Bloomberg Businessweek

February 5, 2018

The Great GE Mirage

What happened to America's most iconic company? p42


WORLD GOVERNMENT SUMMIT
القمة العالمية للحكومات
استشراف حكومات المستقبل
SHAPING FUTURE GOVERNMENTS
AI
190+
Participating Speakers
SHAPING FUTURE GOVERNMENTS
Join the Conversation
11-13 FEBRUARY 2018
Dubai, United Arab Emirates
4,000+
Attendees
350,000+
Social media followers
150+
Participating countries
17,000+
Articles, reports & media exposures
#WorldGovSummit
@WorldGovSummit
WWW.WORLDGOVERNMENTSUMMIT.ORG
+971 800 WGS (947)
STRATEGIC PARTNERS
THE WORLD BANK
OECD
BETTER POLICIES FOR BETTER LIVES
WORLD ECONOMIC FORUM
CLAD
ABU DHABI FUND FOR DEVELOPMENT
World Health Organization
WORLD TRADE ORGANIZATION
United Nations
SMART CITY PARTNER
SUSTAINABLE ENERGY PARTNER
HEADLINE PARTNER
SMART MOBILITY PARTNER
GLOBAL TRADE PARTNER
LEADING PARTNER
DUBAI MUNICIPALITY
du
add life to life
RTA
DP WORLD
ICT Fund
TRA
FEATURED PARTNERS
OFFICIAL CARRIER
EXCLUSIVE AUTOMOTIVE PARTNER
Dodsal
VPS healthcare
LuLu
GEMS EDUCATION
UAE XCHANGE
Emirates
al tayer motors
KNOWLEDGE PARTNERS
accenture
Deloitte.
pwc
strategy&
EY
McKinsey&Company
BCG
ATKearney
OLIVER WYMAN
MEDIA PARTNERS
ABU DHABI MEDIA
Futurism
Bloomberg Media Group
TIME
CNBC
CNN
sky NEWS عربية
POPULAR SCIENCE
العربية
الشرق الأوسط

PHOTOGRAPH BY ALEJANDRO CEGARRA FOR BLOOMBERG BUSINESSWEEK

▲ Trinidadian Ryan Roberts, kidnapped by Venezuelan pirates in 2015, still has flashbacks: "I remember when they stick a gun in my ribs and they cock the gun."

FEATURES

PURSUITS

Corrections:
"All Eyes on Ripple. But What Is It?" (Finance, Jan. 29, 2018) said Ripple's CEO was willing to identify only one bank sending commercial payments over RippleNet. We should have said he was willing to disclose transaction volumes for only one bank. Also, the company has been in business for six years, not seven.

How to Contact *Bloomberg Businessweek*

Editorial
212 617-8120
Ad Sales
212 617-2900
731 Lexington Ave.,
New York, NY 10022
Email
bwreader
@bloomberg.net
Fax
212 617-9065
Subscription Customer Service URL
businessweekmag
.com/service
Reprints/Permissions
800 290-5460 x100
or email
businessweekreprints
@theygsgroup.com

Letters to the Editor can be sent by email, fax, or regular mail. 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.

Follow us on social media

Facebook
facebook.com/
bloomberg
businessweek/
Twitter
@BW
Instagram
@bloomberg
businessweek

Cover: Photo illustration by Justin Metz; desert: Getty

Bloomberg Businessweek (USPS 080 900) February 5, 2018 (ISSN 0007-7135) H Issue no. 4557 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., Unit4, Mississauga, ON L5T 2N1. E-mail: bwkcustserv@cdsfulfillment.com. QST#1008327064. Registered for GST as Bloomberg L.P. GST #12829 9898 RT0001. Single Copy Sales: Call 800 298-9867 or e-mail: busweek@nrmsinc.com. Educational Permissions: Copyright Clearance Center at info@copyright.com. Printed in the U.S.A. CPPAP NUMBER 0414N68830

EXCERPT: NASA. TEQUILA: PIA RIVEROLA FOR BLOOMBERG BUSINESSWEEK. MCCABE: JIM WATSON/AFP/GETTY IMAGES. HERNANDEZ: DREW ANTHONY SMITH FOR BLOOMBERG BUSINESSWEEK. CHANG: RYAN ANSON/BLOOMBERG. JETSON: ABC PHOTO ARCHIVES/GETTY IMAGES

■ IN BRIEF

Europe

● Jan. 31 was a big day for Big Oil: France's Total, in partnership with U.S.-based Chevron, and Royal Dutch Shell unlocked major discoveries in the Gulf of Mexico, while BP said it found two new drilling spots in the North Sea. The same day, the U.S. reported that it had produced more than 10 million barrels a day for the first time in 47 years.

● Czech President Milos Zeman narrowly won reelection on an anti-immigration platform.

● "The list looks like the book *Who's Who in Russian Politics*."

Russian Deputy Prime Minister Arkady Dvorkovich, reacting to a roster of 210 prominent Russians released by the U.S. Department of the Treasury. The list describes who might be sanctioned in response to Russian meddling in the 2016 presidential election.

● SAP agreed to buy Callidus Software, a U.S.-based maker of sales software, for

$2.4b

The German company is quickly shifting from licensed and installed software to cloud-based offerings.

● London reached its annual limit on nitrogen dioxide pollution just 30 days into 2018.

The U.K., with large numbers of diesel-burning cars and trucks, has been running afoul of European Union clean-air thresholds since 2010. Last year, London blew its cap in only five days.

Americas

● Representative Trey Gowdy of South Carolina announced that he wouldn't run for reelection to the House, joining Lou Barletta, Joe Barton, Xavier Becerra, Diane Black, Marsha Blackburn, Robert Brady, Jim Bridenstine, Jason Chaffetz, John Conyers, John Delaney, Charlie Dent, Ron DeSantis, John Duncan, Blake Farenthold, Trent Franks, Rodney Frelinghuysen, Bob Goodlatte, Gene Green, Luis Gutiérrez, Colleen Hanabusa, Gregg Harper, Jeb Hensarling, Darrell Issa, Evan Jenkins, Lynn Jenkins, Sam Johnson, Ruben Kihuen, Raul Labrador, Sander Levin, Frank LoBiondo, Michelle Lujan Grisham, Martha McSally, Pat Meehan, Luke Messer, Tim Murphy, Kristi Noem, Beto O'Rourke, Steve Pearce, Ted Poe, Jared Polis, Dave Reichert, James Renacci, Todd Rokita, Jacky Rosen, Ileana Ros-Lehtinen, Ed Royce, Carol Shea-Porter, Bill Shuster, Kyrsten Sinema, Lamar Smith, Pat Tiberi, Dave Trott, Niki Tsongas, and Tim Walz.

The turnover is higher than usual among Republicans, which may give Democrats an opening to regain control of the lower chamber in November.

● Aphria, a Canadian cannabis company, agreed to buy rival Nuuvera for

$826m

● In his first State of the Union speech, Donald Trump called for a $1.5 trillion infrastructure program.

He gave scant details on how to pay for it, which troubled Republicans and Democrats alike.

● Amazon, Berkshire Hathaway, and JPMorgan Chase pledged to create a health-care company to cut costs for their roughly 1 million combined U.S. employees. The venture will be focused on technology and free from "profit-making incentives," the companies said in a statement.

ZEMAN: RADEK MICA/AFP/GETTY IMAGES. YELLEN: CAROLYN KASTER/AP PHOTO. RICKETTS: NATI HARNIK/AP PHOTO. PHONE: COURTESY HUAWEI. CHINA: CHRIS RATCLIFFE/BLOOMBERG. WEAH: IMON MAINA/AFP/GETTY IMAGES. *SEASONALLY ADJUSTED ANNUAL RATE. DATA: FEDERAL RESERVE BANK OF ST. LOUIS

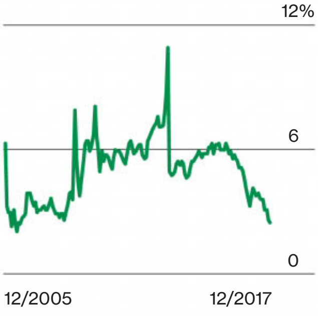
● In their last meeting under Chair Janet Yellen, Fed officials left interest rates unchanged but set the stage for a hike in March. ▷ 32

● The Republican National Committee picked

Chicago Cubs co-owner Todd Ricketts to replace Steve Wynn as finance chair. Wynn, who faces multiple allegations of sexual harassment, resigned on Jan. 27. He denies any wrongdoing.

● America's household savings rate fell in December to a 12-year low of 2.4 percent.

U.S. personal savings rate*



Asia

● Australia pledged to create a $3.1 billion loan program to help the country's defense contractors boost exports.

● HNA Group told creditors it will seek to sell off

$16b

in assets in the first half of 2018, according to people familiar with the matter. The sale will help the conglomerate pay off debts and bolster liquidity.

● Japan's Fujifilm will acquire Xerox, a once-dominant American technology business.

The two companies have operated jointly in Asia for the past 55 years.

● A U.A.E.-backed Yemeni separatist group seized a military base in the southern port city of Aden. The action represents a splintering of the coalition fighting against Houthi rebels in the north—Saudi Arabia supports a faction still loyal to President Abd-Rabbu Mansour Hadi.

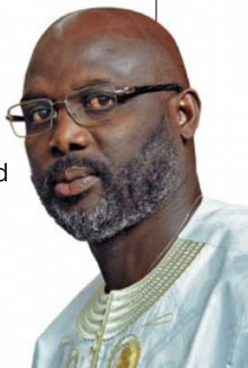
● U.K. Prime Minister Theresa May, at a press conference with Chinese Premier Li Keqiang, indicated support for Beijing's planned $900 billion global infrastructure project, calling Britain a "natural partner" but withholding a full commitment.

● Following a similar move by AT&T, Verizon Communications dropped plans to sell phones by Huawei Technologies, buckling to pressure from U.S. officials concerned the handsets would be vulnerable to Chinese spying.

Africa

● Kenya shut down three TV networks on Jan. 30 for broadcasting a swearing-in ceremony organized by opposition leader Raila Odinga, who's rejected the official outcome of last year's elections and whose supporters declared him the "people's president."

● President George Weah, Liberia's new leader, called on legislators to scrap laws forbidding foreign landownership and restricting citizenship to black people, calling the latter racist and unnecessary.



We’ve Been Gamed

The appearance of Olympic amity on the Korean Peninsula will be short-lived

By Andy Sharp and Kanga Kong

PHOTO ILLUSTRATION BY 731. PHOTOS: GETTY IMAGES (2); IOC (1)

With the Winter Olympics set to kick off in the alpine resort town of Pyeongchang, South Korea has welcomed a regime that only months ago was threatening to destroy it. North Korea has crashed the party, dispatching pop diva Hyon Song Wol and a cheerleading troupe, dubbed the "army of beauties," as cultural emissaries. On Feb. 9, in a gesture designed to strike an emotional chord, a combined North-South team will march behind a Korean unity flag at the opening ceremony that will be broadcast worldwide.

Such is the surreal state of play on the Korean Peninsula, thanks to a diplomatic gambit initiated by South Korean President Moon Jae-in and embraced at the start of the year by North Korean Supreme Leader Kim Jong Un. Both sides are counting on sports diplomacy to ease the acrimony between the two nations, which have technically been at war since 1953. Moon has described the move as a "good opportunity for inter-Korean peace and reconciliation." Kim's government is also making soothing sounds. In late January, the isolated nation called for a "breakthrough for independent reunification" and "great changes to the North-South relations as early as possible."

Behind all the gauzy rhetoric are some less-exalted motives, starting with the $12.5 billion in investments South Korea has riding on a successful Olympics—and Kim's desire to keep Washington from derailing his accelerated build-out of nuclear-tipped ballistic missiles that can reach major American cities.

Kim will lose nothing by sending his athletes to the games, but he's made North Korea the center of all media narratives about the Winter Olympics. His negotiators refused even to broach the topic of denuclearization during recent talks, the first in more than two years, yet they won a concession from the U.S. and South Korea to halt joint military exercises until after the games.

The North Korean strongman has also driven a deeper wedge between Moon and Donald Trump, who have divergent takes on containing his nuclear ambitions. Nor has Kim lost his swagger: Satellite images suggest North Korea is planning an in-your-face military parade in Pyongyang on the eve of the games. If there were an Olympic event for freestyle propaganda, Kim would be crushing it. And just a week before the opening ceremony, in a display of impunity, the communist regime canceled a planned joint cultural performance at the tourist resort of Mount Kumgang, blaming South Korean media for "defaming" North Korea's position on the Olympics.

"Success will be measured in whether North and South Korea continue with talks after the event," says Udo Merkel, a lecturer at the University of Brighton in the U.K. who writes about sports diplomacy and has visited North Korea twice. "If that doesn't happen, then we will quickly know that Kim Jong Un was using international sport simply as a public-relations opportunity."

Like his father and grandfather before him, Kim is a master manipulator who fully recognizes the money and prestige South Korea has on the line. Seoul has spent $2.5 billion on Olympic facilities, including a new 35,000-seat outdoor stadium for the opening and closing ceremonies. An additional $10 billion has gone into road upgrades and the extension of a high-speed rail network connecting Seoul and the heart of the country's ski region. The games are also a can't-miss branding opportunity for Korea Inc., whose reputation has been sullied in recent years by high-profile bankruptcies, corruption convictions, and product recalls. Samsung Electronics, Korean Air, Lotte Group, and LG Electronics—all official Olympic partners—plan to strut their stuff, pitching their latest products during the games.

Moon has ample reason to want to protect all this and to be wary of the North. The Kim dynasty has a history of ruthlessly disrupting sporting events. Agents from Pyongyang bombed a Korean Airlines flight in the runup to the 1988 Summer Olympics in Seoul, killing all 115 passengers and crew. During the 2002 World Cup, which South Korea co-hosted with Japan, a naval clash started by Pyongyang left six sailors dead. The prospect of another confrontation, plus the threats of nuclear annihilation and name-calling between Kim and Trump, depressed ticket sales heading into late 2017. Since Kim came inside the tent, sales have doubled from November levels, hitting 70 percent of a 1.1 million target as of Jan. 19.

Kim has grabbed the media spotlight, but he won't be able to prevent the world, or his own people, from seeing the vast wealth gap between the two Koreas. It's a far greater gulf than the one that existed between East and West Germany when the Berlin Wall came down in 1989. More economic pain is ahead this year for the North as new United Nations sanctions on oil imports and shipping take hold.

The U.S. Department of State estimates that South Korea's military budget is 30 times as large as North Korea's in absolute terms, despite Kim spending as much as 23 percent of his nation's economic output on defense. That helps explain his obsession with building a nuclear arsenal and the missiles to deliver them: Without a credible nuclear deterrent, his regime has argued, the U.S. will steamroll into Pyongyang and oust the government—just as it did in Iraq and Libya.

Kim declared his nuclear program complete after the latest launch in November, claiming his atomic warheads could survive reentry into the Earth's atmosphere and target specific locations anywhere in the U.S. Most independent analysts are skeptical, but few doubt he's far off. Bong Youngshik, a researcher at Yonsei University's Institute for North Korean Studies in Seoul, says it will take the regime three to five years to master the key technologies needed to strike the U.S. with a nuclear weapon.

While Trump has expressed tepid support for the détente—mostly to claim credit for pressuring Kim to the table—his military advisers continue to raise the possibility of some sort of preemptive strike. "Our response to this threat remains diplomacy-led, backed up with military options available to ensure that our diplomats are understood to be speaking from a position of strength," said Defense Secretary James Mattis on Jan. 27 after meeting ▶

◀ South Korean National Defense Minister Song Young-moo.

One option reported by the *Telegraph* and the *Wall Street Journal* is a so-called bloody nose attack targeting specific nuclear sites. But even a limited move risks sparking a nuclear war that could devastate Northeast Asia and draw in both China and Russia, which have repeatedly warned the U.S. to avoid military action.

The U.S. worries that Moon, the son of North Korean refugees and a former human-rights lawyer, would give away too much in talks with North Korea. His left-leaning Democratic Party, which last May ended nine years of conservative rule in South Korea and controls 40 percent of the National Assembly, advocates a softer approach toward Pyongyang. In his New Year's address, Moon said that while he's committed to resolving the North Korean nuclear problem, "war must not break out on the Korean Peninsula again." Last year, after Trump warned Pyongyang of "fire and fury," Moon asserted the right to veto any military action and vowed to prevent war at any cost.

He's still popular at home, but his adventure in sports diplomacy has come at a political cost. Moon's approval rating has fallen, from about 90 percent last June to below 60 percent, after he agreed to let athletes from both sides march under one flag and to pay for the expenses of North Korean delegates. The opposition Liberty Korea Party and some voters are outraged that he's accommodating a regime that's repeatedly threatened to turn Seoul into an ash heap. "Yesterday we criticized North Korea's provocations, and today we're inviting it to our event and acting as if unification is just around the corner," says Kim Byeong-mi, a resident of Gangneung, a coastal city where North Korean pop star Hyon toured last month and that will host Olympic events. "If we rush like this, there will be a lot of trouble."

Even young people, who overwhelmingly backed Moon last year, are starting to think twice, according to polling data. While many don't want war, they also worry about the cost of reunification. South Korea's parliament in 2015 estimated that even in a peaceful scenario, it could take about $2.8 trillion to help bring the North's gross domestic product to two-thirds that of the South.

Once the Olympic flame is doused, it's hard not to envision geopolitical tensions returning to a flashpoint in short order. Indeed, that may happen as soon as the U.S. and South Korea restart their joint military drills—which the North wants canceled altogether. As inspiring as the Olympics can be, no amount of goodwill on the playing field can erase the ugly history, divergent geopolitical interests, and destructive weaponry arrayed on the peninsula. Ⓑ

■ VIEW

To read Mervyn King's advice for the new Fed boss and Mark Buchanan on how physics could save the world, go to Bloombergview.com

Take Trump's Immigration Plan Seriously

● His proposal is flawed, but it might just be a step in the right direction

Donald Trump has done something that's eluded the Republican Party for almost a decade: He's outlined the possibility of broad immigration reform.

His immigration framework is far from perfect. But the fact that it's being criticized by the extreme wing of his party should be taken as a sign of hope that it may be the basis for bipartisan discussion. Democrats should treat the proposal with more seriousness (and less derision) than they have so far.

To be sure, there's plenty wrong with the plan: wasting $25 billion for a wall and the veiled curbs on asylum. But the proposal is also an advance for the 700,000 so-called Dreamers—anything less than a path to citizenship would be unfair. And, in principle, it makes good economic sense to replace the U.S. emphasis on family reunification with rules addressing shortages of labor.

The suggested limitations on family sponsorships echo the recommendations of earlier blue-ribbon commissions and aren't as harsh as they would have been before travel and telecommunications became more affordable. The end of the diversity-visa lottery program is overdue—unless you're a believer in citizenship bingo.

A crucial question is how far these changes would affect immigration in the aggregate. It's one thing to tilt the balance away from family sponsorships to economic criteria, quite another to seek a system that clamps down on legal immigration as a whole—a misguided strategy, especially when U.S. industries and businesses are hungry for qualified workers. The implications for immigration would depend on the numerical caps the White House would set and exactly how it would handle the backlog of almost 4 million family-sponsored visas. The administration's intentions on this score are suspect. Nonetheless, starting from here, a good-faith bipartisan effort could resolve those issues.

It needs to be emphasized that in a half-decent world, the Dreamers wouldn't even be up for debate. Sadly, they have been. If a pragmatic consensus can be reached on a just resolution of that issue, together with new rules for legal immigration to provide workers the country needs, it deserves to be embraced. Whether Trump intended it or not, his proposal just might be a nudge in the right direction. Ⓑ


SEE
HUNDREDS OF DIFFERENT WORLDS WITH A WIDE RANGE OF MOVIES, DOCUMENTARIES AND MORE.
HEAR
NOTHING BUT WHAT YOU WANT WITH THE NOISE CANCELLING DENON HEADPHONES.
TASTE
THE BEST FOOD ON AIR SERVED BY OUR FLYING CHEFS.
SMELL
TRADITION WITH FRESHLY BREWED TURKISH COFFEE.
TOUCH
COMFORT WITH SPECIALLY BUILT-IN MASSAGING SEATS.
"SEE, HEAR, TASTE, SMELL, TOUCH.
EXPLORE YOUR SENSES. WIDEN YOUR WORLD."
DR. OZ
Features may vary depending on flights.
TURKISHAIRLINES.COM
A STAR ALLIANCE MEMBER
TURKISH AIRLINES

LOOK AHEAD

- Rockwell Automation holds its annual meeting on Feb. 6 in Milwaukee
- Tesla reports fourth-quarter earnings on Feb. 7, providing insight into production of its Model 3
- Costco Wholesale discloses January sales, a window on post-holiday consumer sentiment

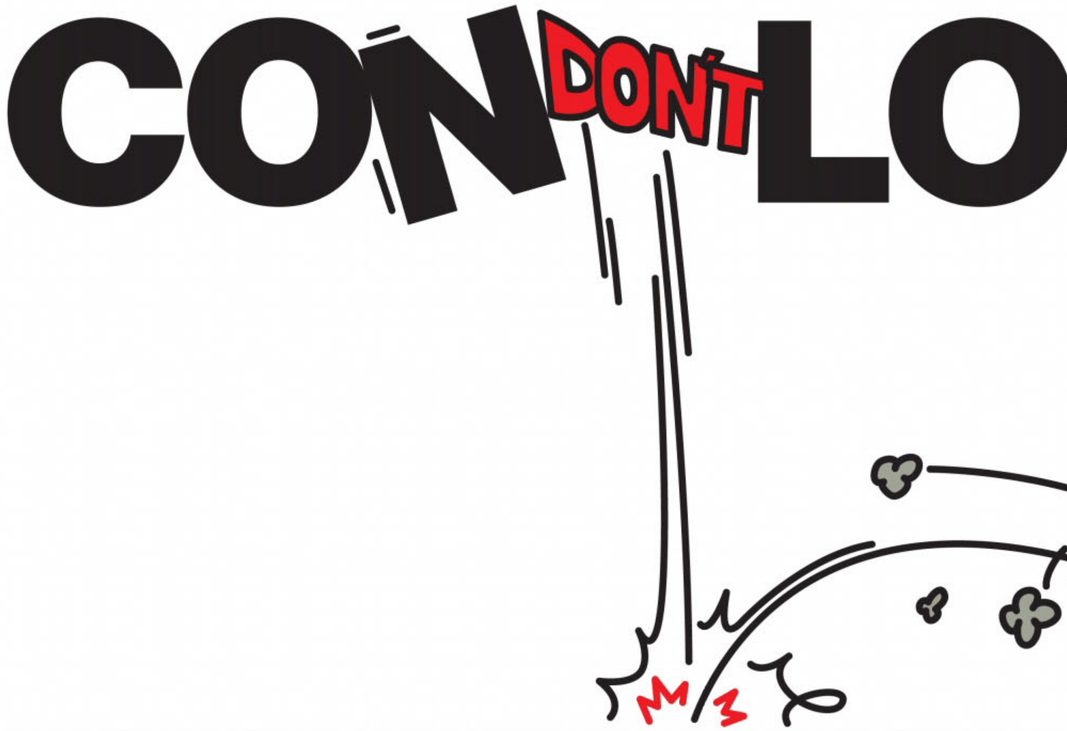


ILLUSTRATION BY 731

● The idea that a single company can manage many disparate businesses well is under assault. Ask GE

In September 1967 the cover of *Time* magazine featured a grinning portrait of industrialist Harold Geneen underneath a banner headline declaring, "CONGLOMERATES: The New Business Giants." It seemed appropriate for the era. During the '60s, Geneen had used hundreds of acquisitions to build International Telephone & Telegraph Corp. into a dizzying collection of businesses—everything from Wonder Bread to Sheraton Hotels & Resorts to timberland giant Rayonier Inc., one of the largest private landowners in the U.S. ITT's constituent parts had little in common beyond their parent. But after being heralded as the cutting-edge model of American business, the giant shrank. Over the next few decades, a series of splits and sales whittled away most traces of ITT, leaving what is today a smallish manufacturer of industrial and aerospace parts.

To Jerry Davis, a business professor at the University of Michigan who studies corporate organization, the decline of ITT wasn't an anomaly. Conglomerates—aka multi-industry companies or business groups, if you prefer—once provided efficiencies that investors couldn't get from unsophisticated capital markets. Sprawling outfits such as ITT, Litton Industries Inc., and Ling-Temco-Vought Inc. essentially operated partly as actively managed mutual funds and partly as private equity shops in an age before concepts such as "synergy" and "competitive advantage" chipped away at their raison d'être. Once investors started to question whether deal-savvy managers truly could manage everything from soup to nuts, their fall was swift. "We loved them in the '60s and '70s," Davis says, "and then we hated them."

General Electric Co. is belatedly learning that lesson (page 42). The quintessential American conglomerate was supposed to be the one that proved the expansive business structure could really work. The company that traces its history to Thomas Edison changed domestic life in the 20th century with the electric lamp and toaster, and formed the industrial backbone for America's growth into a global superpower with its jet engines and power plants. Jack Welch, its sharp-penciled chief executive officer in the '80s and '90s, who became arguably the country's most admired management guru, gave the myth of the conglomerate even more credibility when he built one of the nation's largest financial-services companies alongside GE's manufacturing operations.

That highflying reputation has come crashing down: GE's stock price has fallen by half since December 2016, the company is considering ditching key units such as lighting and locomotives, and the U.S. Securities and Exchange Commission is investigating its past accounting practices. At the very least, GE seems headed for a dramatic reshaping, and its days as a megaconglomerate appear numbered.

GE isn't the only outfit still sporting the conglomerate tag. There are industrial holdovers such as United Technologies Corp. and Honeywell International Inc., which were never as expansive as GE—and are often mentioned as candidates for breakups. The Digital Age also has emerging conglomerates such as Amazon.com Inc. and Alphabet Inc. (Berkshire Hathaway Inc. is often called a conglomerate, but it's more akin to a holding company of independent businesses.)

The model still has particular resonance overseas—think India's Tata Group, whose operations span from steel to hotels to beverages. Harvard Business School professors Tarun Khanna and Krishna Palepu proposed in 2010 an "institutional voids" theory—that the size and resources of multi-industry companies can make up for emerging markets' lack of high-quality institutions. After all, someone needs to facilitate business transactions and relay market information—a role American conglomerates filled in the '60s.

In the U.S., investors can still get behind a conglomerate: All it takes is a name. To Wall Street, Amazon's Jeff Bezos can do no wrong. Ditto for Warren Buffett. "There's nothing wrong with conglomerates in and of themselves," says Richard Cook, a fund manager in Birmingham, Ala., who's been a longtime investor in Buffett's Berkshire Hathaway. "It's just unusual to find a CEO with the skill set necessary to run one."

Indeed, part of GE's success was investors' unshakable faith in Welch, who seemed to hit quarterly numbers like clockwork. The model faltered under successor Jeffrey Immelt, particularly after the 2008 financial crisis exposed the risk in the increasingly bloated financial operations Welch had built. Immelt tried to reinvent GE again—as a digital company—but his luck was running out. He stepped down in mid-2017 under pressure from shareholders.

New CEO John Flannery has tried to right the ship by cutting costs and changing management, but it hasn't worked: The stock fell 45 percent last year, even as the broader market hit record highs. With few options left, Flannery said he'd consider a once-unthinkable breakup of the company. He's already shedding $20 billion in assets and could separate the remaining businesses into publicly traded companies. "The question is not, Why is GE possibly being split up now," says ▶

"We loved them in the '60s and '70s, and then we hated them"

◀ Davis, "but, Why did it take so damn long?"

There was a time when it made sense for a company simply to buy the earnings of another, as a low-cost way to grow in an era of low interest rates. The conglomerate structure also let companies smooth out earnings among volatile industries. For GE, another justification was its ability to turn out world-class leaders. At its legendary Crotonville, N.Y., management training center, promising executives endured boot camps to learn how to lead large organizations, honing skills that were widely applicable whether they ran a business making microwaves or trains or TV shows. Its graduates and other GE veterans went on to run major companies including Boeing, Honeywell, and Home Depot.

Today, many corporations have their own management training programs. But more significantly, questions have emerged over the universality of leadership skills. Is knowing how to structure an organization and read a balance sheet enough reason to put, say, a retail CEO in charge of an aerospace manufacturer instead of someone who's spent his entire career in the field?

Technological change and the increasing specialization of businesses make it harder for executives schooled in general management to effectively allocate resources, says Paul Elie, chief of U.S. industrial deals for consultant PwC. "We're seeing management teams really evaluate what their core strengths are and where they think they can really generate a return on their capital," he says. "It's very difficult to do that across a vast portfolio of businesses."

Investors are asking if GE's problems were exacerbated by sprawl, letting small issues grow unnoticed. If so, maybe a breakup is needed. Some investors seem to think so: When Flannery said on a recent conference call that "there will be a GE in the future, but it will look different than it does today," the stock price surged 6 percent within minutes.

GE no doubt will continue to exist in some form. The question is whether it will exist the way ITT still does. "The conglomerate is dead," says Michael Useem, a management professor at the University of Pennsylvania's Wharton School. "Long live the conglomerate." *—Richard Clough, with Noah Buhayar and Thomas Black*

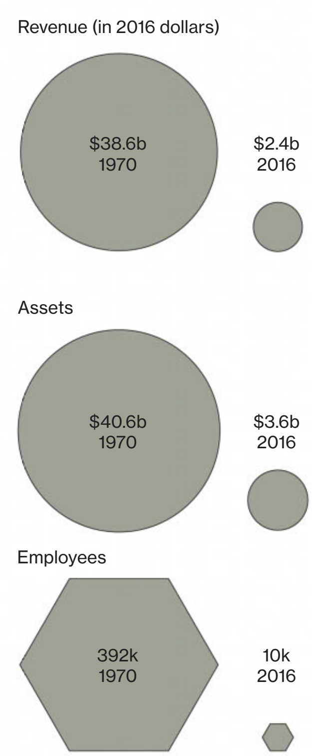
THE BOTTOM LINE Fifty years ago conglomerates—basically companies composed of lots of other companies—were hot. Today, GE's decline calls into question the validity of that structure.

The Incredible Shrinking ITT

What happened to 30 major companies and divisions that were part of ITT in 1970

☐ Sold ■ Spun off ■ Part of ITT's 2011 breakup ■ Remaining

Aetna *finance*	Alfred Teves GmbH *automotive parts*	APCOA *parking*	Bobbs-Merrill *publishing*	Canteen Corp. *food operations*	Continental Baking *Wonder Bread and Hostess products*
Grinnell *piping*	Gwaltney *ham*	Hamilton Funds *mutual funds*	Hamilton Life *life insurance*	Howard W. Sams *publishing*	ITT Tech Institute *for-profit technical schools*
Levitt *homebuilding*	Levitt Development *Palm Coast, Fla.*	Life Insurance Co. of New York *life insurance*	Morton Frozen Foods *frozen food*	Rayonier *wood pulp and lumber*	Avis *car rental*
Pennsylvania Glass Sand *silica and clay products*	Sheraton *hotels*	Standard Elektrik Lorenz *radios and televisions*	Southern Wood Piedmont *lumber*	Federal Electric *distant early warning systems*	Gilfillan *radar systems*
Thorp *finance*	World Communications *telex carrier*	Standard Telephones & Cables *telecommunications manufacturer*	Space Communications *commercial satellite communication*	Stenberg-Flygt *industrial pumps*	Aerospace Division



Taylor Swift Wants Her Money Back

● The superstar tightens the way her concert tickets are sold—and scalpers aren't happy

Taylor Swift's most recent tour was a success by every measure. Named after the best-selling album of her career, *1989*, it grossed more than $250 million worldwide, the top tour of 2015. Critics raved about the production, with one going so far as to say it was "engineered to be the best night of your life." Yet Swift felt something was missing–about $85 million in revenue that went to scalpers.

Some 30 percent to 40 percent of tickets to the world's top concerts are resold on secondary websites such as StubHub and SeatGeek. Many of those sales are by scalpers who believe people are willing to pay far more than the initial price to see stars of Swift's magnitude; they double and sometimes triple the ticket price. Thousands of Swift's die-hard fans, Swifties, spent huge sums the singer never saw. That didn't sit well with Swift, who is as much an entrepreneur as she is an artist.

As she prepared to hit the road to support her latest album, *Reputation*, Swift and Ticketmaster Entertainment Inc. concocted a strategy to neuter the scalpers. They used Ticketmaster's Verified Fan program, which utilizes in-house technology to identify actual fans and determine which of them should have access to fan-only presale tickets, based on their devotion to Swift as measured by their willingness to buy albums, sign up for a newsletter, and watch her music videos. While prices in the presale were fairly low for most people, Swift and promoter AEG Presents raised the cost of all the tickets in the later general sale to make them less attractive to scalpers.

The success of this latest attempt to combat scalping remains uncertain. Most major tours, including Swift's most recent, sell out in minutes. But her upcoming *Reputation* tour hasn't sold out a single date in the past month and a half, prompting the *New York Post* to dub it a disaster. Yet Ticketmaster says Swift will get the last laugh. Most tours sell out right away because prices are too low, and scalpers buy up all the inventory. Instead, Ticketmaster expects Swift's tour will sell out closer to when she takes the stage on May 8 in Glendale, Ariz., the first of more than 40 dates scheduled through October. It also expects the artist and promoters to collect more of the cash–and provide the music industry with a new model to boost North American concert ticket sales, which collectively hit $8 billion last year.

"It's so easy for people to take shots at Taylor," says David Marcus, head of music at Ticketmaster. But, he says, "we were successful beyond my expectations and were able to drive the biggest registration we've ever seen for Verified Fan."

Ticketmaster has used the Verified Fan program to block scalpers from concerts, festivals, and Broadway shows such as *Springsteen on Broadway* and the upcoming *Harry Potter and the Cursed Child*. The company requires fans seeking tickets to register online in advance and identify the show they want to attend, hoping to weed out bots. It then uses artificial intelligence to determine which fans are most likely to attend and verifies a certain number for a presale.

Swift's use of Verified Fan added tweaks not tried before, Marcus says. Fans who wanted access to the first tickets on sale took part in a program called Taylor Swift Tix where they earned boosts in the virtual line by buying her album and merchandise, watching music videos, or spreading the word to friends. Javier Benavente, a 25-year-old Swiftie who's seen the pop star more than a dozen times, bought three albums and scored floor seats for $180 a pop. The new regular-price tickets can run as much as 10 times that.

What's more, Benavente says he loved being able to take his time deciding on his seat, because of the Swift tour's unusual assigned purchase windows–spread across a week and giving purchasers several minutes to view different available seats before making a decision. "She somehow found this weird happy medium where you benefit both the fans and their pockets," he says.

Some critics have called Swift greedy, panning her system as giving the best presale slots to fans who spend the most on her other goods. Ticketmaster says most of the fans who participated in the presale spent no money apart from the ticket purchase and noted those early sales started at $49.50–cheap for a star of Swift's ▶

● Gross of Swift's concert tour in 2015, that year's largest:

$250m

ILLUSTRATIONS BY KRIS MUKAI. SWIFT: ISABEL INFANTES/GETTY IMAGES; DATA: COMPANY REPORTS, CONTEMPORARY NEWS REPORTS

◀ stature. While tickets in the general sale can climb to near $2,000 for some shows, the prices aren't so different from those of male acts such as Justin Timberlake or U2. If some higher prices are what's needed to combat scalping, the Swift camp is unapologetic. Says Marcus: "Taylor is trying to take control of her tour." —*Lucas Shaw*

THE BOTTOM LINE For Taylor Swift's upcoming concerts, she's trying a fan-centered pricing scheme to capture some of the $85 million lost to scalpers in 2015.

Dirty Dancing Meets Asian Gamblers

● Malaysia's Genting is remaking a Borscht Belt resort into a destination for Asian gamers

In the film *Dirty Dancing*, an against-all-odds love affair flourished during a 1960s summer at a resort in the Catskill Mountains, an area that was once the favored summer home for generations of Jewish New Yorkers. Now, if a billionaire from Malaysia has his way, a different group will be flocking to the so-called Borscht Belt: Asian tourists eager to try their luck at a casino tailored to their tastes.

Empire Resorts Inc., controlled by Lim Kok Thay, chairman of Genting Bhd., on Feb. 8 will open Resorts World Catskills, a $1.2 billion casino, hotel, and entertainment complex at the site of the old Concord Hotel, the largest of the upstate New York resorts that helped launch the careers of Rodney Dangerfield, Joan Rivers, Sid Caesar, and other comedians.

For the Genting group of companies, which runs casinos from Singapore to England to the Bahamas, the Catskills project is the latest effort to gain a bigger foothold in the U.S. Genting operates a casino at New York City's Aqueduct Racetrack, and Empire Resorts runs a small racetrack casino in the Catskills. But unlike those two casinos—limited by the state to slots and other electronic games—the new Empire property will have a 100,000-square-foot casino with more than 150 game tables as well as 2,150 slot machines. It will include a 332-room hotel and a 2,500-seat event center, with plans for an 18-hole golf course and a water park.

Empire Resorts is counting on those features, along with Genting's customer base from its popular casinos in Malaysia, Singapore, and other countries, to draw customers from the other side of the Pacific. "We can offer international players known to Genting an opportunity here in North America that they otherwise wouldn't have," says Empire Resorts Chief Executive Officer Ryan Eller. "It gives us the opportunity to reach across not only North America but potentially internationally."

The Catskills resort is only 90 miles from New York City, says Charles Degliomini, Empire's executive vice president for government affairs and corporate communications, and "people from Asia want to come to New York," he says. Still, persuading tourists to schlep that distance will be a hard sell. "It's not an easy drive," says H. Steven Norton, CEO of Norton Management, a casino consultant. Moreover, the region doesn't have many other attractions to lure gamblers to the countryside. "In the winter there's a little skiing, and in the summer a little golf," he says. "The Catskills have been going down since air service to Florida" became widespread. Most of the classic Borscht Belt hotels closed as such travel became easier.

To boost its appeal among Asian gamblers, Empire used the lucky number 888 for the resort's official address (888 Resorts World Drive), recruited a chef from Taiwan, and used feng shui principles in its design. Casino games that are popular with Asian customers, such as *pai gow*, played with 32 Chinese tiles, will take up about one-third of the gaming floor. Empire moved up the opening, originally scheduled for March, to take advantage of the Lunar New Year in mid-February, with plans for a traditional dragon dance to welcome the Year of the Dog.

In a bid to revive the region's economy, New York in 2015 awarded licenses for Las Vegas-style resorts to Empire and two other casino operators. The two that have already opened, the Del Lago Resort & Casino in the Finger Lakes region and Rivers Casino & Resort Schenectady, haven't generated the expected revenue, according to Clyde Barrow, a professor at the University of Texas Rio Grande Valley who did consulting work for Caesars Entertainment Corp.'s unsuccessful bid for a license. "They haven't come close to their original forecast or projections," he says. Del Lago and Rivers Casino didn't comment on gaming revenue.

The new establishments are in a crowded market. During the 12 months ended November 2017, casinos in seven Northeastern states produced $10 billion in gaming revenue, according to Bloomberg Intelligence, the same annual total as casinos in Las Vegas and the rest of Clark County, Nev. And the number of gaming positions, such as slot machines and table seats, could increase

● Lim

▲ Workers readying Resorts World Catskills for its February opening

in the Northeast as much as 24 percent this year.

"There are way too many casinos in much of the Northeast," says Richard McGowan, a professor of finance at Boston College who studies the industry. At Genting's Resorts World New York City casino in Queens, where the company began a $400 million expansion last year, gambling revenue was down slightly, to $850 million, even after 1,000 slot machines were added.

Targeting Asian gamblers isn't a sure bet. Many gaming outfits in the Northeast and around the U.S. have already retooled their casino floors to woo those customers, Barrow says. Not all have prospered: Lucky Dragon Hotel & Casino, a Chinese-themed resort, which in 2016 became the first new casino to open in Las Vegas in years, temporarily closed its gaming and restaurant operations in early January in what the company called on its Facebook page a "repositioning."

Empire Resorts is not technically part of the Genting group, a conglomerate that in addition to its hotel and casino businesses operates cruise ships, manufactures paper, and runs palm oil plantations. Instead, a private investment company that Lim controls owns more than 90 percent of the shares of Empire, which last year struck an agreement to use Genting's Resorts World brand and participate in its global loyalty program in exchange for a cut of net revenue.

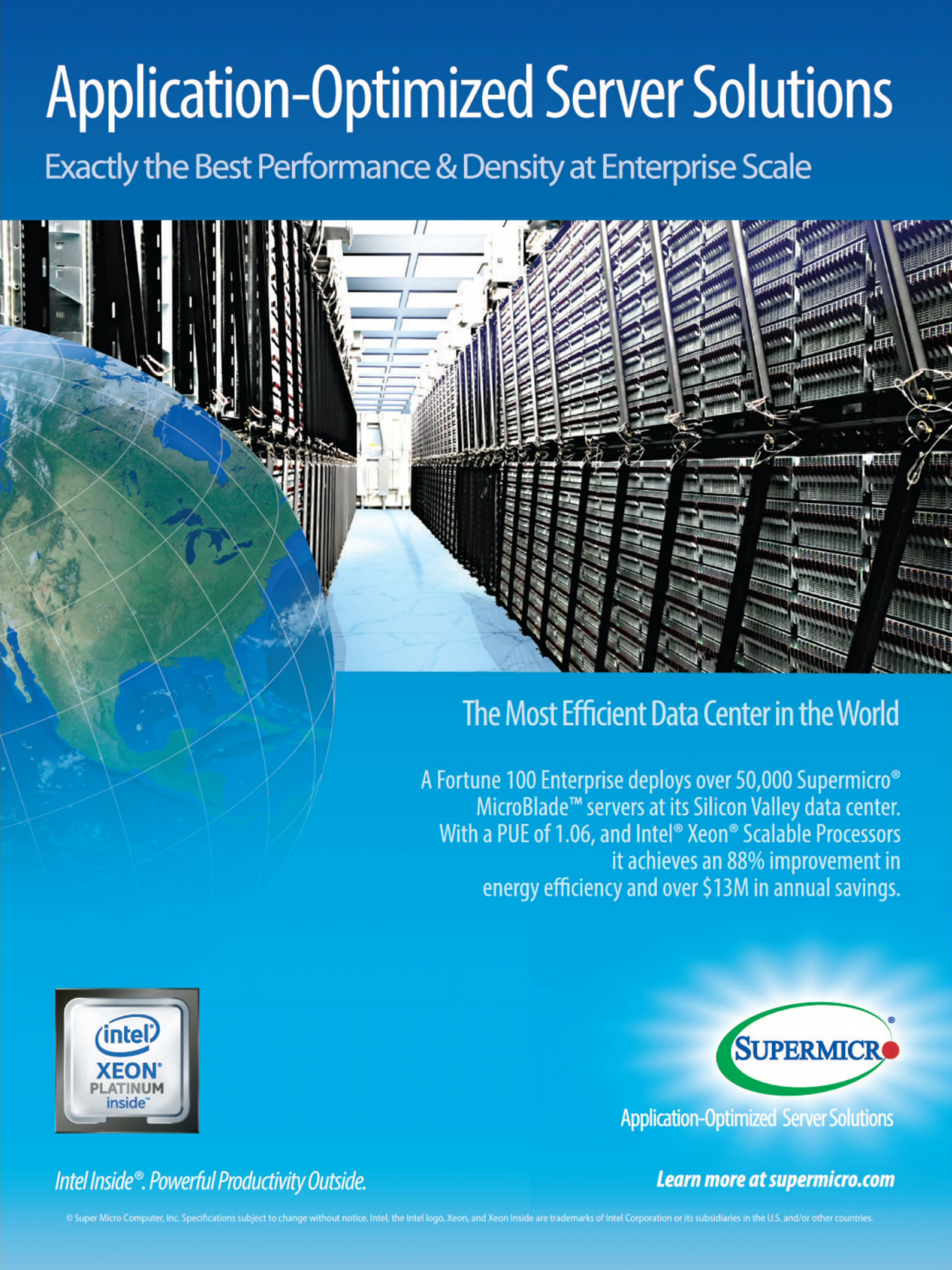
If successful, the Catskills project will promote the global reach of Genting, which has a complicated web of affiliates in Asia, Africa, and Europe but has faced challenges expanding in North America. Genting in 2013 announced it would spend as much as $4 billion on a casino resort in Las Vegas. Construction didn't begin until last year, however, as the project was redesigned. It's now scheduled to open in 2020. A proposed casino in Miami appears stalled because Florida lawmakers haven't approved the expansion of casino gambling to the city. Genting declined to comment on the Miami property.

In New England, a partnership with the Mashpee Wampanoag Tribe to build a casino near Boston is on hold following a challenge to the government's decision to set aside land to the tribe. "We continue to support the Mashpee Wampanoag Tribe in their efforts to protect their land base and achieve their economic development goals," Michael Levoff, Genting Americas' senior vice president for public affairs, said in a statement.

It's too early to rule out Empire's chances in the Catskills, says Brian Egger, a Bloomberg Intelligence analyst who notes Resorts World Catskills may have an edge because of its scale and Asian roots. "They do have an opportunity to attract Asian players," he says. "Anyplace where Resorts World builds, they do have some advantage." *—Bruce Einhorn and Christopher Palmeri*

THE BOTTOM LINE Borscht Belt hotels launched the careers of comedians such as Rodney Dangerfield and Sid Caesar. Now a Malaysian billionaire is building a $1.2 billion casino resort there.

LIM: JENS BÜTTNER/AP IMAGES. CASINO: VICTOR J. BLUE/BLOOMBERG


Application-Optimized Server Solutions
Exactly the Best Performance & Density at Enterprise Scale
The Most Efficient Data Center in the World
A Fortune 100 Enterprise deploys over 50,000 Supermicro® MicroBlade™ servers at its Silicon Valley data center. With a PUE of 1.06, and Intel® Xeon® Scalable Processors it achieves an 88% improvement in energy efficiency and over $13M in annual savings.
intel
XEON
PLATINUM
inside
SUPERMICRO
Application-Optimized Server Solutions
Intel Inside®. Powerful Productivity Outside.
Learn more at supermicro.com
© Super Micro Computer, Inc. Specifications subject to change without notice. Intel, the Intel logo, Xeon, and Xeon Inside are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries.

LOOK AHEAD

- As Snap reports earnings, investors will be looking for gains in its average revenue per user
- Twitter earnings will test whether the company can continue to trim its losses and approach profitability
- Activision Blizzard reveals whether its holiday-season video game sales exceeded expectations

The Money Picks An Air Taxi

Joby Aviation has a prototype craft and a fresh $100 million

If you want to see JoeBen Bevirt's flying car, you have to get in a helicopter. The engineer's private airfield is nestled in a valley on the Northern California coast between Monterey and Santa Barbara, and it's remote by design, out past a swirl of tan and green fields. Bevirt, a 44-year-old whose bursts of childlike delight punctuate his otherwise quiet intensity, bounds out to greet the chopper, then points the arriving pair of reporters to the prototype resting on the dirt runway nearby. It's an exotic-looking white aircraft with numerous propellers. (Bevirt agreed to the visit only on the condition that physical specifics remain unpublished.) He calls it an air taxi. "This is what I have been dreaming about for 40 years," he says. "It's the culmination of my life's work."

Bevirt is the founder and chief executive officer of Joby Aviation Inc., a startup that's spent the past nine years trying to design and build a whole new kind of short-hop aircraft. Believe it or not, things have been going well. We were the first two reporters to see a demo of the prototype, named *Rachel* after the women several of its creators used to date. The pilot managed a vertical takeoff, 15 minutes of flight in a 15-mile loop, and a safe landing. Powered by electric motors and sophisticated control software, the taxi performs like a cross between a drone and a small plane, able to zip straight up on takeoff and then fly at twice the speed of a helicopter while making about as much noise as a swarm of superbees. Bevirt says thousands of these sky cabs will one day shuttle people around cities, soaring above the conventional traffic below.

Broken promises of flying cars predate *The Jetsons*, but Bevirt has made believers out of people with deep pockets. On Feb. 1, Joby Aviation announced a fresh $100 million in venture funding, more than three times the capital it had raised before, from investors including Intel Capital, Toyota AI Ventures, JetBlue Technology ▶

ILLUSTRATIONS BY INKEE WANG

February 5, 2018

Edited by
Jeff Muskus

For more on the future of transportation, go to Bloomberg.com/hyperdrive

◀ Ventures, and Capricorn Investment Group, a prominent backer of Tesla and Space Exploration Technologies. "There are a lot of dreamers in this space, but we have done a lot of research here, and JoeBen has absolutely nailed the right time for it," says Bonny Simi, president of JetBlue's investment arm.

Thanks to advances in electric motors, batteries, software, and other components, the field of flying cars, air taxis, or whatever you want to call them (Sky Segways?) is a lot more crowded than it was even a couple of years ago. Larry Page, the CEO of Google parent Alphabet Inc., has pumped tens of millions of dollars into startups Kitty Hawk and Zee.Aero. A dozen other startups around the world have similar projects at various stages of design, as do Airbus SE and Boeing Co. Even Uber Technologies Inc. claims to be working on an air taxi service, tentatively called Uber Elevate. "I think it's going to happen within the next 10 years," Uber CEO Dara Khosrowshahi said during a Jan. 22 speech at a tech conference in Munich.

Bevirt's secrecy extends to the environs of Joby's camouflaged lair: The trailers that serve as his engineers' flight-control centers are covered in posters warning them about the area's mountain lions, snakes, spiders, and other deadly fauna. Bevirt does say Joby intends to build an aircraft that will hold four passengers and a pilot and will travel at least 150 miles on a single charge at an altitude of a few thousand feet or less. (That would mean the cabin wouldn't need to be pressurized.) "Another goal is to be 100 times more quiet during takeoff and landing than a helicopter and near-silent during flyovers," says Joby Executive Chairman Paul Sciarra, a co-founder of Pinterest, the image-centric wish list site.

A trained mechanical engineer and sci-fi nerd, Bevirt made a fortune selling bendable tripods and other camera accessories more than a decade ago. He's poured that money into his aviation startup. A couple of years back, he had 35 people working on various prototype craft; now he has 120, most of them working far from the airfield at his 500-acre ranch in Santa Cruz. There, engineers make just about every part of the air taxi prototype, from the body and motors to the flight-control software.

Joby says it plans to mass-produce its air taxis for a ride-hailing service that it will operate. Bevirt's vision includes a landing pad for every office and cul-de-sac. Each trip, he says, will cost about as much as an Uber or Lyft ride does today, and eventually the air taxis will be fully autonomous. "Our mission is to save a billion people an hour a day," he says. He's less confident about a rollout date, partly because the formidable challenges ahead include convincing politicians, the Federal Aviation Administration, and the cab-hailing public that air taxis are safe. "We are well into the design and build of the production vehicle" was the most he'd say on the subject of time to market.

While a whiff of the surreal hangs over Bevirt's claims that he'll "change people's relationship with aircraft," some of his investors are counting on it. JetBlue's Simi says she sees Joby as part of a broader shift in the aerospace industry, a way to make more personal forms of air travel a part of daily life. JetBlue has also invested in Zunum Aero, which is building an electric jet that can fly dozens of people 1,000 miles. And though Intel owns a stake in a German air taxi startup called Volocopter GmbH, Wendell Brooks, president of Intel Capital, says Joby "is very far ahead relative to all the other things we've seen." —*Ashlee Vance and Brad Stone*

● All told, Joby's venture funding totals about

$130m

THE BOTTOM LINE Joby can't say when its air taxis will reach your neighborhood, but it's got a $100 million vote of confidence from backers including Intel, Toyota, and JetBlue.

For Once, Uber Needs Travis Kalanick To Speak Up

● As its trial with Waymo begins, the company is banking on a strong showing from its ousted CEO

Uber Technologies Inc. has spent much of the past year confronting and atoning for business practices adopted when co-founder Travis Kalanick ran the place. As Waymo's $1.9 billion trade-secrets lawsuit against Uber goes to trial, starting with jury selection on Jan. 31, the company's new leaders will have to turn to Kalanick as a star witness.

Kalanick has maintained a board seat—and a strained relationship with Uber's new chief executive officer, Dara Khosrowshahi—since he was forced out as CEO last year. Khosrowshahi has been trying to move the company beyond Kalanick's long shadow, but that'll be tougher while Uber fights to deny claims by Waymo, the driverless-car unit of Google parent Alphabet Inc., that it stole Waymo's technology.

Uber and Kalanick have been anticipating this moment since his first deposition in July. The questions from Waymo's lawyers closely tracked Waymo's central claim—that Kalanick conspired with former Google engineer Anthony Levandowski to orchestrate the alleged theft. Although Kalanick isn't a defendant in the case, to be heard in federal court in San Francisco, failure to refute the allegation would mean "it's not just an Uber problem, it's a Kalanick problem," says Eric Goldman, a law professor at Santa Clara University who focuses on internet and intellectual-property cases. "Uber and Kalanick are 100 percent in alignment. They have to defeat that theory."

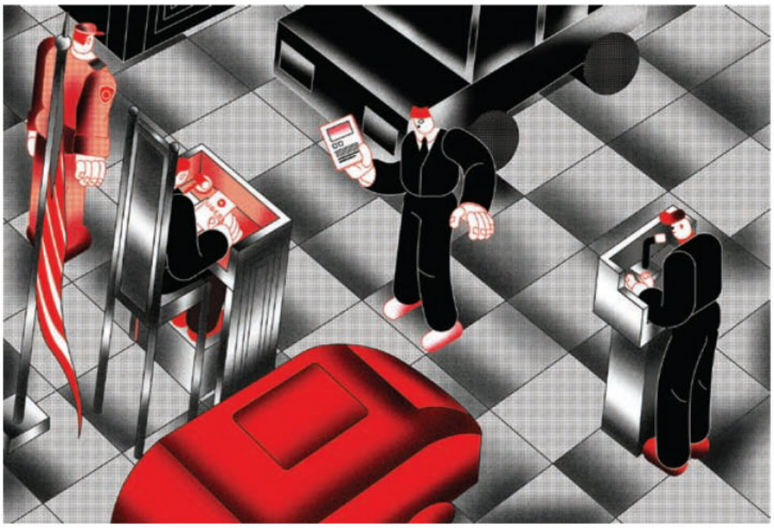
Waymo has its own challenge: explaining to jurors how the alleged theft was buried in Uber's acquisition of Otto, Levandowski's driverless startup, for more than $600 million in stock. Levandowski created the company in January 2016, 12 days before he left Google, taking with him more than a dozen employees and, Waymo alleges, proprietary data. "We have accumulated significant and compelling evidence of Uber's theft and use of our trade secrets, and we look forward to finally presenting our full case to the public," Waymo said in a statement.

Karen Dunn, a lawyer representing Uber at trial, says she's confident that "Uber witnesses will be able to explain why you'd want to do this acquisition in ways that are very intuitive." Kalanick declined to comment for this story.

During Kalanick's July deposition, a first grilling that lasted more than six hours, Waymo focused on a meeting he and other Uber executives had with Levandowski in March 2016. A Waymo attorney pressed Kalanick for his reaction to what he described as a surprise revelation that Levandowski "had some disks and some content" from Google.

"I said that he—we—that we, as a whole, need to make sure that that content does not make it to Uber, and that he needs to talk to attorneys to figure out how to make sure that's done properly," Kalanick said in July. While he acknowledged that he wanted to poach Google's best engineers because Google had superior technology, he said he knew better than to try to steal the tech itself. Levandowski has said the disks contained confidential Google source code and software for self-driving cars and that he had them shredded after Kalanick told him to "do what he needed to do" with them, according to a report by a forensics firm that Uber commissioned to vet the Otto team when it acquired the company.

Kalanick's testimony will be all the more important because jurors are unlikely to hear Levandowski's version of events. The engineer invoked his Fifth Amendment right against self-incrimination almost a year ago, shortly after the suit was filed, and is likely to do the same when U.S. District Judge William Alsup compels him to take the witness stand. Levandowski may have the right idea: In December, Alsup unsealed a letter from prosecutors confirming that a criminal investigation of the alleged trade-secrets theft is under way. In July and during another deposition in October, Kalanick repeatedly said that as CEO he relied on attorneys and subordinates to handle the legal requirements of the Otto acquisition.



Uber may have trouble finding jurors in its hometown unbiased by media reports about Hell, Greyball, or Ripley, methods it employed under Kalanick to, respectively, deceive competitors, elude regulators, and stymie law enforcement. (The U.S. Department of Justice is investigating the first two.) While jurors won't hear about that stuff at trial, they may hear how Uber was forced in November to reveal that it quietly paid $7.5 million to settle a wrongful-termination suit filed by a whistleblower who alleged the company stole trade secrets and worked to conceal evidence from discovery in potential lawsuits. Alsup scolded an Uber lawyer for not giving Waymo information about the whistleblower suit. "You wanted this case to go to trial so that they didn't have the benefit of this document," he said at a hearing in November. "That's the way it looks."

"It's not just an Uber problem, it's a Kalanick problem"

The breakup between Uber and Alphabet, which still has a stake in the ride-hailing company, has taken years to get even this far. In 2014, Google's chief legal officer, then on Uber's board, was the one to tell Kalanick the search giant planned to compete in ride-hailing. Kalanick felt burned, he said in the July deposition, but he was still trying to partner with Alphabet's driverless-car division as recently as October 2016, when he broached the idea in a phone call with Alphabet CEO Larry Page.

Page had other concerns, Kalanick recalled in the deposition: "He kept saying that we have ▶

◀ taken his IP." The former Uber CEO said that was a misunderstanding: "I was trying to tell him, like, just because we have hired his people, we haven't taken his IP."

Venture capitalists, investment banks, and employers are paying close attention to the trial, says intellectual-property lawyer Janelle Waack. If Uber loses, acquisitions such as the Otto deal are going to get a lot tougher, she says. "The people who raise the capital are going to be asking, 'Where did your technology come from?'" says Waack. The question for the acquirer: "What do I need to do to ensure that I don't get hit with a $2 billion lawsuit because I hired away talent from my competitor?" —*Joel Rosenblatt*

THE BOTTOM LINE Kalanick will be the key figure in Uber's defense efforts, but the legacy of his business practices continues to haunt the company's attempts to gain the benefit of the doubt.

Prepping Saudi Women For the Driver's Seat

● The Middle East's ride-hailing leader is counting on loosened laws to raise its appeal

Careem Networks FZ LLC, a five-year-old ride-hailing company based in Dubai, operates in 80 cities across 13 countries from North Africa to Pakistan and leads the field in most of them. The company has done best in countries with scant public transport options where large swaths of the population can't or don't drive. Its biggest market is Saudi Arabia, where women aren't yet allowed behind the wheel but are permitted to ride unaccompanied in cabs with male drivers.

Those cabs can be pricey and aren't always safe—two reasons, Careem says, why 4 in 5 Saudi women have used its service. One of the company's principal goals is "to provide a safe, worry-free ride for women, especially in Saudi Arabia," says Chief Executive Officer Mudassir Sheikha. Now, as the kingdom prepares to loosen its social strictures, Sheikha is betting that women's increased freedoms will make Careem more appealing, not less.

Saudi Arabia expects to issue its first driver's licenses to women in June, part of Crown Prince Mohammed bin Salman's pledge to modernize the country and wean its economy off oil. Although the text of the law isn't yet public, the government has suggested that women will probably be able to drive alone and also professionally. (Women may still need a male guardian's permission to get a license.) Careem, along with Uber Technologies Inc., a minor player in the market, is recruiting and training women to act as on-demand chauffeurs. The company says it expects to have more than 10,000 women driving for its car network by the time the law takes effect and that it hopes they'll make other women feel more comfortable taking a ride.

Saudi Arabia isn't poised to become a feminist utopia any time soon, but employment is a growing priority in the country of 32 million, where a third of the adult population is jobless and many college-educated women aren't allowed to work. Prince Mohammed has said he aims to add 450,000 private-sector jobs by 2030.

As oil prices dipped, Saudi investors poured money into ride-hailing companies, including $250 million into Lyft Inc. in 2015 and $3.5 billion into Uber in 2016, but neither has much presence on Careem's turf. Careem was valued at $1.2 billion last June, when it closed a $500 million funding round led by Saudi conglomerate Kingdom Holding Co. and the German automaker Daimler AG.

● Careem's value as of June

$1.2b

Careem has employed women drivers in Pakistan, where 70 percent of its riders are female, for a little more than a year and has added women to its ranks in Egypt and Jordan,

too. In Pakistan's larger cities, the company has experimented with sending, say, doctors or other service providers to users' homes. It also surprised riders by putting the marriage matchmakers known as *rishta* aunties in their cars with them. (The latter stunt generated some criticism from women annoyed that Careem seemed to be pushing them toward more conservative social norms.) Sibtain Naqvi, Careem Pakistan's head of public affairs, says the company is preparing more on-demand services for Valentine's Day.

This kind of push and pull between traditions and new opportunities exemplifies Careem's complicated appeal for Middle Eastern women, says Saudi activist Manal al-Sharif. The company is a valuable emergency option, but it's too expensive for most women to use routinely, says al-Sharif, who wrote the book *Daring to Drive* about her repeated arrests for distributing videos of herself behind the wheel. (She now lives in Australia.) "Careem does not solve the problem of continuous transportation," she says.

Careem's Sheikha, a former McKinsey & Co. consultant with computer science degrees from the University of Southern California and Stanford, says he favors women driving professionally, but he wouldn't say whether he lobbied for the move in Riyadh. "We will welcome them as captains like we have done in Egypt, Jordan, and Pakistan," he says. "It is aligned with our mission."

In Egypt, where Uber is a bigger challenge to Careem, the legislature has been weighing whether to require ride-sharing services to place servers with Egyptian user data inside the country, a move that would render the data subject to surveillance. Careem declined to comment on whether it would choose to do so or leave the country. In Saudi Arabia, there's another reason for Careem to tread lightly: Kingdom Holding's roughly 10 percent stake in the company was made under Prince Alwaleed bin Talal before he was swept up in November's mass arrests for alleged corruption. (Saudi authorities released Alwaleed on Jan. 27, saying he'd reached an undisclosed settlement with the government allowing him to remain chairman of Kingdom Holding.)

Change is coming, as al-Sharif says, and on-demand transportation will help bring it, but it's not yet clear what that will look like. "It's changing for economic reasons," she says. "The government needs women to be in the workforce today." In that sense, she says, it's Careem that's just along for the ride. —*Adam Popescu*

THE BOTTOM LINE Careem has proven a valuable option for women in countries where they can't drive, but it isn't pushing overtly for reforms that local governments oppose.

Climate | Cooler Roads

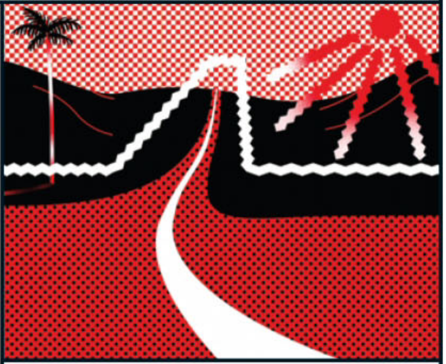
Dark asphalt soaks up rays from the sun, exacerbating the problems of a warming climate. Los Angeles is trying to mitigate that heat with CoolSeal, a sealant applied on top of set asphalt that reflects solar rays instead of absorbing them. ——*Adam Popescu*

How It Works

George Ban-Weiss, a professor of civil and environmental engineering at the University of Southern California, says the coating, which is based in part on his research, should last five to seven years at a cost of $25,000 to $40,000 per mile. He says a test by city officials in L.A.'s Canoga Park neighborhood reduced street temperatures on hot days by about 10 degrees.

30%–35%

of light bounces off CoolSeal's water base and lighter silver coloring, compared with the 10 percent reflection rate of standard asphalt.



$150k

has been budget to lay patches of CoolSeal on 15 streets, one in each L.A. city councilor's district.

Ban-Weiss, whose previous research helped lead to more reflective roofing on California buildings, began working in 2015 to determine which streets could most benefit from reflective pavement. His sponsors include the National Science Foundation and the California Energy Commission.

Small sealant maker GuardTop LLC is manufacturing CoolSeal. Ban-Weiss says cooler surfaces could be worthwhile anyplace with high dependence on air conditioning, but he warns that their extreme reflectivity could be uncomfortable for pedestrians. Given the option on a hot day, he says, "it's better to stand under a shady tree."

LOOK AHEAD

● SoftBank, the telecom company and investment vehicle of Masayoshi Son, briefs investors on earnings

● The U.S. Energy Information Administration publishes its long-term outlook for energy markets

● Milan-based bank UniCredit and Frankfurt-based Commerzbank release their 2017 results on Feb. 8

STEVE IS

● Cohen was banned from running other people's money. That's over, but who wants in?

There's a low-slung glass and brick building in Stamford, Conn., steps from Long Island Sound, that once housed one of the most successful hedge funds ever. Inside, the halls are still adorned with works by Jeff Koons and Jasper Johns. The trading room—where phones blink instead of ring—is still kept at 69F to keep traders awake. And Steve Cohen still sits in the middle of it, watching the tape and making his bets.

In February the billionaire trader will begin to rebuild his firm, taking in client capital after a two-year ban from managing money for other people. It's not a banner day for regulators, given that the government spent the better part of a decade going after Cohen. One prosecutor called his former firm, SAC Capital Advisors, a "criminal enterprise" that produced some of its returns by trading on inside information. Those returns? A stellar 30 percent a year on average from 1992 to 2013.

Six former employees were convicted or pleaded guilty to trafficking in material, nonpublic information. Two others had convictions reversed on appeal. While Cohen, 61, was never charged with wrongdoing, his firm pleaded guilty to insider trading, paid a $1.8 billion fine, and returned client capital in 2014. The ban on managing other people's money ended in January. In the meantime, Cohen remained a player by running Point72 Asset Management LP, a so-called family office that oversaw $11 billion, which was the bulk of his own fortune.

Now, Point72 gets to be a hedge fund open to outsiders—that is, to investors with enough money to qualify and who're willing to a pay management fee of 2.75 percent, plus some expenses, along with a share of the profits of as much as 30 percent. Yet Cohen's operation no longer exudes the swagger it once had. It may be hobbled by all the changes it made to appease the government and show itself to be squeaky-clean. The senior executives who ran SAC are all gone, as are many of the most successful portfolio managers.

Some investors who use hedge funds, who asked not to be named, have expressed doubt about whether Cohen will able to replicate his earlier success. The fees he's charging are far above the industry average at a time when more investors are balking at paying up for hedge funds. While his marketers speculated in May they'd be able to raise $10 billion for the relaunch, the figure is closer to $3 billion, say potential clients who spoke to Bloomberg News for an earlier story.

Indeed, Bloomberg reporting has found an environment at Point72 that would be barely recognizable to the scrappy firm Cohen founded in 1992. A former McKinsey consultant, Doug Haynes, is president of the 1,150-employee firm. The 52-year-old, who sports cuff links with the Point72 logo, said Cohen hired him to "reset" the business, according to a 2016 interview he gave to recruiting website OneWire. He hired a 50-person compliance team that sits in the center of the trading floor with Cohen. They monitor emails and phone conversations and have veto power over hires, according to a person who's seen the command center. To appeal to millennials, Point72 offers amenities such as a nap area. The firm has spent the past few years recruiting heavily from universities, meaning the investment team skews young. Many of them have never seen a bear market.

Cohen's returns since 2014 haven't lived up to his previous record—or beaten the bull market. The firm made about 1 percent in 2016. Last year it gained more than 10 percent after expenses, compared with almost 22 percent for the S&P 500. That was achieved with a lot of leverage to help goose returns—more than double the amount used at SAC, according to a regulatory filing.

When Cohen started SAC, he took a band of traders with him from Gruntal & Co. He yelled at

LUCY NICHOLSON/REUTERS

BACK

them to take risk and added to their own trades when they were too timid to do so themselves, according to people there in the early days. Yet the employees were his friends. They attended basketball games together and even went on joint vacations to the Caribbean. A colleague might come home to find Cohen lying on his couch watching golf on TV.

Cohen pitted employees against one another. They saw their colleagues' returns in real time. Multiple teams covered industries such as health care, technology, and financials, competing to find the most profitable wagers. One team might bet on a stock going up while another bet it would fall. What one SAC trader described as "shark tanks within a shark tank" has given way to a firm where a group of former consultants (the strategy team) plans for the future. They dream up names like Point of the Spear, for a group whose job is to translate big data research into stockpicking themes.

Some former employees have complained that as Cohen prepared to take client money, Point72 grew top-heavy with executives. They imposed rules on traders that restricted their ability to make money by requiring them to be more hedged or not allowing them to make bets as concentrated as they once did. Nor are managers paid for ideas they funnel to their boss, who picks the best of them for what is known as the Cohen Account, according to the firm. "You will never keep the best idea generators if they are not compensated," says Brad Balter, head of Balter Liquid Alternatives, which invests in hedge funds.

In the old days, a winning trade pitched to Cohen could earn an employee millions in extra pay. That encouraged cheating, prosecutors said. Noah Freeman, a former SAC portfolio manager who pleaded guilty to securities fraud in 2011, told the FBI it was understood that those giving their best ideas to Cohen would provide him with inside information. SAC said Freeman's testimony showed he hid his activities from the company and SAC didn't condone them.

As Cohen hits reset, the feds have likely moved on, says James Cox, a professor of securities and corporate law at Duke University. "I don't see the government sitting like a vulture waiting for a misstep by Cohen—that would not be the best use of resources," he says. But Cohen doesn't just have to stay out of trouble. To investors looking for performance, he also has a lot to prove. —*Katherine Burton, with Saijel Kishan*

THE BOTTOM LINE Cohen's Point72 is a lot more corporate than the old SAC Capital. The hedge fund will also have to stay inside the lines.

A Federal Contract, an Email, And a Big Stock Move

● Did traders get early word of Performant's student loan deal?

On Jan. 11 a group of 42 debt collection agencies awaited word on which ones had won contracts from the U.S. Department of Education. The federal government has been the main lender to student borrowers since 2010, and the deal to collect on unpaid student loans could be worth hundreds of millions of dollars.

Shortly after 1:30 p.m., an employee from the Education Department sent emails to 40 of the companies to let them know they weren't chosen. The agency publicly announced the winners in a court filing at 3:47 p.m. During the time in between, investors bought up shares of one of the winning bidders, Performant Financial Corp., a Livermore, Calif., company that once had financial ties to Secretary of Education Betsy DeVos. Performant's stock jumped almost 20 percent from the time the department started notifying bidders about the contract to when the news was made public. ▶

● Total U.S. student debt

$1.5t

◀ Fewer than 900 of Performant's 51 million shares had traded during the first four hours of that day, Bloomberg data show. By 2 p.m., the company's stock was in high demand. Over the next minute and 11 seconds, some 37,000 shares traded hands, seven times more than the previous two days combined.

An additional 142,000 shares would trade before the government announced that Performant had won the contract. The investors couldn't be identified. The other winning bidder, Windham Professionals Inc., is privately held.

If under-the-radar government information was being traded on for profit, it wouldn't be the first time. Over the past two years, executives at two hedge funds have pleaded guilty to trading on information from government insiders relating to health-care companies. In a separate incident in August, a series of trades was made in shares of student loan giant Navient Corp. just before the Education Department made public the news that it would no longer provide student loan data to the Consumer Financial Protection Bureau, which is suing Navient for allegedly causing some borrowers to overpay. (Navient is contesting the suit and denies wrongdoing.) The AFL-CIO and Massachusetts Senator Elizabeth Warren, a Democrat, asked the U.S. Securities and Exchange Commission to investigate the trades. Navient has said the company welcomes any investigation and that it didn't know about the Education Department's move until it was made public.

Investors who bought Performant shares probably didn't violate any insider trading laws, experts say—as long as they weren't illicitly tipped off by Education Department employees or employed by Performant. In its email to losing bidders, the department identified the two winning companies but didn't mandate that the information stay confidential. "If you have information that you know is nonpublic and material, but you have no duty to keep quiet, it's in the category of information you overhear in a taxi," says Stephen Crimmins, a former SEC enforcement lawyer who works for Murphy & McGonigle. "You can trade on it."

John Coffee, a professor of corporate law at Columbia University who's advised members of Congress on insider trading, questioned why the Education Department didn't wait to notify bidders until after the trading day ended. "It's quite clumsy and negligent, but I don't think it's criminal," he says.

David Bergeron, who retired from the department in 2013 as head of postsecondary education, says his bosses stressed the need to be guarded about matters that could affect publicly traded companies. "It's extraordinarily troubling," he says of the Performant trades. Chris Greene, a department spokesman, says the government complied with federal rules in communicating its contracting decision. He didn't respond to other questions.

Lisa Im, Performant's chief executive officer, says no one at her company bought shares that day in advance of the court filing. She says three people at Performant, including her, knew about the contract award and it wasn't announced internally and to investors until the next morning. She exercised options the day of the contract award to dispose of stock worth $23,683, but the filing lists the transaction as being part of a scheduled trading plan set in August. The options were exercised because they're due to expire at the end of January, Im says. "We definitely saw it moving," she says about the company's share price in the hours before the Education Department made the contract award public. "But at that point, until we press release something, we don't let anyone know."

"It's quite clumsy and negligent, but I don't think it's criminal"

Performant has ties to DeVos. The education secretary was an investor in a fund that owned a portion of a $148 million loan made to Performant in 2012; she said she'd divest shortly after becoming secretary. The loan was paid off in August. In addition, a former DeVos adviser at the Education Department, Taylor Hansen, is the son of a Performant board member, William Hansen, a top Education Department official in the George W. Bush administration. "I'm sure the company handled everything appropriately, as did the department," says William Hansen.

U.S. student debt totals $1.5 trillion, and more than 92 percent of that is either backed or owned by the federal government, records show. The Education Department's debt collection and loan servicing contracts pay almost $2 billion in annual commissions, and competition for the work is fierce. Performant had been a student loan collector for the Education Department for more than 20 years before its contract expired in April 2015, according to regulatory filings. The department picked new debt collection firms in December 2016, but several losing bidders, including Performant, sued it to overturn its decision.

The cases dragged on for a year until a federal court judge ordered the department to wrap it up by Jan. 11. On that day, Mark Benson, an Education Department employee based in Atlanta, started to notify each of the 42 bidders for the contract of the government's decision, according to copies of his correspondence. His emails went out, starting around 1:35 p.m. Benson declined to comment.

At 3:47 p.m. in Washington, lawyers for the Department of Justice told the judge in a court filing that the Education Department had complied with his order and that Performant and Windham Professionals had won the contract. The document, filed electronically, was instantaneously available to anyone checking the docket.

The award, valued at as much as $400 million, was a big deal for Performant, which had lost money for more than two years. The company warned investors in November that failing to win the contract would have a "material adverse effect on our financial condition and results of operations in 2018 and beyond." That evening, Michael Tarkan, an analyst who follows Performant at Compass Point Research & Trading LLC, upgraded the company's stock to "buy." The price of its shares hit $3.52 early the next day, a 52-week high and 116 percent above where it began the day on Jan. 11. —*Shahien Nasiripour*

THE BOTTOM LINE It might not have been illegal to trade on information about Performant's contract, but experts think the government should have been more careful.

An Empire Fueled by Caffeine and Credit

● Coffee giant JAB, which is buying Dr Pepper Snapple, gets a hand from its suppliers

JAB Holding Co., the closely held investment firm that's building a coffee and soft-drink empire, has a simple strategy to help foster growth: Buy now and pay later. Much later.

On Jan. 29, JAB's Keurig Green Mountain Inc., known for its single-serve coffee brewers, announced it's acquiring Dr Pepper Snapple Group Inc. for $18.7 billion in cash. The deal creates a huge beverage distribution network in the U.S. and brings JAB's total acquisitions over the past six years to about $58 billion. The company, which invests the fortune of Austria's billionaire Reimann family and other investors' funds, is becoming a rival to Coca-Cola Co. and PepsiCo Inc. Its brands will include 7Up and Fiji Water as well as Peet's Coffee and Douwe Egberts coffees. One secret to JAB's success over the years is its relationship to its coffee suppliers.

Some traders that sell beans to JAB companies agree to wait as many as 300 days to be paid. These terms are unusual in the commodities industry, where money in many cases changes hands shortly after the goods are received. The strategy is squeezing coffee trading houses, turning them into bankers supplying credit while leaving JAB cash-rich. "The main purpose of the long payment terms is cash flow," says Jim Watson, a senior beverages analyst at Rabobank International, a leading financier of the coffee trade. "It just opens up a lot of cash that would be otherwise tied up with suppliers," helping with acquisitions, he says.

JAB has been striking deal after deal since 2012, buying controlling stakes in companies such as Caribou Coffee Co. and D.E Master Blenders 1753 BV, now known as Jacobs Douwe Egberts after a merger with Mondelēz International Inc.'s coffee unit. In 2015 the group acquired Keurig Green Mountain for almost $14 billion, in the coffee industry's biggest-ever deal. Last year it snapped up U.S. cafe chain Panera Bread Co. for $7.2 billion.

Jacobs Douwe Egberts, or JDE, last year pulled even with industry leader Nestlé SA in retail coffee sales volume, though it still lags in sales value, according to data from London-based consumer research company Euromonitor International Ltd. Some traders estimate that all the companies acquired by JAB may already be buying more green coffee than Nestlé. JAB has also invested in a range of consumer-goods companies, including fragrance maker Coty Inc. and Reckitt Benckiser Group Plc, whose brands include Woolite and Clearasil.

The rapid expansion into coffee has given JAB—run by senior partners Peter Harf, Bart Becht, and Olivier Goudet—more power over suppliers. While some traders have been asked for as many as 300 days of financing, others provide 260 days, or about three times as long as Nestlé typically demands, according to people familiar with the arrangements who asked not to be identified because they fear losing supply contracts. Buyers pay interest when they finance purchases, but rates in Europe remain near historic lows.

JAB doesn't disclose how much coffee it buys, ▶

● Acquisitions of coffee, doughnut, and soft-drink companies by investment firm JAB Holding since July 2012

ILLUSTRATION BY NICHOLE SHINN; *CASH COMPONENT ONLY; DATA: COMPILED BY BLOOMBERG

◀ but traders estimate that JDE alone purchases some 720,000 tons annually. While the cost of coffee varies widely with quality and the country of origin, that would amount to about $1.3 billion a year based on the current price of futures on lower-priced robusta beans. For less-bitter arabica beans, it would total about $2 billion. JAB had €4.46 billion ($5.52 billion) of debt and €15.72 billion of equity at the end of June, along with €798 million in cash, its financial statements show.

As the coffee industry consolidates, following the path of the beer industry, smaller bean traders may feel the pinch. Bigger houses are better able to provide extensive financing, and tougher competition could end up leading to a concentration of traders. Becht, who is JDE's chairman, says his company can't be blamed for traders' woes. "Our extended payment terms have been in place for many years," he says. "JDE as buyers have paid for the extra costs that go along with the extended pay periods, so this cannot be used as an argument for the alleged extra pressure some trading houses might now be experiencing."

The longer payment terms carry risks for traders. Sharply higher interest rates or a sudden spike in futures prices could leave them with losses or stretch their financing needs as hedging costs go up. While JAB has deep pockets, should its financial standing deteriorate, banks that lend to traders could get nervous and pull or tighten their credit lines. And industry consolidation means traders are more exposed to the fortunes of a smaller number of companies. As JAB continues to expand—perhaps forcing its competitors to think along the same lines—that dynamic doesn't seem likely to change soon. —*Isis Almeida and Marvin G. Perez*

THE BOTTOM LINE JAB has been on a buying binge in the coffee industry. One part of its recipe is to free up cash by asking bean suppliers to wait as long as 300 days to get paid.

The Phantom Apartments of India

● Developers took money for homes they didn't deliver. Now the market is suffering

Amit Khulve, a 34-year-old resident of the northern Indian city of Noida, is still paying off the mortgage on an apartment he's never lived in. Khulve says he borrowed about 500,000 rupees ($8,000) in 2012 and pulled an additional 1 million rupees from his savings to reserve a flat in a building planned by property developer Unitech Ltd. Six years on, it hasn't been built, and he's among thousands fighting to recover their investments in Indian real estate projects.

Across the metropolitan area that surrounds the capital, New Delhi, real estate developers have been dragged into court by irate homeowners who paid for apartments that have yet to be completed. Many of these companies took money from buyers when the market was red-hot, but when sales slowed, their businesses unraveled.

Unitech, once India's largest developer, has shrunk to a fraction of its previous market value, and two of its executives, brothers Sanjay and Ajay Chandra, have been jailed on charges of cheating. In court hearings, the Chandras have said they would deliver the flats or repay consumers, and their lawyers have denied any criminal behavior by the men. India's Supreme Court in the coming months will review ways to protect Unitech's homebuyers and consider the brothers' request for bail.

The pain is spreading beyond the failed developers. State-owned banks—the lifeblood of the economy—are grappling with a pileup of bad loans to developers. Indian families, who have long poured their life savings into real estate, are pulling back from the market, despite tightened regulations meant to protect them. "Even projects that are compliant with the new rules are unable to find takers," says Ramakant Rai, a partner at Trilegal, a law firm representing some of the buyers suing developers. "Erosion of trust in the builder community appears to be a primary driver for the meltdown in the real estate sector in India."

"Erosion of trust in the builder community appears to be a primary driver for the meltdown"

Some companies ended up deep in debt after accumulating too much land and borrowing at high costs, says Ashutosh Limaye, India head of research at the real estate services company Jones Lang LaSalle Inc. This reliance on borrowed money worked as long as they were able to draw buyers for planned projects. Then came an economic slowdown, followed by a new services tax that may have exacerbated the real estate market's decline.

Knight Frank India, a property consultant, estimates that home sales declined to a seven-year low in 2017. Prices dropped 3 percent on average in the top six cities, with some falling as much as 15 percent after accounting for developer discounts. In the capital region, last year's prices were 9 percent below their 2015 peak.

The government has stepped in with more laws regulating the real estate industry, including one that requires developers to use at least 70 percent of sale proceeds to complete residential projects rather than funnel money to different jobs. Other measures prevent them from preselling apartments before all building approvals are obtained.

The problems haven't been restricted to the capital region. India's financial hub, Mumbai, last year saw a decline in residential property prices for the first time in a decade. Bhavesh Jain, an information technology professional living in the U.K., bought an apartment in Mumbai's Lower Parel area from Orbit Corp. He says he made a 30 percent down payment on a 26 million rupee apartment. Orbit ran out of money, and now financial institutions have made claims on some of these apartments as collateral for money the builder owes them.

Orbit expects to conclude discussions with lenders and homebuyers by March about resuming construction on six residential projects in Mumbai, Chief Executive Officer Pujit Aggarwal says. Aggarwal, who was jailed last year on allegations of cheating and misappropriation of funds, is out on bail.

He denies the allegations. His bail application says there was no intention to cheat buyers, and Orbit's project had been delayed because of circumstances beyond its control. Jain, the homebuyer, says he doesn't know when he'll see his apartment or the money he invested. "I'm not going to touch any other property in India," he says. "I'll look to buy in the U.K. now." *—Pooja Thakur, Upmanyu Trivedi, and Dhwani Pandya*

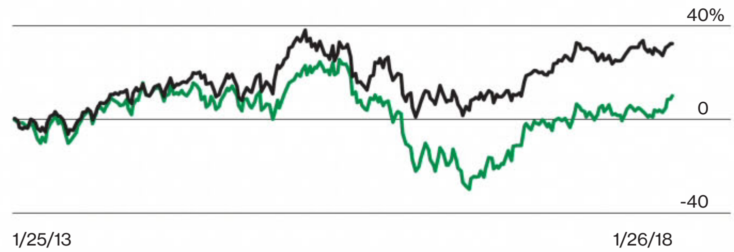
THE BOTTOM LINE Despite new regulations meant to protect them, India's homebuyers aren't sure they can trust builders. Meanwhile, developers' bad debts are weighing down banks.

What If | Bank Mergers

A decade after the financial crisis, Europe's banks face declining revenue and eroded profits—which show in their stocks' performance. Is it time for consolidation?

Change in index since Jan. 25, 2013, weekly

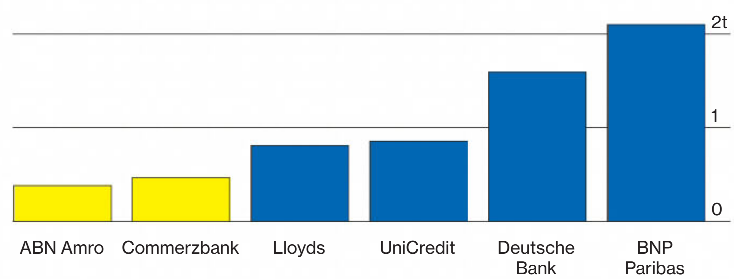
Euro Stoxx 50 / Stoxx Europe 600 Banks



The industry's regulators would have to approve. But here are some banks that would likely be part of a merger or acquisition, according to banking leaders speaking privately.

Assets of European banks in 2016, in euros

Potential targets / Potential buyers



A Few Theoretical Deals

A Big Takeover in Germany

Italy's UniCredit SpA and France's BNP Paribas SA may want Germany's Commerzbank AG's small and medium-size business clients. Or Deutsche Bank AG could merge with it as a cost-cutting play, bringing together the banks' German retail businesses. The snag is some analysts think Commerzbank stock is overvalued.

Lloyds Buys in Europe

The U.K. home market of Lloyds Banking Group is ultracompetitive, and British regulators are keen to break down the local dominance of large lenders. Expansion in the rest of the continent might be a way to grow as Brexit threatens to slow the U.K. economy.

ABN Amro Sells

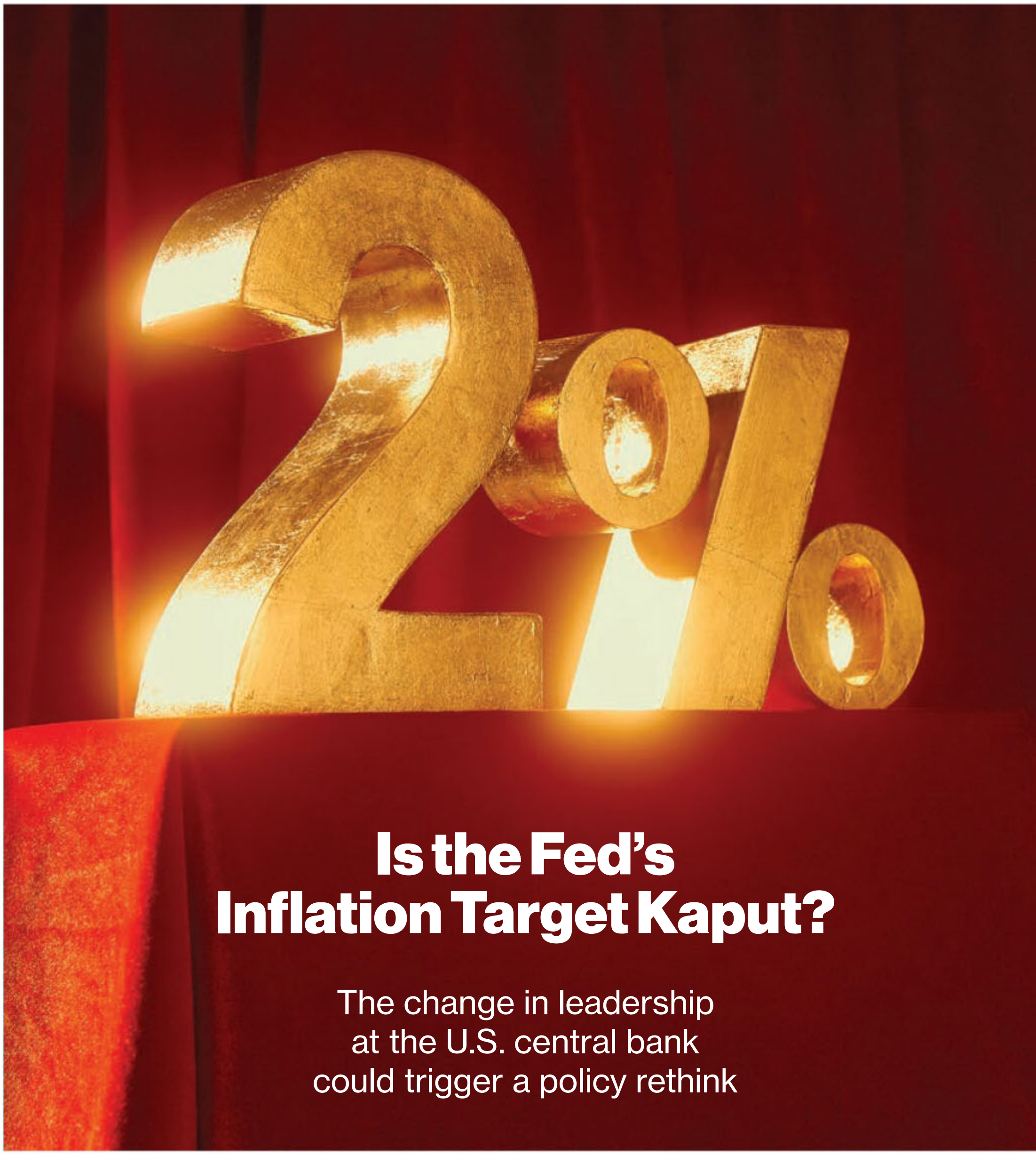
In 2016, the Dutch state—which became a major shareholder after a 2008 bailout—held preliminary talks with Sweden's Nordea Bank AB. The discussions failed, but some experts think the midscale bank would be better off as part of something larger—perhaps Deutsche Bank, BNP, or UniCredit.

One spark for M&A speculation: Cerberus Capital Management has built up stakes in Commerzbank and Deutsche Bank. *—Elisa Martinuzzi, Ruth David, and Stephen Morris*

DATA: COMPILED BY BLOOMBERG

LOOK AHEAD

- State-of-the-nation address or stump speech? Either way, Feb. 6 is Vladimir Putin's show.
- The Reserve Bank of India is expected to stand pat when it meets to consider rates on Feb. 7.
- Canada publishes unemployment data on Feb. 9. The betting is that joblessness edged up.



Is the Fed's Inflation Target Kaput?

The change in leadership at the U.S. central bank could trigger a policy rethink

As Jerome Powell prepares to take over as chairman of the Federal Reserve on Feb. 5, some of his colleagues are publicly agitating for a radical rethink of the central bank's playbook for guiding monetary policy. Behind the push for reconsideration of the Fed's 2 percent inflation target: a fear of running out of monetary ammunition in the next recession.

With interest rates near historically low levels—and likely to remain that way for the foreseeable future—these officials worry the Fed will have little leeway to aid the economy when a downturn inevitably hits. They argue that revamping the inflation objective beforehand could help counteract that. "The most important issue on the table right now is that we need to consider the possibility of a new economic normal that forces us to reevaluate our targets," Federal Reserve Bank of Philadelphia President Patrick Harker said in a Jan. 5 speech.

Any change in the Fed's approach would of course have major implications for financial markets and the economy. While Powell has yet to say whether he thinks the topic is worth a deep dive by the Fed, former Chairman Ben Bernanke predicted at a high-powered Brookings Institution conference on Jan. 8 that it would come up for "serious debate" at the central bank in the next year to 18 months. Lawmakers may also want to weigh in, which could complicate any remodeling effort.

A variety of proposals are already making the rounds. All aim in one way or another to generate

PHOTOGRAPH BY 731; ARTWORK BY ANDI BURNETT; POWELL: RON SACHS/PICTURE-ALLIANCE/DPA/AP PHOTO; DATA: BUREAU OF ECONOMIC ANALYSIS higher inflation on average than the current regime. Since the 2 percent target was instituted in January 2012, inflation has come in below that level for 66 out of 72 months. To achieve higher inflation, the Fed might have to keep interest rates lower for longer and push unemployment down further. But the ultimate goal would be to lift interest rates in tandem with increasing inflation to provide more room to cut rates in the event of a recession.

Here's a rundown of the options being discussed:

❶ RAISE THE INFLATION TARGET

Simple and straightforward, such a step would explicitly recognize that a 2 percent price objective may no longer be optimal in a world of low interest rates. The downside is that it could mean a permanently higher level of inflation and would raise questions about the credibility of the Fed's commitment to its target. If it changed it once, why wouldn't it change it again?

Of course, there's the question of whether an institution that's struggled to hit a 2 percent target can nudge inflation higher than that.

Among the advocates of this idea are former Minneapolis Fed President (and Bloomberg columnist) Narayana Kocherlakota, Nobel Prize winner Paul Krugman, and Laurence Ball of Johns Hopkins University.

❷ ADOPT A TARGET RANGE FOR INFLATION

If the range were centered at or near 2 percent—1.5 percent to 3 percent, for example—it wouldn't represent a big break from the current framework and therefore wouldn't call into question the Fed's inflation-fighting credibility. It would also acknowledge an economic reality: The Fed doesn't have the ability to precisely hit a specific inflation target. There is the risk, though, that targeting a range instead of a fixed point could breed confusion about exactly what the Fed is aiming for.

Supporters of this approach include Boston Fed President Eric Rosengren, former central bank Vice Chairman Alan Blinder, and Charles Plosser, former president of the Philadelphia Fed.

❸ INSTITUTE A PRICE-LEVEL TARGET

This would commit the Fed to achieving a 2 percent annual rise in prices over an extended period of time. So if inflation runs below target for a while, policymakers would seek to make up for that by engineering commensurate price increases above 2 percent. And vice versa. No country uses this method, but some economic models say it works best. Among its proponents are San Francisco Fed President John Williams and Lars Svensson of the Stockholm School of Economics.

In practice, though, this strategy might be difficult to explain to the public and could result in inflation that varied more widely over time. In its purest form, it would also require the Fed to tamp down inflation below 2 percent—thus risking a recession—if price rises ran above that level for a time.

❹ ESTABLISH A TARGET FOR NOMINAL GROSS DOMESTIC PRODUCT

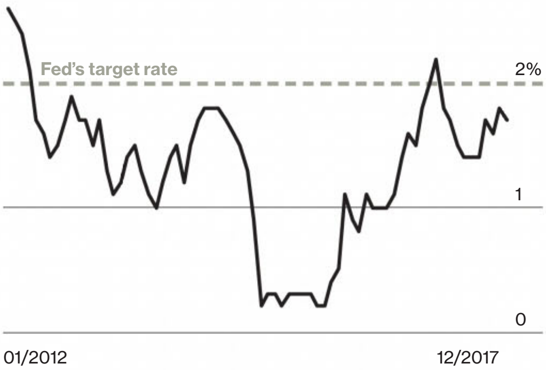
A close cousin of price-level targeting, this strategy would have the Fed set a goal for the growth of nominal GDP—which unlike real GDP isn't adjusted for inflation. (So if inflation rises 2 percent and real GDP rises 4 percent, then nominal GDP goes up 6 percent.) Economists who are big on the idea—a group that includes George Mason University's Scott Sumner, Harvard University's Jeffrey Frankel, and Bennett McCallum of Carnegie Mellon University—argue that it would leave the Fed better positioned to deal with economic shocks such as the Great Recession because it would commit the central bank to make up for combined shortfalls in output and inflation.

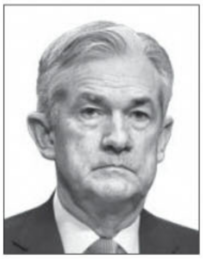
One drawback of this approach is that it risks mystifying a public that has little if any familiarity with the concept of nominal GDP. Besides, the data are published quarterly—in contrast, inflation statistics come out monthly—and are often revised. Another downside: The Fed could meet a 6 percent nominal GDP target through a combination of 3 percent inflation and 3 percent economic growth or 5 percent inflation and 1 percent growth. That's a big difference.

While the budding debate over the monetary framework won't reach fruition for a while, it may end up affecting interest rate decisions in ▶

Falling Short

U.S. personal consumption expenditure price index, year-on-year



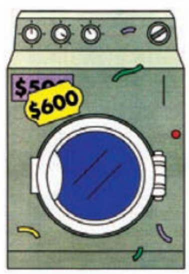


● Powell

◀ the near term, according to St. Louis President James Bullard. In the interim, it "would suggest leaning toward inflation somewhat in excess of the stated inflation target to make up for past misses on the low side," he said in a Jan. 10 presentation to the CFA Society of St. Louis. —*Rich Miller*

THE BOTTOM LINE The Fed might be willing to trade faster inflation in the near term for an enhanced ability to fight future economic slowdowns.

Girding for a Trade War



● Trump weighs new protectionist measures that could incite Chinese retaliation

The Trump administration is working on trade measures that will make the recent tariffs on solar panels and washing machines look minor by comparison. At best, these potential measures could protect the U.S. from unfair foreign competition. At worst, they could ignite trade wars that end up harming everyone.

China in particular is in Trump's crosshairs and might well fight back against any effort to restrict its exports. "I have been told by certain officials that yes, definitely, there will be retaliation" from China if the U.S. slaps new tariffs on Chinese-made products, William Zarit, chairman of the American Chamber of Commerce in China, said at a briefing in Beijing on Jan. 30.

In his State of the Union address, Trump said, "The era of economic surrender is over. From now on, we expect trading relationships to be fair and to be reciprocal." He has asserted in the past that China condones intellectual property theft and coerces foreign companies into transferring crucial technology to Chinese joint-venture partners. The administration is also discussing the possibility of invoking national security as a justification for imposing tariffs on foreign-made steel and aluminum, arguing that U.S. industry and the military can't risk being overly dependent on foreign sources for the two industrial metals.

In another developing case, China has sued both the U.S. and the European Union at the World Trade Organization, claiming that it should have been treated as a market economy starting in December 2016, 15 years after its accession to the WTO. The designation, which the U.S. and EU haven't accepted, would require countries to accept China's own data in determining the size of duties on Chinese companies for "dumping" products below cost. The U.S. case is on hold while China goes after the EU. "It is clearly the most important case before the WTO right now," says Timothy Brightbill, a partner in the Washington law firm of Wiley Rein LLP.

Any one of these pending cases could roil the international trading system more than the U.S. tariffs imposed on Jan. 22, says William Reinsch, a senior adviser at the Center for Strategic & International Studies in Washington.

The Trump administration slapped import duties starting as high as 30 percent on solar panels and 50 percent on washing machines under a provision of international trade rules that allows countries to "safeguard" domestic industries that suffer an import surge. Such tariffs must decline each year and last no more than four years. The U.S. doesn't need to prove that the foreign competition was unfair, and the tariffs aren't country-specific. South Korean washing machine makers and Chinese solar panel manufacturers, which will be affected most, are likely to lose if they appeal to the WTO because "countries taking actions are given a lot of discretion," predicts Jeffrey Schott, a senior fellow at the Peterson Institute for International Economics.

The WTO allows countries to restrict imported products on national security grounds, but major trading nations have long refrained from invoking the provision for fear of collapsing the WTO entirely. The problem: If one country does it, others could quickly follow suit. Sweden came under intense pressure when it invoked national security to limit imports of army boots in the 1970s, says Schott. "The Trump administration needs to put forward a rationale" if it's going to make a national security claim, says Stephen Kho, a partner at the law firm of Akin Gump Strauss Hauer & Feld LLP. "I'd be curious to see what it is."

Then again, Trump is no fan of the WTO. His administration has blocked the appointment of replacements to its appellate body while complaining that it's "set up for the benefit of taking advantage of the United States." The question is whether the dealer-in-chief can win concessions for the U.S. without wrecking the whole system. —*Peter Coy, with Bryce Baschuk*

THE BOTTOM LINE While the Trump administration can make tariffs on washing machines and solar panels stick, new measures it's contemplating could provoke a backlash.

"I have been told by certain officials that yes, definitely, there will be retaliation"

PHOTOGRAPH BY JARED SOARES FOR BLOOMBERG BUSINESSWEEK; ILLUSTRATION BY GEORGE WYLESOL; *AS OF JAN. 26; DATA: LONDON METALS EXCHANGE, BENCHMARK MINERAL INTELLIGENCE, METAL BULLETIN

Artifact

Vanadium

Metal	Price per lb.*	12-month gain
Lithium	$6.58	26%
Nickel	6.19	41
Cobalt	37.60	118
Vanadium	13.25	154

More than three-quarters of the world supply of vanadium comes from just three countries: China, Russia, and South Africa

It’s time you got acquainted with the next hot battery metal

The obscure metal is named for Vanadis, the Norse goddess of beauty. Vanadium has been primarily used as an alloy in the production of reinforced steel. Its price has soared more than 150 percent in the past year, powered in large part by changes in Chinese building codes intended to improve earthquake resistance. Now, a new industrial application promises to keep the rally going in the months ahead.

Around the world, the race is on to build industrial-scale batteries to store energy generated from renewable sources such as wind and solar. Lithium-ion technology dominates the field, but so-called vanadium-flow batteries offer several advantages: They last longer and can be charged and discharged repeatedly without any significant drop in performance. They’re also easy to recycle. “I don’t think anyone would dispute that it’s superior to lithium-ion in large-scale grid applications,” says Anthony Milewski, a managing director at Pala Investments Ltd. in Switzerland who runs one of the few funds investing in battery metals, which can be near-impossible for outsiders to trade.

China, the source of about 56 percent of global output of the metal, has emerged as a key champion of vanadium-flow batteries. A backup-power facility going up in Dalian will have a capacity of 200 megawatts/800 megawatt-hours, making it the largest of its kind in the world.

But beware: If prices rise too fast, it could hand the advantage back to lithium-ion battery makers. —*Mark Burton*

LOOK AHEAD

- Congress has to pass another stopgap spending bill to keep the government open past Feb. 8
- An accord between Venezuela's president and opposition leaders may be signed in early February
- The World Trade Organization will begin the process of selecting new committee chairpersons

For Trump, the GOP Goes After the FBI

● A classified memo becomes the focus of Republican efforts to undermine the Mueller investigation

Aboard Air Force One during his flight to Davos on Jan. 24, President Trump erupted in anger. According to four people with knowledge of the matter, Trump got mad after learning that a top Department of Justice official had warned against releasing a memo prepared by Devin Nunes, the Republican chairman of the House Intelligence Committee and a Trump supporter. The president had hoped the memo would undercut the Russia probe by showing FBI bias against him.

In a letter to Nunes, Assistant Attorney General Stephen Boyd said it would be "extraordinarily reckless" to release the classified memo, written by Republican staffers, which supposedly outlined alleged missteps at the FBI and Justice Department related to the Russia investigation. To Trump, Boyd's letter was another example of the department undermining him and blocking GOP efforts to expose the political motives behind special counsel Robert Mueller's probe. Trump's fury set in motion a swift rebuke from White House officials, including chief of staff John Kelly, who lashed out at Justice Department officials, according to the people.

Ultimately, the memo may be remembered less as a source of information and more as a symbol of how the Russia investigation devolved into a political fight. While some Republicans have hailed it as an eye-opener that will cast doubt on the entire rationale for the probe, Democrats have called it "a partisan sham cooked up to undermine the FBI, DOJ, and the Mueller probe," as Virginia Senator Mark Warner tweeted on Jan. 30.

ILLUSTRATION BY KATI SZILÁGYI

The temperature is certainly rising as Mueller's probe gets closer to Trump. The special counsel appears to be wrapping up at least one key part of his investigation—whether Trump obstructed justice by, among other things, firing former FBI Director James Comey, according to current and former U.S. officials. Trump's lawyers are said to be negotiating terms under which Mueller might be able to interview the president.

In the end, the squabble over the memo's release didn't faze House Republicans. On Jan. 29, the House Intelligence Committee voted along party lines to release it. The White House has as many as five days to review the four-page document before deciding whether to make it available to the public. Also on Jan. 29, the GOP majority on the committee delayed the release of a competing memo drafted by committee Democrats, and FBI Deputy Director Andrew McCabe, a frequent target of Trump criticism, resigned. It was all a fitting capstone to what had been a bizarre and often confusing few days of GOP efforts to discredit the FBI and Justice Department, filled with allegations of secret societies, missing text messages, and informants holding off-site meetings.

It's hard to tell what, if any, of this is based in fact. But what's become clear is that the Republican Party, or certain elements of it, has marshaled a propaganda war against the country's top two law enforcement agencies in defense of Trump. The noise has built into a conservative narrative of wrongdoing, including questions about the FBI's dealings with a former British spy and whether top officials relied on his Democratic Party-financed work to cut corners to spy on Trump associates. Commentators on Fox News regularly talk of a ▶

◀ "deep state" plot against the president and argue that Mueller's investigation should be shut down.

This all makes some in the intelligence community uncomfortable, particularly because the release of a classified memo is a dramatic departure from normal procedure. Intelligence agencies usually conduct a declassification review before a vote to release a document. That didn't happen this time. To release the memo, Nunes had to rely on a little-known procedure known as Rule X that, according to the Congressional Research Service, has never been used before and was designed to allow disclosures of classified information when it would serve an "essential" public interest.

Top law enforcement officials spent weeks lobbying against giving the panel classified information that may have become part of the basis for the memo. In early January, FBI Director Christopher Wray and Deputy Attorney General Rod Rosenstein tried to persuade Speaker of the House Paul Ryan to stop Nunes from releasing the document. He ultimately sided with Nunes. Wray, who was allowed to read the memo the day before the vote to release it, told the White House it contained inaccurate information. In a Jan. 31 statement, the FBI said it had "grave concerns about material omissions of fact that fundamentally impact the memo's accuracy."

Three House lawmakers who've read the memo say it claims FBI officials didn't provide all the relevant facts in requests made to a Foreign Intelligence Surveillance Act court to obtain a surveillance warrant targeting Carter Page, a Trump campaign associate and former investment banker in Moscow. The memo claims important details were left out that might have kept a judge from issuing a warrant on Page, according to the lawmakers, who asked for anonymity to describe the sensitive document. One lawmaker added that he didn't know if the memo's claims are accurate.

After the vote, Ryan defended the move, saying the memo raises "legitimate questions" about possible official "malfeasance" and whether an American's civil liberties were violated. Those comments stand in contrast with the speaker's strong defense in early January of a portion of the foreign surveillance law that was set to expire. Some conservatives had opposed the reauthorization, citing concerns about abuses they said may have led to improper surveillance of Trump.

Some Republicans worry attacks on the FBI could backfire. "We as Republicans have been the party of law enforcement at the state and local levels, as well as the federal level, and we were horrified by attacks from the far left on law enforcement a few years ago," says Representative Charlie Dent of Pennsylvania. "I don't think it's in our party's interest to be at war with the FBI, or the DOJ, for that matter." Representative Tom Marino, a Republican from Pennsylvania and a former U.S. attorney and local prosecutor, says he has "significant reservations" about releasing the memo, in part because it would lack the context of a broader report that panel Republicans intend to issue on Russian election interference. Marino also says it's dangerous for the GOP to be casting such broad allegations at the FBI. "If you're going to be critical, you got to make sure you're not painting with a broad stroke and blaming everybody." *—Jennifer Jacobs, Billy House, and Chris Strohm*

THE BOTTOM LINE The GOP campaign to discredit Mueller's Trump-Russia probe has Democrats—and some Republicans—worried.

Can Putinism Survive Putin?

● The Russian president is grooming a handful of young loyalists to ensure his legacy is safe once he finally steps down

◀ Putin (in red) at a night hockey match

Just before Christmas, at a nighttime ice hockey game on a rink in Red Square, Vladimir Putin scored again and again. Not that his opponents tried too hard to stop him. The match included many of the president's inner circle, from political allies and ex-bodyguards promoted into government to old friends who've grown fabulously rich during his two-decade rule.

The Kremlin has ensured that Putin, 65, faces equally toothless opposition in March's presidential election as he seeks to extend his rule to 2024 with a fourth and likely final term. His biggest challenge will be to build a team and a system capable of sustaining Putinism after he's left

Top Putin-Era Hopefuls

Maxim Oreshkin, 35

Economy minister, worked in banks before joining the government

Dmitry Patrushev, 40

CEO of a state-owned bank; father runs the Kremlin Security Council

Gleb Nikitin, 40

A technocrat who rose through the ranks to the deputy minister level

Alexei Dyumin, 45

The ex-bodyguard says he once protected Putin from a bear

Anton Vaino, 45

Putin's chief of staff started out as a low-level protocol official in 2002

Dmitry Medvedev, 52

The prime minister spent four years as president, 2008-12

office. "Putin's greatest fear is that everything will collapse as everyone starts to fight each other," says Olga Kryshtanovskaya, a sociologist who studies Russia's ruling elite at the State University of Administration in Moscow. "It's a huge risk."

Forming institutions that function without him is an unfamiliar task for the former KGB officer. Since coming to power in 2000, Putin has tamed oligarchs, tightened control over regional governors, and turned Parliament into an obedient echo chamber. With the economy booming amid soaring oil prices during his first two terms, many Russians, tired of the chaos following the Soviet Union's collapse, were happy to let him do as he pleased.

Now, Putin rules unchallenged at the apex of a highly personalized system of government. His approval ratings have remained consistently above 80 percent after the 2014 annexation of Crimea, even as public discontent about weak economic growth has grown following the longest recession this century. While factions jostle for advantage over succession, he's looking to establish a cadre of loyalists who can run Russia and guarantee his own security once he leaves office. "Putin is trying to move away from a very personal system of rule to a more collective one," says Alexei Mukhin, head of the Center for Political Information in Moscow.

The president recently installed a crop of younger officials as regional governors, road-testing their fitness for higher office while demonstrating that their futures depend on loyalty to him. That includes his former bodyguard, Alexei Dyumin, 45, who, as the opposition goalie at the Red Square hockey match, failed to stop Putin's scoring shots. Dyumin was put in charge of the western Tula region in 2016. The Kremlin has lavished support and publicity on the new breed, highlighting their zeal to reform local bureaucracies and repair potholed roads and dilapidated housing. Meanwhile, several of the previous generation of governors have wound up in prison on corruption charges.

Dozens of ambitious bureaucrats, mostly in their 40s, have been put through a leadership program that includes a series of bizarre physical challenges. State television broadcast footage in October of Putin loyalists jumping in wetsuits and helmets from a cliff into a waterfall. In another video a month later, trainees in military fatigues made parachute jumps, lay on the ground as an armored personnel carrier drove above them, and learned to shoot assault rifles and throw grenades.

To ensure an orderly handover, Putin seems to be taking cues from China, where President Xi Jinping has recently moved to establish greater personal dominance. The Chinese Communist Party never let go of power as it periodically refreshed the top leadership to avoid the gerontocracy that helped doom the Soviet Union. The Kremlin and the Chinese central committee are in regular dialogue on the issue, says Alexander Gabuev, a political analyst at the Carnegie Moscow Center who studies Russia-China ties. "The Chinese message is, 'Guys, we have inherited this system from you. We borrowed it from the Soviet Union. So now what you need to do is to take it back and adapt it,'" Gabuev says. "Russia is trying at least in theory to move to a more Soviet bureaucratic type of state, with different mechanisms for promotion, ongoing rotation, something more Chinese."

The need for a safe pair of hands to guarantee Putin's legacy and security is becoming more urgent as splits widen among rival factions inside the Kremlin. In December, former Economy Minister Alexei Ulyukayev became the highest-ranking official convicted of corruption in the Putin era when he was sentenced to eight years for seeking a bribe from Igor Sechin, the powerful and feared Putin associate who heads state-owned oil giant Rosneft PJSC.

People around Putin believe he'll choose as a successor someone young who owes his entire career to him, says one person close to the Russian leader. Hoping to thwart upstart contenders is Prime Minister Dmitry Medvedev, 52, who's likely to stay in his post after the election and has every chance to be Putin's pick, according to a former top Kremlin official. Many of Putin's inner circle have a personal investment in the outcome after installing their own children into plum posts in state companies, turning the running of Russia into ▶

"Putin's greatest fear is that everything will collapse as everyone starts to fight each other. It's a huge risk"

CLOCKWISE FROM TOP RIGHT: GETTY IMAGES (6); ALEXEI NIKOLSKY/TASS/GETTY IMAGES

◀ something akin to an extended family business.

Even if he steps aside in 2024, Putin may hang on to key levers of power by changing the constitution to transfer command over the military and security forces to the State Council, currently a consultative body. He may also repeat his trick of 2008, when he continued to rule Russia after switching jobs with Medvedev to skirt a constitutional ban on more than two consecutive terms.

Even so, Putin's power is visibly waning in the eyes of the elite, who are planning for life after him, according to Gleb Pavlovsky, a Kremlin adviser during the president's first two terms. "There's no longer any role for him," Pavlovsky says. *—Henry Meyer and Ilya Arkhipov*

THE BOTTOM LINE The biggest challenge for Putin isn't winning another term as Russia's president, but making sure that a network of loyal bureaucrats will be able to take over after 2024.

A Tale of Two Sanctuary States

● Texas and California have opposing reactions to immigration enforcement

As Republicans and Democrats in Washington battle over immigration, the real war is being waged at the state and local level, where police and politicians have to weigh the needs of their communities against President Trump's agenda to crack down on undocumented immigrants. The country's two most populous states, California and Texas, offer competing visions of how to deal with long-established immigrant communities in the Age of Trump.

California's Democratic governor, Jerry Brown, has given the entire state sanctuary status, blocking local officials from complying with federal immigration directives. His Republican counterpart in Texas, Governor Greg Abbott, has done the opposite—signing a law criminalizing local officials who shelter undocumented immigrants from deportation. While the laws are in line with the states' different views on immigration, they illustrate the polarizing impact of Trump's anti-immigration rhetoric. "California is as deep blue as Texas is deep red," says Cal Jillson, a professor of political science at Southern Methodist University. Even so, "in pre-Trump America," the laws "wouldn't have been possible."

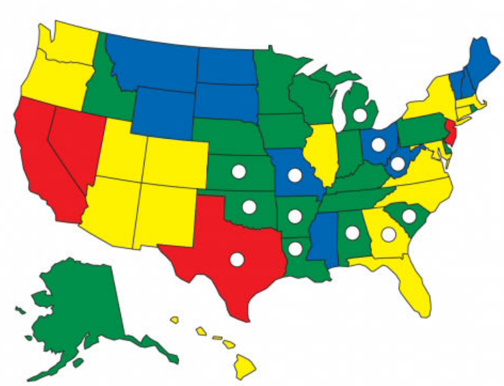
In April a San Francisco federal court became the first to block Attorney General Jeff Sessions from delivering on his threat to withhold federal funds from cities that refuse to hand over to federal agents any undocumented immigrants charged with a crime. On Jan. 2, the day after the California law took effect, U.S. Immigration and Customs Enforcement Acting Director Thomas Homan issued a threat. "California better hold on tight," he said on Fox News. "We've got to take them to court. We've got to start charging some of these politicians with crimes." Since then, tensions have risen over reports that ICE is preparing to launch the Trump administration's largest undocumented immigrant sweep yet, with plans to arrest some 1,500 residents. Its primary target is the San Francisco Bay Area, according to an agency official who asked not to be identified.

California Democratic Senators Dianne Feinstein and Kamala Harris asked Homan for a briefing on the agency's plans for the state. Oakland Mayor Libby Schaaf has said she's prepared to go to jail if she's forced to defy an ICE raid, and California Attorney General Xavier Becerra has threatened to prosecute anyone who violates the state's sanctuary law.

In Texas, the state is in court with its four biggest cities. After Abbott signed the anti-sanctuary order into law in May, it was swiftly challenged by

A Nation Divided

A patchwork of state immigration laws has led to legal ambiguity in the face of Trump's crackdown



a pair of border communities. The dispute was eventually joined by Austin, Dallas, Houston, and San Antonio, all led by Democratic mayors. The case is now before the New Orleans-based Fifth Circuit Court of Appeals. The court's ruling is likely to have influence over a broad swath of the South and a pair of swing states. Attorneys general from 11 states in the South and Midwest, including Alabama, Georgia, Michigan, Missouri, and Oklahoma, have all supported Texas in the court challenge. "Sheriffs all over the country have been watching this case," says Jessica Vaughn of the Center for Immigration Studies, a think tank that advocates restricting immigration. "It's a proxy battle of national significance."

The fight between Abbott and the state's big cities began before Trump took office. In 2015 the governor began criticizing some local law enforcement agencies for their handling of undocumented immigrants. Among his first targets was Dallas County Sheriff Lupe Valdez, who refused to honor ICE detainer requests unless they were directed at violent offenders. Valdez, the first openly gay sheriff elected in Texas, resigned in December. Along with seven other Democrats, she's running against Abbott, who's up for reelection this year.

Elected officials across Texas say the law endangers their residents. Many immigrants have stopped bringing their children for vaccinations at Austin's public-health clinics, and fewer women are reporting assaults and rapes at local crisis centers and to police, says Mayor Steve Adler. "Those things make us less safe," he says. In Houston, the number of Hispanics reporting rapes fell 43 percent, while those reporting other violent crimes fell 13 percent.

"This is bad public policy that has nothing to do with public safety and everything to do with political theater," says Houston Police Chief Art Acevedo. While complying with all state and federal immigration laws, Acevedo has been a critic of the sanctuary ban. He's started a public education effort through social media and holds town halls in English and Spanish with civic groups. His mission: Spread the word that Texas' anti-sanctuary statute forbids officers from asking victims and witnesses of crimes about their immigration status.

Texas' attorney general is investigating San Antonio Police Chief William McManus for possibly breaking the state's anti-sanctuary law when he freed a dozen undocumented immigrants from a smuggler's tractor-trailer in late December. McManus says cops interviewed the group, and federal agents on-site didn't intervene before the immigrants were released to a religious charity.

Sally Hernandez, the sheriff for Travis County, which includes Austin, has also clashed with the state. When she took office in February 2017, she announced that her staff wouldn't automatically detain inmates on behalf of ICE unless they'd been charged with murder, human trafficking, or kidnapping. She says she pursued that policy to make the community safer and more inclusive, yet she quickly drew the ire of Abbott, who nicknamed her "Sanctuary Sally" and cut off more than $1.5 million in state funds. Hernandez relented and now honors all ICE detainer requests. "I still have a big knot in my stomach," she says. Meanwhile, she's distributing pamphlets for so-called U visas, which can temporarily shield immigrants from deportation if they're victims or witnesses of crime.

Back in California, one of 79 national centers created after Sept. 11 to coordinate federal and local law enforcement activities is in the middle of ICE's conflict with the state. If there's a big immigration raid in the Bay Area, ICE officers could find themselves without the support of local police because of the state's sanctuary law. "There is no middle ground for anyone right now," says Mike Sena, director of the Northern California center. "It creates a dangerous paradigm." —*Kartikay Mehrotra, Laurel Brubaker Calkins, Lauren Etter, and Ben Elgin*

▲ Sheriff Hernandez of Travis County, Texas

THE BOTTOM LINE While California has banned local law enforcement from cooperating with federal immigration policies, Texas has threatened to jail local officials who do not.

PHOTOGRAPH BY DREW ANTHONY SMITH FOR BLOOMBERG BUSINESSWEEK; DATA: PEW HISPANIC CENTER

WHAT THE HELL IS WRONG

WITH GENERAL ELECTRIC?

The astonishing mess at an iconic American company

By Drake Bennett

In the century following the Civil War, a handful of technologies revolutionized daily existence. The lightbulb extended the day, electric appliances eased domestic drudgery, and power stations made them all run. The jet engine collapsed distance, as, in other ways, did radio and television. X-ray machines allowed doctors to peer inside the body, vacuum tubes became the brains of early computers, and industrial plastics found their way into everything. All those technologies were either invented or commercialized by General Electric Co.

For most of its 126-year history, GE has exemplified the fecundity and might of corporate capitalism. It manufactured consumer products and industrial machinery, powered commercial airliners and nuclear submarines, produced radar altimeters and romantic comedies. It won Nobel Prizes and helped win world wars. And it did it all lucratively, rewarding investors through recessions, technological disruption, and the late 20th century collapse of American manufacturing.

That long, proud run may have come to an end. It happened, as Ernest Hemingway wrote of going bankrupt, "gradually and then suddenly." GE hasn't inspired awe for some time now: The company had to be bailed out in 2008 by the federal government and Warren Buffett, and across the 16-year tenure of recently departed Chief Executive Officer Jeffrey Immelt its stock was the worst performer in the Dow Jones industrial average.

The past year, however, has seen GE enter new territory. Since Donald Trump's election in November 2016, during a stock market boom in which the Dow is up 41 percent, GE has lost 46 percent of its value, or $120 billion. A few months after Immelt retired as chief executive last summer, the company shocked Wall Street by announcing earnings that were barely half of analysts' already lowered estimates. Soon after, GE said it would halve its once-sacrosanct stock dividend because it was short on cash. It also said it would sell or spin off $20 billion in businesses, including its lightbulb division. (The appliance business was sold to the Chinese manufacturer Haier Group in 2016, along with a license to use the GE brand.)

Then in January came news of a $6.2 billion charge related to costs incurred more than a decade ago by GE's financial-services business, an announcement that triggered a U.S. Securities and Exchange Commission investigation. GE's new CEO, John Flannery, has grimly promised that "all options are on the table," including the once-unthinkable option of dismembering the company entirely.

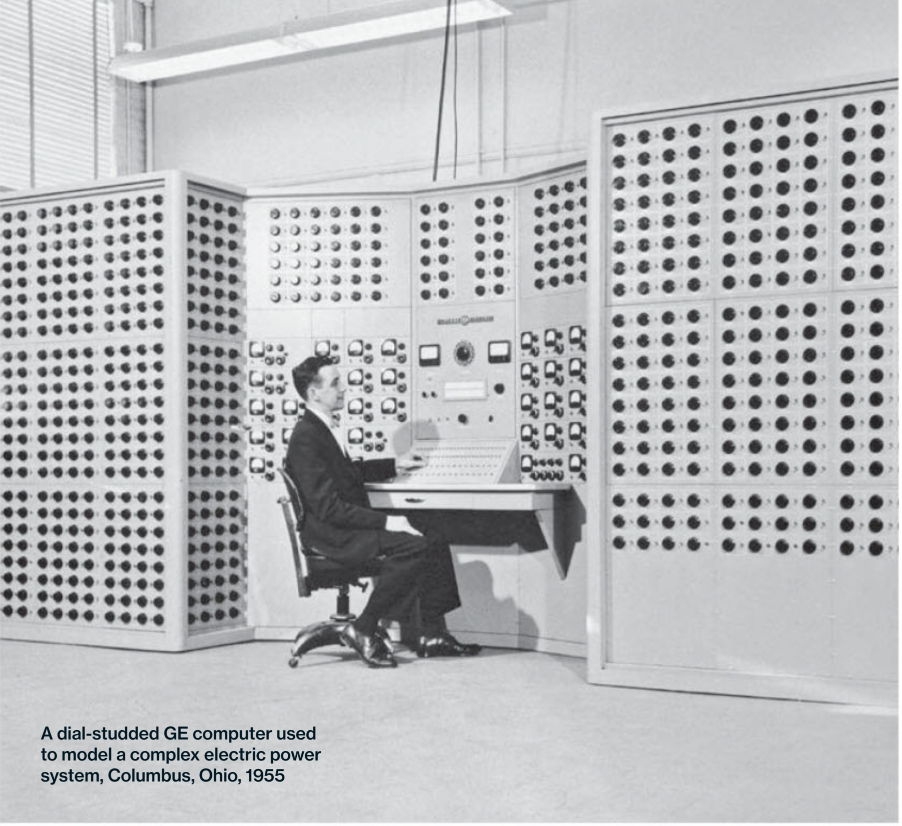
And yet, little of this has to do with the stuff GE makes. Its jet engines still dominate the global market. Its turbines, whether in gas, coal, or nuclear power plants, still provide a third of the world's electricity. Its CT scanners and MRI machines are still the state of the art. So what happened?

Unlike General Motors Co., Boeing Co., and other American manufacturing icons, GE isn't associated in the public imagination with just one industry or one product, but rather with industrial innovation itself. Famously co-founded by Thomas Edison, GE was actually run in its early years by another co-founder, Charles Coffin. The former shoemaker saved the young company from insolvency by negotiating with J.P. Morgan, untangled key patent rights with Westinghouse, and established the industrial research laboratory that would bring so many good things to life.

Since Coffin, GE's secret weapon—and in a way its dominant product—has been its managers. The company brought organizational rigor to the process of scientific discovery, and scientific rigor to management. In the postwar years, GE hired psychologists for a personnel research department. It also bought an estate on the Hudson River an hour north of New York City and turned it into the world's most famous management training center. Crotonville, as it came to be known, was a place where current and future leaders would retreat to be taught, tested, and imbued with the company's values. GE's courtly CEO and chairman in the 1970s, Reginald Jones, was the most admired business executive of his era, pushing into international markets and serving as an adviser to four U.S. presidents.

Jones's successor was a chemical engineer named John Welch Jr. who'd risen through the ranks of GE's plastics division. You may know him as Jack. Under Welch, GE came to be seen as a factory for elite corporate talent. The new boss placed a premium on leadership development and the ruthless culling of underperforming employees. He became the highest-profile evangelist

PREVIOUS SPREAD: PRODUCT IMAGES COURTESY GE


A dial-studded GE computer used to model a complex electric power system, Columbus, Ohio, 1955

BETTMANN/GETTY IMAGES

for Six Sigma, a management philosophy based on the systematic pursuit of otherworldly flawlessness. Promising young executives were moved between distant poles of the GE empire—from medical devices to locomotives to NBC (GE bought the television network in 1986)—so they could inject fresh ideas and test themselves. Armed with Six Sigma, inspired by Jack, honed by the breakout sessions at Crotonville, GE's organizational officer corps could run anything, the thinking went.

The company's mandarin confidence was reflected in the tradition of allowing chief executives tenures that measured in the decades, so they could lift their eyes from the daily fever line of the stock market to more distant horizons. Over time, Welch's management teachings became a best-selling literary subgenre. *Fortune* magazine named him manager of the century, and other business periodicals were no less fulsome in their praise (this one gave him a regular column). Such was the premium placed on GE managerial talent that when Immelt, with papal pomp, was unveiled as Welch's successor, the other two longtime GE executives who'd been finalists for the job were quickly hired as CEOs by 3M Co. and Home Depot Inc.

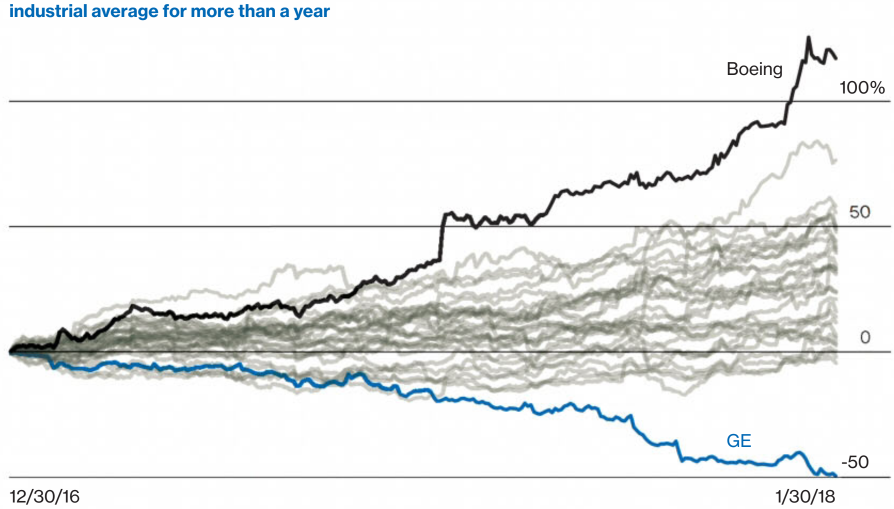
GE became the great counterexample to a growing skepticism among investors and economists about giant diversified companies. During the 1980s, as conglomerates were increasingly written off as lumbering and opaque, GE was lauded as what researchers at the Boston Consulting Group called a "premium conglomerate"—focused despite its diversity, nimble despite its scale, and armored against cyclical downturns in individual industries. And if GE also became known for eschewing generally accepted accounting principles in favor of more exotic and less informative measures, investors and analysts could at least take comfort that the company was in capable hands.

Under Welch, GE's net income swelled from $1.65 billion in 1981 to $12.7 billion in 2000, even as its workforce shrank from 404,000 to 313,000. But over time, less and less of that income came from technological innovations or manufacturing prowess or even the productivity gains Welch had wrung out early in his tenure. Instead it came from GE's financial-services arm. From its humble beginnings financing family purchases of refrigerators and dishwashers during the Great Depression, GE Capital had ballooned into a behemoth whose global stable of investments ran from insurance to aircraft leasing to mortgages, giving GE a share of the action during a period when the financial sector was the fastest-growing part of a fast-growing U.S. economy.

In the hands of GE's financial executives and tax lawyers, earnings from this division had special powers. ▶

General Decline

GE has been the worst-performing stock in the Dow Jones industrial average for more than a year



◀ GE Capital could borrow money in the U.S. to fund offshore businesses in countries where corporate taxes were much lower (or nonexistent), then turn around and use the interest charges on those loans to offset the income from GE's onshore manufacturing businesses, making its U.S. tax bills disappear. And unlike a factory, GE Capital's highly liquid assets could be bought or sold at the ends of quarters to ensure the smoothly rising earnings that investors loved. The term accountants use for earnings from these sorts of one-off asset sales is "low-quality," but through the historic bull market during which Welch had the good fortune to run the company, investors tended not to get hung up on questions of quality. GE's market capitalization grew from $14 billion in 1981 to more than $400 billion when Welch retired in 2001.

The risks became clear only under Immelt, who took over the company in the wake of the dot-com bubble and right before the attacks of Sept. 11 (a particularly acute shock to a company that did billions of dollars in business with airlines). As the years went on and GE's stock price fell to a third of its Welch-era peak, Immelt came under pressure from Wall Street to do something. He embarked on a series of splashy acquisitions, for example paying $5.5 billion for the entertainment assets of Vivendi Universal and $9.5 billion for the British medical imaging company Amersham. There were bargains such as Enron Corp.'s wind-turbine business, picked up in a bankruptcy auction, but for the most part the deals proved more expensive and less

The SEC's Beef With GE

Murky accounting has gotten the company in trouble before

General Electric has long had a reputation for, shall we say, creative accounting. That wasn't a problem when the company was consistently topping investor expectations. These days, it's more of an issue.

After a year of problems, from cash-flow shortfalls to the announcement of a $6.2 billion charge related to some long-term insurance holdings, the U.S. Securities and Exchange Commission opened an investigation into GE's accounting practices. The regulator is interested in GE Capital's insurance portfolio and in service agreements on GE equipment, particularly in its power business.

Here, GE's accounting practices appear to be pretty standard: As many others do, the company bases its revenue projections on a number of variables such as the future expense of maintaining equipment and whether it thinks customers will be able to pay. But the mismatch between GE's booked sales and total cash expected is extraordinarily large: $28.9 billion in 2017, filings show, after roughly tripling from 2010 to 2016. About half that is from the service contracts.

Chief Financial Officer Jamie Miller said on a conference call with analysts that she's been reviewing the books and isn't "overly concerned" about the issues being investigated. This isn't GE's first time on the wrong side of the SEC, though. Back in 2009, the agency accused GE of breaking rules to increase profit or avoid reporting losses. GE didn't admit or deny wrongdoing, but it did agree to pay $50 million to settle the claims. —*Richard Clough*

GE Power's Schenectady, N.Y., headquarters in the 1980s

MISCI, MUSEUM OF INNOVATION & SCIENCE

synergistic than promised. Scott Davis, a longtime GE analyst and the CEO of Melius Research LLC, has calculated that GE's total return on Immelt's acquisitions has been half what the company would have earned by simply investing in stock index mutual funds.

Immelt also publicly pledged to return GE to its industrial roots (with a new concern for environmental impact) and reversed the deep cuts Welch had made to research and development. Still, under Immelt GE Capital only grew. Its profits quadrupled as it gobbled up credit card companies, subprime lenders, and commercial real estate. These weren't businesses GE had much experience in, but the company had long taught its young executives that they could manage anything.

> **A problem in one business is exactly what a premium conglomerate should be able to shrug off**

The 2008 financial crisis revealed this not to be the case. In the first quarter of that year, a month after Immelt had reassured investors that all was well, GE's profits fell short of analyst expectations by a then-unprecedented $700 million. "It seems like something's broken here," Davis, then a Morgan Stanley analyst, said on GE's quarterly earnings call. The company, it turned out, had been relying heavily on short-term debt to ensure those rising earnings, and when that market froze, GE lost its magical tool. Within months there were worries that the company wouldn't be able to pay its debts, then worries that it might collapse entirely. In October, GE had to raise $15 billion through an emergency stock sale, $3 billion of it from Buffett's Berkshire Hathaway Inc. GE only survived the year intact thanks to $139 billion in loan guarantees from the federal government.

In the decade after that harrowing experience, GE Capital was severely downsized. But elsewhere, Immelt kept on acquiring, spending $10 billion for the power business of French company Alstom, for instance. He also poured money into GE Digital, an ambitious effort aimed at perfecting a software language to handle the torrents of information created and captured by next-generation industrial machines. Immelt talked about making GE a "top 10 software company" whose code even its competitors would have no choice but to use.

These efforts failed to forestall the next round of troubles–and in the case of Alstom, they helped precipitate it. With that deal, GE had made a massive investment in natural gas power ▶

Big Dreams, Small Returns

GE's acquisitions under Immelt performed poorly, to say the least

TELEMUNDO $2.7b, 2001

Hope: One of the first deals of the Immelt era, it was designed to give GE's entertainment division (which at the time included NBC, and later Universal Pictures) a foothold in the fast-growing Spanish-language market.

Reality: Almost immediately, analysts criticized the purchase as an overpay. Within a year, Telemundo's share of the Spanish-language prime-time audience had fallen to 16 percent from 22 percent. GE got out of the entertainment business entirely a little more than a decade later.

AMERSHAM $9.5b, 2003

Hope: The diagnostic pharmaceuticals company would put GE in position to lead "a new chapter in medicine," in the words of Amersham CEO Sir William Castell.

Reality: Investors have complained ever since—in interviews, research reports, and among themselves—that GE spent too much on the deal. They argue that since Amersham had little-to-no overlap with GE's other industrial businesses, there was little-to-no reason to hang on to it.

WMC MORTGAGE $500m, 2004

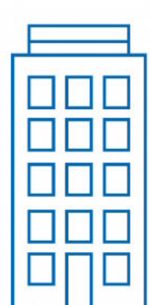
Hope: In a booming housing market, subprime mortgages are a guaranteed moneymaker, right?

Reality: You can guess how that went. GE got out after just three years—in the middle of the mortgage crisis—but the fallout endures. As of September 2017 the company was still facing multiple related lawsuits.

EDWARDS SYSTEMS $1.4b, 2004

Hope: Expanding its building-security systems business would position the conglomerate to gain from population growth and a societal focus on safety in the U.S.

Reality: It did not. GE sold its entire security division five years later for just $1.8 billion.



OIL AND GAS $14b, 2007-14

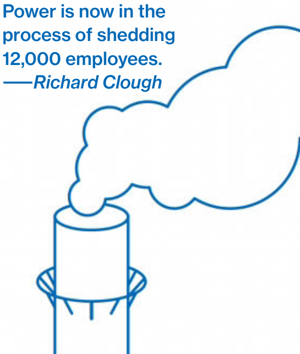
Hope: A series of rapid-fire acquisitions—Vetco Gray, Dresser, and Lufkin Industries—was supposed to help GE grow quickly in a hot market.

Reality: From 2014 to 2017, with the collapse in oil prices, profit in GE's oil unit plummeted 92 percent. GE merged the business with Baker Hughes and is now considering getting out of the industry.

ALSTOM $10b, 2014

Hope: GE would be established as the undisputed global leader in power generation from natural gas.

Reality: The low-margin operation bloated GE's power unit just as the global gas-power market slumped. Profit in the division fell 45 percent last year; GE Power is now in the process of shedding 12,000 employees.
—*Richard Clough*



The Giants of GE

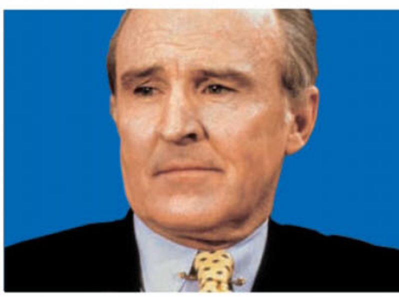
The men who've made the company what it is—for better or worse

CHARLES COFFIN 1892–1922

GE's first president talked his way out of corporate bankruptcy during the Panic of 1893. Without him, there would be no GE.

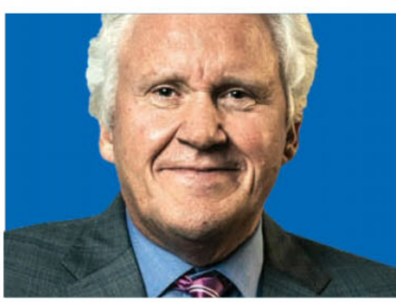
REGINALD JONES 1972–1981

He started in the company's Business Training Course in 1939 and never left, taking GE global along the way.



JACK WELCH 1981–2001

His favorite saying was "Fix it, close it, or sell it"—basically the 20th century equivalent of "Move fast and break things."



JEFFREY IMMELT 2001–2017

He had a tough act to follow, not least because he took over at the beginning of a series of bear markets.

JOHN FLANNERY 2017–

The Man Who Could Break Up GE has spent his first six months working to streamline the aging behemoth.

◀ plants just as the market for them was contracting. Part of the decline was due to the falling cost of renewable energy, a competitor to natural gas, part to a drop in oil and gas prices, which hurt demand from the petrostates that are some of GE Power's biggest customers. GE was left with a bunch of turbines on its hands. It was a costly mistake: The combination of higher inventory and lower earnings reduced the company's cash flow by $3 billion. This past August, with the stock price burrowing ever downward, Immelt stepped down as chief executive, saying he would stay on as chairman until the end of the year. By October, though, he'd stepped down from that post, too.

GE wasn't the only company to miss the slowdown in the gas-turbine market—so did competitors such as Siemens AG and Mitsubishi Heavy Industries Ltd. But a problem in one business is exactly the sort of thing that a premium global conglomerate should be able to shrug off. Instead, just as in 2008, the opposite is happening, with robust GE businesses being dragged down by stressed ones. And now as then, investors and analysts who'd been reassured by GE executives that things were fine have found themselves blindsided. GE's decision to cut its dividend wouldn't have been so surprising if it hadn't spent $49 billion on stock buybacks over the previous three years—something companies typically do when they're flush with cash and looking to return some of it to shareholders.

The dividend cut also brought renewed attention to GE's $31 billion pension shortfall, which dwarfs that of any other U.S. corporation. GE's January announcement that it was setting aside billions of dollars for payouts on long-term care policies from an insurer it shed years ago only added to the uncertainty. "It makes you wonder what's next," says Nicholas Heymann, an analyst at William Blair & Co. and a former corporate auditor at GE.

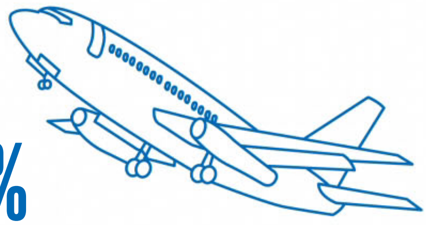
What's additionally baffling about GE's difficulties is that there's no

COFFIN, JONES: COURTESY GE. WELCH: JACQUES CHENET/GETTY IMAGES. IMMELT: STEPHEN VOSS/REDUX. FLANNERY: HEMANT MISHRA/GETTY IMAGES.


GE Aviation technicians work on an M601 turboprop aircraft engine in Prague in 2016

Aviation Is Still Flying High

Jet engines would likely be the last business to go



–11%
Change in GE's 2017 profit

+9%
Change in GE Aviation's 2017 profit

45%
Aviation's share of GE's positive operating income

Of the three businesses GE is most likely to hang on to—power, aviation, and health-care—aviation is the most valuable. Aside from being GE's most profitable division last year, it's also responsible for the company's current star product, the Leap engine, a quieter jet turbine used on both the Airbus A320 and the Boeing 737.

surrounding global financial crisis, no chorus of sober-minded people fearing for the future of capitalism itself. Rather, the company is flailing while the world's major economies are all robustly growing. It's the exact sort of moment when GE's global scale should be an advantage. "It's like their sails are all torn when they've got the perfect wind," Heymann says.

John Flannery has a reputation at GE as a fix-it man. A company lifer, he made his name by turning around its health-care division after spending most of his career at GE Capital. Already, Flannery is moving decisively to address the problems he inherited—something his predecessor, in hindsight, waited too long to do. He has replaced the leadership of GE Power as part of a broader exodus of senior executives and board members, and announced that GE Digital will be scaled back to pursue "a much more focused strategy" selling a few applications to existing GE customers. He has also indicated that the company will forgo big acquisitions, pointing out that the Alstom deal "has clearly performed below our expectations." The blizzard of unorthodox accounting metrics is being replaced by more-traditional measures. There will be fewer businesses, and some of those businesses will do fewer things.

The changes Flannery has promised so far also point toward making GE more comprehensible, not only to investors but also to its own managers. The message is that the company, even if it isn't broken up entirely, will get smaller and simpler. "Complexity hurts us," he said in November. "Complexity has hurt us." He's betting on a future where GE doesn't require management wizardry to run properly, because wizards turn out not to exist.

> **"It's like their sails are all torn when they've got the perfect wind"**

If all goes well, GE will become a more mundane brand. It will be less about spreading the gospel of innovation, managerial excellence, or digital disruption and more about making really good jet engines, gas turbines, and medical equipment, selling as many units as possible, and upselling clients on software and maintenance plans. Perhaps it will be liberating. Being an icon isn't worth what it once was. Ⓑ —*With Richard Clough*

MARTIN DIVISEK/BLOOMBERG

We

Katherine Johnson, NASA, 1966

Grace Hopper, Harvard's Computation Laboratory, 1947

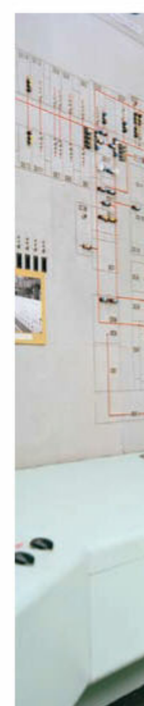
Frances Bilas Spence, U.S. Army, 1946

How the once female-inclusive tech industry turned into Brotopia

Here

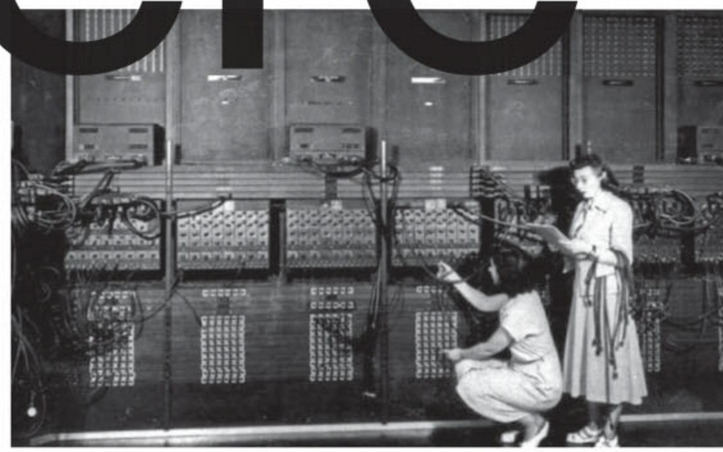
Fran Allen, IBM, 2005

Mary Jackson, NASA, 1980



Were

Margaret Hamilton, NASA, 1969



Ruth Lichterman and Marlyn Wescoff, U.S. Army, 1945

By Emily Chang

First

Annie Easley, NASA, 1981

Dorothy Vaughan, NASA, circa 1960

Mary Allen Wilkes, post-MIT, 1965

Lena Söderberg started out as just another *Playboy* centerfold. The 21-year-old Swedish model left her native Stockholm for Chicago because, as she would later say, she'd been swept up in "America fever." In November 1972, *Playboy* returned her enthusiasm by featuring her under the name Lenna Sjööblom, in its signature spread. If Söderberg had followed the path of her predecessors, her image would have been briefly famous before gathering dust under the beds of teenage boys. But that particular photo of Lena would not fade into obscurity. Instead, her face would become as famous and recognizable as Mona Lisa's—at least to everyone studying computer science.

In engineering circles, some refer to Lena as "the first lady of the internet." Others see her as the industry's original sin, the first step in Silicon Valley's exclusion of women. Both views stem from an event that took place in 1973 at a University of Southern California computer lab, where a team of researchers was trying to turn physical photographs into digital bits. Their work would serve as a precursor to the JPEG, a widely used compression standard that allows large image files to be efficiently transferred between devices. The USC team needed to test their algorithms on suitable photos, and their search for the ideal test photo led them to Lena.

Lena.jpg

According to William Pratt, the lab's co-founder, the group chose Lena's portrait from a copy of *Playboy* that a student had brought into the lab. Pratt, now 80, tells me he saw nothing out of the ordinary about having a soft porn magazine in a university computer lab in 1973. "I said, 'There are some pretty nice-looking pictures in there,'" he says. "And the grad students picked the one that was in the centerfold." Lena's spread, which featured the model wearing boots, a boa, a feathered hat, and nothing else, was attractive from a technical perspective because the photo included, according to Pratt, "lots of high-frequency detail that is difficult to code."

Over the course of several years, Pratt's team amassed a library of digital images; not all of them, of course, were from *Playboy*. The data set also included photos of a brightly colored mandrill, a rainbow of bell peppers, and several photos, all titled "Girl," of fully clothed women. But the Lena photo was the one that researchers most frequently used. Over the next 45 years, her face and bare shoulder would serve as a benchmark for image-processing quality for the teams working on Apple Inc.'s iPhone camera, Google Images, and pretty much every other tech product having anything to do with photos. To this day, some engineers joke that if you want your image compression algorithm to make the grade, it had better perform well on Lena.

> "I remember thinking, What are they giggling about? It made me realize, Oh, I am the only woman"

To male software developers, the story of Lena has generally been seen as an amusing historical footnote. To their female peers, it's just alienating. "I remember thinking, What are they giggling about?" recalls Deanna Needell, now a mathematics professor at the University of California at Los Angeles. She first encountered Lena in a computer science class in college and quickly discovered that the model in the original photo was in fact fully nude. "It made me realize, Oh, I am the only woman. I am different," Needell says. "It made gender an issue for me where it wasn't before."

Needell, like many other women (and some men), questioned the use of a *Playboy* centerfold, but they were mostly ignored. In the mid-1990s, in response to requests from readers to ban Lena from the pages of a trade journal, David Munson, the magazine's former editor, wrote an editorial encouraging engineers to consider using other images but argued against an outright ban on the grounds that many engineers did not find the use of Lena degrading. The former president of an imaging trade group, Jeff Seideman, campaigned to keep Lena in circulation, arguing that, far from being sexist, the image memorialized one of the most important events in the history of electronic imaging. "When you use a picture like that for so long, it's not a person anymore; it's just pixels," Seideman told the *Atlantic* in 2016, unwittingly highlighting the sexism that Needell and other critics had tried to point out.

"We didn't even think about those things at all when we were doing this," Pratt says. "It was not sexist." After all, he continues, no one could have been offended because there were no women in the classroom at the time. And thus began a half-century's worth of buck-passing in which powerful men in the tech industry defended or ignored the exclusion of women on the grounds that they were already excluded.

Today, according to a recent study published by *Axios*, even famously sexist Wall Street employs a higher percentage of women than tech. In both industries, only a quarter of leadership roles are occupied by women, but at the top banks half of all employees are women, compared with a third at big tech companies. Women-led startups receive a mere 2 percent of funding from venture capitalists, which isn't much of a surprise since only 7 percent of VCs are women. At a time when a degree in computer science guarantees a six-figure job offer to any young person with a modest intellect and a willingness to live in the Bay Area, women earn just 17.5 percent of bachelor's degrees in computer science. That percentage has remained flat for a decade.

I've spent the last eight years covering Silicon Valley, most recently as the anchor of *Bloomberg Technology*. During that time, gender disparities have always hung in the background, present but often unacknowledged. Off-camera, guests would sometimes complain about a Silicon Ceiling—a sense that women's opportunities in the tech world are severely limited—but they rarely wanted to discuss the subject on the record. And so, two years ago, I set out to investigate the problem and, more important, try to understand what the industry can do about it. The tragedy, as I argue in my book, *Brotopia*, is it didn't have to be this way. The exclusion of women from technology wasn't inevitable. The industry, it turns out, sabotaged itself and its own pipeline of female talent.


The Computer Girls
A trainee gets $8,000 a year ...a girl "senior systems analyst" gets $20,000—and up! Maybe it's time to investigate....

A *Cosmopolitan* article from 1967 portrays technology as a smart career path for women. Programming is "just like planning a dinner," computer scientist Hopper told the reporter

In tech's earliest days, programmers looked a lot different from the geeky men we now imagine when we imagine tech workers. In fact, they looked like women. One pioneer was Grace Hopper, a mathematics Ph.D. and rear admiral in the U.S. Navy, who was one of the first people to program the Mark I, a giant Harvard University computer used by scientists to model the effects of atomic bombs. After the war, Hopper invented a now-ubiquitous programmer's tool known as a compiler, which creates a process for translating source code into a language machines can understand.

Hopper was hardly an anomaly. In 1946, six women were selected to become the first programmers of the U.S. military's first computer. In 1962, as depicted in the 2016 film *Hidden Figures*, three black women working as NASA mathematicians helped calculate the flight paths that put John Glenn into orbit. A few years later, a woman, Margaret Hamilton, headed the team that wrote the code that plotted Apollo 11's path to the moon.

During all of this, the term "programmer" had a negative connotation, at least among men, as women's work—similar to operating a telephone switchboard or being in a typing pool. A 1967 *Cosmopolitan* article, "The Computer Girls," let it be known that "a girl 'senior systems analyst' gets $20,000—and up!"—equivalent to making roughly $150,000 a year today. The photo of a real-life female IBM engineer, who wore a dress, pearl earrings, and a short bouffant, appeared alongside the piece. "Women are 'naturals' at computer programming," Hopper told the magazine.

But just as *Cosmo* was encouraging a broader selection of women to seek fat paychecks in this new field, men, also in search of highly paid jobs, started pushing women out. In the mid-1960s, System Development Corp., a pioneering software company that's now part of the consultancy Unisys Corp., enlisted two male psychologists to scout recruits. The psychologists, William Cannon and Dallis Perry, profiled 1,378 programmers, only 186 of whom were women. They used their findings to build a "vocational interest scale" that they believed could predict "satisfaction" and therefore success in the field. Based on their survey, they concluded that people who liked solving puzzles of various sorts, from mathematical to mechanical, made for good programmers. That made sense. Their second conclusion was far more speculative.

Based on data they had gathered from the same sample of mostly male programmers, Cannon and Perry decided that happy software engineers shared one striking characteristic: They "don't like people." In their final report they concluded that programmers "dislike activities involving close personal interaction; they are generally more interested in things than in people." There's little evidence to suggest that antisocial people are more adept at math or computers. Unfortunately, there's a wealth of evidence to suggest that if you set out to hire antisocial nerds, you'll wind up hiring a lot more men than women.

Cannon and Perry's research was influential at a crucial juncture in the development of the industry. In 1968, a tech recruiter said at a conference that programmers were "often egocentric, slightly neurotic," and bordered on "limited schizophrenia," also noting a high "incidence of beards, sandals, and other symptoms of rugged individualism or nonconformity." Even then, the peculiarity of male programmers was well-known and celebrated; today, the term "neckbeard" is used almost affectionately. There is, of course, no equivalent term of endearment for women. In fact, the words "women" and "woman" don't appear once in Cannon and Perry's 82-page paper; the researchers refer to the entire group surveyed as "men."

Cannon and Perry's work, as well as other personality tests that seem, in retrospect, designed to favor men over women, were used in large companies for decades, helping to create the pop culture trope of the male nerd and ensuring that computers wound up on the boys' side of the toy aisle. They influenced not just the way companies hired ▶

PREVIOUS SPREAD: TOP ROW, FROM LEFT: COURTESY NASA; GRACE MURRAY HOPPER COLLECTION/ARCHIVES CENTER/NMAH/SMITHSONIAN INSTITUTION; COMPUTER HISTORY MUSEUM; MIT MUSEUM; U.S. ARMY; BOTTOM ROW, FROM LEFT: COURTESY IBM; COURTESY NASA (3) programmers but also who was allowed to become a programmer in the first place.

In the early 1980s, enrollment in computer science classes surged at universities across the country. At first, colleges increased class sizes and tried to retrain teachers, but when that wasn't enough, they started restricting admissions, often at the expense of women. Because more boys entering college had already spent years tinkering with computers and playing video games in their bedrooms, they had a "superficial advantage" over girls, according to Ed Lazowska, a longtime computer science professor at the University of Washington.

In 1984, Apple released its iconic Super Bowl commercial showing a heroic young woman taking a sledgehammer to a depressing and dystopian world. It was a grand statement of resistance and freedom. Her image is accompanied by a voice-over intoning, "And you'll see why 1984 won't be like 1984." The creation of this mythical female heroine also coincided with an exodus of women from technology. In a sense, Apple's vision was right: The technology industry would never be like 1984 again. That year was the high point for women earning degrees in computer science, which peaked at 37 percent. As the number of overall computer science degrees picked back up during the dot-com boom, far more men than women filled those coveted seats. The percentage of women in the field would dramatically decline for the next two and a half decades.

There have been exceptions, of course. From its earliest days, Google founders Larry Page and Sergey Brin sought to hire women for key positions, setting up systems designed to ensure their company did not overlook qualified female engineers because of a bias toward hiring geeky men. They were richly rewarded. Susan Wojcicki, who rented her garage to Page and Brin in 1998, would become Google's first marketing manager. She later helped build AdWords and AdSense—two products that form the near-perfect business model that now generates most of Google's $100 billion or so in annual revenue. She also pushed Google to acquire YouTube, now the company's other big moneymaker.

Soon after Wojcicki joined, Page and Brin hired Marissa Mayer, a recent Stanford graduate who became the company's first female engineer. "They grilled me for 13 hours over two or three sessions," Mayer says of her interviews with Page and Brin. "[They] said, 'We really want you, and we think it's incredibly important to have women here. We want to get a strong group of women in here early.'" Mayer served as product manager for Google's search page—a role that was later expanded to include all consumer web products—during the company's explosive growth in the mid-2000s.

Another key hire: Sheryl Sandberg, the chief of staff to former U.S. Secretary of the Treasury Lawrence Summers. It was Sandberg who transformed Google's nascent self-serve ad operation into one that's now bigger and more powerful than any ad agency in the world—before leaving Google and doing the same for Mark Zuckerberg as chief operating officer of Facebook Inc. "They were very focused," says Sandberg of Page and Brin. "They just cared very much about hiring more female engineers. It wasn't perfect, but no company is."

Despite having hired and empowered some of the most accomplished women in the industry, Google hasn't turned out to be all that different from its peers when it comes to measures of equality—which is to say, it's not very good at all. In July 2017 the search engine disclosed that women accounted for just 31 percent of employees, 25 percent of leadership roles, and 20 percent of technical roles. That makes Google depressingly average among tech companies.

Google's success owes a lot to three early hires: Wojcicki, Mayer, and Sandberg

FROM TOP: MIKE WINDLE/GETTY IMAGES; ELIJAH NOUVELAGE/REUTERS; MIKE BLAKE/REUTERS

Women who work at Google are also underpaid, according to a lawsuit filed last year by the U.S. Department of Labor, which said it's found "systemic compensation disparities" between male and female employees after reviewing the pay data of 21,000 Googlers. In September 2017 three former Google employees filed a class action accusing the company of paying women less than men for similar work while also putting them on lower-paying career paths. The lawsuit echoes a complaint I've heard for years from female Googlers: that the company's efforts to bring women on board haven't been matched with an equally concerted effort to mentor and promote women into leadership positions. Google disputes the allegations of bias. "We have extensive systems in place to ensure that we pay fairly," said a spokeswoman after the suit was filed.

I have no doubt that Google's leaders have been, for the most part, well-intentioned. But those intentions haven't been enough for the company to offset the sexist undercurrents that have defined Silicon Valley for much of its history. "If I had an intuition about where we introduced problems, it's when you really start to scale hiring," says Bret Taylor, who joined Google in 2003 and eventually helped create Google Maps. (He later served as chief technology officer of Facebook and is now the chief product officer of Salesforce.com Inc.) He watched Google default to the standard industry recruiting methods as it struggled to keep pace with staffing demands after its 2004 initial public offering. Its recruiters went to the same university job fairs as every other tech company, posted their openings on the same websites, and subscribed to the same questionable theories about what made for a good engineer. "The growth demanded that we move with the velocity that wasn't necessarily as thoughtful as maybe we would have liked in retrospect," acknowledges Nancy Lee, a former Google human resources executive. "The net we were casting was not as wide as it should be." Ultimately, Page and Brin's attempts to find great women leaders didn't percolate down to other managers in the organization.

"I've never had a female boss, and it makes me sad to even reflect on that," says Brynn Evans, a user interface designer at Google. "I've worked at Google for about six years, and I just haven't been surrounded by women who are managers. I've just worked with so many men, and I've had crappy male bosses. Crappy and rude." It wasn't until she arrived at Google, Evans tells me, that she realized how isolated she was as a woman in a male-dominated field.

In 2015, Page rebranded the company as Alphabet Inc., and reorganized it into a dozen independent subsidiaries, including Google. Around the same time, he hired a female CFO for Alphabet, longtime Morgan Stanley executive Ruth Porat. Page also brought in Diane Greene, co-founder of VMware Inc., to run Google's cloud efforts. Sundar Pichai, who was promoted to the role of Google's CEO after Page made himself CEO of Alphabet, has formed a management team that's 40 percent female. YouTube, which Wojcicki now runs, is a division of Google under Pichai.

Even so, exactly zero of the 13 Alphabet company heads are women. To top it off, representatives from several coding education and pipeline feeder groups have told me that Google's efforts to improve diversity appear to be more about seeking good publicity than enacting change. One noted that Facebook has been successfully poaching Google's female engineers because of an "increasingly chauvinistic environment."

Last year, the personality tests that helped push women out of the technology industry in the first place were given a sort of reboot by a young Google engineer named James Damore. In a memo that was first distributed among Google employees and later leaked to the press, Damore claimed that Google's tepid diversity efforts were in fact an overreach. He argued that "biological" reasons, rather than bias, had caused men to be more likely to be hired and promoted at Google than women.

Damore's argument hinged on the conventional wisdom that being interested in people somehow correlated with poor performance as a software engineer. Men were more likely to be antisocial than women; therefore, he intimated, men were inherently better programmers.

"I've never had a female boss, and it makes me sad to even reflect on that.... I've just worked with so many men, and I've had crappy male bosses. Crappy and rude"

Damore presented this as a novel observation. In fact, it was the same lazy argument advanced by Cannon and Perry 50 years earlier.

Damore was fired for violating Google's code of conduct. Days later, he told me he didn't regret what he'd done because he believed he was making Google (and the world) a better place. He's now suing his former employer, alleging discrimination against conservative white men. Putting aside that calling one's female colleagues less competent seems like an obviously fireable offense, it's worth asking whether Damore was an outlier at Google or a symptom of a problem Silicon Valley has been unwilling to shake. Cate Huston, another former Google engineer, published a response to Damore on *Medium*, the online publishing platform, that argued his beliefs were more widely held than Google's senior managers let on. "We know when we work with dudes like that," Huston wrote. "We know when they do our code review. We know when we find their comments on our performance review. We know."

Google has rid itself of Damore, but if it wants to help the technology industry move past its history of discrimination, it would do well to reexamine why the company succeeded in the first place. The most commonly shared narrative at Google is that its triumph came through nerdy innovation.

There is another story to tell: that Google's success had at least as much to do with women like Wojcicki, Sandberg, and—her controversial tenure as CEO of Yahoo! notwithstanding—Mayer. Each of them brought wider skill sets to the company in its earliest days. If subsequent managers at Google understood this lesson, that might have quieted the grumbling among engineers who had a narrow idea of what characteristics made for an ideal employee. Google's early success proved that diversity in the workplace needn't be an act of altruism or an experiment in social engineering. It was simply a good business decision.

Adapted from Brotopia: Breaking Up the Boys' Club of Silicon Valley *by Emily Chang, to be published on Feb. 6 by Portfolio, an imprint of Penguin Publishing Group, a division of Penguin Random House LLC.*

Off the coast of Venezuela, life is cheap, diapers are expensive, and anyone might turn pirate

END TIMES ON THE GULF OF NO RETURN

By Jonathan Franklin
Photographs by Alejandro Cegarra

Gabriel, Venezuelan fisherman turned smuggler, in Cedros, Trinidad

Infant formula and toothpaste, unlike the Venezuelan bolivar, hold value

Venezuela and the island of Trinidad are separated by only 10 miles of water and bound together by the most lawless market on Earth today. Playing out at sea and on the coasts, it is a roiling arbitrage—of food, diapers, weapons, drugs, and women—between the desperate and the profit-minded. Government is absent, bandits are everywhere, and participating can cost you your life. But not participating can also mean death, because the official economy of Venezuela is in a state of collapse, and the people are starving.

I'd planned to travel to the fishing villages of Venezuela's northeast coast, in the state of Sucre, to see how the people there were managing amid violence and deprivation. I settled on the villages along the Gulf of Paria, an inlet of the Caribbean abuzz with stories of smugglers, contraband, and pirates. Clearly there were risks: On both of my previous reporting trips into Venezuela, I'd been detained for "illegal reporting," first for interviewing an emergency room doctor without government permission and then for talking with mourners at a public cemetery. And that was before the onset of food riots, which began in Sucre in the summer of 2016, and also before fishermen began getting murdered by pirates.

By the time of my trip, in late August, Venezuela had descended so far into chaos that I decided to move my focus across the narrow Gulf of Paria to Trinidad, where, immediately upon arrival in the capital, Port of Spain, I went to the fisheries ministry with a tourist map of the islands. I explained to an official there that I was a reporter interested in fishermen and wanted to know where to find the most scenic spots. After patiently listening to an overview of the island's marvels, I asked him to show me where the smugglers are. The official drew his fingers south down the coast to Cedros and Icacos, a pair of fishing villages close to the shores of Venezuela. I went there directly.

On the Cedros waterfront, next to the pier, I found a group of men lounging under palm trees. I asked them about the smuggling business. "I'm Mr. Flour, and this is Mr. Rice," said Carlos, a burly truck driver, by way of introducing himself and a friend. Within minutes he was unlocking a cargo van to show off sacks of flour ready to be shipped to Venezuela. Five dollars' worth of flour in Trinidad, Carlos said, was worth \$20 across the gulf.

I spent that first morning interviewing Venezuelan fishermen who had just made the two-hour journey across the flat waters to Trinidad. They were bringing in contraband cigarettes, cocaine, even a small zoo of wild animals including agouti—a rodent whose meat appears on local menus—and coiled anacondas. But animals are complicated. They bite, have to be fed, and might die. Thus many smugglers prefer guns, vodka, and especially gasoline. The Venezuelan government so deeply subsidizes gas that even after a 1,300 percent price hike last year, a gallon costs less than 40¢—about a sixth of the price at the pump in Trinidad.

Once they sell their contraband in Trinidad, these former fishermen bring a new commodity back to their country: diapers. Dozens of smugglers are dealing in boxes of Huggies and piles of Pampers. They say that back home they'll get three times what they pay in Trinidad, and demand is so high they maintain waiting lists. "I can trade the diapers for medicine," Karen Cubillan, a Venezuelan woman who shuttles between Trinidad and Venezuela while working the diaper arbitrage via online sales, told me by phone. "Diapers are like bars of gold. People stash food and diapers as if they were money."

On the shore I met Gabriel, a 30-year-old Venezuelan fisherman who was loading a rickety wooden boat with infant formula and diapers. Gabriel still fishes: He'd arrived from Venezuela in the morning with a load of shrimp and sold his catch to waiting buyers. But he was about to become more than a fisherman; this would be his first smuggling run, and he admitted to being frightened. "The pirates take the motors and steal the food of people coming in to Venezuela from Trinidad who want to feed their families," he said. "And it is not just civilians we classify as pirates. The Venezuelan Coast Guard and National Guard are also involved in this. We are more afraid of them than the actual pirates." Over the past two years, dozens of Venezuelan National Guard members have been arrested for collaborating with smugglers. In a single sweep in September 2015, 50 were rounded up on criminal charges.

Twenty years ago, the villages of eastern Venezuela were home to a robust fishing industry, including the world's fourth-largest tuna fleet. Industrial trawlers and hundreds of smaller boats worked the waters. In a good month, 10,000 tons of tuna were brought in to local ports, as well as boatloads of sardine, shark, crab, and octopus. Ships from Asia sold their catches to local plants, which froze and stored them by the hundreds of tons. When boats needed repairs, captains took them to the shipyard in the town of Güiria, where vessels from South America, Asia, and the U.S. could all be found in dry dock. Towns such as Carúpano were home to such a flourishing industry that the stench of fish drifted downwind for miles. "You knew you were close when the air began to stink," recalled Cubillan, who lived there for a decade.

The 1998 election of President Hugo Chávez led to a radical new structure for the industry. Chávez nationalized it and expropriated hundreds of millions of dollars in the form of ships, ports, shipyards, and canning factories. He also promised to retrofit the processing plants to accommodate small-scale fishermen. In 2008, Venezuela introduced a joint venture with Cuba known as the Socialist Joint Venture Industrial Fisheries of the Bolivarian Alliance. Chávez promised that this company, stocked with seized assets, would "eliminate the chain of intermediaries so that the product, at accessible prices, is available to the low-income population."

But the fishing industry withered under Chávez, and then under Nicolás Maduro, who succeeded him as president in 2013. The warehouse in Güiria burned down and was never rebuilt; the ship repair facilities were shuttered after a few years in government hands. Venezuelan ships not seized by the government were quickly reflagged in Nicaragua, Panama, and Ecuador, and much of the government fleet now lies in port, awaiting repairs and scarce spare parts. From 554,000 tons of fish caught in 1997, the year before Chávez started his revolution, the catch in 2015 had fallen almost 60 percent, to 226,600 tons, according to the Caracas-based Foundation for Sustainable and Responsible Tuna Fisheries.

In 2015 seven major tuna processing plants declared a state of emergency, citing a chronic shortage of the fish. Three thousand workers lost their jobs, according to Jorge Bastardo, union leader at the La Gaviota canning plant in Cumaná. Even when tuna was brought to shore, aluminum was in such short supply that a central cannery was converted into what the government dubbed "the pouchery." It failed. The public never warmed to the idea of buying plastic pouches filled with watery tuna.

In Cedros, I began searching for a fishing crew that would allow me to join them in a trip out to sea. First I approached four fishermen, knee-deep in the water, as they launched a boat, and asked to ride along. One muscular man drew his fingers knife-like across his neck. Another yelled at me to leave. A police patrol then stopped the photographer who was with me. While they checked his passport, I kept moving.

After several hours walking the beach, I found Navin and Ricky, two Trinidadians in their late 20s who declined to give me their last names. They agreed to let me join their expedition in exchange for gas money. They packed their small fiberglass boat with lines of hooks and half-frozen sardines for bait. The craft was shaped like a long canoe and powered by a single outboard motor. There was no shade. The only technology aboard was an old flip phone Ricky used to activate a primitive messaging service. There was no paperwork, no registration, and no sign of Coast Guard boats, border patrol missions, or even a harbor master. As fellow fishermen helped push their craft through a pile of empty rum bottles and shards of coconut husks into the warm Caribbean, Ricky stopped them for a moment to screw the propeller back on the outboard. He took it off every night. ▶

Contraband on the beach in Cedros

Roberts, kidnapped and robbed by pirates in 2015, is still fishing

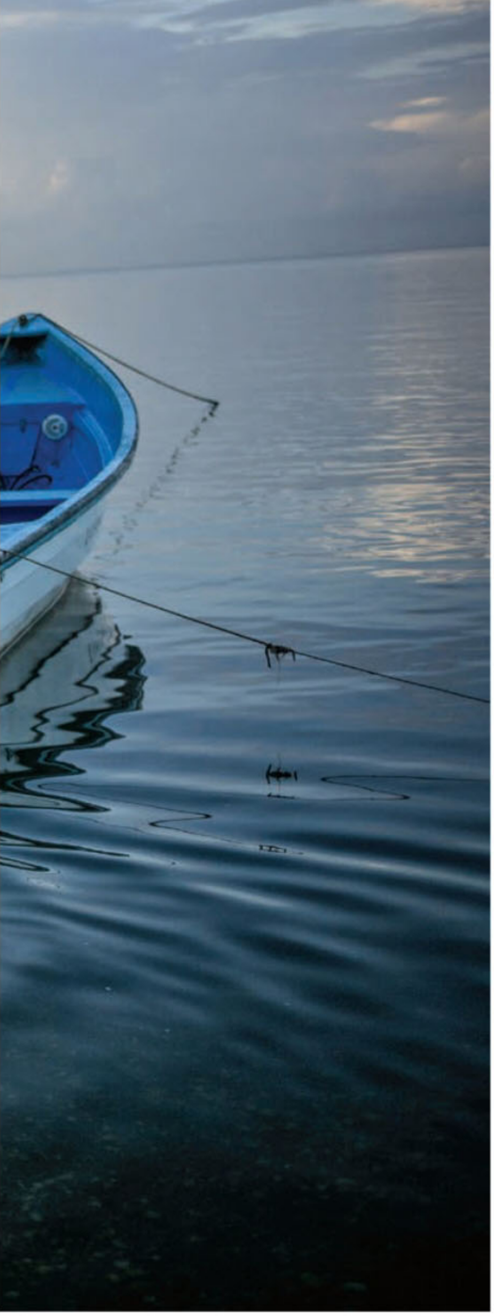
◀ "This makes it harder for thieves to get away with the boat," he said.

As we left the coast of Trinidad, a solitary fisherman stood in his anchored boat. He stared at us while pulling in a net that contained a single silvery fish, maybe the size of his palm. He looked at the flopping fish and tossed it back into the sea, as if it were a bother. I was reminded of a conversation a day earlier with a leader of the local fishing cooperative who told me that fishermen are hired to work as the eyes and ears for narcos and thieves. "They have walkie-talkies and call the bandits when we go out," he said. "If the bandits rob and steal from us, then they get a commission, a percentage." He said he'd been "taken" four times.

At sea, the typical Caribbean camaraderie of fishermen has been replaced by suspicion and fear. The farther from shore we motored, the more vigilant Navin and Ricky became. Nothing is more unsettling on these waters than the sight of a craft approaching fast from the Venezuelan coast. A speedboat with multiple 200-horsepower outboard motors—the fishermen call these boats "go-fasts"—reaches the middle of the gulf in minutes.

Many of the pirate gangs use Güiria as their base. They go to sea with masks, automatic weapons, and crates of ice to preserve the fish and shrimp they steal from fishermen. This air of experience on the water leads many fishermen to suspect that some of the pirates were themselves once fishermen. The pirates often take not only the catch but also the motors, leaving the crews adrift. When they want the boats as well, they shoot the fishermen or force them to jump into the water before speeding away. Dozens of local fishermen have been murdered in the past two years, leading the Trinidad and Tobago newspaper *Newsday* to call the area the "Gulf of No Return."

Ryan Roberts, a Trinidadian I met as he cleaned his boat and unpacked his gear after a day on the water, told me about being attacked by pirates as he fished off the coast of Venezuela in 2015. Five armed men came upon him fast in a speedboat, ordered him to his knees, and interrogated him. "Do you



speak Spanish?" they screamed. He shook his head no—most Trinidadians speak primarily English—and feared he was about to be executed. But as they motored toward the Venezuelan coastline, towing Roberts's boat behind their own, he realized he had been kidnapped. For three days he was held in Güiria. "They go through your phone looking for a few numbers," he says. "They talked to a person who knew me and began to bust shots in the air. And they said, 'I got your friend! I got your friend! We want money.' My friend thought they were fooling. That person called back my phone to see if it was serious, and I said, 'Yes, I have been taken. I am in Venezuela.'"

After days of negotiations and frantic fundraising by Roberts's extended family and friends, the pirates arranged to free him in exchange for a $46,000 ransom. Using WhatsApp, the two sides met in the open ocean. Roberts's brother arrived with the cash, and the kidnappers brought the victim. Roberts's brother threw the money to the pirates; Roberts jumped into the sea and swam for the other boat, guns trained on him the whole time.

Safely returned to Trinidad, he tallied his losses. "They took my boat, my engines, and my family's life savings," he told me. "I sometimes have flashbacks. I remember when they stick a gun in my ribs and they cock the gun." I asked whether he had considered giving up fishing and searching for a safer alternative. He shook his head. "Not really," he said. "That is how I make money. I am a fisherman."

I saw few signs of law enforcement in the port or on the water. The Coast Guard station in Cedros, for example, had no ships or watercraft of any sort, and thus no way to patrol. I stood for a time with a uniformed officer at a tiny military base in town. He looked relaxed as he cradled his automatic rifle and watched a boatload of Venezuelans streaming up from the beach below his lookout point. "They come to shore and trade marijuana and cocaine for food," he said. "Before it was for U.S. dollars, but now they trade for sacks of flour." At night, Venezuelan bandits sneak ashore to steal nets, outboard motors, and fishing gear. "If they get caught here in Trinidad? They will get their heads chopped off," he said matter-of-factly. "We don't get involved. That's just what happens."

With the help of a local investigative reporter, I was able to speak with a Trinidadian smuggler who asked that I identify him as Chivo, Spanish for goat. He lived in a two-story rural homestead at the end of a dirt road in Cedros, and when I first met him, he was surrounded by coconut husks and workers harvesting coconuts by the hundreds. "Virgin coconut oil," he called out, like a street vendor hawking his wares. But after a few minutes, Chivo dropped the act and explained that coconut oil was just a hobby—and a front. His true business is organizing runs across the Gulf of Paria, bringing in immigrants, guns, animals, cocaine, and women destined for prostitution. "The number of boats and activity has doubled in the last year," he said. "Usually each smuggling boat was making one trip a day. Now we have them making three trips per day."

We spent an afternoon walking along his 2-mile-long stretch of private beach. Chivo was a loquacious, well-spoken man who appeared to be in his 40s. He gently mocked the attempt I'd been making to blend in as a tourist. "The first day you arrived, three days ago," he said with a smile, "my men called me and said there was a white boy asking lots of questions. They asked whether they should kidnap you." He delighted in shocking me by quoting the prices he gets from criminal gangs for automatic weapons acquired from the Venezuelan armed forces: $7,000 for an AR-15, $40,000 for a FAL, $2 a round for military-grade ammunition.

Chivo described Güiria as an epicenter for drugs and arms smuggling. To move contraband past the government patrols off the docks, he said, his people just bribed members of the National Guard. "The U.S. dollar is a very big-talking dollar," he said. "It's known as the 'green paper.' You give them to each Guardia Nacional, and they are like billionaires in their country when you use the black market exchange rate. We pay them in dollars and diapers. Huggies. It's a brand they don't get in Venezuela, and they love it."

Chivo referred to a bribe as *la vacuna*: the vaccine. He spoke of Venezuela's current chaos with a professional detachment. He'd spent time there, and he had a fondness for it, but that was in effect a different country. Now it was simply an opportunity for him. "The crisis in Venezuela has had a great increase in income for the proprietors doing business here in Trinidad," he said. "Venezuela has gone contraband. End of story."

TEQUILA'S TOP SHELF

As the quality of mass-produced tequila declines, some small-batch producers are aiming higher. *By Bobby Heugel*
Photographs by Sarah Anne Ward

Siete Leguas' D'Antaño tequila and a 21-year-old Fuenteseca extra añejo

Edited by Chris Rovzar

The margarita—not the martini, or the Manhattan, or even the humble daiquiri—is the most popular cocktail in the U.S. And it's not even close. Since 2002 tequila sales have risen 121 percent overall, while sales of super-premium tequilas grew eightfold, according to the Distilled Spirits Council of the U.S., a trade organization. Vodka volumes, by comparison, gained a mere 2.4 percent; rum declined by 0.2 percent.

It's also been a time of consolidation. Global conglomerates have bought most of Mexico's distilleries, throwing cash around like college students doing shots at the local Tex-Mex joint. In 2002 rum giant Bacardi Ltd. acquired Cazadores, a then-80-year-old Mexican brand; in January it acquired Patrón Spirits Co. at a value of $5.1 billion. Meanwhile, Sauza became part of conglomerate Jim Beam Inc. after a sale in 2005. The following year, Jack Daniel's parent company, Brown-Forman Corp., purchased Herradura, a family-owned brand for more than 125 years. Last year, the largest of them all, Diageo Plc, gave George Clooney and associates as much as $1 billion for Casamigos Spirits Co. Once a mysterious distilled beverage from south of the border, tequila is a favorite for any occasion—from fraternity parties to business dinners at Michelin-starred restaurants.

The agave plant is a unique thing, though. Unlike grains and grapes, it doesn't have an annual growth cycle. A *piña*, the sugar-rich inner heart of the blue agave plant that's roasted and milled to produce the juice, can take up to 12 years to mature. For purists, the production of tequila is best when it's done like Texas barbecue—the slower, the better.

But modern science and the pursuit of profit have found ways to accelerate the life cycle of the agave, using fertilizers and farming techniques to harvest piñas in half the time of traditional growth periods. Alternative roasting techniques can also cut production time. Instead of traditional brick ovens, which allow charred flavors and buttery elements to develop, autoclaves are used to roast most agaves today. Essentially giant pressure cookers, they do the job three times as quickly.

Some brands, such as Casa Dragones, the self-dubbed "World's #1 Sipping Tequila," use more high-tech tools such as diffusers, which are essentially autoclaves on steroids. Developed for rum production and adapted by Tequila Cuervo La Rojeña SA and Sauza, diffusers use more extreme pressure in their chambers to break down the piñas faster. Often, chemicals such as sulfuric acid are included to speed the process further, meaning agaves as young as three years old can be used for production despite lacking the flavor of mature ones. Tequila produced in this manner is later mixed with "agave flavoring"—yes, also developed by scientists—so the result tastes as many consumers expect it should: like something to pour into a blender for frozen margaritas.

This acceleration of the production cycle extends to the fermentation. After the agaves are roasted and milled, the juice would traditionally go into porous wooden vats that harbor natural yeasts and bacteria. These tiny microscopic magicians convert sugars and other parts of the liquid into the particular traits that make each brand unique to the place where it's made.

Yet today, most of Mexico's wooden fermentation tanks have been replaced with stainless-steel vats that are easier to clean and make temperature control a breeze. And chemical accelerators can induce fermentation in 36 hours vs. the three to five days usually required, allowing companies to net millions of dollars quicker.

"Global brands can fall into the allure of maximizing shareholder interest by creating savings on production methods," says Tomas Estes, one of two men recognized by the Mexican government as an "ambassador of tequila" and the owner of his own brand, Tequila Ocho. For the broader public, these changes in tequila are largely missed. Shortcuts permeate most brands, whether it's a $20 bottle of Sauza Hornitos, a $55 Casamigos, or Herradura's $350 Seleccion Suprema. It obviously hasn't hurt sales; while consumers are increasingly curious about small-batch bourbons and artisanal gins, questions about tequila are largely confined to the standard, "Salt or no salt?"

David Suro-Piñera, president of Siembra Azul Tequila, is among the handful of pioneers who began introducing in 1986 quality tequilas to Americans with his Philadelphia restaurant Tequilas. He says these shifts weren't simply the result of technological innovation. "There were significant legislative changes that allowed producers to use immature agaves," he says. "The influence of large companies encouraged this regulatory shift."

Tequila has expanded broadly in the past decade, to sometimes ill effect, but it's also reached higher. As bourbon stock has thinned during the recent American brown-spirits boom, tequila companies have begun marketing their own elite, aged-spirit alternatives. Expensive extra *añejos*, tequilas aged longer than three

years, hold the promise of a new profit center for brands big and small.

Aging tequila as if it were whiskey isn't the easiest thing. You don't want it to adopt too much of a barrel's oaky taste, as with bourbon—the agave flavor itself is what needs to be accentuated.

Nevertheless, some dedicated producers have found a way to preserve the true flavor of agave in the barrel. Among tequila enthusiasts, Siete Leguas' D'Antano extra añejos are considered benchmarks. Founded in 1952 by Don Ignacio Gonzalez Vargas, this connoisseur's favorite has produced beautiful tequila for generations, including the first expressions of Patrón tequila before parting ways with the brand in 2002.

And even though Sauza tequila has been bought and sold in recent years like a blue agave chip stock, not all members of the Sauza family have forgotten their roots. Guillermo Sauza, great-great-grandson of founder Don Cenobio Sauza, now produces Fortaleza, his own independent brand, in the town of Tequila. Typical of the traditional tequilas once common in this region, Fortaleza is earthier, sweeter, and full of roasted agave flavor—it has what a wine snob might call *terroir*. It's a tequila Don Cenobio would be proud to know his descendants produce.

In Arandas, a two-hour drive from the Tequila Valley, La Alteña Distillery is best-known for El Tesoro, which it continues to produce with exceptional standards. Tapatio, the family brand, is made by third-generation distiller Carlos Camarena using both French and American oak for a delectable combination. At $170 a bottle, it's still the best bargain in the tequila market. Tapatio is even available at 110 proof, in case you need an exceedingly firm reminder of what real old-fashioned tequila tastes like.

Five Fine Extra Añejos

Left to right:
Tapatio Excelencia ($170) is often called the single-best extra añejo tequila. Third-generation distiller Carlos Camarena makes it at La Alteña in Arandas, aging it for 5 years in barrels, then in glass jugs for an additional 10.

A sleeper in the category is **Orgullo Añejo** ($50), made at Casa San Matias in Guadalajara. The distillery is rare in that it's owned by a woman, Chief Executive Officer Carmen Villarreal Treviño, who's overseen the production of some incredible tequilas during her 17-year run. Orgullo Añejo is rich and chocolaty—a perfect ending to any great meal, whether the cuisine is Mexican or not.

The **Patrón Cask Collection Sherry Añejo** ($90) is an inspired concoction: Tequila and the flavors imbued by sherry barrels reflect the symbiotic colonial heritage of Spain and Mexico.

Previous page:
The 21-year-old bottle of **Fuenteseca** is an argument for aging tequila over an extra-long period. Made by Enrique Fonseca, this $900 tequila was distilled in copper double-column stills from mostly 1984 plantings harvested in 1993. After being stored for 10 years, they were moved to a higher, cooler climate for an additional 11.

Many consider Siete Leguas the best producer of aged tequila in the world. The family-owned distillery allows the oak to enhance, rather than overtake, the spirit. (With extra añejos, the oak is often so dominant that you can barely recognize the spirit as tequila anymore.) This five-year-old **D'Antaño**, at $279 per bottle, has a rare, incredible flavor.

PROP STYLIST: PAOLA ANDREA RAMIREZ

Patrón's Paradise

Welcome to La Casona, a luxury resort from the tequila maker where nobody can book a room. *By Jennifer Miller*

On a warm November evening in Atotonilco El Alto, Mexico, a group of Midwestern spirits distributors and restaurant employees sipped Patrón tequila cocktails and nibbled charcuterie around the world's most luxurious fire pit. They'd spent a long day touring the distillery of Patrón Spirits Co. and were settling in at the company's guest house, La Casona, for an evening that Peter Leder, director of hospitality, promised would be "full of surprises." One distributor, Tyler Prange, kicked back in his dinner slacks: "It's nice that you don't have to stay in a budget hotel."

Everybody laughed, because La Casona, which Patrón officially opened in January 2017, isn't budget anything. In recent months it's hosted celebrities (Guillermo del Toro, Padma Lakshmi), culinary luminaries (Robert Irvine), journalists, and social media influencers. The property is invite-only and totally free, designed solely for people whose connections or digital platform can help promote Patrón as emblematic of true luxury. "Every single detail of our brand matters: the cork, the signed labels, the ribbons that are hand applied," says Lee Applbaum, Patrón's global chief marketing officer. "We had to apply the same spare-no-expense details of making the tequila to building La Casona. Could I charge somebody $5,000 a night to stay here? If the answer is no, then it's not yet up to par."

Patrón was one of the first brands to popularize tequila made entirely from agave and, by extension, the idea that the spirit isn't just for spring breakers. In 2016, 100 percent agave tequilas reached more than 50 percent of U.S. imports for the first time. Competitors including Don Julio 1942 and Herradura are growing, but they aren't close to cracking Patrón's market share. Of the 3.26 million cases of luxury tequila sold in the U.S. in 2016, 2.3 million were Patrón—a number that made the brand attractive enough for Bacardi Ltd. to value it at $5.1 billion in a purchase this January.

Success has created its own problems for Patrón. "There's a perception that we're this massive brand that's mass-produced," says KJ Pignatelli, Patrón's state manager for Indiana and Wisconsin, who'd invited the Midwesterners to Mexico. The misconception has many sources. The company has a large headquarters in Las Vegas, so people don't realize the product is distilled and bottled in Mexico, much of it in small batches using a wheel carved out of volcanic rock to macerate the agave and squeeze juice from the pulp. Its co-founder is also American (billionaire John Paul DeJoria of Paul Mitchell hair-care fame), which reads as inauthentic. And the brand's appearance in pop lyrics, usually in the context of a big night at the club, suggests rowdiness, not sophistication. "There are too many incorrect stories," Pignatelli says.

La Casona has only 20 rooms, and the overall aesthetic is above and beyond. Ceilings loom at more than 30 feet. Beds are 5 inches longer than a standard king. And the bar—featuring 40 cocktails and stocked with 18 high-end tequilas, all Patrón—is lined with leather chairs so deep you feel like a child. Notably, there's no pool. Patrón decided that free-flowing alcohol and swimming didn't mix. But there is a VIP lounge and bar for guests who are deemed very, very important. (Del Toro has used it as his personal work space.)

After the fire pit, the staff ushered the guests (two Instagram/YouTube stars among them) into the dining room for a dinner of microgreens with beets, a beef fillet with mole, and, finally, a custard, plated with various mousses and candies. At last came the "surprise" they'd been promised: a six-member mariachi band, playing *Hotel California* and *Can't Take My Eyes Off You*. The performance, like everything else about La Casona, was fully on-the-nose and altogether too much. Ⓑ

Rooms at La Casona overlook Patrón's distillery

PIA RIVEROLA FOR BLOOMBERG BUSINESSWEEK

The Race to Rest

Among top amateur athletes, recovery gives them the real competitive advantage

By Jason Kelly

High-intensity workouts are more popular than ever, as lay people mimic the way professional athletes train. Now coaches and doctors have brought that elite approach to the recovery process, helping non-pros use high-tech tools to avoid injury and heal faster.

"We're definitely seeing a proliferation of recovery services," such as cryotherapy and infrared saunas, says Alexia Brue, chief executive officer of the health website Well+Good. But the benefits of these immersive procedures typically come with frequent use, something too expensive or inaccessible for people not named Tom Brady. For the average workout fiend, the most effective products to arrive on the scene are compression sleeves, which can feel as ridiculous as sitting in a massage chair at the mall. In practice, however, I've found them to be amazingly restorative.

Boutique gyms such as Tone House Fitness LLC, a Manhattan studio that claims to have the hardest workout in New York, offer compression technology using the NormaTec Pulse system, which aims to improve circulation and reduce soreness after intense sessions. To train for the latest *Star Wars* film, the cast used a product called Game Ready, whose compression sleeves are connected to a device that rapidly circulates ice water while mimicking natural muscle contractions. It also looks like a proton pack from *Ghostbusters*.

I'm more of a runner, so when I heard that the Mile High Run Club in New York had incorporated compression sleeves from NormaTec and another brand, Air Relax, into a recovery room it added in January, I was intrigued. MHRC was founded in late 2014, and although its name evokes Denver—and nods to Colorado's spirited running ethos—both of the club's locations are in New York City. The class I took in a studio near Manhattan's Madison Square Park was called High 45, a 45-minute endurance workout led by a former college cross-country runner named Corinne Fitzgerald.

After class, a friend and I took seats in the recovery room, a windowless space that feels like a basement doctor's office. We reclined in comfortable leather chairs and slipped on the leg sleeves, which zip up heel-to-hip like a pair of sleeping-bag pants. When they were plugged in, things got interesting. My legs were fully encased, making for a comprehensive squeeze along my quads as well as my hamstrings. And unlike a torturous post-run massage from a human, this experience was completely soothing. (I did the NormaTec; my friend, who used the Air Relax, raved about it, too.)

The sleeves use air to compress and knead your legs in an effort to increase circulation and speed the healing process for muscles tormented by classes such as Dirty 30 or Dash 28. One coach, Vinnie Miliano, swears by them; like most here, he's got his own high-octane racing goals and is training to set a personal best in the half-marathon. He retreats to the Mile High recovery room every chance he gets.

The science behind air compression for athletes was born from treatments once reserved for muscular and circulatory disorders, but amateurs are increasingly using them as a way to avoid injury. Mile High founder and CEO Debora Warner saw offering the technology as an opportunity to serve affluent, serious runners looking for anything to be ready for the next workout. "We've been trying to allocate as much physical space for recovery for our runners as we can," she says.

In addition to the $34 it costs for a single class (though, as at most studios, you can buy in bulk and get a discount), a recommended 15-minute recovery session is $15. You could also buy your own Air Relax system for about $400. NormaTec's line begins at about $1,500.

I've been known to splurge on running shoes and races in far-flung locales, but I'm not quite ready to spring for my own recovery system. I did feel great after my workout at Mile High, though. A buck a minute might seem a bit indulgent, but the opportunity cost of not being able to run at all may be worth the hedge. B

ILLUSTRATION BY CYNTHIA KITTLER

Manhattan's Forlorn Mansions

For many New Yorkers, a superbly appointed town house is the dream home. So why aren't those properties selling?
By James Tarmy

7 E. 88th St. has taken an almost 33 percent price cut

Seven E. 88th St. is a 24.5-foot-wide, six-story limestone town house a half-block from New York's Central Park. Along with its 19 rooms (6 are bedrooms), it features a rooftop solarium, an elevator, a rear garden, and a fourth-floor balcony.

The mansion was listed at $44 million in 2014. A year later it was taken off the market, only to reappear in 2016 for $34.95 million, where it languished for a year and a half, according to Zillow. In October the price was cut yet again: It's now listed with Leslie J. Garfield & Co., a boutique real estate agency that specializes in town house sales, for $29.95 million, almost 33 percent below its original asking price.

The very top of New York's real estate has sagged over the past two years as a series of new buildings aimed at the world's richest has flooded the market. "The [Manhattan] market is softer at the top and then gets tighter as you move lower," says Jonathan Miller, president and chief executive officer of the appraiser Miller Samuel Inc. "And the town house market is at the top." Although town houses represent only about 2 percent of Manhattan real estate transactions, the trend is clear, particularly at prices above $15 million: Mansions have gone out of style.

For the uninitiated, this may come as something of a surprise. New York is full of generic apartment buildings, but the stately mansions that line Manhattan's side streets represent a level of privilege that few glassy condominiums can confer.

Add to this that these houses are, square foot to square foot, a better deal. In 2016 the average price per square foot for a luxury town house was $2,665, according to a report by Douglas Elliman Real Estate and Miller Samuel, whereas the average luxury condominium price per square foot was $3,015. They could be bargains.

They should be, says Richard Steinberg, a broker for Douglas Elliman, but sellers refuse to price their houses accordingly. Steinberg recently took over the listing for 8 E. 62nd St., a 14,700-square-foot mansion that features six bedrooms, a spa with a plunge pool, a Zen rock garden, and a wall covered in Hermès leather. The house sat on the market for more than a year with a different brokerage; Steinberg took it over in December 2017 and immediately cut its price from $84.5 million to a more modest $79.5 million.

"Some sellers have unrealistic expectations, and those are the houses that are not selling," he says. "But if you have a real seller who understands the market and the economy

60 E. 66th St., on sale for $18.5 million, was first listed in 2015

77 Charles St. sold for $15 million in 2017, $2.95 million below the asking price

and lets you reduce [the price] 5 percent, then it will find a buyer." Miller echoes this sentiment. "A lot of inventory on the market suffers from a heavy dose of aspirational pricing," he says. "And then the listings sit on the market for a while, and that creates a perception that the market is weaker than it is."

It's not just sellers, though, who are creating obstacles to sales. There's a problem on the buyer side, too. "You can be a very successful lawyer or investment banker and not be a gazillionaire to afford a $10 million or $15 million home in New York," says Richard Pretsfelder, a broker at Leslie Garfield. "But once you get to the higher price points, there's no question that you have to have a more profound base of wealth. And there are fewer of those buyers out there to saturate the high-end real estate market."

A large segment of those shoppers may be international investors, brokers say. And they may be responsible for a chunk of the sales going through; a town house can be as compelling a place to park money as a foreign-money honey pot such as 432 Park Ave., currently the tallest residential building in the world. "Town houses have a strong appeal to foreign buyers," Miller says. "There's no one in your business."

But for buyers who want to reside in the home they're buying—some of whom have three or four other houses already—there's great appeal to the ease of living in a condo, where "you just pay maintenance or a common charge, and everything is taken care of," Miller says. (Of course, he notes, if you can afford a $50 million mansion, you can also afford to hire a management company to handle housekeeping.) And there are other drawbacks to life in a town house. Unlike sky-high condo towers, town houses don't come with a view, and not everyone wants a living space spread across seven floors. "I would venture to say that the $20 million-town-house-and-above market is almost exclusively reserved for families with a lot of children," Steinberg says. "A large $20 million apartment might only have two or three bedrooms but a huge entertaining space."

So, with prices high, inventory sitting on the market, a niche, high-maintenance product, and a thin sliver of possible buyers, Manhattan's mansions have entered, over the past two years, a buyer's market. "If you get a good buyer making a bid for a town house, you do everything to close the deal," Pretsfelder says, "because you know there isn't a deep pool [of other buyers] behind them." Ⓑ

Happy New *Queer*

In the Netflix remake of the cultural milestone *Queer Eye,* the experts are the ones learning the most. *By Chris Rovzar*

There's a moment in the first episode of the new *Queer Eye,* an update of the groundbreaking makeover show that ran on Bravo from 2003 to 2007, that will feel coolly foreboding to any liberal city slicker.

A long table of gray-haired white men sit at a diner in Kentucky, chatting over coffee and pancakes. It's a tableau that the political-news media has chosen to embody conservatism, a love of Donald Trump, and a lack of tolerance. Many queer people would approach it with trepidation.

Not so for the five outspoken gay men who star in this eight-episode series from Netflix Inc. Led by the bouncing tresses of hairdresser Jonathan Van Ness, the gang invades the red-hued diner with squeals and claps. There is a pause. Then, the entire table looks up, smiles, and begins to cheer.

Although obviously staged, the scene is a breath of fresh air. The original series arrived in the early days of self-improvement television with the premise that a group of gay men would enter a subject's life and upgrade his lifestyle. Each had a specialty: fashion, grooming, interior design, etc. To the subjects of the show, the experts were alien forces, confusing and intimidating. They sprinted into homes like superheroes at the scene of a crime, answering a call for help on their flip phones. The producers didn't make the political statement overt, but the effect was to introduce gay people and culture into American homes at large. The characters—notably stylist Carson Kressley, grooming expert Kyan Douglas, and cook Ted Allen—delivered memorable one-liners and became enduring pop culture icons.

The premise of the Netflix version is the same, though they've dropped "*for the Straight Guy.*" (In one episode, the team gently helps a gay man to come out.) The puppylike Van Ness, decorator Bobby Berk, doe-eyed chef Antoni Porowski, stylist Tan France, and "culture expert" Karamo Brown are based out of Atlanta and focus on fixing up the men of the South. But the program is decidedly woke, taking on issues of race and other cultural divides. "The original show was fighting for tolerance," says France, who's of Pakistani descent. "Our fight is for acceptance."

Compellingly, in this rendition, that fight goes both ways. Throughout the season, the five often have their own preconceptions upended, such as when they make over Georgia police officer Cory Waldrop. While driving home from a suit-shopping trip, Brown, who is black, tells Waldrop that his own son didn't want to get a driver's license, "because he was scared he was going to get pulled over and shot by a cop." Waldrop explains that as a white officer, he gets stereotyped as well, and he laments the bad actions of some others in uniform. He reassures Brown that to him, "black lives matter."

The episodes can feel forced or too pat, but the sweetness of understanding unites them all. Almost every one ends with a man telling five relative strangers he loves them while crying through brand new eyebrows.

Since shows such as *Trading Spaces* and *What Not to Wear* premiered in the early 2000s, the makeover genre has become big business. In 2017, HGTV, with real estate rehab shows such as *Property Brothers* and *Fixer Upper*, was the sixth-most watched network on all of cable. That year parent company Scripps Networks Interactive Inc. (which also owns the similarly themed DIY Network) saw $2.4 billion in advertising revenue. *Queer Eye* is Netflix's first entry into the space.

Unfortunately, the show doesn't have the magic of the original: The cast isn't as naturally winning, and the tips are rendered silly by the larger social issues the men confront. Nor is the advice as indelible as before; a whole generation of guys still think of Douglas whenever they apply cologne by using the method of "spray, delay, and walk away."

Still, the episodes are endearingly joyful, especially in low-key moments such as when a group of firemen in Covington, Ga., blithely takes a dance class with the cast as their partners. And even though the cop episode ends with a lesson in homemade coconut lip exfoliant, the feel-good takeaway is actually how important it is to see people for who they really are. In a stylish twist, the show's strength comes not from lecturing, but from listening.

ILLUSTRATION BY JOOHEE YOON

Snooz White Noise Machine

The app-enabled way to muffle those bumps in the night. *Photograph by Jamie Chung*

THE CHARACTERISTICS

A Kickstarter project come to life, Snooz LLC was co-founded by Eli Lazar, a mechanical engineering graduate of the University of Illinois. This 16-ounce white noise machine uses a real fan instead of prerecorded sound, and it comes in a knit-wrapped round shape that blends in with just about any environment at home or on the road. The Snooz uses an app that easily pairs over Bluetooth to adjust the fan speed, program automatic start and stop times, and calibrate for nurseries so decibels are within safe ranges.

THE COMPETITION

Even the best digital machines, such as the $80 Deep Sleep Therapy Machine from HoMedics, have complicated interfaces and project canned loops from speakers. The Snooz, also $80, costs more than Marpac's $50 Dohm Classic, the standard-setter since 1962. Both produce sound using a mechanical fan, and both are simple to operate with little more to control than fan speed and tone. But the Dohm only has two settings, compared with the Snooz's 10, and it has a more institutional look and feel.

THE CASE

The fan inside makes a real difference, no matter what analog skeptics say. And at less than 6 inches wide, the Snooz is small enough to pack in a carry-on. Touch-sensitive buttons power it up or down and adjust speed; change the tone by twisting the top of the device. The digital interface is also well-designed: You can change from a light setting, which sounds like a standard table fan, to a deep drone that mimics the inside of an airplane cabin, without raising your head off the pillow. *$80; getsnooz.com*

PROP STYLIST: KODY PANGBURN

Gérard Détourbet

The designer of one of Renault's best-selling cars doesn't make nice at work. *By Ania Nussbaum*

SIX YEARS AGO, AFTER MORE than four decades with Renault SA, Gérard Détourbet decided he was done. He was in Chennai, leading a group of engineers from Renault and its strategic partner, Nissan Motor Co., in an attempt to create a low-cost vehicle for the Indian market, when some of his employees left his team rather than make cost-cutting modifications they found impractical. "It pissed me off," he recalls. He sent a letter to Carlos Ghosn, then at the helm of the Renault-Nissan partnership, saying he was headed back to Paris without further notice.

It wasn't the first time he'd done such a thing—in fact, it was Détourbet's fifth resignation. That none of them was accepted is a testament to his value at Renault. After extracting a promise of total autonomy from Ghosn, Détourbet went on to produce the Kwid, a $4,000 hatchback that by 2017 represented about 82 percent of the brand's sales in India. "What he's done in the past 10 years explains the bulk of Renault's rebirth as a profitable company that is able to expand outside Europe," says consultant Bernard Jullien, the former director of French automotive think tank Gerpisa. Today, no-frills cars such as the Kwid deliver 35 percent of the carmaker's total sales.

Born and raised in Paris, Détourbet studied math until the violent student demonstrations of 1968 roiled the city's university community. He decided to leave academia and soon got a job in the IT department at Renault. Even today, "cars don't make me dream," he says. He's always had an obsession with price, however.

The Kwid lacks many of the amenities considered standard in a consumer vehicle. Drivers have to stick their hand out the window to adjust the side mirrors, for instance, which saved Renault a few cents per vehicle. Safety isn't necessarily a priority, either: The Indian version of the Renault Duster, another Détourbet project, scored zero out of five stars in an international crash test. (Renault says all its vehicles meet or exceed the safety standards set by Indian regulatory authorities.)

So far the Kwid is available in only a handful of countries, including Brazil and Indonesia; its next big market is Iran. Meanwhile, Détourbet is plotting another feat: a no-frills electric car for the Chinese market, planned for 2019. That's a tight timeline, which may cause tempers to flare. "Many engineers come to me because they want to work with me," he says. "But there are others that I pissed off so much that they don't even feel like it." Ⓑ

b. 1946, Paris

Eats the same thing for dinner every evening: a fish dish at the hotel where he lives in Chennai, India

-

His cellphone ringtone is set to bagpipes to evoke the Scots' reputation for thrift

ILLUSTRATION BY SAM KERR


WITH THE RIGHT GUIDANCE,
THIS IS SAVING FOR RETIREMENT.
At Transamerica, we've discovered that wealth and health are inextricably connected. Something as simple as packing your lunch can save you $1,080 a year. Show your clients the power of combining wealth and health.
Be part of what's next at Transamerica.com
© 2017 Transamerica Corporation. All Rights Reserved. 21668-ADBRAD1017
Source: Visa Lunch Survey, 2015
TRANSAMERICA®