to the recession of 2007-09 by having fewer babies. But we're nine years into the second-longest expansion on record, unemployment is well below average, and yet the birthrate hasn't rebounded. The number of births in the U.S. fell in 2017 to its lowest in 30 years. What's going on?

One possible explanation is that the economy's good health masks continued hard times for men and women in their 20s and early 30s, who are responsible for most baby-making. "This young generation, millennials, I think they still feel pretty uncertain, as if they can't afford to make this big long-term commitment" to raising a family, says Karen Guzzo, a sociologist at Bowling Green State University. "They have these standards: 'I want to live in a good neighborhood. I want to have a house. I want to be able to have good child care and take time off from working.'"

The 3.9 percent unemployment rate in April seems to indicate that jobs shouldn't be a problem for people considering parenthood. But the share of twentysomething men who are employed still hasn't fully recovered from the blow of the recession. As of April it was down 2.4 percentage points for men age 20-24 (to 68.4 percent) and 2.2 percentage points for men age 25-29 (to 83.7 percent)

compared with the last business cycle peak, December 2007, according to the Bureau of Labor Statistics. Some of those young men who aren't employed are in school; some would take a job but aren't actively searching. In any case, the drop in the employment-to-population ratio is an important number because "in the fertility literature, the No. 1 determinant is the husband's employment status," says Steven Lugauer, an economist in the University of Kentucky's Gatton College of Business and Economics.

The share of young adults living with their parents—an arrangement that makes it awkward to start a family—hasn't declined in the recovery. The share of men age 25-34 living back home rose more than 5 percentage points from 2007 to 2017, reaching 19.6 percent, the highest since record keeping began in 1960. For women in that age group, the share rose 3.2 percentage points, to 12.5 percent, also a record, according to the U.S. Census Bureau.

It's probably no coincidence that many are drowning in debt. The amount of student loan debt owed by people under age 30 rose 75 percent from 2007 to 2017, to \$377 billion, according to the Federal Reserve Bank of New York.

Student loans, coupled with high housing prices in many markets, have helped push down the rate of homeownership among people under age 35, to 35 percent last year from 42 percent in 2007, says Jessica Lautz, director of demographics and behavioral insights at the National Association of Realtors. For many young couples, no house means no babies.

For demographers, a key question is whether young women who aren't having babies now will catch up by having more when they're older. Some of this seems to be happening: The only two age groups with higher birthrates in 2017 than in ▶

● Change in U.S. birthrate by age of mother, 2007-17	
15-19 years	▼ 55%
20-24 years	▼ 33%
25-29 years	▼ 17%
Overall	▼ 13%
30-34 years	0%
35-39 years	▲ 10%
40-44 years	▲ 21%



◀ 2007 were those 35-39 and 40-44, according to National Center for Health Statistics data released on May 17.

But each year that goes by in which birthrates stay the same or fall makes a rebound less likely, says Gretchen Livingston, a demographer at the Pew Research Center. Despite advances in reproductive technology, “some women won’t be able to catch up” even if they want to because they’ll be too old to have babies, Livingston says.

Mathematically, the problem is that the birthrate for women age 20-24 is six times as high as that for women 40-44, so it would take an unrealistically big increase in births among the older cohort to make up for declines in the younger age group. If too few babies are born, there won’t be enough workers in the future to support the growing number of retirees.

The situation is more acute in other countries. China, which dug itself into a demographic hole with its one-child policy, is planning to scrap all limits on the number of children a family can have, people familiar with the matter told Bloomberg News. But the move may be too late. “The policy shift will hardly boost the number of newborns in China,” says Huang Wenzheng, a demography expert at the Center for China & Globalization, a Beijing-based think tank.

Germany, meanwhile, has seen birthrates climb to their highest levels in 20 years because of an influx of immigrants and family-friendly policies. A 2013 law gives parents of children as young as 1 the right to day care. “Women see that they can have a baby and still continue their careers,” says Martin Bujard, research director at the Federal Institute for Population Research in Wiesbaden. The U.S. can and should boost its own birthrate with more family-friendly policies, says Bowling Green’s Guzzo.

The continued slide in the U.S. birthrate might indicate that would-be parents are pessimistic about their prospects, not just current conditions, says Kentucky’s Lugauer. A February research paper he co-authored with Kasey Buckles and Daniel Hungerman of the University of Notre Dame found that in the U.S., fertility appears to be a leading economic indicator: “The growth rate for conceptions begins to fall several quarters prior to economic decline,” they wrote. Asks Lugauer, “What is it that people are seeing that makes them hesitant to expand their family?” —Peter Coy, with Chris Reiter

**THE BOTTOM LINE** Student loans, high home prices, and a lack of good jobs seem to be discouraging millennials from starting a family. Evolving parenting standards may also play a role.

# Turning Coffee Trash Into Treasure

- The dried husk—those in the trade call it cascara—is now fetching a 480 percent premium over the beans themselves

Aida Batlle grows coffee on her family’s farm in the hills surrounding El Salvador’s Santa Ana Volcano. Like generations of farmers before her, she had little use for the skins that encase the beans, so she’d turn them into cheap fertilizer or, more frequently, trash them. Then one day, as she walked past some husks drying in the sun, a smell hit her, a good smell: hibiscus and other floral aromas. It dawned on her, she says, that some value might be extracted from what she had long considered refuse. So she steeped the husks in hot water and had a taste. “Immediately I started calling customers to try it,” she says.

More than a decade later, coffee husk—or, as it’s better known, cascara—is having a moment. Starbucks Corp. recently introduced drinks in the U.S. and Canada sweetened with cascara syrup and offers a sugar topping made from the husk. Competitors such as Stumptown Coffee Roasters and Blue Bottle Coffee are adding it to their menus, too, as tea and a carbonated drink.

**“We don’t want to be buying 500 pounds one year and nothing the next year”**

▼ Batlle steeps cascara in hot water to release its flavors





At a Starbucks in Chicago's Loop, a medium iced cappuccino with cascara foam goes for \$4.75. (In case you're wondering, that's a cappuccino whose foam and syrup have been spiked with an extract made from a blend of sugar and ground-up dried coffee husk.) "Starbucks is great at taking things and introducing it to the masses," says Michael Schultz, co-founder and chief executive officer of Coffee & Tea Bar Holdings LLC, which operates two Fairgrounds Coffee & Tea locations in Chicago and is preparing to open others in Minneapolis and Los Angeles. "People are becoming more and more aware." Fairgrounds recently completed its final testing for a cascara-laced specialty drink that will be priced at about \$5.

Thanks to demand from these chains, the coffee husk now often fetches a higher price than the bean itself. Batlle says she gets \$7 for a pound of cascara, while prices of arabica coffee futures traded in New York are hovering around \$1.20, the lowest in about two years, because of oversupply.

Cascara contains little caffeine and has a less assertive taste than coffee. In addition to notes of hibiscus, it can have papaya or green apple flavors depending on how and where it's cultivated, according to Batlle, who counts Counter Culture

Coffee Inc. and Blue Bottle among her customers. (Blue Bottle, owned by Nestlé SA, offers a Cascara Fizz soda as part of its noncoffee options.)

Sam Sabori, national quality-control and roasting manager for Chicago-based Intelligentsia Coffee, says he often associated cascara with heavier flavors such as raisins and port. Recently, however, he says, he tried a more "tropical" variety out of Guatemala that stood out, and now the chain is considering cascara for its menu.

Cascara sales are still too small to measure. And while demand is growing right now, for farmers such as Batlle there's still a risk that this will prove no more than a passing fad. "We don't want to be buying 500 pounds one year and nothing the next year," says Sabori. "We want this to be sustainable for everyone involved."

Batlle's cascara sales have increased to "thousands of pounds a year," and she says she has no fear that the commodity's growing popularity will end up cannibalizing coffee. "Especially in this market of really low prices, it really helps," she says.

—Marvin G. Perez and Leslie Patton

THE BOTTOM LINE Coffee prices are near two-year lows, but cascara is having a moment thanks to Starbucks and Blue Bottle, which have introduced drinks that incorporate the coffee husk.

▲ The components of the coffee cherry

30 - YEAR TREASURY  
AAA  
ACCELERATED RETURN NOTE (ARN)  
BALLOON INTEREST  
BANK BILL SWAP BID RATE - BBSY  
BLUE LIST  
BOND  
BOOK-ENTRY SECURITIES  
BOOTSTRAPPING  
CALL PREMIUM  
COMMERCIAL BLANKET BOND  
DEBENTURE  
DEBT  
ELECTION PERIOD  
EMBEDDED OPTION  
EURO DEPOSIT  
EUROBOND  
EUROYEN BOND  
EVENT-LINKED BOND  
EXCHANGEABLE DEBT  
EXTENDABLE BOND  
FACE VALUE  
FED MODEL  
FEDERAL FUNDS  
FINE PAPER  
FIXED DEBENTURE  
FLAT BOND  
FLOATING INTEREST RATE  
FULLY TAXABLE EQUIVALENT YIELD  
FUNDED DEBT  
G7 BOND  
GEN-SAKI  
GENERAL OBLIGATION BOND - GO  
GILT-EDGED BOND  
GLOBAL BOND  
GNOMES  
GO-AROUND  
GOVERNMENT BOND  
GRANDFATHERED BOND  
GREEN BOND

# From AAA Bonds to Zero Coupon Swaps.

Get the smartest data and sharpest insights in the fixed income world.

[bloomberg.com/thefix](http://bloomberg.com/thefix)

# The Fix

Sponsored by:

Bloomberg

PIMCO

# The Boss Who Wants To ~~Kill~~ Save His Agency



● To liberals, Mick Mulvaney is a nightmare. To conservatives, he's a savior

One of the first things Mick Mulvaney did last year after President Trump asked him to be acting director of the Consumer Financial Protection Bureau was to read the statute dictating the agency's powers. Created by the landmark Dodd-Frank Act of 2010, the CFPB was designed to protect consumers from the abuses of the financial industry and is one of the Democratic Party's proudest recent achievements.

Mulvaney was no fan of the agency, having repeatedly attacked its very premise during his three terms as a Tea Party Republican in Congress. But he'd apparently never taken the time to study the statute governing it: Title X of Dodd-Frank. When he finally did, he was astonished by what was missing, namely a federal agency known as the CFPB.

"In the first section, it will jump out at you," he says, bolting from his chair during a recent interview in his glass-walled office at the CFPB headquarters. An impish, energetic 50-year-old with a round face, oval glasses, and a steely wit, Mulvaney gives the impression of a man who revels in being the embodiment of liberals' worst nightmare. Grabbing a copy of Title X of Dodd-Frank ►

May 28, 2018

Edited by  
Matthew Philips and Jillian Goodman  
Businessweek.com

◀ that he keeps handy, he points out that the law actually called for the creation of the Bureau of Consumer Financial Protection. “That’s it!” he cries. “This is what Title X says! You go, ‘Well, wait a second? Where’s the Consumer Financial Protection Bureau?’ It’s not in the statute.”

This bit of *gotcha* may not seem like a big deal, but to Mulvaney, who’s also Trump’s budget director, it calls into question the very legitimacy of the seven-year-old bureau and the way it was run by Elizabeth Warren, now a U.S. senator from Massachusetts and the liberal star credited with conceiving the agency, and her successor, Richard Cordray. If his predecessors ignored the statute when they named the agency, he asks, what else didn’t they adhere to?

Six months into his tenure, Mulvaney is doing everything he can to transform the CFPB from a regulatory crown jewel of liberals into one that he says follows the law, at least according to his interpretation. Along with reshuffling its initials, he’s reviewing its enforcement, supervisory, and rule-making functions. He’s frozen data collection in the name of security, dropped enforcement cases, and directed staff to slash next year’s budget. He also wants to curb the agency’s independence by giving Congress—rather than the Federal Reserve—control of its spending, and replace the powerful director position he fills with a five-person commission.

The ultimate goal, he says, is to move the CFPB beyond the realm of partisan bickering and turn it into what he calls one of the “gold-standard” regulators, like the U.S. Securities and Exchange Commission. To do that, he says he’ll have to disassociate the CFPB from its origins. “We are still Elizabeth Warren’s child,” he laments. “As long as we’re identified with that one person, we’ll never be taken as seriously as a regulator as we should.”

To the financial industry, Mulvaney’s a hero. Even if he’s not moving to destroy the CFPB, bankers hope he’s doing enough to leave it permanently changed. “It’s ironic that it’s Mick Mulvaney who has become the biggest cheerleader for the continuity of the bureau,” says Richard Hunt, president of the Consumer Bankers Association, which lobbies for the nation’s biggest banks. To Democrats, particularly progressives like Warren, having Mulvaney at the helm of the CFPB is akin to giving your worst enemy the keys to your house.

If Mulvaney has tried to remove the CFPB from partisan knife fights, he hasn’t exactly succeeded. His first day on the job was itself a political controversy. His predecessor, Cordray, having announced his resignation a few weeks earlier to run for governor of Ohio, and knowing that Trump had been pondering ways to remove him, appointed his chief of

staff, Leandra English, as acting director, insisting he had the legal authority to do so. On Nov. 27, 2017, English and Mulvaney showed up for work for the same job. They settled into their offices, English’s a few blocks away in a different building, and sent out dueling emails declaring themselves in charge.

That sparked a legal battle over whether the president or the outgoing director had the authority to appoint the new director. English sued, accusing Trump of violating Dodd-Frank by installing Mulvaney. Although English remains at the CFPB, Mulvaney has essentially sidelined her, leaving her out of meetings and key projects, according to former and current staffers. Mulvaney has said publicly that he’s never met English and has no idea what she does all day, though she continues to collect her \$212,000 salary. A CFPB official says English doesn’t respond to Mulvaney’s emails. Asked why he doesn’t just fire her, Mulvaney says he can’t comment on ongoing litigation—her lawsuit is still pending. English’s lawyer declined to make her available for an interview.

While Cordray was a constant, visible presence in the office, Mulvaney isn’t. That’s partly because he’s doing two jobs at once, spending three days a week at the Office of Management and Budget and three at the CFPB. He often works Saturdays at his OMB office, where he has a TV. The long, crowded staff meetings that Cordray used to hold have disappeared, staffers say. Mulvaney has also brought in a handful of political appointees to help run things. The most prominent is Brian Johnson, formerly a top aide to Texas Republican Jeb Hensarling, chairman of the House Financial Services Committee and no friend of the agency. Hensarling has called the CFPB “the most powerful and unaccountable agency in the history of the republic.”

Johnson was part of the Trump transition team that studied the CFPB and, according to several sources, had begun working to declaw it before

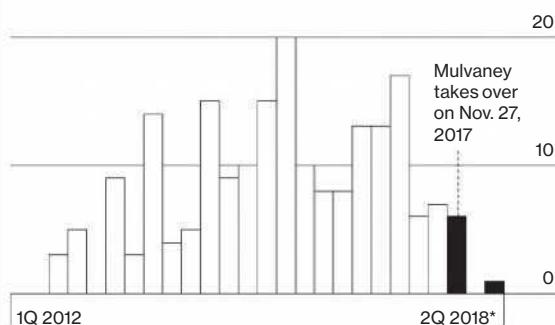
**“He’s kind of put the bureau in a vegetative state”**



● Warren

### A New Sheriff in Town

Number of enforcement actions taken by the Consumer Financial Protection Bureau



the president took office. Although he's Mulvaney's clear No. 2, staffers say they rarely see him, except when he leaves his office for a drink of water or to use the men's room. (CFPB officials say he's very accessible.) Staffers also can't see what Johnson does behind the doors of his office. Shortly after Mulvaney and his team arrived, the bureau put frosted plastic covers on the glass doors of their offices to make them opaque. Mulvaney has said the covers were part of Cordray's plans. A source close to Cordray disputes this. Either way, it made an impression among staffers. "It was both trivial and totally meaningful," says a bureau official.

The same could be said for Mulvaney's decision to freeze the collection of data that contained people's personal information. Mulvaney says he's worried the agency could be hacked, yet critics say the freeze is a pretext to hamstring the agency's investigative work. Bank examiners, who'd previously reviewed financial records in advance, now have to read them on-site when they visit a bank, which people at the bureau say is more time-consuming and less effective. "It's gumming up the works," says a bureau employee who, like several others, spoke on the condition of anonymity for fear of being fired.

In a series of letters, Warren, who declined to comment, asked Mulvaney to explain the freeze, his political hires, and his other changes. Mulvaney was less than forthcoming in his responses, but he argues he's giving her the same treatment that he and his GOP colleagues endured from Cordray. "I think she's kind of a professional letter-writer now," Mulvaney says. "She said she was frustrated with my responses to some of her letters. And I'm like, 'Get in line.'" He says he hopes to lift the data freeze shortly.

Mulvaney has also stripped a CFPB operation dedicated to preventing discriminatory lending of its enforcement powers, moving it into an office promoting diversity inside the bureau. In January the CFPB dropped a case against four payday lenders that were associated with an Indian tribe and charged interest rates of 950 percent. "He's kind of put the bureau in a vegetative state," says Makada Henry-Nickie, a former CFPB senior analyst who's now a fellow at the Brookings Institution. Mulvaney says the restructuring will make the bureau more efficient. He says he doesn't think the agency should interfere with the sovereignty of Indian tribes.

The CFPB didn't make its first enforcement action under Mulvaney until mid-April, when it fined Wells Fargo & Co. a record \$1 billion for deceptive auto loan practices. Former CFPB staffers were quick to point out that Mulvaney had little to do with the case, which was opened by Cordray and in the works long before Mulvaney arrived.



If anything, Mulvaney seems more zealous about cracking down on the CFPB's spending. He talks about the bureau's "outrageously expensive" headquarters, which is in the midst of a \$145 million renovation. "The kitchen cost more than my first car," says Mulvaney, who once was a part-owner of a restaurant chain. "That turbo oven is several thousand dollars. We have the coolest shredded-ice machine in the world." Recently he told division heads to look for ways to slash their budgets in the next fiscal year, which, according to current and former staffers, in some cases has resulted in proposed cuts of more than 20 percent. For now, he says he's only looking to cut back on nonpersonnel items, such as travel, and has asked his deputies to make suggestions that don't include eliminating jobs.

That's not to say his employees won't feel any pain. In May, Bloomberg obtained an internal cost-savings document exploring the possibility of moving 70 employees to the newly renovated basement and relocating others to cheaper space in Dallas. Mulvaney outraged consumer groups that month by moving a unit that had assisted the enforcement division in its investigations of predatory student lenders into an office dealing with financial education. Mulvaney dismisses the furor and says it's part of his internal reorganization.

Some see a larger plan behind such changes. People at the CFPB say morale is already bad. Republicans and Democrats agree that Mulvaney is trying to get employees, most of whom are union members and can't be easily fired, to leave voluntarily. "Smaller is better," says Dan Berger, ▶

▲ The headquarters of the CFPB is undergoing a \$145 million renovation

► president of the National Association of Federally Insured Credit Unions. “It’ll be good to have new eyes take a fresh look at how things are done.”

Privately, Democratic leaders are urging staffers to stay and fight. They’re still hopeful that much of what Mulvaney has done could be undone by his successor, whom Trump has to nominate by June. The leading candidate is Mark McWatters, a Republican who leads the National Credit Union Administration, say people familiar with the process. He’s more moderate than Mulvaney but amenable to Republicans and their finance industry allies. Warren has indicated she wouldn’t object to McWatters, though he’s hardly

her first choice, people close to her say.

Mulvaney says Trump has told him he’s doing a “nice job.” Although his time as acting director is technically scheduled to end in June, it’ll likely be months before his replacement is confirmed, an outcome he sounds like he wouldn’t mind. “It’s fantastic,” Mulvaney says of his job. “I know the press portrays it as some, you know, hateful battle between the forces of evil and the forces of good, and it’s not. It’s actually been a really good place to work.” —Devin Leonard and Elizabeth Dexheimer

THE BOTTOM LINE In his six months as the head of the CFPB, Mulvaney has transformed it into an agency that he says now follows the law.

# U.S. Sanction Power May Be Reaching Its Limit

- The response to the Iran decision suggests the global economy won’t be bossed around forever

Six years ago, in the course of investigating London-based bank Standard Chartered Plc over suspicions it had flouted U.S. sanctions against Iran, the New York State Department of Financial Services published an email from a senior executive to one of his counterparts in New York. “You f\*\*\*ing Americans,” the message read. “Who are you to tell us, the rest of the world, that we’re not going to deal with Iranians?”

It’s a sentiment that has echoed through halls of power in recent weeks following President Trump’s May 8 decision to pull out of the 2015 Iran nuclear deal and impose unilateral sanctions, despite all indications that the country was complying. In Year Two of the Trump administration, the number of financial penalties has hit a high after years of increasing use. “The current administration is kind of drunk on the sanctions power,” says Jarrett Blanc, a senior fellow at the Carnegie Endowment for International Peace who was a leading Department of State official in the Obama administration responsible for Iran nuclear issues. “They don’t understand that the tool is limited and fragile.”

Today’s global economy runs through the U.S. financial system, which constitutes a major source

of the country’s influence. The dollar is the world’s currency, and Wall Street remains a key financial center, which helps U.S. leaders sway friends and coerce rivals. That status is “not ordained,” Blanc says. “At a certain point, it might be worthwhile for foreign governments and private-sector actors to work around New York.”

The U.S. began stepping up its use of sanctions after the Sept. 11 attacks, deploying them against terror suspects and their financial backers, says Brian O’Toole, a former senior adviser at the U.S. Department of the Treasury’s sanctions unit, now a senior fellow at the Atlantic Council. Over time, Washington increasingly used financial penalties as a tool of foreign policy, as in the U.S.-led multinational effort to pressure Iran to curtail its nuclear program, which culminated with the 2015 agreement.

When Trump was elected a year later, the strategy began to shift yet again. In January 2018 the Pentagon declared that terrorism was no longer the main threat to the U.S. It identified China and Russia as the chief rivals in a new era of great-power politics. “America First” meant that sanctions were more likely to be unilateral—and more likely to be deployed at the expense of other

● Average new U.S. sanction designations per month



diplomatic strategies. "They've leaned heavily on Treasury," O'Toole says. "They've basically gutted the State Department."

The Treasury is still pursuing militants: On May 16 it imposed a raft of measures against the Iran-backed Shiite militia Hezbollah. But it's the renewed attempt to target the economies of Russia and Iran that's confounded investors and upset U.S. allies. Although the administration's April announcement of tariffs against all imported steel and aluminum got more press, mayhem rippled through global metals markets and supply chains after the Treasury slapped penalties on Russian aluminum producer United Co. Rusal Plc in response to the Kremlin's interference in the 2016 presidential election. Trump's Iran decision a month later sent oil prices soaring. Even though new curbs on Iran won't kick in for months, they'll be the "strongest sanctions in history by the time we are complete," U.S. Secretary of State Mike Pompeo said on May 21.

The most important response to the onslaught of U.S. sanctions won't come from the target countries. The key decisions—to comply or defy—will be made by the only actors on the same economic scale as the U.S.: China and Europe. "For absolutely core national security reasons, China will find ways around the hold of the U.S. banking sector," says Jeffrey Sachs, an economics professor at Columbia University. In the past five years, China has set up its own lending institutions parallel to the Washington-based World Bank and International Monetary Fund and pushed the yuan as an international currency. The country is likely to strengthen its presence in Iran no matter what Trump does.

The calculations are more complex for Europe's leaders, longtime allies of the U.S. who share many of its concerns, including those about Russian election meddling and Iran's involvement in Middle East wars. In July 2017, Germany's Kiel Institute for the World Economy published a study on the economic impact of multilateral sanctions imposed on Russia over its annexation of Crimea three years earlier. While Russia naturally took the biggest hit, a surprisingly large share of the losses—\$44 billion—were borne by the sanctioners. Of that, almost 40 percent fell on Germany; only 0.6 percent hit the U.S.

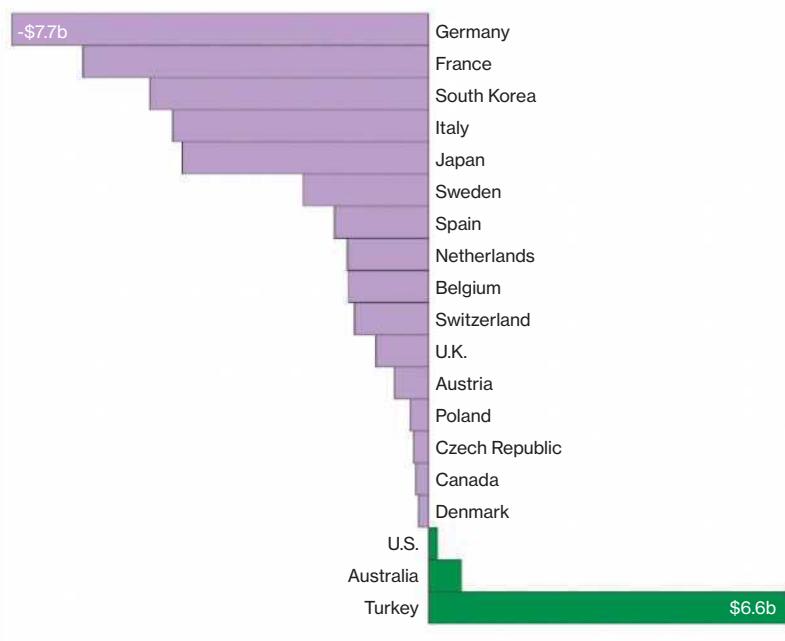
Reacting to Trump's Iran decision, French Economy Minister Bruno Le Maire fumed, "Do we want to be vassals who obey decisions taken by the United States while clinging to the hem of their trousers?" Meeting in Bulgaria less than a week later, European leaders agreed on a package of measures to defy American pressure. Special rules to shield European Union companies from U.S. sanctions will be activated for the first time

in two decades. The European Investment Bank will be allowed to finance business in Iran, and EU countries were encouraged to explore transfers to Iran's central bank.

Numerous battles loom in the coming months. The global Swift cross-border payment system—based in Brussels but dependent on U.S. cooperation—is one likely flashpoint. The planned Nord Stream 2 pipeline, which would bring Russian natural gas to Germany, is another. "We would be delighted if the project did not take place," U.S. State Department energy expert Sandra Oudkirk told reporters in Berlin.

### The Cost of Sanctioning Iran

According to one estimate, from 2010 to 2015, sanctions blocked more than \$77 billion in trade



DATA: KIEL INSTITUTE

In the long term, Sachs says, there's a bigger risk. While countries such as Venezuela, which is promoting its own state-backed cryptocurrency, Iran, and even Russia may chafe at the greenback's dominance, they lack the clout to do much about it. Now that the bigger players have a motive to find ways around the dollar, he says, there's no technical reason why they couldn't succeed. "Europe and China have banks," he says. "One of these days, the U.S. is going to talk the dollar right out of its international role." —*Ben Holland, with Shelly Hagan and Marc Champion*

**THE BOTTOM LINE** The U.S.'s ability to impose financial sanctions around the world depends on the willingness of China and Europe to comply—and that may be waning.

# So Happy Together

40

**Marriages in the auto business are typically disastrous. But Sweden's Volvo and China's Geely are making it work**

**By Bryan Gruley  
and Jamie Butters  
Photograph by  
Ka Xiaoxi**



## Hakan Samuelsson, the chief executive officer of Volvo Car

Group, is sitting in the master bedroom in the home of a suburban Stockholm family he's never met. His company has rented the modernist three-story house of blond wood and white-washed walls for the media introduction of Volvo's new station wagon, the V60.

Alternating groups of American, British, German, and Scandinavian journalists crowd in for short question-and-answer sessions. It's Samuelsson's first and probably last bedroom interview, but he plays along. "You can lie down and relax," he tells reporters, gesturing to the queen-size bed as a grin creases his craggy face.

Outside, light February snow flutters past willows and pines onto a silver V60 bathed in camera lights in the driveway. It was designed, like so many Volvos, for suburban families seeking safe, reliable transportation. But the peculiar setting for this press event is meant to suggest that today's Volvo is a far cry from the Volvo of a decade ago, when it was losing money, selling fewer cars by the year, and watching its talent for design and engineering get watered down by then-owner Ford Motor Co. Even the staid wagon, the embodiment of classic Volvo, has taken on a new look in the sleek, low V60. A *Gear Patrol* review called it—remember, this is a station wagon—"positively lust-worthy."

The car wouldn't exist, and Samuelsson wouldn't be jawing with journalists in a stranger's house, if it weren't for a formerly obscure Chinese billionaire named Li Shufu. For a long time, Li was known mostly for building crappy little cars for Chinese consumers buying their first vehicles. In 2010, his Zhejiang Geely Holding Group Co. bought Volvo from Ford at a fire-sale price. Samuelsson became CEO in 2012, and since then Volvo has built an engine plant and two vehicle assembly factories in China, plus another assembly facility in South Carolina, while expanding research and development centers in Sweden and California. By the end of this year the company will have introduced nine models, essentially replacing its entire product lineup. For 2017, Volvo reported sales of 571,577 vehicles and operating profit of \$1.76 billion—both records for the 91-year-old company—with revenue of \$26.3 billion. Volvo recently selected Citigroup Inc., Goldman Sachs Group Inc., and Morgan Stanley for advice on a potential initial public offering seeking a valuation of as much as \$30 billion.

Failed marriages litter the auto industry: Daimler and Chrysler, General Motors and Saab, Ford and Jaguar. This one appears to be working. And Li has pulled it off by both defying the stereotype of the meddlesome new owner and leaving his fingerprints all over Volvo's transformation. Somehow, Volvo is still the Swedish brand that makes station wagons and prides itself on safety, yet at Li's prodding, it has also become a leader in emerging technologies, taking on challenges that companies its size usually leave to GM and Toyota Motor Corp.

It's part of Li's grander plan to build China's first global automotive company. In the past year, through various Geely enterprises, he has accumulated a 9.7 percent stake

in Germany's Daimler AG, maker of Mercedes-Benz, as well as 51 percent of British sports car maker Lotus Cars and 49.9 percent of Malaysia's Proton Holdings. Zhejiang Geely also invested \$3.3 billion in Volvo AB, the truckmaker formerly affiliated with Volvo Cars, and acquired flying-car aspirant Terrafugia. Li's adventures appear to have the tacit approval of the Chinese government, despite his being a private operator vying against China's many state-owned companies. He declined to answer questions for this story.

As the most evolved piece of Li's vision, Volvo offers the clearest indication of how he might achieve it. "He gave us balls again," says Lex Kerssemakers, a top Volvo executive under both Ford and Geely. "It's not that they came with a bag of money; actually the opposite. The entire turnaround of Volvo has been financed by Volvo's cash flow. They left us alone and had the patience as an investor not to take our money but to reinvest it in a new product portfolio. We were close to being dead in 2010. And here we are."

**"Please beware alligators," says the green-and-white sign on** a freshly paved road leading to America's newest auto assembly plant, 40 miles northwest of Charleston, S.C. "Do not feed wildlife."

The complex, surrounded by swamp and forest, is Volvo's first to build vehicles in the U.S. Later this year it will start producing S60 sedans for sale in the U.S. and eventually for export to China and other markets. In a few years the plant is expected to be expanded to allow for the production of XC90 SUVs, which would boost annual production capacity to 150,000 vehicles and double the number of workers to almost 4,000.

Overseeing the project is Katarina Fjording, Volvo's vice president of manufacturing and logistics for the Americas. She's a native of Gothenburg, Sweden, where Volvo is based, and a mechanical engineer who's been with the company on and off for more than 20 years. She supervised construction of the Volvo assembly and engine plants in China before moving to South Carolina in 2015. Between hiring workers, talking to senators, and conferring with local officials on a new highway interchange, Fjording has found the U.S. trickier than China, where Geely was already making cars and had an established logistics and supplier base.

In South Carolina, she says, "we've done everything from scratch." She's debating whether to keep the temporary cement plant Volvo had built on the site. It has produced 160,000 cubic yards of concrete for building foundations while saving the company money in truck fuel and cutting down on truck air emissions.

Across the country in Silicon Valley, Volvo's chief digital officer, Atif Rafiq, doesn't have to deal with reptiles. But only a year or so after setting up an innovation center for the company, he needs more space for a growing staff of about 90 engineers and programmers. He's just landed a spot in Sunnyvale, not far from Waymo, Alphabet Inc.'s self-driving car business. ▶

◀ From its founding in Gothenburg in 1927, Volvo has been respected as an innovator, with a lengthy list of inventions, including the three-point safety belt in 1959. Now Rafiq has the job of pushing Volvo ahead of larger, wealthier rivals with innovations such as digital keys that facilitate ride-sharing as Volvo races to develop electric and self-driving cars. Samuelsson has said at least half of Volvo's products will be electrics by 2025.

After Rafiq joined Volvo in 2017, one of his first moves was to persuade the company to acquire Luxe, a startup whose app schedules valet services such as parking, fueling, and car washes. "The car needs its 20,000-mile service, nothing too complicated, but do you really want to spend the half-hour to and from? That should all be possible through this," Rafiq says, brandishing his phone. On one level, though, the pitch to buy Luxe was a test for his new employer—he wanted to see how eagerly management would act on his idea. It was a done deal in about three months. "That's pretty quick," he says.

Despite its innovation bona fides, Volvo has never had the heft to go head-to-head with European rivals BMW AG and Daimler, let alone the likes of Toyota and Volkswagen AG, which each sell almost 20 vehicles for every one sold by Volvo. "Honestly," says Henrik Green, Volvo's senior vice president for research and development, "we've been trailing behind premium competition for 90 years, sort of in between the mass brands and the premium brands." The challenges of this market position were parsed in a 2013 study of the Geely-Volvo deal published by the Thunderbird School of Global Management at Arizona State University. "Smaller volumes meant Volvo could make only minor, incremental model changes from year to year," which in turn hampered its ability to raise prices, it noted.

Before Samuelsson joined Volvo's board, shortly after Geely bought the company, he drove Audis, BMWs, and Saabs rather than Volvos. Professionally he'd been in trucks, and he knew little about Volvo's time as part of Ford. "Something went wrong," he says. "I was not there, but I think the numbers indicate that value was not created."

**Ford paid \$6.5 billion for Volvo in 1999, part of a luxury brand** acquisition binge that included Jaguar and Aston Martin. By 2008, Ford was struggling to survive the Great Recession, and new CEO Alan Mulally, late of Boeing Co., decided to jettison most of the fancy brands, including Volvo.

The Swedes were pretty much screwed. They'd succeeded in resisting the wholesale corporate integration that would contribute to the downfall of Saab Automobile AB, Sweden's other major carmaker, under GM. But Volvo's chassis and engine technology had been partly subsumed into Ford's, and Ford wasn't interested in supplying whomever bought Volvo with powertrains forever. So prospective buyers were looking at a company that didn't have its own line of engines and chassis.

In early 2008, Volvo made a heretical choice that would help save the company. Rather than continue to spend its limited Ford-authorized budget on several different auto platforms, Green says, "We could take that money and develop

a super-competitive architecture—but only one." It would revolve around a four-cylinder engine instead of the five- and six-cylinder engines traditionally expected in the large luxury vehicle market Volvo most coveted. Company engineers "thought we were nuts," Kerssemakers recalls. "It was spitting in the church." Volvo's engineers juiced the new four-cylinder engine enough to generate more than 300 horsepower, an achievement *Consumer Reports* called "astonishing."

Watching from China, Li was impressed. He'd thought Volvo was underappreciated by Ford and had craved the company even before it went up for sale. To Li, a passionate amateur poet, Volvo was a "mysterious, beautiful woman," the epitome of the kind of automaker he'd dreamed of creating, as he once told the *Wall Street Journal*.

Li grew up a farmer's son on China's eastern coast and made his first money as a photographer. Later, he started a refrigerator parts company, then turned a motorcycle plant into the carmaker Geely. ("Geely" sounds like the Mandarin word for "auspicious.") The company's first car, the Haoqing, came off the assembly line in 1998, to be followed by a series of small cars with odd names—King Kong, Urban Nanny, Beauty Leopard—for the low end of China's swiftly growing market. They were cheap and badly built—a J.D. Power & Associates quality survey in 2008 ranked Geely last among 36 Chinese brands.

For advice on how to get Volvo, Li turned to former BP Plc executive Peter Zhang, who'd recently joined Geely. Zhang, who spent eight years on Volvo's board before leaving recently, says Li saw the old Swedish company as everything Geely wasn't. Geely "didn't have a competitive advantage in technology, R&D, design, or operations," Zhang says. When Li began his pursuit, "it was enough to not get laughed out of the room. People thought this was just crazy."

Ford initially waved off Li's advances, perhaps because Geely generated barely a sixth of Volvo's revenue. But Li finally convinced Ford he was serious, and in March 2010, Geely parent Zhejiang Geely Holding bought Volvo for \$1.8 billion in cash and debt—about a quarter of what Ford had paid. Li persuaded two Chinese municipalities to chip in. Volvo had sold 335,000 cars the year before, down from a peak of 458,000 in 2007. Li vowed to help it rebuild without micromanaging. "Volvo is Volvo and Geely is Geely," he said.

Skeptics predicted Geely would churn out low-grade Volvos like fake Rolexes. They didn't think Li, who doesn't speak Swedish or English well, would get along with Gothenburg. In a *Harvard Business Review* essay, Eduardo Morcillo, a partner at InterChina Consulting, asserted, "Geely lacks the management skills to integrate a large company like Volvo." That may have been a problem if Li actually had intended to assimilate Volvo into Geely.

**Samuelsson says he and Li speak once or twice a month, sometimes on the phone, sometimes via Skype, occasionally in person.** Neither speaks the other's language. This peculiar relationship is probably the most important factor in Volvo's comeback, but it was less about personal chemistry than

**A 2019 S60, under wraps. It will be the first U.S.-made Volvo**

transactional imperatives. Li offered Volvo some breathing-room money and access to Chinese lenders—in effect, stability. Samuelsson offered Geely Volvo’s technical excellence, especially in safety, and a well-established brand—in a word, credibility. Both men were eager to embrace technology and shake up the industry.

Li wanted a harder push into China, where Volvo sold only 30,522 vehicles in 2010. Assembling cars there would be less expensive not only because of lower labor costs, but also because of Geely’s relationships with local suppliers, no import tariffs, and shorter shipping distances. Geely effectively fronted the money for the Volvo plants in China and the U.S. “We would never have been bold enough to invest in three factories,” Samuelsson says. “We would still be discussing pros and cons.”

Today, Volvo sells more vehicles in China—90,417 last year—than in any other country, including Sweden. Sales of Geely-brand vehicles in China have more than tripled since 2010, thanks partly to technological and manufacturing contributions from Volvo. The Chinese factories are on Volvo’s balance sheet, and Volvo has paid back much of the \$2 billion it borrowed from the China Development Bank.

Before Samuelsson joined Volvo as a director, he was serving on some other boards while trying to lower his golf handicap of 29. (“Not very good,” he says, correctly.) He hasn’t spent much time on the links since becoming CEO in 2012. He moved immediately to boost profits by cutting costs. But costs weren’t the real problem, as Volvo learned when it compared itself with BMW and other luxury marques.

“The big difference was on the price side,” Samuelsson says. “The cars were not good enough, not attractive enough. Maybe you save 100 on lower costs and lose 1,000 on the price side—not very smart.” Since his first full year as CEO, the company’s revenue has grown 73 percent while profits are up more than sixfold. The new vehicles “are not lower on the cost side—probably the contrary,” Samuelsson says. “There’s a lot of new technology that is not free of charge.”

The XC90, the luxury SUV born of the four-cylinder gamble, became what Samuelsson called “the first car from the new Volvo.” In 2016 a panel of automotive journalists voted it the North American Truck/Utility of the Year, and it has since racked up other prizes and healthy sales. Its platform became the basis for several other vehicles while Volvo developed a second platform for smaller cars. Before this year is out, the XC90 will be the oldest model in Volvo’s portfolio.

Coming soon is Polestar 1, a \$155,000, 600-hp hybrid coupe to be produced by Volvo’s new subsidiary, Polestar. Volvo says this Polestar is a precursor to electric versions coming in the next few years. “If we are going to be successful in electrification, first we need an attractive car,” Samuelsson says. “We learned that from Tesla. In Europe, we have been building electric cars for decades, but they have been developed by petrol-heads. It’s almost like they don’t want them to be too attractive.” Polestar is structured to seek outside investors, though Volvo will retain control so it can easily appropriate technology for its own use.

Meanwhile, belying Li’s assertion about Volvo being Volvo, Geely and Volvo have embarked on their most closely coordinated project yet with the launch of Lynk & Co, a jointly owned brand Li wants to sell around the world. (Ford has complained that the name spoken aloud sounds like Lincoln, Ford’s century-old luxury brand.) Lynk’s first vehicle, a compact SUV, garnered 6,000 online orders in China in less than three minutes last November, and the market pushed Geely’s stock to a record high the next week.

Bernstein Research analyst Robin Zhu has said the celebration might be premature. He has expressed doubts that Lynk can be profitable quickly, partly because its debut vehicle appears to be a version of Volvo’s XC40 sold at a 20 percent discount. Zhu also raised questions in a January report about Geely’s “aggressive” accounting practices. He cited a “complex web of related-party transactions” between parent Zhejiang Geely Holding and Geely Automobile that could result in overstated profits. The report also questions whether Li has the “will or means” to subsidize his auto company, especially given his recent investments. A spokesman for Geely says Lynk is off to a strong start and all of Li’s companies are performing well, so there’s no need for him to subsidize them.

As yet there’s no indication that the Chinese government will move to rein in Li’s ambitions, as it has with HNA Group Co. and Anbang Insurance Group Co. There is talk that Li’s latest partner, Daimler, might invest in Volvo, and that Volvo might soon have access to Mercedes engines. Li has been preaching publicly about the need for automakers to seek partners inside and outside their industry if they hope to contend with the likes of Uber and Google. At the same time, he’s been cagey about his own next steps. As he wrote in one of his poems, “Who knows how many roads are in front of you?” —With Elisabeth Behrmann

# How Not To Negotiate A \$6.1 Billion Deal

44

The Xerox-Fujifilm formula:

- ① Tell CEO he's fired.
- ② Have him arrange sale of company.
- ③ Hope Carl Icahn doesn't find out

By Drake Bennett  
Photograph by Meredith Jenks



**O**n May 15 of last year, the investor Carl Icahn hosted a dinner at his Midtown Manhattan penthouse. The invitees, along with Icahn's son, Brett, were Jeff Jacobson, chief executive officer of the copying giant Xerox Corp., two of Jacobson's top lieutenants, and Jonathan Christodoro, a former managing director from Icahn Capital who served on Xerox's board. Icahn's company is Xerox's largest investor, owning almost 10 percent of its stock. Jacobson, a 30-year veteran of the printing and copying industry, was only five months into his tenure as CEO. Like his predecessor, Ursula Burns, and her predecessor, too, he was charged with reversing the company's long slide from global dominance. He'd spent a decade at Eastman Kodak Co., which had failed spectacularly to do just that.

According to a memo Jacobson wrote the following day and testimony he would later give, Icahn was 30 minutes late to the gathering, which lasted more than three and a half hours. "The discussion centered around Icahn and Christodoro's view that the industry 'was a piece of shit' and the Xerox business was not driving value," Jacobson wrote. Icahn, unimpressed by Jacobson's long-range financial projections, said that he was sorry he'd ever invested in the company and that he wanted out. Xerox needed to find a buyer, or Jacobson had to go. "If I could not have it sold, then he would push to have me removed and he would replace me with 'one of the two guys' sitting with me," Jacobson wrote.

"I tried to be nice about it," Icahn tells *Bloomberg Businessweek*. "I said, 'You're a good sales guy, but you're in over your head. You've said you can get it sold, so go get a bid and bring it to the board. Otherwise you're incapable of being CEO. You've been Ursula Burns's acolyte for over five years, and look at the job that's been done.'" Jacobson had brought a bottle of wine, Icahn recalls. "I said, 'Thanks for the wine, but it's not going to change my opinion no matter how much I drink.'"

No one who has followed Icahn's unsparing and enormously lucrative career would find any of this remarkable. In 1985, TWA's CEO, testifying before Congress, called him "one of the greediest men on earth." Icahn would take the struggling airline private, load it up with debt, sell its most valuable routes, and preside over the first of its three bankruptcies. (It was eventually folded into American Airlines.) Ask the 82-year-old himself, though, and his billions are recompense for challenging self-dealing executives and complacent boards on behalf of his fellow shareholders.

The events that followed from that dinner, however, most likely surprised even him. Within a year, Xerox would sell itself to Japan's Fujifilm Holdings Corp., a longtime strategic partner, then unsell itself after a fellow billionaire Xerox investor, Darwin Deason, filed suit, with Icahn's support, to stop what he characterized as a "fraudulent scheme." The legal proceedings would uncover a series of bizarre episodes, most notably the board deciding to fire Jacobson midway through the sale, letting him continue the negotiations, then choosing him to run the newly combined company. It's become one of the stranger entries in the annals of mergers and acquisitions, with questioned loyalties, passionate letters, unexpected reprieves,

sudden reversals, and, for good measure, accounting fraud. The course of corporate governance has never run less smooth.

**L**arge companies are rarely good at reinvention, in part because they're reluctant to bet the future on technologies like the one that birthed Xerox. Even in retrospect, xerography seems an implausible foundation for an empire. Its inventor, Chester Carlson, survived a childhood of itinerant poverty—losing his mother and living for a time in an old chicken coop with his invalid father, a barber—to earn a degree in physics. In the 1930s, while working as a mechanical engineer at Bell Labs in New York City, he earned a night school law degree. The hours spent copying textbook passages by hand focused his hyperactive imagination.

Carlson's inspiration mixed electromagnetism and Rube Goldbergian oddity. In an obscure scientific paper, he discovered that certain elements lose their electric charge when exposed to light. If you coated a metal plate with one of them, he surmised, then electrically charged it and projected onto it an image of a black-and-white document, the plate would lose its charge in the places where light hit it (the original's white spaces), but not where it was in shadow (the ink). If you then blanketed the plate with tiny black bits of some other charged material, they would cling to the still-magnetized parts of the plate corresponding to the ink marks on the original. If you then pressed a piece of paper onto the plate so it lifted off those particles (let's call them "toner"), you'd have a copy of the original. Using heat to melt the toner into the paper, you could make that copy permanent.

Working out of the spare room of a Queens beauty parlor, Carlson proved in 1938 that this process was viable, using moss spores for toner. But when he pitched it to Kodak, General Electric Co., and other tech giants of the day, the response was, as he later put it, "an enthusiastic lack of interest." In 1947 a small photographic equipment manufacturer called the Haloid Company—based, like Kodak, in Rochester, N.Y., and desperate to escape its neighbor's shadow—took a flier on Carlson's eccentric creation.

Over the next decade, Haloid scientists and engineers refined xerography (from the Greek for "dry" and "writing") into a working machine. The result was the Xerox 914. Introduced in 1959, it had a knob to set the number of copies and a big "PRINT" button, weighed 650 pounds, and could make a copy in less than 10 seconds. Paper jams were frequent and paper fires not infrequent (it came with a small fire extinguisher), but its success shocked even Haloid: The company's first customers began making thousands of copies a day. By the mid-'60s, the number of copies made nationwide had shot past 10 billion. Haloid changed its name to Xerox and minted a generation of "Xerox millionaires." Carlson's royalties accrued into a huge fortune, most of which he would give away.

In 1962 Xerox and Fujifilm established a joint venture to sell Xerox machines in Japan and its neighbors. The two companies were natural partners. Founded in 1934, Fujifilm had also carved out a business in Kodak's wake. Now the Japanese company was looking to diversify beyond photography, while Xerox

## Xerox's Hall of Fame (and Shame)



Chester Carlson,  
the inventor  
of xerography



Carlson's first  
xerograph, from 1938



Xerox's first office  
copier, the 914,  
came with a small  
fire extinguisher



The mouse and  
graphical user  
interface, invented by  
Xerox but mass-  
marketed by Apple

wanted into Asia. Global competition was accelerating, and lower-cost Japanese copier makers such as Canon and Ricoh would soon be entering markets Xerox had long had to itself.

The bigger threat for Xerox, though, was the dawning shift to a world where information could be recorded and shared paper-free. In 1970 the company founded its Palo Alto Research Center, employing elite computer scientists who not only anticipated but also hastened the shift Xerox had foreseen, bringing the world the mouse, the graphical user interface, the Ethernet, and the laser printer. Yet PARC famously failed to help the company adapt—Xerox successfully commercialized only the last of those inventions.

That failure has loomed ever larger over the past two decades. In 2001, struggling with debt, the company sold half its stake in the Fuji Xerox joint venture to Fujifilm, handing over control of Xerox technology sales in Asia—and most of the profits. Successive CEOs sought to increase Xerox's share of the shrinking market for what it does well, building more functions into its multifunction office printers (the latest even translate) and developing million-dollar digital presses for publishers and print shops.

Burns, the first black woman to lead a Fortune 500 company, also tried to push Xerox into outsourcing. It was already taking care of document services for its clients, she argued, so why not other needs? In 2009, Xerox acquired Affiliated Computer Services for \$6.4 billion. An outsourcing pioneer, ACS processed everything from insurance claims to highway toll payments. The ACS purchase brought Darwin Deason to Xerox. An impatient Arkansas farm boy who hadn't seen the need for college, he was running a Dallas data processing firm called MTech by the age of 29. Two decades later, in 1988, he made his first fortune when MTech was sold. A few days after that, he started ACS. When Xerox bought it, Deason became the copying giant's largest individual shareholder.

His reputation preceded him. A few years before, five members of ACS's board had accused him of "bullying and thuggery" after he tried to force them out. And following the 2001 bankruptcy of a one-time ACS subsidiary, the court-appointed trustee accused Deason of using the company to pay for personal expenses such as liquor, ranch upkeep, and plastic surgery. (He settled for \$3.8 million, denying the charges.) He was also known to be fond of Miami. "On the French Riviera, I always say, 8 out of 10 women are topless, and only one should be," he once told the *Miami Herald*. "On South Beach, 8 out of 10

are topless, and 8 out of 10 should be." Now 78, Deason is married to his fifth wife.

The Xerox-ACS marriage, too, proved temporary. The promised synergies never materialized, and the new Xerox saw its revenue shrink year after year. In the first half of 2015 its stock price fell almost 25 percent, and Icahn sensed an opportunity. In November he disclosed that he'd built up a 7.1 percent stake and began arguing for the company to be split. Soon, Xerox announced the spinoff of the business-services unit into a new company called Conduent. Burns stepped down, Jacobson came in, and Xerox started getting serious with an old flame.

**S**higetto Komori, the chairman and CEO of Fujifilm, is a legendary figure in corporate Japan. Some of his earliest memories are of Russian soldiers looting his father's store in occupied Manchuria as World War II ended, and of an internment camp where other Japanese children awaiting repatriation starved to death. At the University of Tokyo, he fell in love with Nietzschean philosophy and American football. In conversation on April 20 at Fuji's headquarters in Tokyo's Roppongi neighborhood, the saturnine chairman stirred to life as he recalled going with a friend to sign up after a fellow student was killed playing the exotic sport. "The older students said, 'Haven't you heard that there was a death recently?' And we said, 'Well, that's precisely why we want to join.'"

Komori had made periodic and unsuccessful attempts over the years to turn Fuji's joint venture with Xerox into something more enduring. The logic of a merger was clear. Most of the machines Xerox sells come from Fuji Xerox factories, and the joint venture accounts for half of Fujifilm's revenue. Merging would also present opportunities for streamlining—Fuji Xerox has its own research and development arm, production facilities, supply chains, and corporate leadership.

And Fuji had something to teach Xerox. Like their shared former nemesis, Kodak, the Japanese company had faced an existential threat when its central technology became obsolete—Fuji had overtaken Kodak as the global leader in film in 2001, just as sales began to collapse. But where the two American companies had struggled to adapt (Kodak went bankrupt in 2012), Fuji had moved aggressively into profitable new businesses. It began making highly regarded digital cameras and medical-imaging systems, adapting algorithms developed to help customers curate photo albums so radiologists could more quickly decipher X-rays. It converted assembly lines so they ►

◀ could produce coatings for LCD screens. And it redeployed its mastery of the nanoscale chemistry involved in making color film to making pharmaceuticals and high-end cosmetics. Fuji's market value today is \$20 billion, almost three times that of Xerox. "When you think about it, what a gift it's going to be for Xerox," Komori said during the interview on April 20, while the deal was still being negotiated.

As Komori knew, Fujifilm already exerted some control over Xerox's fate. The agreements governing the joint venture give Fujifilm special protections if a competitor buys Xerox. Fuji would have the right to effectively take over the joint venture, depriving the new owner of control over how Xerox's own technology and brand were used in Asia. As Xerox director Charles Prince would put it in an email, those agreements made it "practically impossible" for anyone but Fuji to buy Xerox.

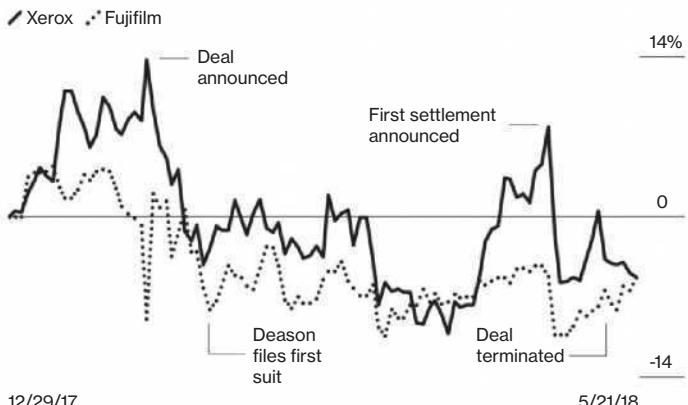
In March 2017, with Jacobson in Japan to discuss the joint venture, Komori asked whether Xerox might be for sale. His proposal was straightforward: Fuji would pay cash, with a 30 percent premium to compensate Xerox shareholders for giving up control of the company. Jacobson's response, after consulting with Xerox's board, was noncommittal. "Our stock is up nearly 30% in 2017, indicative of the confidence our shareholders have in our prospects," he wrote to Fuji.

Within months the dynamics had flipped. Xerox's board had completed a strategic review concluding that, in fact, the company would have a hard time growing without some sort of sale. Jacobson was told to make it his focus. Then came the May dinner at Icahn's. The problem for Jacobson was that Komori now had other things on his mind. Fuji Xerox had just disclosed a massive accounting fraud at its New Zealand offices. (The company's Australia unit was later also revealed to be involved.) Executives were routinely bringing revenue forward to cover shortfalls or fabricating sales. The fraud was a national scandal in Japan. Four Fuji Xerox executives stepped down, and the company revealed that it had overstated its revenue by \$340 million over the previous five years.

Jacobson's interlocutors at Fujifilm, busy sorting through the mess, suggested tabling talk of a deal. The Xerox CEO, however, was insistent. In late June he returned to Japan to press Komori

## Do Not Copy

Change in share price since Dec. 29, 2017



and other executives. In texts, he alluded darkly to Icahn. "I am getting a lot of pressure from 'the influence' that I discussed with you," he wrote to Takashi Kawamura, Fuji's head of strategy, who would become an ally.

Jacobson was aware, too, that the rest of Xerox's board was dissatisfied with him. In a call that spring, the board had discussed his shortcomings. Robert Keegan, a former CEO of Goodyear Tire & Rubber Co. who was soon to succeed Burns as chair, wrote some of them down in spidery, all-caps bullet points: "questionable priority setting," "little strategic thinking," "overconfident," "poor listening skills," and "whiner!"

By midsummer, the board had concluded that Jacobson was incapable of leading Xerox. While he continued to talk with Fuji, they were interviewing replacement candidates. On Nov. 10, Keegan and Jacobson met in Westchester, N.Y. They talked amicably for a few minutes about the chairman's recent foot surgery, then Keegan told Jacobson the board had given up on him. Although Keegan didn't mention it, they'd already settled on a successor: former IBM and HP executive Giovanni "John" Visentin. Keegan told Jacobson to stop his talks with Fuji. But Fuji executives were scheduled to fly to New York a few days later. When Jacobson tried to cancel, Kawamura told him Komori "would be very disappointed" and might break off the talks. After reading the texts, forwarded to him by Jacobson, Keegan relented. Jacobson could go to the meeting, and they'd see where things went.

Among the points at issue in Deason's lawsuit is whether Jacobson was thereafter able to negotiate in good faith. At the very least, Jacobson might reasonably have assumed that a successful deal would make his reprieve permanent. (He declined to be interviewed for this story.) Deason's suit accuses him of going further—of using the ensuing negotiations to get himself put in charge of the merged company, and of willingly selling out the interests of his own shareholders to do so. Or, as the complaint puts it in one of its boldfaced, action-filled headings: "Seeing His CEO Position Vanish Before His Eyes, Jacobson Defies the Board's Directive And Intensifies His Effort To Quickly Close A Deal With Fuji That Is Coincidentally Contingent On His Remaining CEO."

At trial, Jacobson insisted under oath that he never told anyone at Fuji about his job status, nor made the deal contingent on his future role. Still, some of his communications with Fuji are suggestive. In a text two days after the meeting in Westchester, Kawamura assured Jacobson that "because Komori likes you a lot, he will certainly try to help you if you ask his understanding and support." And Jacobson was aware that Fuji saw him as a vital bulwark against Icahn. Activist investors are regarded leeringly in Japan, and Jacobson repeatedly played what he called "the Icahn card," warning Kawamura and Komori that if the talks failed, Icahn might take control of Xerox, making Fuji a partner with an agent of corporate chaos. In one text exchange, Kawamura referred to Icahn as "our mutual enemy," and Jacobson responded, "We are aligned my friend."

Most of Xerox's board remained unaware that the CEO they thought they'd dismissed was still working to sell the company. That changed on Nov. 30, when Fuji sent over a term sheet

# “Every time we turned over a rock there was another Easter egg: another bad email, another bad text”

outlining its offer. Several days later, Cheryl Krongard, a retired banker who'd been appointed to the board at Icahn's request, sent Keegan a handwritten *cri de cœur* entitled “4 sleepless nights.” “We have a rogue executive,” she warned, unaware that Keegan had approved the continued conversations.

The deal the board was being asked to consider had evolved considerably since Komori's initial overture. Fuji Xerox, the joint venture, would borrow \$6.1 billion to buy out Fujifilm's stake, then Fujifilm would use that money to buy a controlling 50.1 percent stake of Xerox, which would assume control of the former joint venture and pay off the original \$6.1 billion debt. Xerox, now a Fuji subsidiary, would borrow additional money to pay its shareholders a special dividend—Xerox's board managed to bargain Komori up from \$2 billion to \$2.5 billion, a small concession since Xerox would be borrowing the money.

This convoluted approach allowed Fuji to take over the printing company “without spending a penny,” as Komori contentedly pointed out to the *Nikkei Asian Review*. Icahn, who had stayed abreast of the negotiations through Christodoro, inveighed against the deal. Legally prohibited from commenting publicly, he announced a slate of four board candidates for the 2018 annual shareholder meeting, where the deal would also be up for a vote.

As for Jacobson, he continued to play a central role in the talks, at one point writing Kawamura, “Are things on track as we discussed for you [sic] role and my role?” On Jan. 23, after news of the Fuji negotiations emerged, Jacobson fielded a call from the president of HP, who asked whether Xerox might be interested in dealing with them instead, but Jacobson didn't aggressively pursue it—he would later say he didn't feel HP was serious. Eight days later, the board unanimously approved the Fuji deal, with Jacobson, at Komori's insistence, running the new Xerox. With Jacobson's help, Komori also picked five current board members, including Keegan, to stay on.

Few of these developments would have become public if Deason, still the company's third-largest shareholder, hadn't filed his lawsuits. (He filed two in quick succession.) The suits originally stressed that Xerox had never divulged the terms of the joint venture, hiding from shareholders the ways the company was held hostage by its putative partner. At the very least, Deason argued, the board should have used the accounting scandal to renegotiate the terms. It was only after his lawyers had begun to dig through documents turned over by Xerox and its advisers that they revised the complaint to argue that something more nefarious had happened. “We started calling them Easter eggs,” Deason recalled during an interview with Bloomberg Television. “Every time we turned over a rock there was another Easter egg: another bad email, another bad text.” (He declined to be interviewed for this story.)

On April 27th, after two days of testimony, Judge Barry

Ostrager granted a preliminary injunction preventing the deal from proceeding until the lawsuits were settled. Much of the decision's blistering language echoed the complaint: “This transaction was largely negotiated by a massively conflicted CEO in breach of his fiduciary duties to further his self-interest and approved by a Board, more than half of whom were perpetuating themselves in office for five years without properly supervising Xerox's conflicted CEO.” It was, he wrote, “counterintuitive and not credible to the Court that Jacobson did not both explain his personal circumstances to Fuji and attempt to enlist Fuji's assistance in preserving his position.”

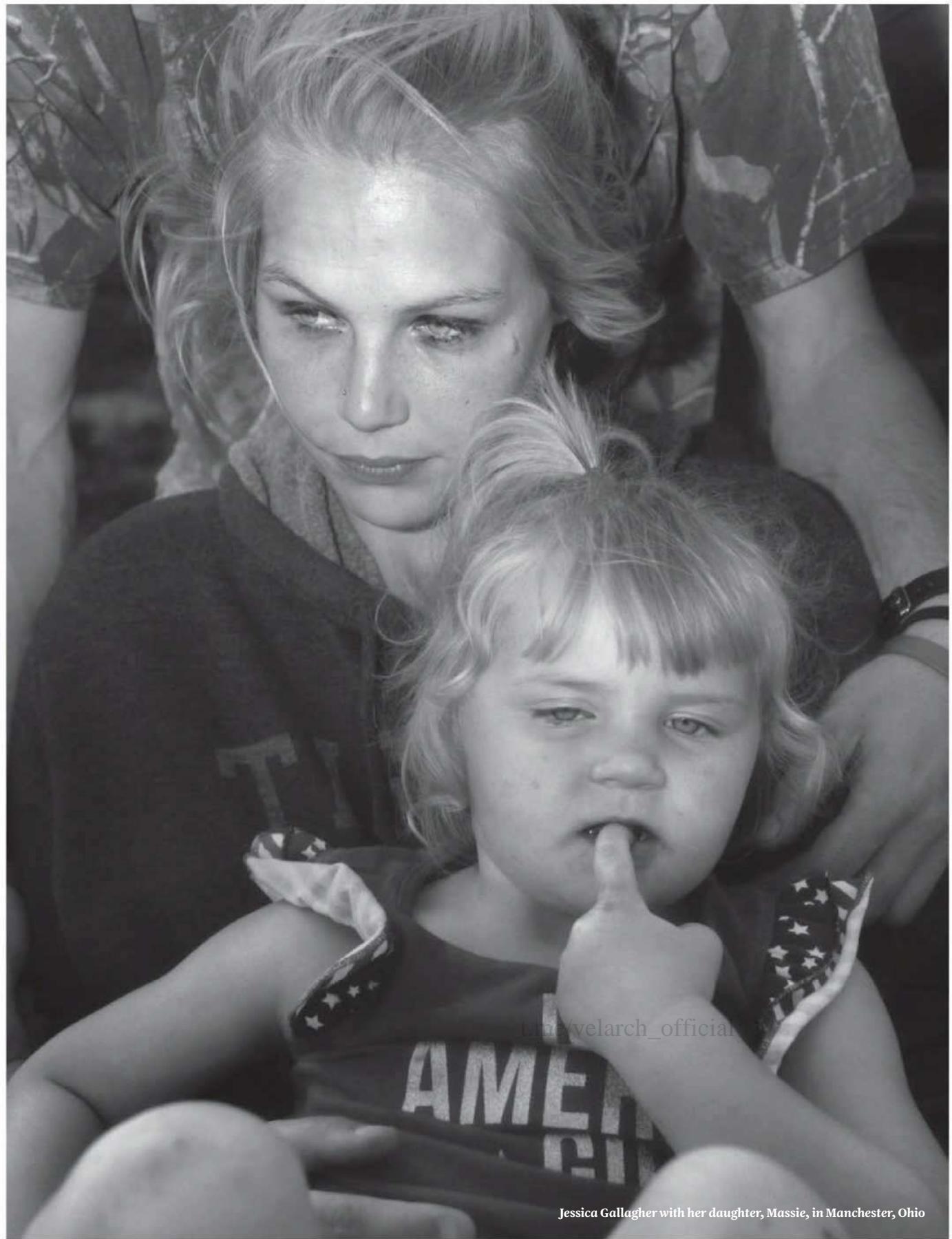
The judge's decision set off a whirlwind of activity. At first, Xerox's board, thinking the judge had prohibited them from even talking to Fuji, reluctantly entered into a settlement in which Jacobson and several board members, including Keegan, would step down. Upon learning that they could, in fact, talk to Fuji, the board reversed course, announcing to the consternation of Icahn and Deason that everyone would stay. With the deal in doubt, the board gambled that it might be able to squeeze a bigger dividend out of Fuji to placate shareholders.

Komori wouldn't be rushed, however, and talks broke down. On May 13 Xerox announced that Jacobson and the board members were indeed leaving. Visentin would take over as CEO, and the Fuji deal was off. As cause, Xerox cited the still ballooning costs of the Fuji Xerox accounting scandal, which it argued invalidated the math underpinning the transaction. In response, Fuji has announced plans to sue.

**T**here is, of course, an alternative interpretation of Jacobson's deal with Fuji, in which he was telling the truth about his actions and motivations. In this version, Xerox didn't end up with a better deal because few, if any, companies want to make multibillion-dollar investments in a steadily shrinking industry.

Deason and Icahn both claim that Xerox can renegotiate the joint venture. Deason has said he'd like to see Xerox try again to sell itself to the highest bidder, perhaps even Fuji. Icahn, for his part, says Xerox would do fine on its own for a while—he even raises the possibility of terminating the joint venture altogether and forging into Asia alone.

Eager to dispel his reputation as a corporate raider, Icahn points out that he's held onto some companies for years: the railcar manufacturer ACF Industries, the engine-maker Federal-Mogul, Tropicana Entertainment. He keeps a list handy for when reporters call. “This is a really good company now that you're not combining it with the very troubled Fuji Xerox,” he says of Xerox proper. “Some of the companies that I've turned around, it's taken years. This one may also, but I hope not.” Mind you, that's just what a seller driving a hard bargain would say. He might just be playing the Icahn card. **B** —With Ed Hammond

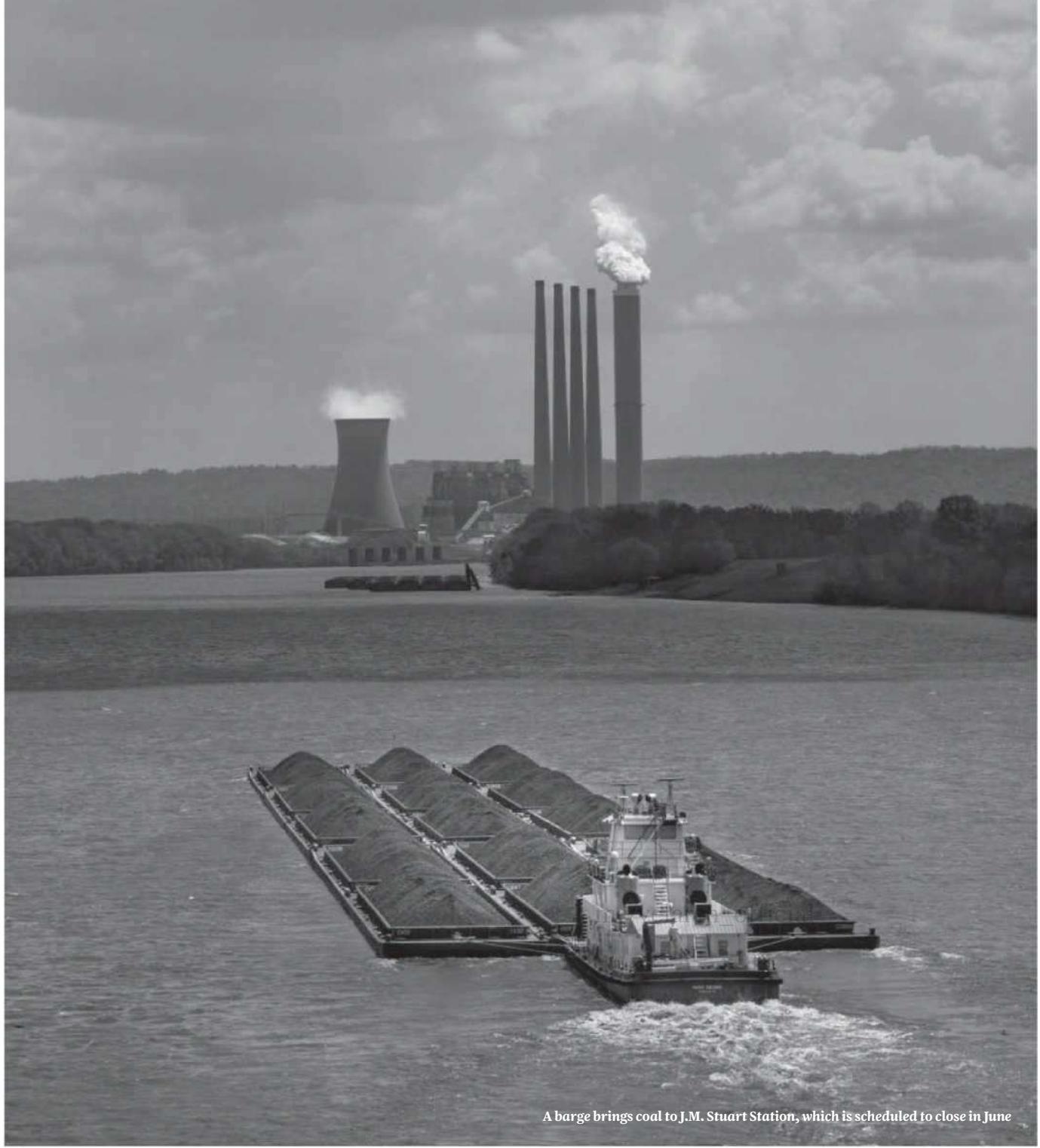


[time.com/velarch\\_official/](http://time.com/velarch_official/)

Jessica Gallagher with her daughter, Massie, in Manchester, Ohio

**Adams County, Ohio, is about to lose its biggest employer,**

# Stay or



51

A barge brings coal to J.M. Stuart Station, which is scheduled to close in June

and 28,000 people have a decision to make

# Leave?

**By Alec MacGillis      Photographs by Philip Montgomery**

**J**ohn Arnett chose Adams County, Ohio, as his home long before he was old enough to vote, drink beer, or drive a motorcycle along the Ohio River. After his parents split up, Arnett opted at age 10 to spend most of his time with his grandmother in Adams County, along the river 70 miles southeast of Cincinnati, rather than with his parents in the Dayton area. He liked life on the tobacco farm his grandfather had bought after retiring early from General Motors Co. in Dayton. And his grandmother, who became a widow when her husband died in a tractor accident, welcomed the companionship.

After high school, Arnett joined the U.S. Marine Corps, in 1999. His unit, the 1st Battalion, 7th Marines—the storied Suicide Charley—took him to the other side of the world: South Korea, Japan, Thailand. In the spring of 2003 he was an infantryman in the invasion of Iraq, spending five months in country—Baghdad, Tikrit, Najaf.

Once back in Ohio, he settled in Adams County with his future wife, Crystal, and started taking classes in criminal justice at the University of Cincinnati, figuring he'd follow the well-worn path from the military to law enforcement. One day, though, Crystal alerted him to an ad in the paper for jobs right in Adams County, at the coal-fired power plants down on the river. He jumped at the chance. The Dayton Power & Light Co. plants had been there for years—the larger, 2,400-megawatt J.M. Stuart Station, opened in 1970 as one of the largest in the country, and the 600-megawatt Killen Station followed 12 years later, 14 miles to the east—and weren't going anywhere: Ohio was getting 80 percent of its electricity from burning coal.

Arnett started out in 2004 making \$12 an hour, handling heavy machinery in the yard where the coal was offloaded from barges coming up the river from mines in southern Indiana and Illinois. He soon moved inside the plant, operating the boiler and turbines, and finally became an operator chemist in charge of monitoring water quality, making about \$38 per hour. He got active in the union that represented the plants' 380 hourly employees, Local 175 of the Utility Workers Union of America; eventually he was elected its vice president. He and his wife started a family and in 2009 bought a larger home, a repossessed rancher they got for \$130,000, in Manchester, the community nearest to Stuart. Occasionally he still got out for rides on his Harley, but life was taken over by family and youth sports, which was fine with him. He liked

how he could call up his sister-in-law to watch his kids on a snow day when he was at the plant and his wife was in classes for her physical therapy degree. He liked how, at high school football games, he could send his 7-year-old off to buy himself a hot dog. "I can look over to the concession stand and I'll know someone over there," he said.

In mid-November of 2016, a few days after the election of Donald Trump, the president of Local 175, Greg Adams, called Arnett with news: Dayton Power & Light, which had been bought in 2011 by the global energy company AES Corp., had notified the state that it intended to close Stuart and Killen in June 2018. The plants were by far the largest employer and taxpayer in Adams County, population 28,000, which by one measure of median family income is the poorest county in Ohio. The announcement left the county with just a year and change to figure out how it was going to make do without them.

And it provided just a year and change for Arnett and hundreds of other workers—there were more than 100 management employees and 300 contractors in addition to the 380 union workers—to answer the question being asked in other deindustrializing places all over the country: Stay or go?

It was a hard question to confront, one the workers would be left to answer almost entirely on their own. Ohio was facing more retirements of coal-fired power plants than anywhere else in the country. Yet nobody in government—not in the state, not in Washington—was doing anything to grapple comprehensively with the challenge that Adams County and other areas were facing. It wasn't just the economy that was leaving so many places behind.

**A**merica was built on the idea of picking yourself up and striking out for more promising territory. Ohio itself was settled partly by early New Englanders who quit their rocky farms for more tillable land to the west. Some of these population shifts helped reshape the country: the 1930s migration from the Dust Bowl to California; the Great Migration of blacks to the North and West, which occurred in phases between 1910 and 1960; the Hillbilly Highway migration of Appalachian whites to the industrial Midwest in the 1940s and '50s.

In recent years, though, Americans have grown less likely to migrate for opportunity. As recently as the early 1990s, 3 percent of Americans moved across state lines each year, but today the rate is half that. Fewer Americans moved in 2017 than in any year in at least a half-century. This change has caused consternation among economists and pundits, who wonder why Americans, especially those lower on the

income scale, lack their ancestors' get-up-and-go. "Why is this happening?" *New York Times* columnist David Brooks asked in 2014. His answer: "A big factor here is a loss in self-confidence. It takes faith to move." Economist Tyler Cowen wrote last year that "poverty and low incomes have flipped from being reasons to move to reasons not to move, a fundamental change from earlier American attitudes."

The reluctance to move is all the more confounding given how wide the opportunity gap has grown between the country's most dynamic urban areas and its struggling small cities and towns, a divide driven by a mix of factors that include technology, globalization, and economic concentration. According to a new Brookings Institution report, the largest metro areas—those of 1 million or more people—have experienced 16.7 percent employment growth since 2010, and areas with 250,000 to 1 million have seen growth of 11.6 percent, while areas with fewer than 250,000 residents have lagged far, far behind, with only 0.4 percent growth. The question has taken on a stark political dimension, too, given how much Trump outperformed past Republican candidates in those left-behind places.

For policymakers, the low rates of migration to opportunity present a conundrum. Should there be a wholesale effort to revitalize places that have lost their original economic rationale? Or should the emphasis be on making it easier for people in these places to move elsewhere?

The country has a long tradition of place-based investment, most notably the New Deal, which, through the Tennessee Valley Authority and similar grand-scale projects, sought to raise up Appalachia and the South. Yet there's strikingly little support these days for similar efforts, anywhere on the political spectrum. Kevin Williamson put it most caustically in a March 2016 essay in *National Review*. "So the gypsum business in Garbutt ain't what it used to be," he wrote. "The truth about these dysfunctional, downscale communities is that they deserve to die." Paul Krugman was more charitable, but hardly effusive, in a blog post last year. "There are arguably social costs involved in letting small cities implode, so that there's a case for regional development policies that try to preserve their viability," he wrote. "But it's going to be an uphill struggle."

Some calls are easier than others. It's hard to argue that, say, a town that sprang up for a decade around a silver mine in Nevada in the 1870s needed to be sustained forever once the silver was gone. Where does one draw the line, though? If all of southern Ohio is lagging behind an ever-more-vibrant Columbus, should people there be encouraged to seek their fortunes in the capital? What would it look like to write off an entire swath of a state?

This has all become particularly urgent in places that are home to coal-fired power plants. These utilities get less media attention than actual coal mines, but they are far more widespread, employ almost half as many—some 20,000—and are ►



The Adams County jail sometimes holds twice its official capacity



Randy Rothwell left for a good job in Washington state—and came back



experiencing a much more immediate decline. Whereas coal mines have been shedding jobs for decades, coal-fired plants are experiencing their biggest crisis right now, squeezed by both competition from cheap natural gas and government constraints on their copious carbon emissions. At least 14 coal-fired plants are scheduled to close this year alone, many in remote places where they're the big employer in the area.

Adams County is a classic example. The plants dominate the landscape—not just the towering stacks along the river but also the moonscapes that have been carved out of the nearby land to hold waste from the plants in so-called ash ponds. The good-paying jobs at the plants—a total \$60 million in annual payroll—drew skilled workers to the county and to Maysville, Ky., the picturesque former tobacco hub across the river. The plants fattened the tax base. Despite the high poverty rate, the Manchester schools became some of the state's best-funded, with high teacher salaries and an ambitious football program.

In theory, once the plants were closed, Adams County could revert to farm country. But it hadn't been farm country for almost a half-century.

**A**fter Arnett got word from Greg Adams of the planned closure, they went to Stuart Station to discuss it with the operations manager, Mark Miller. The two men say Miller asked them to keep word of the closure to themselves. The reason seemed plain to Arnett and Adams: The company didn't want so many workers leaving for new jobs that the plants would lack manpower to operate in the interim. They had no intention of observing the request. They found it irksome that the plants had recently hired new workers away from other jobs, some of them from hundreds of miles away, despite the imminent closure. The union leaders knew other colleagues who were on the verge of buying new trucks or farms, assuming their jobs were safe as ever.

So that same day, they gathered workers in the vast parking lot outside Stuart Station and, speaking from the back of a pickup, told them what was happening. Some in the crowd scoffed openly, saying it was surely a tactic for upcoming labor negotiations. In the months that followed, though, the reality became undeniable. AES began moving management employees to other locations around the country. Needed repairs started going unattended. And in the spring of last year, the company signed off on a final agreement with state regulators

that gave it the rate hike it was seeking and also required it to provide some transition funding for workers and the county: a grand total of \$2 million.

Desperate to save their members' jobs, the local union leaders, as well as their counterparts at the national level, began to seek a buyer for the plants. This did not seem out of the question. The plants were still making money, they had been upgraded with expensive scrubbers just a decade ago, and the company had recently cleared out a whole hollow above Stuart Station for a new ash pond.

The union did manage to find some potential buyers, but AES appeared reluctant to entertain offers. This fed workers' suspicion that the closure was part of a deal involving Ohio's largest utilities, under which those companies agreed not to oppose AES's recent request to state regulators for a rate hike in exchange for AES closing Stuart and Killen, thereby removing competition from the field. Asked about its reasons for shutting the plants, the company said simply, "It became clear that, without significant changes in market conditions, the plants would not be economically viable beyond mid-2018."

Meeting with so little success on this front, the union leaders reached out to their elected representatives. In May 2017, a half-dozen of them drove to Washington, where they were joined by two Adams County commissioners. The group met with both Ohio senators, Republican Rob Portman and Democrat Sherrod Brown, and what struck Arnett was how similar they were in their unsatisfying responses. "If you put them in a room, you couldn't tell a difference, Republican or Democrat," he says. "Both of them had their people coming in saying they had another meeting." Three months later, County Commissioner Ty Pell, whose father had worked at Stuart Station, returned to meet with Vice President Mike Pence and several cabinet secretaries. But the one who would've been the most helpful to meet with, U.S. Secretary of Energy Rick Perry, was in Houston, where flooding from Hurricane Harvey had become a crisis. Once back in Ohio, Pell and others made repeated attempts to reach Perry, to no avail.

More confounding, though, was the response they met with closer to home. If they couldn't stop the plants from closing, they concluded, they could at least start making the pitch to the state of Ohio for the single best substitute: a pipeline (at an estimated cost of \$25 million) to hook up the county to natural gas, which now bypasses it, making it far less appealing

# He was startled by the advice. “You need to

for potential employers. Despite months of trying, neither the workers nor county officials could get a meeting with Governor John Kasich, a Republican, even though Ty Pell had been county chairman of his gubernatorial campaign. They settled for one meeting with Kasich’s policy director, which produced nothing tangible.

The meeting that most stuck out for Arnett was the one he landed with the state senator representing Adams County, Joe Uecker. They met at a Panera in the Cincinnati suburbs. Arnett asked Uecker, a Republican in his sixth term in the legislature, what Uecker might be able to do to forestall the closing or, failing that, to ease the transition for the county. He described to him what a huge impact the closing would have, not least on his kids’ schools.

He was startled by the advice Uecker offered in response: “You need to move,” the senator said. Uecker confirms this exchange: “I did say, ‘Sometimes you have to do what’s best for your family.’” The man elected to represent Arnett’s community was telling him the most responsible thing he could do was leave it.

**I**t took no time for the fallout to hit. In late 2016, as plant workers were getting word of the closures, the county found out its own way: The state alerted it that the valuation of the plants had dropped by \$56 million because of the planned closure. This meant a loss of \$218,400 in tax revenue for the county general fund, which has an annual budget of about \$8 million to pay for public works, the sheriff’s office, the jail, the courthouse, and social services, along with much else. The next valuation reduction came late last year, and a third is expected late this year. All told, the annual loss for the general fund is expected to be \$787,800.

County officials are planning to make up some of that by using a final influx of money from a statewide Medicaid managed-care sales tax. That money will be gone in 2019. They are finding efficiencies wherever possible—the county treasurer is sharing an employee with the county recorder, an election board employee is filling a vacancy in the commissioner’s office—but at some point, the math just doesn’t work. A third of the county budget now goes toward the sheriff’s office and jail. Both already operate at levels bordering on negligence. The jail, built to hold a maximum of 38 inmates, often

houses as many as 75, the result of both the opioid epidemic that’s beset southern Ohio and the state government’s push to cut its own budget by putting more inmates in county jails. Not infrequently, one officer monitors more than 60 inmates.

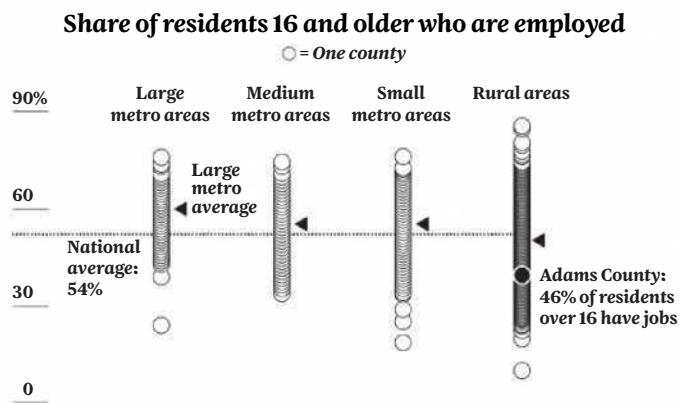
The county spreads over 583 square miles. To patrol that territory, there are only 22 public safety officers between the sheriff and the five municipal police departments. During certain shifts, Sheriff Kimmy Rogers has only two deputies on duty to cover the entire county. At his small, windowless office inside the jail, where he keeps a cardboard box of battered toys by his desk to give to needy kids, he contemplates what he could possibly spare to help make up a huge drop in tax revenue from the plants. “I just don’t know how I could cut,” he says. “We’re bare-bones.” That’s a standard line from department heads. In this case, it seems hard to deny.

Ten miles down Route 136, Brian Rau, superintendent of the Manchester Local School District, is looking at numbers no less incomprehensible. The district—essentially a single campus serving K-12—was carved out from the countywide school system in 2004, when tax revenue from the plants was flowing freely. Until recently, it spent about \$12,000 per pupil, among the highest in the state. As a result of the plant closures, the district is expected to lose at least \$4.5 million of its annual funding, more than a third of its \$11 million budget. Under Ohio rules, the state will ramp up its funding for Manchester, which will become, in a flash, a high-needs district: State funding will jump to 80 percent of its total budget, from 20 percent now. But the state will make up only so much of the loss; spending in the district will drop to \$8,000 per pupil, among the lowest in the state. The loss of enrollment as a result of the closure will mean even less per capita funding. To begin to adjust to the new reality, the district has laid off several employees, cut its school psychologist back to part-time (which Rau already regrets), barred the band and cheerleaders from traveling to distant away games, and, to Rau’s chagrin, started favoring less experienced teachers in job searches, since they cost less.

That’s easy compared with the 1996 bond issue hanging over the district. Rau sketches out different scenarios for paying off the debt if plant revenue vanishes. Under one scenario, residents would see their property taxes quintuple in the final year of the bond, 2021. “It’s ludicrous,” Rau says.

Lee Anderson, director of governmental affairs at the national Utility Workers Union, has spent years trying to get elected officials around the country to grapple with what’s happening in places such as Adams County. But there’s just no political will, he says. There’s support on the left for public investment in struggling areas, but less so, he says, when it comes to communities that are increasingly voting Republican—Adams County among them—and whose decline is linked to fossil fuels. On the right, he says, there’s no appetite for public investment, period. Not to mention that the scale of the challenge is so huge and the potential solutions so expensive.

But this doesn’t mean inaction is excusable or that it’s enough to tell people to find work elsewhere, Anderson says. “The problem here is trying to treat people like ►



► interchangeable widgets,” he says. “They’re not. They’re human beings embedded in communities. We’re forcing cultural and social change on people, and people don’t like that. They don’t move three states away for a hypothetical job. They want to live where they are because their parents are in the same town, and their grandmother is in the next town, and they go to church there. Just picking people up and relocating them, it doesn’t work like that. And on the flip side, even if it did work out for an individual, consider what you left behind: What is the ramification for your family and community, now that you’re gone for good?”

**O**ne by one, the plant workers started leaving—to a natural gas plant in Huntington Beach, Calif., to coal-fired plants in Kentucky, Oklahoma, and Hawaii. Some of them had little farewell meetups at a bar. Others just vanished.

Randy Rothwell left with his wife, Tiffany, and their two sons last summer, after landing what seemed like a dream offer: a high-paying federal job with great benefits at the Grand Coulee Dam in Washington state. It wasn’t easy leaving Adams County, where their older son had recently started kindergarten, where Tiffany had belonged to a church for 25 years, where the boys’ cousins were their best friends. The Grand Coulee job was hard to pass up, though. The Rothwells managed to sell their house—thereby overcoming one of the major hurdles in leaving a struggling area such as Adams County—and moved in late July.

They lasted a half-year. The job was fine, but they didn’t realize just how much they’d miss Adams County. The landscape of central Washington state was more desolate than they were prepared for. The nearest Walmart and McDonald’s were almost an hour away. Flights back home were expensive. Tiffany had almost no contact with other adults when Randy was at work.

Late last year, Randy got word of a job at Adams County’s second-largest private employer, an engine-testing facility for GE Aviation. He applied and got an offer. The position was nonunion and paid only \$22 per hour, half of what he was making in Washington state and also much less than the \$35 per hour he made at Killen Station. He took it anyway. The family came back to Adams County in a rented truck and, because they’d sold their house, moved in with Tiffany’s mother while they looked for a place.

It was different being back now, without a home of their own and with Randy bringing in so much less. Tiffany might have to find work, which won’t be easy. “That sense of security is gone,” she says. Still, they’re confident moving back was the right thing to do. “I know some people think, ‘What are you thinking?’ For us, it was family, wanting our children to grow up knowing their family and not being strangers to everyone around them,” Tiffany says. Randy agrees. “The American dream is kind of to stay close to your family, do well, and let your kids grow up around your parents,”



The crowd at a high school track meet in Manchester on May 11

he says. It was a striking comment: Not that long ago, the American dream more often meant something quite different, about achieving mobility—about moving up, even if that meant moving out.

Others keep leaving, bound for Wyoming, Florida, and Nebraska. Those left behind are keenly aware not only of the sheer tally but also of the kinds of people leaving. Over the years, the plants had brought a new cohort of families to the county, led by the sort of skilled workers who were able to get good-paying jobs at the plant. The kids from those families tend to share their parents' traits and habits. Now those sorts of people are leaving and will no longer be arriving. "You're going to lose a lot of your brightest youth," says Rogers, the sheriff. "We've got a lot of bright kids here, and I'd hate to see them leave. But it will happen." Chris Harover, executive vice president at one of the two local banks, shares the same worry. "You're going to lose a big influx of good people," he says. "There's going to be no more moving in."

At the plants, the departures were causing a more immediate problem: There were barely enough people left to keep things running. By February the unionized head count had dropped from 380 to less than 260. Under the union's safety standards, there are supposed to be eight power plant operators for each of the four shifts at Stuart, for a total of 32; by February there were only 15 total.

A couple of groups of potential buyers came by to tour the plants, but nothing seemed to be coming of it. The company sent official notice that it wasn't planning to put any power on the grid after June. A proposal by Rick Perry to subsidize ailing coal-fired plants was shot down by the Federal Energy Regulatory Commission; given the imminence of the plants' closure, it would likely not have helped anyway.

Meanwhile, county officials were getting no answers from the company or state officials about the plans for the plants and ash ponds after the closure. Because fly ash isn't categorized as hazardous, the moonscape could in theory remain a blot along the river in perpetuity. The company, which owned 7 miles of riverfront, started ceding hundreds of acres to land conservancies. This handoff sounds benign, but if the company did so with all 5,000 of its acres, it would wipe it all from the tax base for good.

By early March, the union and county still hadn't even gotten a firm closure date from AES. "We have no dialogue between the company and the county at all," said Pell, the county commissioner.

**O**n the first day of March, the state's workforce development agency set up a "transition center" inside DP&L's training facility in Manchester. There were computers to search for jobs and brochures on "Using Social Media to 'Net a Job" and "Untangling the Internet." A week later the agency held an open house there, with a state employee tasked with explaining how to apply for unemployment and representatives from several local technical schools. There was a chance the workers could qualify for federal trade

adjustment assistance, which would help pay for tuition.

About 100 plant workers showed up. There were free "OhioMeansJobs" tote bags and a spread of sandwiches, pasta salad, and banana pudding. There was also a door prize: a thumb drive. Officials from Shawnee State University, in nearby Scioto County, were promoting their video game design program. The Southern Hills Career & Technical Center advertised training for nursing assistants. A woman from the Kentucky Career Center had a list of available jobs that included Hampton Inn receptionist, Dollar General sales associate, and Domino's Pizza driver.

The workers milled about uncertainly. Dean Toller expressed some interest in a six-month welding program in Kentucky that cost \$15,000. Brandon Grooms said he was thinking of moving to North Carolina to work for a friend who sold engines for private jets. Missy Hendrickson, the controller for the two plants, was desperately hoping to transfer to another AES facility—she had been with the company 26 years, and if she didn't make it to 30, she'd lose almost half her pension.

John Arnett was there, too. He said he and his wife were still torn about what to do. They were very worried about what the closure would mean for the Manchester schools, which their kids attended. But it was still painful to contemplate leaving. They were as deep in the local rhythms as ever. Youth baseball season was starting up. Soon it would be turkey hunting season, followed by squirrel season, then deer season—the whitetail was legendary in Adams County. "It's just home," he said. "I've been a bunch of different places, different countries. I've been across the equator. And now this is where I want to be, or I'd have stayed somewhere else. It's the most beautiful place in the world, these hills."

All these thoughts had led Arnett to lean toward trying to get transferred to one of AES's jobs as a lineman in the Dayton area, even if it came with a pay cut and meant driving almost two hours to work. Many other workers were also considering this kind of commute. Rumors started swirling that a potential buyer has belatedly emerged for Killen Station, the smaller and younger plant: an IT staffing and consulting company in Atlanta called American CyberSystems Inc. In theory, Arnett could use his seniority to get one of the 100-odd jobs that would remain at Killen if it stays open, but taking a job as a lineman in Dayton seemed safer than banking on a new owner with zero experience in running a coal-fired plant.

He wasn't sure about the lineman job, though, so at the open house, he drifted over to the man pitching the Kentucky welding program. The man talked about how much demand there is for welders and how good the money is. Arnett asked if there were jobs to be had here, in Adams. Not so much, the man conceded—although, he added brightly, one could do pretty well by traveling elsewhere for temporary stints, several weeks or months at a time.

Arnett turned away, unconvinced. "The issue is traveling," he said under his breath. "I'd be able to get a job. I'm not concerned about that. But that doesn't help the community." **B**

**This Is Going to Be...**

**Great?**



**Indonesian media mogul Harry Tanoe Soedibjo learns about the complications of being in business with Donald Trump**

**By Stephanie Baker  
and Karlis Salna  
Illustration by Manshen Lo**

**Like a certain number of tycoons, including the one whose** association he has most eagerly sought, Hary Tanoeoedibjo has lined his office with pictures, paintings, and cartoons of himself. On one side of the room, on a high floor of his tower in downtown Jakarta, a television blares one of the news channels he owns. Across the way, on a bookshelf, is a Make America Great Again cap signed by that other tycoon, U.S. President Donald Trump. Between a pair of brown leather chairs is a wooden table displaying a single photo—almost like a shrine—of Tanoeoedibjo with his wife, Liliana, and Trump, who signed it with the note, “Hary – You are my great friend. Thanks for your support. I’ll not forget – Best Wishes, Donald.”

The photo was taken in New York in August 2015 after the two men clinched a deal to redevelop a resort in Bali; it will be Trump’s first hotel in Asia. The following month, they announced a second deal to develop a Trump-branded luxury resort in West Java. Hary, as he’s called locally, promised to spend as much as \$1 billion on the two resorts and paid Trump as much as \$10.5 million in fees between 2015 and 2017. It’s one of the Trump Organization’s most lucrative overseas partnerships.

Hary, 52, has called Trump an inspiration and soon after the U.S. election began talking about running for president of Indonesia. He has bragged about his access to the U.S. president. He and Liliana attended the inauguration in January 2017, and posted pictures of themselves alongside Don Jr., Eric Trump, and their wives at an after-party. He Instagrammed his stay at the Trump International Hotel in Washington, D.C.

All this makes it remarkable that Hary has been showing more restraint, declining to be drawn out on his relationship with the U.S. president and denying that someone has told him to shut up about it. “Too sensitive,” he says. “Any statement can be interpreted two ways, negatively or positively.”

He chuckles as he dodges questions about the similarities between himself and Trump. They both love Twitter, but Hary, with his 1 million followers (Trump has 52 million), is a controlled and polite tweeter, staying on message as a self-made man encouraging his compatriots to work hard toward building a stronger Indonesia. Like Trump, Hary has used piles of debt to put together his fortune, but he’s done it with few advantages, building a media and property empire from the roughly \$30,000 his father gave him in the late 1980s. He says he now employs 36,000 people through a web of about 100 interlocking companies under the MNC Group.

Trump had a TV show, but Hary owns a powerful media business: four TV stations that broadcast news, drama, and reality shows—including the Indonesian versions of *Idol*, *X Factor*, and *MasterChef*—a cable and broadband business, a streaming service, and a newspaper. Hary’s media dominance has made him a political force in a country of 260 million people, the world’s fourth-largest country by population and largest Muslim-majority nation. While roughly a quarter of Indonesians live without electricity and may be out of his reach, Hary’s media holdings would be a

bit like one person in the U.S. owning CBS, ABC, and NBC.

Also like Trump: Hary is sometimes accused of not paying his bills. In 2014, BluTether Ltd., a Virginia-based engineering company, signed a contract with MNC Sky Vision, Hary’s satellite pay-TV business, to provide Bluetooth modules for 3 million set-top boxes. BluTether’s CEO, George Gonzalez, was concerned that legal protections for an American business might be weak in Indonesia, so he had the contract drawn up in Singapore.

That seemed like a good call when MNC Sky refused to pay for the equipment. Hary says it was never delivered; Gonzalez says MNC Sky refused to accept delivery. Gonzalez filed in Singapore to begin arbitration, whereupon Hary used MNC Sky’s parent company, Global MediaCom, to successfully sue both BluTether and MNC Sky—his own company—in a Jakarta court, saying the contract should be voided because it wasn’t in Indonesian. Singapore’s arbitration tribunal ordered MNC Sky to pay BluTether \$17 million for breach of contract, an order later ratified by the country’s High Court. Hary appears to have ignored the Singapore order, focusing instead on the Jakarta ruling.

“I think his Trump connection gives him perceived protection,” says Gonzalez, himself a Trump supporter. “Look at the optics: Hary came to the inaugural ball. There’s Hary and his wife sitting with Eric.” Earlier this year Gonzalez raised his case with Luhut Pandjaitan, one of President Joko “Jokowi” Widodo’s most powerful appointees. He says the minister’s response was laughter, followed by: “Hary pulled that trick on you? Oh yes, Hary does this all the time.” Pandjaitan declined to comment for this story.

Hary’s political moves have sometimes been less successful. After running as the vice presidential candidate on a failed ticket in 2014, he was able to use his money and media power to set up a new political party, called Perindo, and painstakingly build chapters in 80,000 villages across Indonesia—a genuine feat in a country spread across 17,500 islands (or 18,307, depending on who’s counting). This is all the more remarkable because Hary is a Chinese Christian, a minority in Indonesia that has historically steered clear of politics despite controlling a large number of the country’s businesses.

Last year, amid his talk of running for president and his public backing of Jokowi’s opponents, Hary was engulfed by a series of scandals, including alleged tax fraud at a company he once owned and accusations he’d sent threatening text messages to a prosecutor. He denied the allegations, calling them “nonsense” and saying he was only a witness in the cases, but they were serious enough to get him barred from traveling for a few months last summer. When he threw his support behind Jokowi’s bid for reelection in 2019, the allegations went away. Johan Budi, a spokesman for the president, told Bloomberg: “Hary Tanoe’s support for the president is purely a personal decision and has nothing to do with the case that he was facing with the attorney general’s office.” Hary denies politics was involved. Sitting in his office, he sounds very ►

◀ much like a man who's decided to fall in line. "Politics is dynamic," he says. "Jokowi has managed things very well."

### **From the traffic-clogged streets of Jakarta, it's a death-**

defying two-hour drive south to the future Trump resort in Lido in the mountainous tropical forests of West Java. The highway quickly turns into a narrow two-lane—unofficially three-lane—road filled with motorbikes and trucks crawling by mosques, tin-roofed shacks, and roadside kiosks selling bananas, avocados, and coconuts.

Hary's plans for Lido span more than 7,000 acres sandwiched between two volcanoes. The Trump enterprise will occupy about a quarter of the property. To say it looks like an unlikely place to plop a six-star hotel bearing the name of the U.S. president is an understatement.

Small farmers tend plots of corn and cocoa across from the soon-to-be-completed Trump golf course. The ground has been broken for the Trump clubhouse; the Trump hotel, 258 Trump villas, and 180 Trump condos will be built nearby. In addition to the Trump resort, Hary is developing several additional hotels, a concert venue that can accommodate 100,000 people, and what he calls Movie Land—a production facility for film and television studios. He's also building a theme park that he says will be twice as big as Universal Studios in Singapore. At least part of it will be a waterpark based on the ancient Hindu legend about a turtle who carried a volcano on his back through the ocean to Java.

Trump hasn't visited Indonesia, but he met Jokowi on the sidelines of a G-20 summit last July and promised to come. The announcement in December, however, that the U.S. would recognize Jerusalem as the capital of Israel put Indonesia on edge. Thousands of protestors demonstrated, and the crowds returned in May ahead of the opening of the U.S. Embassy in Jerusalem. Some politicians now worry that a Trump visit to Indonesia could be explosive. "It's becoming a political liability to have closer relations with Trump," says Dino Djalal, the former Indonesian ambassador to the U.S. "What if Trump comes and he has 100,000 protestors on the streets? The Islamist opposition would likely organize it."

Hary deflects questions about whether all the controversy swirling around Trump could hurt the attractiveness of the resorts. "Let's wait till it opens," he says, laughing. It's possible the effect will be different at different venues. The Java development is aimed mostly at Indonesians, who may be turned off by the Trump name. The Bali resort will be pitched at high-end travelers from around the region, who may still see the Trump brand as offering a veneer of prestige. "Asians are brand-crazy," says Joe Polito, vice president of Los Angeles-based Legends Hospitality, who spent two years overseeing the Bali resort that Hary and Trump are redoing. "The Trump brand in California isn't strong, but in Asia it would be a positive thing."

As is the case with most of its overseas business, the Trump Organization doesn't own any property in Indonesia but collects fees. Hary's MNC Land Tbk PT pays royalties to use the brand—\$3 million according to its last annual

report—and the Trump Organization gets a fee to manage the hotels and golf courses and a cut of the Trump-branded villas and condos. He says both resorts should be finished by 2020, an ambitious timetable.

Hary's property investments were relatively small until 2013, when he started buying the resorts and some surrounding parcels of land in West Java and Bali for several hundred million dollars. In 2014, Hary announced grand plans for both sites and asked his management team to compile a list of luxury hotel companies he could partner with. After signing a letter of intent with Trump hotels in March 2015, Hary traveled to New York that August for meetings with Ivanka, Eric, Don Jr., and the future president himself to finalize the Bali deal. At this point, Trump was three months into his electoral campaign but was running his business as usual, striking deals with politically connected billionaires around the globe, including signing a letter of intent to build a Trump tower in Moscow.

That fall, Trump announced his second deal with Hary, for the resort in West Java. Last year, Fadli Zon, a deputy speaker of Indonesia's parliament, told the Australian Broadcasting Corp. that Trump had made it clear to him that the Java resort was impossible without a new toll road. Zon says he neither intervened nor offered to help with a road—but he won't mind stepping in if there are problems important enough to be reported to parliament. "Then we can get involved," he says.

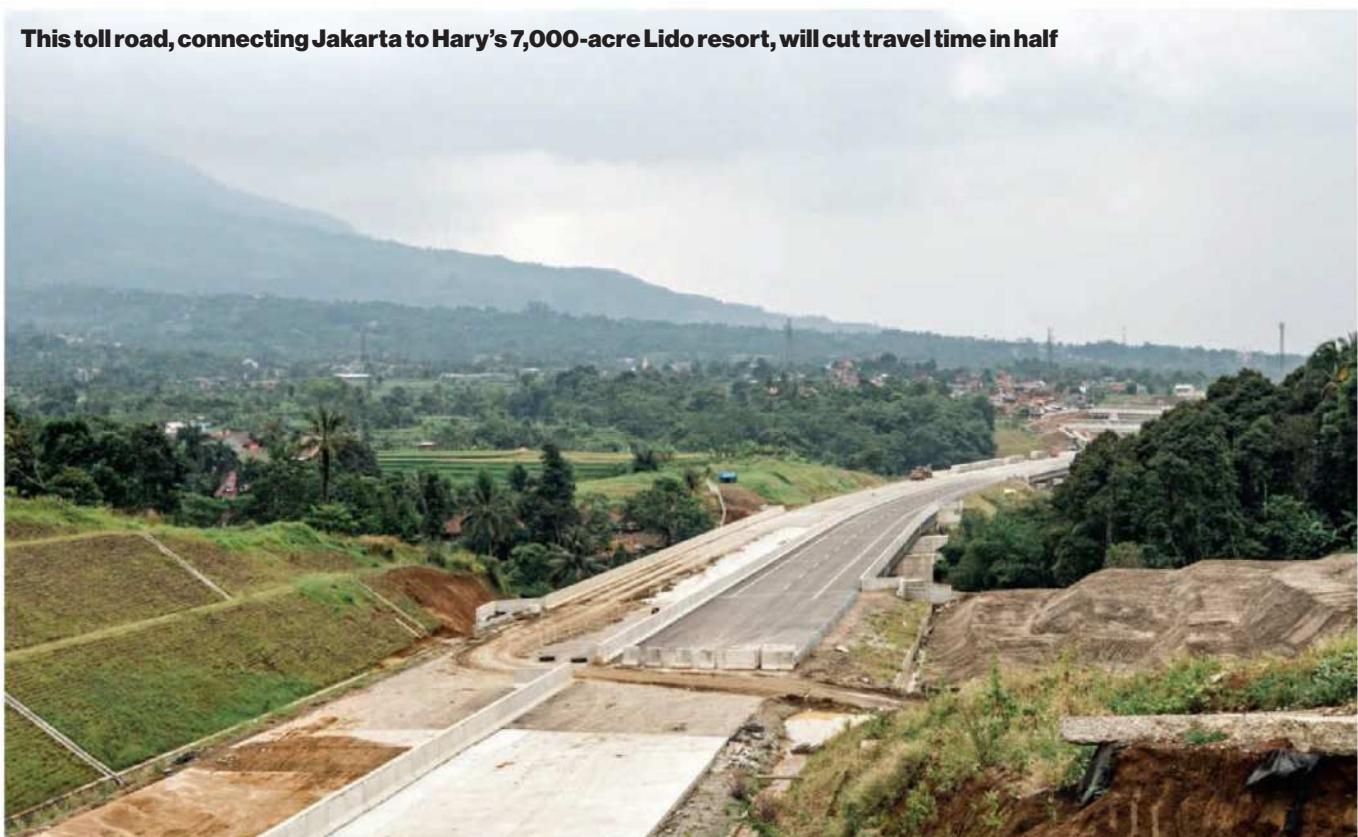
**Hary, a man who loves attention, has recently gotten too** much of the uncomfortable kind, as critics probe the involvement of state-owned companies in the Lido project. It could be a problem for him because it's a potential problem for his partner; critics say Hary's ties to Chinese state-owned companies could place the president in violation of the emoluments clause of the U.S. Constitution. Government officials are barred under it from accepting gifts or payments of any kind from foreign governments.

Press reports in early May centered on \$500 million in expected loans from a Chinese state-owned institution. This was particularly piquant because of Trump's unexpected announcement on May 13, via Twitter, that he was working with Chinese President Xi Jinping to give the Chinese phone maker ZTE, which has been cut off from U.S. suppliers for violating sanctions against trading with Iran and North Korea, "a way to get back into business, fast." That produced accusations that Trump had engaged in a quid pro quo with Xi.

MNC Land denied that it had accepted such a loan. Hary has acknowledged, however, that in June 2016 his company signed an agreement with state-owned Metallurgical Corporation China Ltd. (MCC) to do construction on the theme park at the Lido resort. At the same time, MNC signed a letter of interest with the state-funded Chinese Export and Credit Insurance Corp., known as Sinosure, "which began the process of project financing from China," MNC said in its 2016 annual report. An MNC executive told local media at the time that Sinosure would provide \$425 million in credit guarantees for the resort.

When asked in late March about MCC and Sinosure's

**This toll road, connecting Jakarta to Hary's 7,000-acre Lido resort, will cut travel time in half**



\$425 million in financing, Hary said it was only for the theme park, not for the Trump resort. He declined to say who was financing the Trump part of the project. In a followup text in May, Hary said Sinosure signed only a letter of intent and declined to comment on whether he'd followed through on the financing. The involvement of Chinese state-owned companies is important because plans for the development indicate that the theme park and the Trump resort share a common road and some infrastructure.

It's not just China. Last year MNC hired the Indonesian subsidiary of Posco Engineering & Construction Ltd., an affiliate of Posco, which is partly owned by the governments of South Korea and Saudi Arabia, for the first phase of construction in Lido. As for the toll road that Trump reportedly said was essential, it's scheduled to be completed by the end of the year. Indonesia's state-owned construction firm, Waskita Karya Persero Tbk PT, is pumping millions of dollars into it after taking over the project from Hary. The road will cut the time it takes to drive from Jakarta to the resort in half, and Hary says it will make his land there 20 times more valuable. That sounds like a Trumpian exaggeration, but he may not be far off. Sinosure, Posco, MCC, and the Trump Organization didn't respond to requests for comment.

As with the West Java project, Hary won't say who's financing his Bali resort, 700 miles to the east. The site is a cliff overlooking Tanah Lot, a 16th century Hindu temple perched on a rock in the Indian Ocean. When Hary bought the place in 2013, it had a five-star hotel and a championship golf course surrounded by picturesque rice fields. After linking up with Trump, he brought in Miami-based Oppenheim Architecture & Design to revamp the hotel.

Instead of renovating it, Hary and Trump demolished it

at the end of last year in order to build an even more luxurious hotel on a clean slate. Today the site is a massive mound of earth occupied by diggers and dump trucks. Hary won't say who has the construction contract. Far from acting like a hands-off licensee, the Trump Organization is overseeing the redesign. Meanwhile, Hary has been quietly buying up land from local rice farmers to expand the golf course. Local property agents estimate that if he gets Balinese government officials to rezone the property for commercial use, the land's value will jump by 600 percent.

The new resort will be far from the Eat, Pray, Love brand of tourism that has fueled Bali's rapid development, giving rise to yoga studios and restaurants offering gluten-free pasta on every corner. Last year local officials were worried that the Trump International Hotel and Tower Bali, as it was to be called, would end up overshadowing the Tanah Lot temple—it was, after all, being called a tower. Hary now says it won't be a tower and promises to adhere to the sacrosanct Bali rule that buildings cannot be higher than the height of a coconut tree, a somewhat inexact directive. He recently released a digital image that shows a low-slung modern hotel spread out across a hill with pools arranged like terraced rice fields. Polito, the former manager of the now-demolished Bali hotel, estimates it could cost as much as \$200 million to build the resort, not including the golf-course redesign or the 144 Trump villas and 224 Trump condos.

For now, Hary is focusing on positioning his business for his children to eventually take over, keeping his eye on a future political career in much the same way Trump did for years before he finally ran for office. He's young; there's time. "I need to create a legacy," Hary says. "I will get my time in politics, someday, full-time." ■



# In schools to encourage healing.

As if dealing with his mom's death wasn't hard enough, Sean had to adjust to a new home and new school. It was a lot to handle, so he struggled emotionally and academically. Lee from Communities In Schools helped Sean develop coping skills by finding positive outlets for his feelings. As his attitude improved, his grades followed—going from D's to B's. Now, he's focused on football and a promising future. There are millions of at-risk kids like Sean who need a caring adult to help them stay in school and succeed in life.

See how we help all kids succeed. | [CommunitiesInSchools.org](http://CommunitiesInSchools.org)



[t.me/velarch\\_official](https://t.me/velarch_official)

# PURSUITS

Shayna Texter wants to teach  
you about flat-track racing—the most  
exciting sport you've never heard of  
*By Hannah Elliott*  
*Photograph by Ysa Pérez*



66  
The best books  
for bosses

68  
A tropical resort with  
only one suite

70  
Vermouth goes it alone

71  
Stargazing, updated

72  
The dynamic  
dermatology duo

# JUST ADD DIRT

May 28, 2018

Edited by  
Chris Rovzar

Businessweek.com

**T**he thing about flat-track racing is that you'll eventually get hurt flat-track racing. In April at the Texas Motor Speedway outside Fort Worth, I watch five riders crash on the same unrelenting turn, tumbling over one another like dominoes into a heap of cracked femurs, collarbones, and ankles.

Blame the dirt—or, technically, the “Texas gumbo clay.” The sport’s greatest challenge is to successfully slide a 300-pound bike around a 180-degree turn at more than 100 mph. Adding to the difficulty is the short, half-mile oval track, which is pretty much flat: There’s no banked curve to help riders counter the centrifugal force that could send them flying into the air.

To get ahead, the really good riders will find split-second openings between all those skidding, dirt-spitting machines and dart through them. Winning isn’t so much a question of speed, because the track is so small that most of the race is spent in the turns. It requires a combination of timing, balance, aggression, and the luck of a survivor.

The only woman competing in the race with the big crash, Shayna Texter, escapes injury. Last year she won more races than anyone in the American Flat Track series, the sport’s premier racing circuit, but she came in fifth for the season. The overall champion wins the crown based on points accumulated for placing in the top few spots. That day in April, I watch as Texter knifes through a sliver of space so briefly available that I honestly can’t be sure she made any move at

all. She continues to find these openings; by the end of the race, she’s meticulously worked her way to the front of the pack. She comes in second in the 15-lap run but posts the fastest single lap time: just under 21 seconds.

“Nerve.” That’s the one word Gary Nelson uses when I ask what makes Texter special. A legendary Nascar crew chief—he spearheaded Bobby Allison’s Winston Cup championship in 1983—Nelson is one of Texter’s closest advisers. “She will find a way to get in front, and everyone else in the race just watches while she does it,” he says.

Texter began racing seriously in 2003, when she was 13. She went pro in 2008 and won the first race she entered. Her particular specialty seems to be maintaining a deadpan focus in haywire situations. Once, in 2015, she took out her own boyfriend, Briar Bauman, when his handlebars clipped her boot as they leaned into a turn, causing an immediate tangle of arms, legs, and metal. She walked away; he was lucky to escape with only a concussion.

“One time when I broke my foot, my dad cut off my cast for a race because it wouldn’t fit in my boot, and then we wired it back together afterward,” she says, laughing. “That’s just racing.”

Flat track emerged in the years after World War II, when riders on all types of motorcycles raced around oval dirt tracks in back lots, farmers’ fields, or the desert. Many bikes didn’t have brakes, so competitors would use “power slides”—scooting sideways across the dirt, wheels locked

**“FLAT TRACK IS ACCESSIBLE. ANYONE CAN RIDE AROUND A DIRT TRACK AND HAVE FUN”**



t.me/verge

in place—to steer around corners. A professional flat-track series called the AMA Grand National Championship began in 1954. In the '60s and '70s the sport flourished, boosted by the participation of Steve McQueen and Paul Newman.

In the following decades, flat-track racing slowly declined as sport bikes and 200 mph MotoGP competitions became prevalent. (MotoGP is a circuit of paved-track races featuring hypermotorcycles so technical and calibrated you almost need a Ph.D.—and a death wish—to operate them.) Flashy machines from Ducati, Yamaha, and Suzuki, among others, stayed popular for years.

It took the 2008 financial crisis to create an opportunity for dirt-track racing to rebound, says Michael Lock, American Flat Track's chief executive officer and previously the CEO of Ducati North America Inc. As household budgets tightened, five-figure sport bikes seemed extravagant. Many were sold to free up cash and get out from under monthly payments. People found cheaper options in old dirt bikes and cafe racers tucked away in barns or buried in Dad's garage. "Flat track is accessible," says Christopher Fillmore, the world record holder of the Pikes Peak International Hill Climb, who's also advising motorcycle maker KTM AG about getting involved in the sport. "Anyone can ride around a dirt track and have fun."

Even now most of the races are local affairs: ad hoc, rowdy, and easy to join. But some crystallization is occurring. In 2016, after decades of ownership changes, Grand National Championship, which operates the race schedule, changed its name to American Flat Track to better market itself.

Lock compares the league to what UFC was 10 years ago, when it was emerging from a more local, fervent base and expanding fast. He points to enthusiasm among bikers who want to jump in. AFT has signed more brand-sponsored riders this year than at any time in the past 20 years. "It's a crazy sport," he says. "It's not about having the best bike or the most horsepower. It's about skill." Says Texter: "It's this secret sport that we have all loved forever that is finally coming together."

Before her race in April, the reserved 27-year-old sat with me in her racing paddock in the track's parking lot, killing time before her bike—a stock Husqvarna FC 450 dirt bike with knobby tires—was weighed and checked. She told me about how her late father was a two-time AMA US Twins Sports motorcycle racing champion and a successful AMA Flat Track racer. (Flat track is divided into single and twin categories—named for the number of cylinders in a bike's engine.) Texter's older brother, Cory, is an amateur national champion and winner in the AMA Expert Twins and All-Star series.

She grew up in Willow Street, Pa., hoping to play soccer. "I wanted to be the next Mia Hamm," Texter says. But in 2003 when she was in ninth grade, a foot injury led her back to the family sport she'd been watching since she was 4. She

## HOW TO WATCH IT

American Flat Track hosts races at speedways from New Jersey to Texas to South Dakota; the Indian Motorcycle-sponsored Super Hooligan series—which anyone can enter—takes place mostly in California. See [americanflattrack.com](http://americanflattrack.com) and [indianmotorcycle.com](http://indianmotorcycle.com) for schedules. AFT races are also broadcast on NBCSN and livestreamed on Fanschoice.tv.

advanced to competing professionally at age 17, and now she travels half the year with her team, her boyfriend, and sometimes family members to races in Calistoga, Calif., Daytona Beach, Fla., or Sturgis, S.D. They live and work out of RVs, vans, and roadside motels. In the offseason she goes deer hunting with family and friends—and cooks, sometimes. Venison rice bowls are a specialty.

It's not a flashy lifestyle, she says, but the sport is lucrative enough for now. Texter just bought her first house on 5 acres in the Pennsylvania woods. And she's in position to finish on the podium for the 2018 season. She's ranked fifth and plans to unseat 22-year-old Dan Bromley and 18-year-old Brandon Price, the front-runners in her division. The league hands out \$250,000 in purse money over the course of the year.

A decade ago the sport needed hype. Now it's growing robustly: Ticket sales in 2017 for AFT races across the country (usually about \$40 for general admission) rose 76 percent, to \$4 million, from 2016, with broadcasts on NBCSN reaching 1.7 million viewers for the season. A quarter-million people watch livestreams of every race on Fanschoice.tv. AFT has doubled its number of sponsorships in the past year, signing Harley-Davidson, Indian Motorcycle, Dainese, and Oakley.

Still, the motorcycle industry shrugs a bit when it comes to flat-track racing and its fledgling audience. At the Texas Motor Speedway, ticket sales were double what they were the year before—but the 5,000 people filled only the front rows of the 11,000-seat stadium. (The main Motor Speedway arena across the road, where IndyCar and Nascar race, seats 181,655.)

AFT isn't the only way to flat-track race. Roland Sands, a former pro motorcycle racer, and a rag-tag group of associates have held off-grid flat-track races for years that attract younger versions of the tattooed, motorcycle-club types in attendance.

Bigger companies are sniffing around the sport, too. Motorcycle maker Husqvarna, a relative newcomer to the AFT Singles series, supports Texter's season with bikes and sponsorship money, partly to promote the cafe-racer-style bikes it brought out this year. The sport gives Husqvarna an opportunity to expand, says Jenna Parker, its marketing manager. "We had been keeping our eye on Shayna because she just seemed to be a really humble person—but she also crushes it. She's not going around saying she's a girl who races. She's just a racer."

Texter's detractors argue that her 5-foot frame is an advantage. But her inability to use a wide arm span to counterbalance the weight of the bike around turns the way her rivals do—or put her feet to the ground—outweighs any marginal gain.

If it were up to Texter, she wouldn't be singled out for being a woman at all. "I don't want to be Danica Patrick," she says, referring to the famous IndyCar driver. "I am not into being a poster child." **B**

Key: Military Sports Strong women Animals New Age trends Data Silicon Valley

# Lessons From the 10 Best New Books on Leadership

So far this year, dozens of publications have already hit shelves. We read all of them so you don't have to. *By Arianne Cohen*

THE BOOK	BIG IDEA	WISH WE'D THOUGHT OF ...	BUMPER STICKER
 <b>The Meaning Revolution</b> By Fred Kofman	 Everyone is afraid of dying. Use this fear to your advantage and find ways to motivate your employees.	 ...the entire section called "What Psilocybin Taught Me," which details an "ecstatic" hallucinogenic experience that led Kofman to confront his own mortality. "Dying before you die is the hardest and most important work that you can do if you want to truly live and truly lead."	"The most deep-seated, universal anxiety in all of us is the fear that our life is being wasted."
 <b>Taming Your Crocodiles</b> <i>Better Leadership Through Personal Growth</i> By Hylke Faber	 You can have it all but not before looking inward to squash your fears, or "crocodiles."	 ...advice for the next time you feel overscheduled: Consider whether you're simply "being driven by the fear of not being good enough."	Grow into the owl you are. (This is the calm, all-seeing part of your personality.)
 <b>The Art of Gathering</b> By Priya Parker	 Most meetings are boring missed opportunities. Here's how to make them fun and meaningful.	 ...these numerical rules of thumb: Groups of about six are ideal for sharing, discussion, and storytelling. Groups of 12 to 15 are good for a single conversation. Groups of 30 or more begin to feel like a party.	"Cause good controversy."
 <b>The CEO Next Door</b> By Elena L. Botelho and Kim R. Powell	 The duo studied 2,600 interviews with leaders to identify the four characteristics of all great ones.	 ...the need to kiss up <i>and</i> kiss down: "Weaker candidates talk about the importance of mentors on their own careers. Stronger candidates talk about being mentors to others."	Know your opening and closing sentences before entering a room.

## THE BOOK

## BIG IDEA

## WISH WE'D THOUGHT OF ...

## BUMPER STICKER

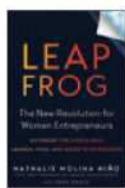


  
**Mind Tools for Managers**  
By James Manktelow and Julian Birkinshaw

One hundred problem-solving techniques, many with memorable acronyms, from a popular U.K.-based training program.

...these mnemonic devices: DILO (Day in the Life Of) analysis tracks employees' time to improve efficiency. MoSCoW (Must haves, Should haves, Could haves, Won't haves) prioritizes budget spending.

"Don't confuse pressure with stress."



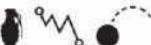
  
**Leap Frog**  
By Nathalie Molina Niño

Fifty ways to "leap frog" your way to the top if you're not rich, white, or male.

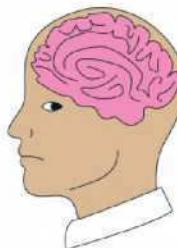
...the importance of one day a month asking your network, "What do you need?" It will pay off in spades.

"Forget getting to Yes. Get to No. No to unequal pay. No to doing all the housework."



  
**Organize Your Team Today**  
By Jason Selk and Tom Bartow

Sports provide good motivation: Tom Brady and Rob Gronkowski show how different personalities can come together to create winning cultures.



...the term "channel capacity"—the mental bandwidth limit to what any person, or team, can manage without getting distracted.

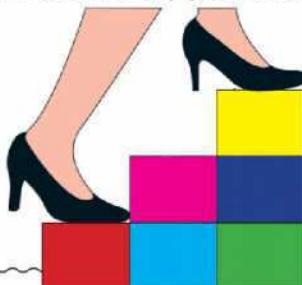
Disagreement is fine. Being a prick is not.



  
**How Women Rise**  
By Sally Helgesen and Marshall Goldsmith

The 12 common bad habits that keep women from ascending the career ladder and how to break them.

...that while women are often stellar relationship builders, they tend to be less skilled at leveraging those relationships.



Perfection at your current job gets you fast-tracked to your current job.

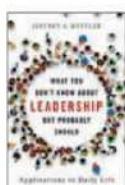
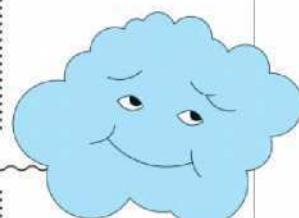


  
**Getting to Us**  
By Seth Davis

Profiles of successful coaches such as Mike Krzyzewski, Doc Rivers, and Urban Meyer to illustrate the habits of great team-building.

...how Jim Harbaugh is a raving maniac on the sideline. Dabo Swinney is more congenial. Brad Stevens barely has a pulse. What makes them all great coaches is their refusal to be something they're not. "Players can spot a phony in an instant. There's no trust without authenticity."

"God never says oops."



  
**What You Don't Know About Leadership But Probably Should**  
By Jeffrey A. Kottler

The leadership book for people who hate leadership books.

**SHEEPLE FOR DUMMIES**  
**FOLLOWING ALONG**  
**SUBSERVIENT BASICS**

...this way of putting it: "When discussing bad leadership, we can move past jargon since almost anyone can describe a bad leader with the same eloquent term: asshole."

"Leadership is not a sometime thing. It's an all-time thing."



The Gladden Private Island resort is actually two islands—one for you and one for staff

# Your Own Private Island

Tropical getaways have gotten so exclusive, you and your partner will be the only people at the resort

*By Mark Ellwood*

[t.me/velarch\\_official](https://t.me/velarch_official)

Fitness executive Jim Worthington had one goal for the luxury trip he was planning to celebrate the birthday of his girlfriend, Kim Levins: privacy. “I wanted to be 100 percent away from everybody,” he says from his office in Bucks County, Pa. “It was her 30th birthday, and I didn’t want to share it with anybody but her.”

So he booked the couple into Gladden Private Island, a tiny hotel off the coast of Belize that opened in December. It consists of a single two-bedroom villa. The island “is less than an acre. You could walk from one tip to the other, and it would take less than 30 seconds,” he says, laughing. “It was

like being Robinson Crusoe—you have no idea the staff is even there.” He and Levins spent their days enjoying the solitude, sitting at the edge of the water for four or five hours straight, saying perhaps three words. “The beauty of where you are is unbelievable,” Worthington says. Indeed, the two were so impressed that they’re planning to make the island a regular vacation spot, taking a week to decompress there every 18 months or so.

It might sound like a risky proposition: rather than a vacation villa, a personal hotel with a full cadre of staff to cater to a couple’s every whim (from \$2,950 per night for two,

all-inclusive). But this is the hottest new niche in high-end travel—not a penthouse suite but an entire island just for you.

Gladden is the brainchild of Chris Krolow, the host of HGTV's *Island Hunters*, who's spent the past 20 years selling and leasing private islands. "It's my baby," he says. The idea was simple: Create the ultimate couples-only (make that: couple-only) hotel, a luxe hideaway for barefoot sojourners at which all evidence of other humans is concealed.

Set on a pair of mangrove-fringed islands a few miles off the southern coast of Belize, Gladden is accessible from the capital, Belize City, itself a nonstop flight from several hubs in North America. From there it's a 30-minute helicopter transfer to the resort, making Gladden workable as a long weekend getaway.

The setting is superb. The coast of this Central American nation is fringed with a low-lying archipelago of more than 400 atolls set in crystal blue waters reminiscent of the Maldives or the South Pacific. "This part of Belize is insanely beautiful. It's like a jewelry box of blue all the way around," Krolow says. "The color, the clarity of the water—it's like nowhere on the planet."

Having two islands is key to pulling off the concept, he says. It allows him to keep staff accommodations, buildings for generators, and other infrastructure on the second, smaller island, so guests can feel completely alone. The employees consist of two couples who tag-team on everything from cooking (one of the women is a certified Le Cordon Bleu chef) to spa treatments (massages are offered,

gratis, as often as guests wish). And to prevent visitors from getting startled by the staff, there are small warning lights in every room of the hotel that flash red when support team members are venturing across from their standalone islet.

Although Gladden has two bedrooms and can accommodate four guests, 70 percent of Krolow's bookings have come from couples like Worthington and Levins who are often celebrating birthdays or anniversaries. In an overconnected world, seclusion has become even more of a benchmark of luxury.

Among other private-island resorts is Little Peter Oasis (\$4,995 for a four-night package), also in Belize, which has space for four guests in a two-bedroom villa built over the edge of a private lagoon protected by a reef. It's a place where you can channel your inner Brooke Shields, with or without a bikini.

In the Maldives, Cheval Blanc Randheli, the tropical offshoot of French resort Courchevel 1850, has 45 traditional villas on one site but also operates a three-bedroom "owner's villa" (price upon request) on a nearby private island only a five-minute sail away. Thirty staff are available to either pamper you or ignore you, whichever your preference.

The 14-acre Dolphin Island in Fiji sleeps eight for two nights for \$16,640, and a local fisherman will stop by every day to drop off his freshest catch for the on-site chef to prepare. Satellite Island (\$2,730 for four people for two nights) is a rugged, high-end hideaway with a lodge for one family off the coast of Tasmania. It's ideal for outdoors types keen to hike in isolation or swim in crisp, clear waters. In northeast Ireland, the lakeside Trinity Island Lodge is a converted granary that once served the now ruined Trinity Abbey in nearby Cavan. Starting from \$1,297 per week for six, it features its own sauna and game room, as well as miles of forest trails.

According to Chris Laugsch, who runs the high-end villa rental agency Welcome Beyond, "People have seen and done the five-star hotels—that's the usual stuff. More and more, people really want to disconnect during their holidays, and what better way to do that than on a completely private island?"

Eager to meet the demand, he's just added to his portfolio an entirely private island, an eight-person hideaway off Nicaragua's coast that's fully staffed, much like Gladden.

With the growing trend clearly meeting a need (or at least a strong desire), it's no wonder that Gladden is sold out for much of next year—or that Krolow is planning a sister property on a similar island in nearby Nicaragua. But he isn't sure he'll ever be able to indulge his ultimate goal, which he mulled before beginning construction on Gladden. "I wanted to take it one step further and make it for one person," he says. "But not enough people travel alone." B

At Gladden, you never have to see another human if you don't want to



# The Mix Is In

It's time to toss those ancient bottles of vermouth sitting on your shelf  
*By Matthew Kronsberg*

Poor vermouth. For generations of drinkers, the bon mots of Winston Churchill and Alfred Hitchcock have banished the fortified, aromatized wine to the back corner of the liquor cabinet, precisely where it least belongs. Vermouth, after all, is more like vino than spirit. And as such, opened bottles should be refrigerated and finished in about a month.

Now, a veritable vermouth movement is afoot, as a variety of new options have become available and U.S.-based brands win over bartenders with proprietary blends. Earlier this year, spirits trade magazine *Punch* even declared our current era a “golden age” of vermouth.

“Vermouth is the original bottled cocktail,” says Adam Seger, co-creator of Balsam’s new rosé-based version. “All you need is a glass and, if you want to get crazy, some ice and sparkling water.”

Globally, consumption is trending upward, thanks to growing demand for low-alcohol cocktails. A 2017 study by market researcher Technavio estimates that sales will increase 3 percent by 2021, to almost \$19 billion.

For some producers, it’s enough to inspire a Lazarus-like resurrection. Haus Alpenz, the Minnesota importer who introduced the 197-year-old Dolin brand to the American public in 2008, wants to do the same for the storied French label Comoz’s Vermouth de Chambéry Blanc.

For a fresh take on an old favorite, try mixing it up with these five. But they’re even better to test out on their own.



## COMOZ VERMOUTH DE CHAMBERY BLANC

Introduced in 1881 but gone from American shelves for decades, this crisp classic is drier than other French blanc-style recipes and considerably less sweet than its Italian bianco cousins. “Rediscovering this was a revelation,” says Marshall Altier, beverage director of Nicaraguan rum bar Chicha in Brooklyn, N.Y. He plans to use it in El Presidente cocktails made with equal parts rum and Comoz, plus a splash of orange Curaçao. Or use it to freshen up spritzes all summer. \$16; 750ml



## LA QUINTINYE VERMOUTH ROYAL EXTRA DRY

This pale vermouth is named for Jean-Baptiste de la Quintinye, the botanist commissioned by Louis XIV to create the kitchen garden at Versailles. Intriguingly, at its base, is Pineau de Charentes, a cognac-fortified wine that’s fantastic on its own. A blend of 27 plants and spices, with notes of rosemary, sage, and lavender, makes it ideal for a 50-50 martini, using equal parts gin and vermouth. \$26; 750ml



## BALSAM ROSE

Although the core blend of this vermouth stems from extensive research into 18th century Italian recipes, this is a modern creation aimed at the rosé-all-day market. Floral and fruity with a sturdy backbone, Balsam rosé is made from off-dry New York chambord rosé and brandy. Seger partnered with Rodrick Markus of Rare Tea Cellar in Chicago, who curated a botanical mix that includes a unique blend of melon and hibiscus tea. \$25; 750ml



## CARPANO ANTICA FORMULA

Created from a recipe dating to 1786 by Turin-based Antonio Benedetto Carpano, the distiller is widely credited with inventing the vermouth category. As such, it’s both a benchmark and an outlier in the universe of sweet vermouths: Its pronounced vanilla and saffron notes provide a perfect foil when mixing brown liquors (seriously, ask for it next time you order a Manhattan), while the underlying stone fruit and citrus character makes it simple to sip like a port. \$30; 1l



## CASA MARIOL VERMUT NEGRE

In certain quarters of Spain’s Catalonia region, noon is also known as “l’hora del vermut,” aka, time for the first cocktail of the day. That beverage almost always comes in the form of sweet, dark vermouth over ice—add a spritz of soda if you like—garnished with an orange slice and a green arbequina olive. This inky version is made with a blend of almost 150 herbs, oranges, and even sun-dried green walnuts for a balanced blend of citrus and savory notes. It’s a meal in a glass. \$18; 1l

# Far, Far Away? More Like So, So Close

A telescope  
that puts  
galaxies  
right on  
your phone  
*Photograph*  
by Hannah  
Whitaker

Most telescopes are more pleasing to look through than to look at, but the sleek, \$2,999 **Stellina** from French startup Vaonis revolutionizes on both fronts.

Not only does it resemble a prop from 2001, it also comes without the traditional eyepiece. Here, the goal is less searching, more finding: Select, say, the Andromeda Galaxy from one of 150 preloaded options on the app, and the motorized telescope—less than 20 inches tall and powered by a battery good for about 10 hours—focuses itself on the star system and sends a close-up view to your phone or tablet.

## THE COMPETITION

The **ETX 125 Observer** (\$699) from Meade Instruments Corp. has quality optics coupled with the ability to guide itself to any object in its 30,000-item database. But to save images of your interplanetary wanderings, swap out the eyepiece for its \$380 LPI-G advanced-camera module.



Unistellar's **eVscope** will make its debut this fall, but it's already gaining traction with devoted stargazers. The \$1,999 telescope uses a digital eyepiece and sends back high-quality images by stacking multiple exposures of objects in its view, similar to how high-dynamic-range technology works.

## THE BOTTOM LINE

The lack of an eyepiece will rankle traditionalists, but the Stellina is built on the premise that even if you don't know the difference between an azimuth and a zenith, images of heavenly bodies should be easy to see, capture, and share from your phone. There's even—gasp!—a filter that strips away light pollution so that both urban and suburban backyards can get clear views of the next lunar eclipse. \$2,999; [store.moma.org](http://store.moma.org).

# Katie Rodan and Kathy Fields

The creators of Proactiv have another smash hit  
By Arianne Cohen



72

After 35 years as business partners, dermatologists Katie Rodan and Kathy Fields still do everything together—including interviews. “Last week a woman recognized me,” Fields says. “She said, ‘You’re Katie Rodan!’ I said, ‘Close!’”

They’ve reached street-level celebrity thanks to their smash-hit skin-care line, Proactiv, which sells about \$1 billion in products a year through mall kiosks and infomercials featuring the likes of Katy Perry and Justin Timberlake. Their latest line of treatments, Rodan + Fields, hit \$1.5 billion in sales in 2017—largely through consultants who sell to their friends and contacts, like social-media-era Mary Kay ladies.

Friends from medical school, they came together in the late 1980s over a shared frustration from their private practices: Available acne treatments were typically useful only after pimples appeared. Rodan and Fields formed a partnership and created a three-step treatment system to prevent clogged pores and began shopping it around. Through an unlikely series of connections—a father’s co-worker’s wife—they were picked up by Guthy-Renker LLC, a direct-sales business. “They were the only company interested in us, but it turned out to be the very best thing, because it allowed us to craft a message: three medications, full face, low-strength, every day,” Fields says.

b. 1955, Los Angeles (Rodan); 1958, Waukegan, Ill. (Fields)

Rodan says she has the “musical tastes of a teeny-bopper”—her favorites are Maroon 5 and Justin Timberlake

Fields has a deep appreciation for cappuccino

“If it sat in the store, people wouldn’t have understood.”

S. Tyler Hollmig, an associate professor of dermatology at Stanford, where Rodan and Fields are adjuncts, says skin products tend to be either well-marketed potions with little science behind them or great products that consumers don’t use correctly. Proactiv Co. and Rodan + Fields LLC break the molds. When students interact with the two entrepreneurs, he says, “they are looking at a legend in the field.”

Rodan and Fields started developing targeted regimens for other common skin issues, like brown spots and aging, shortly after launching Proactiv and in 2002 released them under Rodan + Fields. Estée Lauder Inc. bought the brand a year later, and for four years the pair watched it flounder on department-store shelves. “Customers were coming to us not because Estée Lauder did any great marketing but because of word-of-mouth,” Fields says. “So why were we rewarding the department store, giving them 50 percent of the margin?”

They bought back Rodan + Fields in 2007, hired a tech company to build an inventory system, and decided not to require consultants to buy stockpiles. As social media gained in popularity and ubiquity, so did Rodan + Fields. Today there are more than 200,000 sellers worldwide. ■

**Bloomberg Businessweek** (USPS 080 900) May 28, 2018 (ISSN 0007-7135) S. Issue no. 4571. Published weekly, except one week in January, February, April, June, July, September, and December, by Bloomberg L.P. Periodicals postage paid at New York, N.Y., and at additional mailing offices: Executive, Editorial, Circulation, and Advertising Offices: Bloomberg Businessweek, 731 Lexington Avenue, New York, NY 10022. Postmaster: Send address changes to Bloomberg Businessweek, P.O. Box 37528, Boone, IA 50037-0528. Canada Post Publication Mail Agreement Number 41989020. Return undeliverable Canadian addresses to DHL Global Mail, 355 Admiral Blvd., Unit 4, Mississauga, ON L5T 2N1. E-mail bwkcustomerservice@cdsfilfill.com. GST#1008327064. Registered for GST as Bloomberg L.P. GST #12229 9398 RT001. Copyright 2018 Bloomberg L.P. All rights reserved. Title registered in the U.S. Patent Office. Single Copy Sales: Call 800 298-9867 or e-mail: busweek@nmsinc.com. Educational Permissions: Copyright Clearance Center at info@copyright.com. Printed in the U.S.A. CPPAP NUMBER 0414N6830

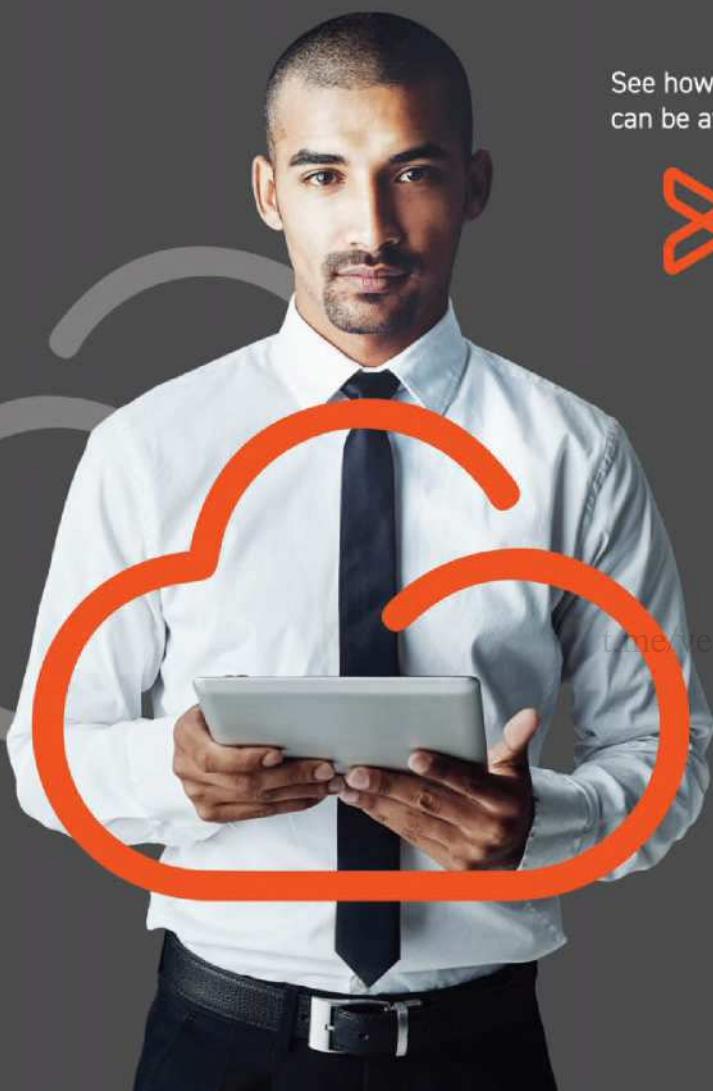


ONLY **NETJETS**  
[t.me/velarch\\_official](https://t.me/velarch_official)

To learn more, visit [netjets.com](http://netjets.com)  
or call a Private Aviation Concierge at 1-877-JET-8311.

# YOUR CLOUDS. NOW SIMPLIFIED.

See how simple managing Multi-Cloud  
can be at [bmc.com/multicloud](http://bmc.com/multicloud)



timevelarch\_official