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Bloomberg Businessweek

March 9, 2020

The Optimist

Larry Kudlow, Trump's top economic adviser, is a relentless cheerleader. But is he right? 26

Bloomberg Businessweek
March 9, 2020

◀ Welcome to B&N's *self* self-help aisle

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CORRECTION

In "Putting a Price on the Boris Bounce" (Economics, March 2), we incorrectly stated that France's gross domestic product grew 1.3% in 2019. The correct figure is 1.2%.

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■ COVER TRAIL

How the cover gets made

❶

"This week's story is about the markets. They're not doing great."

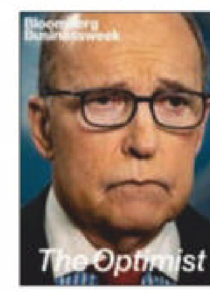
"Are we in a dip? Should I buy the dip?"

"I remind you again, I'm an editor, not a financial adviser."

"But I love dip."

"Yes I know. You'd probably get along with our cover subject, Larry Kudlow. He always sees the positivity in the economy, no matter how bad things are."

❷



"You sure we're talking about the same person?"

"Yep. *And* he's agreed to a photo shoot."

"Wow, great news! Let's ask him for his brightest, sunniest bull market smile."

Cover: Photograph by Gabriella Demczuk for *Bloomberg Businessweek*

ORANGE TREES: PHOTOGRAPH BY AMIR LEVY FOR BLOOMBERG BUSINESSWEEK. KUDLOW, TOP: DAVID BURNETT/CONTACT PRESS IMAGES


FOLLOW THE JOURNEY ON
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TURN OFF
YOUR LIGHTS
FOR EARTH HOUR
SATURDAY, MARCH 28, 2020 8:30 PM
worldwildlife.org/eh20
WWF
60+
EARTH HOUR

By Benedikt Kammel

● Globally, almost 100,000 cases of the novel coronavirus have been reported.

❶ A growing number of companies are preparing for the economic fallout from the outbreak—which the CDC and WHO say has a fatality rate of 3.4%—and governments and central banks are responding with stimulus measures.

❷ Auto sales in China, the hardest-hit country and the world's largest car market, fell 80% in February from the year before, the biggest collapse on record.

❸ After the U.S. Federal Reserve cut overnight rates by 50 basis points in an emergency move on March 3, the yield on the 10-year Treasury bond fell below 1%. It's the first time in 150 years that the world's benchmark bond has dropped to such levels.

❹ The House and Senate agreed on an $8.3 billion emergency spending measure to fund the U.S. government's response to the outbreak. The bipartisan bill more than triples the amount President Trump requested from Congress last week.

● Tornadoes struck Cookeville and other towns in Middle Tennessee just after midnight on March 3, killing at least 25 people.

● Waymo, Alphabet's autonomous-vehicle company, attracted $2.25 billion from a group of venture capitalists, private equity firms, and other automotive companies. It's the first time the business, which is pushing to commercialize its self-driving technology, has turned to outside investors.

● Thermo Fisher agreed to buy Dutch drug testing company Qiagen for about

€9b

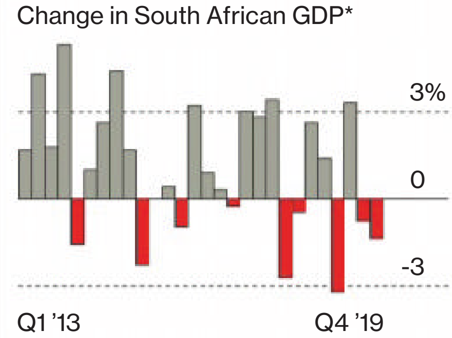
Qiagen, whose equipment is used in medical research, recently started developing kits to help detect the new coronavirus.

● North Korea launched two short-range missiles on March 1.

The country's first weapons test in three months came around the first anniversary of the failed summit between North Korean leader Kim Jong Un and President Trump.

● South Africa's economy fell back into recession.

Change in South African GDP*



Among other problems, the continent's most industrialized nation continues to suffer from widespread electricity cuts. This second recession in two years is a blemish for President Cyril Ramaphosa, who came to power two years ago promising to restore stable growth.

● Since late February, when Turkey decided to stop preventing refugees from crossing into Europe, more than 10,000 migrants have arrived on its border with Greece. Turkey hosts more than

4m

refugees, the vast majority of them from Syria.

● "I'm here to report: We are very much alive."

Former Vice President Joe Biden staged a comeback on the biggest primary night of the Democratic presidential campaign, scoring victories in 10 states, including upsets in Texas and Massachusetts. ▷ 32

● Michelle Janavs, whose family made a fortune creating the Hot Pockets frozen pizza sandwich, was sentenced to five months in prison and ordered to pay a $250,000 fine. She admitted to trying to help two of her daughters get into college by paying $300,000 to have a proctor correct their standardized admissions tests.

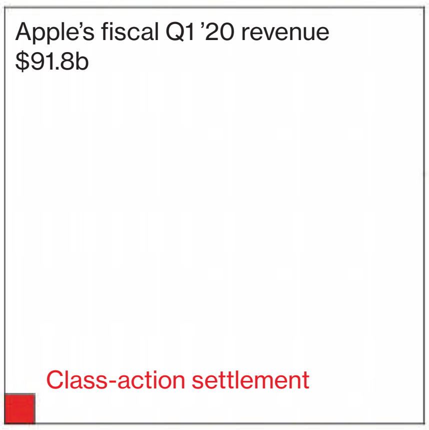
TENNESSEE: BRETT CARLSEN/STRINGER. KIM: KCNA/REUTERS. BIDEN: PATRICK T. FALLON/BLOOMBERG. HOT POCKET: COURTESY HOT POCKETS.
*QUARTER OVER QUARTER, SEASONALLY ADJUSTED AND ANNUALIZED. DATA: STATISTICS SOUTH AFRICA

IN BRIEF

● Apple agreed to pay

$500m

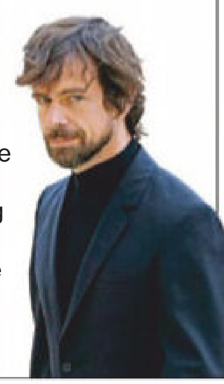
to settle a class action after admitting to slowing down older phones, including its iPhone 6 and 7 models.



When the throttle was discovered in 2017, Apple said it was aiming to reduce stress on older batteries to avoid accidental shutdowns. Owners of the covered models stand to receive

$25 each.

● Jack Dorsey, Twitter's co-founder and CEO, is coming under pressure from Elliott Management.



The activist hedge fund is building a stake in the social media company and pushing for change, including possibly replacing the CEO, people familiar with the matter said.

● International efforts to stabilize war-torn Libya were dealt a blow after the UN envoy to the country, Ghassan Salame, asked to be replaced because of failing health. Salame's decision to step down comes just days after the latest talks in Geneva to broker a cease-fire in Libya ended without success.

● In the biggest leveraged buyout transaction in Europe in a decade, German steelmaker Thyssenkrupp agreed to sell its elevator business to a group of private equity firms for

€17.2b

The engineering icon needs the funds to stabilize itself after years of shrinking demand and overseas investments gone wrong.

● Jack Welch, who became a champion of corporate efficiency during his years running General Electric, died at the age of 84 of renal failure. ▷ 16

● Nokia replaced CEO Rajeev Suri, who's led the mobile communications pioneer since 2014, with Pekka Lundmark, the chief of Finnish power company Fortum. Nokia has fallen behind Ericsson, Huawei, and other rivals in the critical rollout of fifth-generation mobile equipment.

● Harley-Davidson is looking for a new boss to navigate its uncertain future.

The iconic American motorbike maker, already struggling as its customer base ages, has also faced higher tariff costs from the trade war. For now, Chairman Jochen Zeitz, a German who used to run sportswear maker Puma, will lead the company.

AGENDA

▶ Budgeting Brexit Britain

On March 11, Chancellor of the Exchequer Rishi Sunak presents the U.K.'s first budget since Brexit took effect. Prime Minister Boris Johnson, who wants to reform taxes and public spending, has a strong majority for his policies.

▶ The European Central Bank could shift its monetary policy on March 12. It has vowed to support the region's growth prospects, which have been dented by the coronavirus outbreak.

▶ The Healthcare Information and Management Systems Society's conference in Florida from March 8-13 will feature President Trump as a speaker.

▶ Elon Musk, whose Starlink project is launching thousands of satellites to enable remote internet access, will deliver a keynote at the Satellite 2020 conference on March 9.

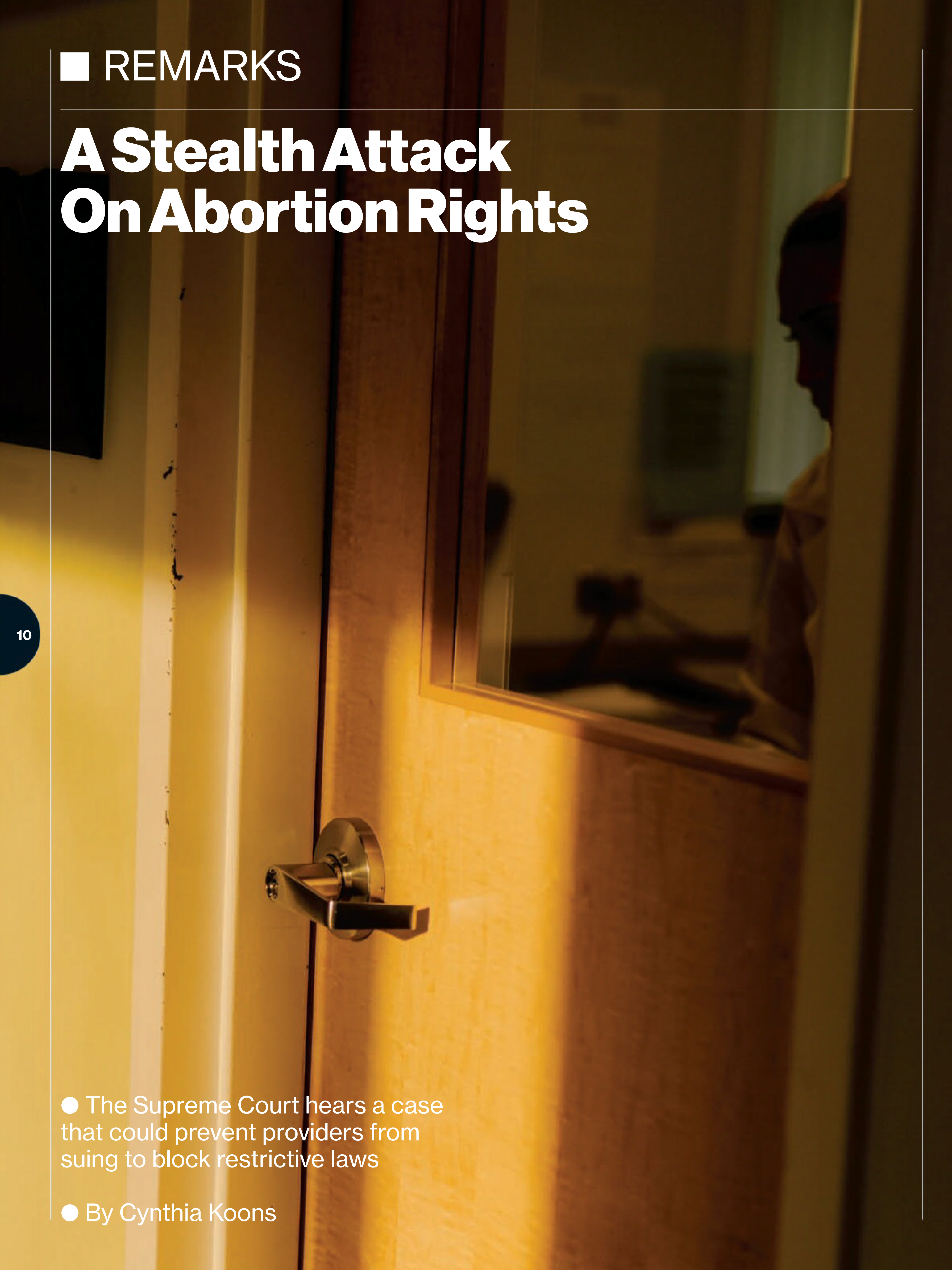
▶ The U.S. Department of Agriculture releases its latest supply and demand estimates for corn, soybeans, and other crops on March 10, a key gauge as the planting season nears.

▶ Harvey Weinstein returns to court on March 11 to learn how much time he'll have to serve in prison after being convicted in February of sexual assault and rape.

▶ At its annual meeting on March 11, Disney will bid farewell to Bob Iger, who's handing over the CEO job after more than a decade to theme-parks head Bob Chapek.

ILLUSTRATION BY AHAOK. DORSEY: CHESNOT/GETTY IMAGES. BIKE: COURTESY HARLEY-DAVIDSON. DATA: COMPILED BY BLOOMBERG

A Stealth Attack On Abortion Rights



● The Supreme Court hears a case that could prevent providers from suing to block restrictive laws

● By Cynthia Koons

In 2016 the U.S. Supreme Court struck down a Texas law that required a doctor performing abortions to have admitting privileges at a nearby hospital. On March 4 the court heard arguments in a dramatically similar case, a challenge to a Louisiana law that has the same prerequisites the court deemed unconstitutional four years ago. Anti-abortion groups are hoping the addition of two conservative justices to the court since 2016 will lead to a different outcome. Like the Texas suit, this one could have dire implications for women in the U.S. trying to get an abortion. Unlike the Texas suit, it could also halt almost all litigation defending their right to seek one in the first place.

The issue is who is entitled to challenge abortion laws. The Louisiana case, like the one from Texas, was brought by providers. The court has agreed to hear arguments not only for and against the law but also on the question of standing—whether the doctors bringing the case are entitled to be plaintiffs in the first place. During oral arguments on March 4, Justice Samuel Alito questioned whether providers should have the right to challenge health-and-safety regulations on their patients' behalf, saying they might have a "real conflict of interest" with their patients.

Preventing the doctors from serving as plaintiffs could have far greater ramifications for abortion access in America: It could cause abortion lawsuits to grind to a halt, if only because women seeking to end a pregnancy don't have time to wait for potentially extended and expensive courtroom procedures. And it would deprive abortion clinics, already under siege, of a vital weapon to defend themselves. "It's difficult to predict just how damaging the decision would be because this is such a radical proposition," says Michelle Banker, senior counsel at the National Women's Law Center.

For four decades, U.S. courts have allowed abortion doctors to argue cases on behalf of their patients, representation made possible by the court granting them "third-party standing" to do so. A case in 1976, *Singleton v. Wulff*, found it "generally is appropriate" for providers to contest regulations on their patients' behalf. This concept can be invoked in other instances, to allow schoolteachers to fight cases on behalf of their students, or prosecutors on behalf of jurors, provided they meet certain criteria.

The anti-abortion movement has shifted its tactics in recent years, particularly as state houses, the Supreme Court, and other federal courts have become more conservative. Efforts used to be focused on protesting outside clinics. But in the past decade the movement has found a more effective way to limit abortion access: pushing lawmakers to pass measures targeted at restricting clinics' ability to do business. There's literally a playbook for this. Americans United for Life published *Defending Life 2020*—the 15th anniversary edition—which encourages anti-abortion activists to use state legislative sessions to push laws that target providers. A state-level group called Louisiana Right to Life (working with the Bioethics Defense Fund) takes credit for drafting the admitting privileges law now before the Supreme Court.

On the question of standing, Louisiana is arguing that doctors who provide abortions don't have the "closeness" needed to establish a relationship quite like other physicians have with their patients. "And the whole history of constitutional litigation over abortion shows that women can and do assert their own alleged rights in court," the state said in its petition to the Supreme Court in May.

Abortion-rights activists disagree. Putting the weight of litigation on women seeking abortions forces them to find lawyers in the short window in which they need the procedure but are unable to get it done. A woman has to be pregnant when she files the case in order to be a plaintiff. The woman then has to be willing to stick with the case for a significant amount of time: Louisiana's law is being challenged at the Supreme Court six years after it passed. The majority of women seeking abortions already have children, and half live below the federal poverty line. A woman unable to find a doctor to terminate an unwanted pregnancy would not only need to have the time and money to pursue a legal case, but would also need to know that a hospital-admitting-privileges law was to blame for her local clinics' closures.

Doctors and clinic owners have always been on the front line of the abortion wars. That's how the Supreme Court found itself, in 2016, hearing *Whole Woman's Health v. Hellerstedt*. Amy Hagstrom Miller, owner of the Whole Woman's Health clinic in Texas, sued to block a 2013 law that would have required abortion doctors in that state to have admitting privileges at a nearby hospital and force her to turn her clinics into surgery centers.

Proponents of the laws argue they're designed to protect women. But fewer than 1% of abortions result in an emergency room visit for a complication. And the procedure's relative safety creates a Catch-22: Hospitals don't usually give privileges to doctors who don't regularly send patients. Says Banker of the National Women's Law Center: "Ultimately what they're trying to do is vilify abortion clinics and politicize this long-standing doctrine [of standing] and close the doors to people whose rights have been violated."

In Louisiana, should the law proceed, only one physician would be able to provide services for the 10,000 women who get abortions each year, according to the Center for Reproductive Rights. In Texas, half of the clinics closed as a result of the state's admitting privileges law, one of Hagstrom Miller's among them. She was able to take her fight to the Supreme Court because as a provider she had standing.

The surprise wasn't that Louisiana made the argument on standing, but that the court decided to take it up. In doing so, it has legitimized a new line of attack for anti-abortion activists. "Even if the Supreme Court doesn't get rid of third-party standing or doesn't rule against us in this case, we're going to continue to have this battle for years to come," says T.J. Tu, senior counsel at the Center for Reproductive Rights, which is representing the plaintiffs. "What we're seeing is the anti-abortion legal movement frame the terms of the conversation for the next decade." Ⓑ —*With Rebecca Greenfield*

PHOTOGRAPH BY HEATHER STEN FOR BLOOMBERG BUSINESSWEEK

How the Virus F
Killed a High R

● HNA was once a symbol of an ascendant China. Then debt—and coronavirus—did it in

As it bought and borrowed its way to becoming one of the country's most prominent private companies, travel and finance conglomerate HNA Group Co. sought to embody a new brand of Chinese capitalism: aggressive, unafraid of risk, and above all global, with assets and operations on every inhabited continent. Its co-founder and chairman, a devout Buddhist named Chen Feng, styled himself as a sort of Asian Warren Buffett, advocating a "harmonious" management style based on Confucian principles and boasting that HNA would one day be among the world's 50 largest corporations.

That dream, it turned out, couldn't withstand problems close to home. On Feb. 29, the government of Hainan, the island province where HNA is based, began taking control of the company, appointing new leaders and assuming management of its debts. The move, the first step in what could be a slow-motion takeover, will see HNA's remaining assets sold off, according to people familiar with the matter. It paves the way for a humiliating end to one of China's most remarkable corporate stories, one that saw a little-known conglomerate become the core of an international financial empire, all run from an out-of-the-way resort island in the South China Sea.

The proximate cause of HNA's downfall is, of course, the new coronavirus outbreak that brought China's economy to a virtual dead stop, taking an especially heavy toll on travel and tourism. Globally, about 80% of China flights have been halted, and the International Air Transport Association estimates the virus epidemic could cost the industry almost $30 billion in lost revenue.

But the seeds of HNA's demise were sown long

Edited by
James E. Ellis

inally
oller

◀ Disinfecting a Hainan Airlines flight

before the virus emerged in central China late last year. From the earliest days of HNA's expansion, Chen and other top executives sought to collect a seemingly random array of trophy assets around the world with competing mandates and vastly different challenges. The purchases ranged from blue-chip Manhattan real estate to an airport ground-handling company, a computer distributor, and even a hedge fund. HNA, which Chen started as an airline, would do all this by amassing one of the largest debt loads in the world—about $86 billion at the end of 2017—and spending more on interest that year than any other nonfinancial company in Asia. Perhaps most audaciously, it acquired these assets—which included major stakes in companies such as Deutsche Bank AG, the most important lender in Europe's largest economy—without disclosing much about HNA's finances or the identities of its ultimate owners.

"Its aggressive expansion style with high debt levels, which…benefited from China's decades-long high economic growth, broke down when China started to tighten credit amid a decelerating economy," says Liu Feng, a Hainan Normal University professor who studies Hainan's economic policies. "HNA's management was aware of the problem years ago, but the group is like a big ship—it's so difficult to change direction." HNA said the government's actions don't translate to a takeover and doesn't involve changes in the controlling shareholder. A representative for HNA declined to comment beyond the company's public statements.

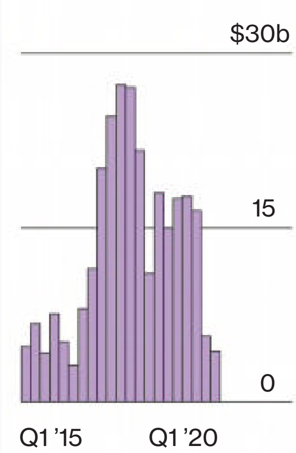
HNA's time at the top of China's corporate pile was brief. In 2017 it seemed determined to announce its arrival on the world stage, putting on glitzy events at the Petit Palais in Paris and Hampton Court Palace in London. An unprecedented dealmaking spree gave it a quarter of hotelier Hilton Worldwide Holdings Inc., 10% of Deutsche Bank, and a vast array of high-end real estate, including a Park Avenue tower that cost it an eye-popping $2.2 billion.

Serious problems were mounting even then. In April of that year, Guo Wengui, a wealthy Chinese businessman who lives in New York, alleged that HNA was connected financially to the families of top Communist Party officials, a public airing of rumors that had circulated for years in financial circles and contributed to decisions by some investment banks to avoid doing business with HNA.

HNA denied Guo's claims and sued him for defamation, but it struggled to present a convincing alternative account of its ownership structure. Its largest listed shareholder, Guan Jun, controlled a stake worth as much as $18 billion but was a virtual ghost, almost never seen in public. When Bloomberg News reporters visited addresses associated with Guan in Beijing and Hong Kong, the office of a company he was listed as controlling was empty and locked, while an apartment he had given as his address was occupied by someone else.

Aware that questions about its ownership were becoming an obstacle to expansion, HNA made what it described as a complete disclosure. Guan, Chief Executive Officer Adam Tan told the *Financial Times*, had just "held the stake for us" before transferring it to an HNA-affiliated foundation. The casual admission that a putatively major shareholder was being used as a straw man arguably raised more questions about HNA than it answered, as did the company's statement that, from then on, it would be controlled primarily by two previously unknown charities. Unsurprisingly, HNA increasingly found its attempts to acquire companies abroad stymied, in particular by the Committee on Foreign Investment in the United States, which often scrutinizes takeovers of U.S. companies by ▶

▼ Market value of HNA Group's publicly traded holdings



REUTERS; DATA: COMPILED BY BLOOMBERG

◀ overseas buyers for security reasons.

By then, HNA was facing pushback at home. As several acquisitive conglomerates—including Anbang Insurance Group, Dalian Wanda Group, and Fosun International—expanded their global empires, the Chinese government fretted about whether their borrowing could pose a threat to the nation's economy. Banking and foreign-exchange regulators began reviewing their deals, and officials signaled the companies would be expected to rein in their ambitions. The state's most dramatic move came early in 2018, when China's insurance regulator took control of Anbang, saying intervention was needed to head off threats to its solvency. The company's founder ultimately received a prison sentence.

HNA was stepping up its own sales as the Anbang seizure unfolded, unloading assets that included shares in Hilton and Deutsche Bank, U.S. and Australian office towers, and the site of Hong Kong's old Kai Tak airport, where it planned an ambitious real estate project. By last spring, the fire sale topped $25 billion. There were obvious signs, though, that the disposals weren't raising enough money to cover HNA's debts. In April an HNA unit, CWT International Ltd., missed payments, prompting creditors to seize some assets; soon after, HNA failed to repay a 1.5 billion yuan ($215 million) bond.

Through it all, HNA insisted that it intended to refocus on its core of running airlines and related travel businesses. But trouble found it even in those industries. Before the coronavirus outbreak began in late December, the company was struggling to keep alive Hong Kong Airlines, a carrier it once hoped to develop into a rival to the city's flagship carrier, Cathay Pacific Airways Ltd. In December, airport authorities impounded seven Hong Kong Airlines planes after it fell behind on its bills.

It's conceivable HNA might have limped on in the absence of the virus, selling assets just fast enough to keep a step ahead of its many creditors. But it's also fair to argue that its ultimate demise was only a matter of time, and this winter's surprise crisis in China merely moved it up a few months. Either way, it will serve as a cautionary tale.

"We'll continue to witness more Chinese companies ambitiously extending their footprint globally, but I think they will become more rational than what we have seen in recent years," says Lu Zhengwei, chief economist at Industrial Bank Co. in Shanghai. "After all, you would be more cautious after seeing your peers hit hard back to the ground." *—Matthew Campbell, with Daniela Wei*

THE BOTTOM LINE HNA went on a massive buying spree in hopes of becoming a major global conglomerate. But the more than $85 billion it borrowed to create its empire became its undoing.

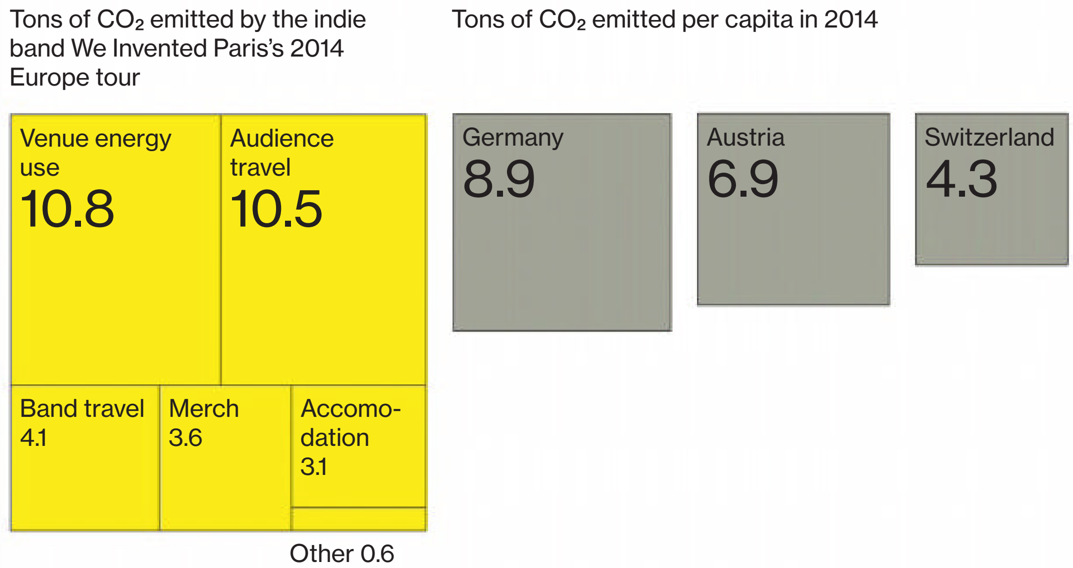
Music Tours Try To Save the Planet

● Catering to their green fans, acts are cutting carbon emissions and waste from their tours

Chris Martin scored his first big hit in 2000 with a song called *Yellow*, but these days, he's more interested in green. Coldplay, the band Martin fronts, announced in November that it wouldn't go on tour to promote its latest album, *Everyday Life*, until it could find a way to make concerts more sustainable and beneficial to the environment. The Dave Matthews Band said in January it would offset carbon emissions created by its 2020 summer tour by planting a million trees. And electronic dance pioneer Massive Attack is planning to tour Europe by train, considered a more eco-friendly mode of

▼ Cleaning up after the Glastonbury Festival in 2019

Footprint of a tour



DATA: GREEN TOURING NETWORK, WORLD BANK

transport, and work with a climate research center to track its carbon footprint.

The moves reflect a new level of concern in the industry about the environmental impact of live music, which generated more than $10 billion in revenue in 2018. Issues such as global warming and sustainability have become passionate concerns for many of the concert industry's fans—and increasingly for the musicians that cater to them.

"Stepping out for the environment isn't for hippies anymore but it's something everybody is concerned about," says Fine Stammnitz, a Berlin-based manager at Green Touring Network. "Many artists are realizing this, that they have the potential to influence in a positive way." The organization has published a guide on how to make tours greener.

It's not always easy to walk the talk. A growing number of artists, including Fatboy Slim and Peggy Gou, have environmental demands built into their contracts when they tour, such as bans on plastic cutlery in backstage catering. But there's almost no way of avoiding carbon emissions produced by a tour, which involves moving hundreds of people and tons of equipment across large distances. And since it's also the single biggest source of income for most acts, hitting the road is inevitable for bands of all sizes.

Lisa Pomerantz, who books travel for acts including Jack Johnson and Childish Gambino, says that real change will require action by venue owners, concert promoters, and the fans. Having an artist, say, ban water bottles or plastic straws from their dressing room goes only so far. "Right now," she says, "it's like putting lipstick on a pig." Pomerantz says she's investigated ways to make tours more environmentally friendly, but some things won't change unless everyone in the concert ecosystem starts demanding them. At a conference for the music production industry, she asked the head of a major bus company about the possibility of equipping a vehicle with a five-gallon water receptacle to minimize the use of plastic bottles on board. He said nobody had requested something like that yet, but if Beyoncé did, he'd build it.

After piracy decimated sales of recorded music in the early 2000s, many acts invested heavily to maximize the spectacle of their live performances and charge higher ticket prices. Today's fans are willing to shell out more than $100 to see Beyoncé, Pink, or Taylor Swift, because they employ a cast and crew similar to Cirque du Soleil or a Broadway show. Yet such major tours can require substantial resources. The set and production equipment for Beyoncé's Formation world tour filled seven Boeing 747s and more than 70 trucks, according to the BBC. More than 2 million people saw the show, which stopped in cities across North America and Europe.

Major acts like Coldplay can afford to halt touring while figuring out how to lessen their environmental impact. The band grossed $731.8 million touring in the last decade, according to industry trade publication *Pollstar*. But lesser-known artists can't stay off the road, since streaming revenues haven't ▶

LEON NEAL/GETTY IMAGES

◀ been able to compensate for the collapse in CD and downloaded music sales. "Taking the decision to stop touring is quite a radical one," says Chiara Badiali, researcher at Julie's Bicycle, a London-based organization that offers tools to track and lower the carbon footprint in creative industries. "It's not necessarily a short-term option for many artists who depend on touring for a living."

Although planes are known to be massive emissions producers, tours that exclude air travel still leave a carbon footprint. A project led by Popakademie, a German university dedicated to popular music and its business, tracked the emissions from a 2014 tour by indie band We Invented Paris. The group hit European cities including Berlin, Vienna, and Zurich, with the musicians and their equipment transported by van. The analysis showed that roughly a third of the tour's carbon footprint came from audience travel, and another third from a venue's power consumption.

Even when concerts are aggressive about being more sustainable–Britain's Glastonbury Festival, which has a capacity of 210,000, has been boosting its use of clean energy–the impact of audience travel can easily swamp their efforts. For bigger acts, this can represent as much as 80% of the carbon footprint, according to a 2015 study assessing the environmental impact of U.K. festivals by Powerful Thinking, an events industry nonprofit.

"We have no leverage" on audience travel, says Delphine de Labarriere, who oversees sustainability at Stade de France, an 80,000-capacity soccer stadium near Paris that's also the biggest music venue in the country.

Part of the solution is making sure the venue is easily accessible by public transportation. About 65% of Stade de France's audience comes this way, including VIPs, de Labarriere says. The arena also is implementing operational changes, such as banning single-use plastics for VIP receptions. Transitioning to water fountains instead of selling plastic water bottles will be its next goal, she says. The venue has even started working with a local provider for its flower adornment in VIP lounges after noticing that 90% of all of the cut flowers were imported.

Live Nation, the world's largest concert promoter, has a similar approach. It has removed 6 million plastic straws from its owned and operated venues and eliminated the use of 175,000 single-use bottles by installing water refill stations. Lucy August-Perna, head of sustainability for the venues it owns, says the company is investigating ways to reduce its energy use. "That's what we can control and where we can make an impact," she says. Yet most of the more than 30,000 shows Live Nation promoted in 2019 were at venues owned by other companies, which may not have the same resources to overhaul their approach, she says.

The Dave Matthews Band, which was designated a Goodwill Ambassador by the United Nations Environment program, will use nontoxic cleaning products and a reusable water bottle service on its upcoming tour, in addition to planting the 1 million trees to offset carbon emissions from fan transportation, as well as its own flights.

Still, even the most green-conscious bands must balance their desire to be more sustainable against the financial necessity of touring. "The reason we are musicians is because we want to share it with others," says Flavian Graber, lead singer of We Invented Paris. "I absolutely think you can go on tour and have a concern about the environment. It's a matter of just keeping our footprint as low as possible." —*Angelina Rascouet and Lucas Shaw*

Staying off the road is "not necessarily a short-term option for many artists who depend on touring for a living"

THE BOTTOM LINE The music concert business wants to be greener. But touring, which brought in $10 billion in 2018, requires plenty of travel—and generates lots of waste.

The Real Jack Welch

● The legendary GE CEO is remembered by his biographer, our former executive editor

The telephone call came unexpectedly on a Sunday night in early March 2002. Jack Welch was on the line, his raspy voice as familiar as any I had ever heard. After all, I had spent a full year with him, more than 1,000 hours face to face, helping to write his memoir, *Jack: Straight From the Gut*, published almost six months earlier.

As was typical of Jack, the legendary chief executive of General Electric Co. who died on March 1 at the age of 84, he got to the point quickly. He wanted me to know the *Wall Street Journal* would publish a story the following morning that would disclose a personal relationship he was having with the editor of the *Harvard Business Review*.

What came next was even more surprising than his revelation. "If in any way you're disappointed in me, I want to apologize to you," he said. "I want you to know that the story is true. I fell in love, and I don't want you to feel betrayed in any way."

Of course I didn't. I already knew his second marriage was in trouble, and I would never judge two people who had clearly fallen in love. This was the Jack Welch I had come to know and respect. It was Jack, straight from the gut. In that call, he was deeply human and openly accountable, willing to own up to the painful consequences of his actions.

The obituaries faithfully chronicle GE's nearly fivefold rise in revenue and soaring market value that made it the most valuable company in the world under his leadership from 1981 to 2001. What they often fail to fully capture is the real-life figure who was my friend. He was wickedly intelligent, with a dogged curiosity that combined a deep intellect with street smarts. He was laugh-out-loud funny, never turned his mind off, and squeezed every precious moment out of every day. And he was never short of opinions or perspective. After I obtained a leadership role in one editorial operation, for instance, he mentored me on how to cautiously deal with a powerful superior. "He's a snake," Jack told me, "and he's the worst kind of snake: He's a smart one."

Contrary to many accounts, Welch didn't seek the limelight and was never comfortable in it. It took me almost a year to persuade him to sit for the on-the-record interviews for a *BusinessWeek* cover story I wrote in 1998. Two years later, that story would lead to our book collaboration as Welch approached his last year as CEO. Our relationship never really ended. Shortly after becoming executive editor of *BusinessWeek* in 2005, I asked Jack and his new wife, Suzy, to write a weekly column. It quickly became one of the magazine's most read features.

Throughout the year working with him on the memoir, the goal was to create an intimate conversation between Jack and the reader, a dialogue that might occur at a bar over a drink. Jack insisted that there could be nothing in the book that might be considered "pompous" or "preachy." He wanted to address the small and big mistakes of his career, from his acquisition of Kidder Peabody to hiring Japanese employees on their ability to speak English. If anything, he was tough on himself—but drew a line when it came to hurting someone else's feelings or reputation. He didn't want a book that settled scores or dished dirt.

It wasn't easy to work closely with Jack. He was the most demanding and relentlessly challenging person I ever met. We fought over what to include and what to omit. He sometimes grew frustrated with my reluctance to change a draft, one time reminding me that it was his book and he would damn well decide what he wanted in it.

We went through every draft, word for word, comma for comma, over and over again. During one of our sessions that led to hundreds of changes scribbled on every white space of the manuscript, Jack grabbed my arm, looked me in the eye, and said, "You're going to f--- this up, aren't you?" I laughed. What else could I do? It was Jack being Jack.

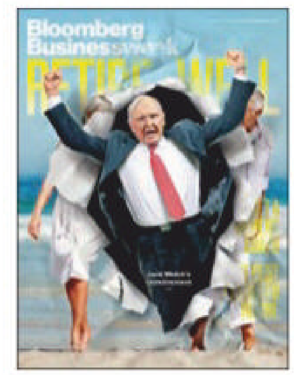
There were tender moments as well. Jack grew misty-eyed recalling the night he washed his mother's back in a hospital room, hours before her death in 1965. And he was hilarious in recounting the details of his heart attack in 1995 that led to bypass surgery. (He dashed through a crowded hospital emergency room at 1 a.m., jumped on an empty gurney, and began shouting: "I'm dying! I'm dying!")

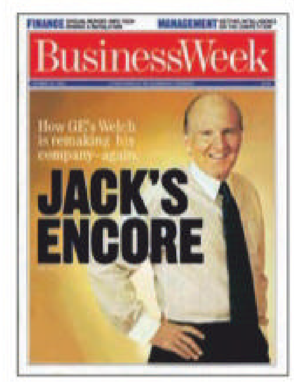
But Jack became most animated when reflecting on the ideas that formed the core of his management philosophy. We explored the origins of many, from the dictum that a company be No. 1 or No. 2 in every business it remained in to the concept of a "boundaryless" organization. (The word came to him on a beach in Barbados when a guy dressed up as Santa Claus popped out of a submarine.) Those ideas, among others, made him one of the most influential—and sometimes controversial—corporate leaders of the 20th century.

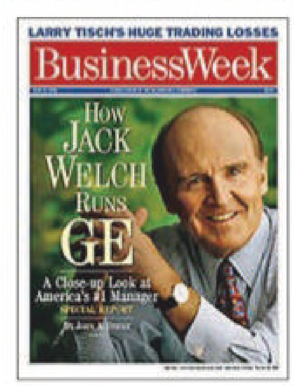
It's a rare week when I don't think about or remind someone of what Jack taught me. To a friend considering dismissing a poorly performing employee, I recently repeated Jack's insistence that anyone who is fired should never be surprised, and it's a manager's responsibility to make sure an employee knows his performance is wanting. And I'm continually reminded of his beliefs that people always trump strategies and that hiring the best people and giving them what Jack called "stretch assignments" was also a responsibility of leadership. That's why he considered GE not a conglomerate operating in multiple businesses, but a people factory. Those ideas and many more have stood the test of time.

Jack's passing has brought much commentary on his legacy, his many accomplishments, and his perceived flaws. Yet what I remember and admire most are not the results of the corporation he so smartly led, but the extraordinary, imperfect human being behind it—the man who called late one night to offer an unneeded apology to a friend. —*John A. Byrne*

THE BOTTOM LINE Byrne, former executive editor of *BusinessWeek* and editor-in-chief of *Fast Company*, has written extensively about management and leadership for decades.







● Welch was a frequent cover subject over the decades

1996: COURTESY BACKISSUES

When a Tech Giant Goes To Court

● HP and successor HPE have spent almost a decade trying to recoup $5 billion from entrepreneur Mike Lynch over a bad takeover

Back when everyone still said “big data” instead of “machine learning,” the U.K.’s Autonomy Corp. considered itself an early leader in sorting and analyzing huge troves of information about online behavior, from video views to Facebook likes. Hewlett-Packard Co. thought so too and, in 2011, wrote a $10.3 billion check to buy it.

That was validation not only for Britain’s “Silicon Fen” but also for Mike Lynch, the University of Cambridge graduate with a Ph.D. in mathematical computing who founded Autonomy in 1996. After building it into the country’s second-biggest software company, he personally made $815 million from Autonomy’s sale. The adulation quickly turned to scandal, however, for both HP and Lynch.

In 2012, HP wrote down the vast majority of the deal and alleged that Lynch had orchestrated a massive accounting fraud to dress Autonomy up for a sale. The company says it wants $5 billion in damages from Lynch and Sushovan Hussain, Autonomy’s finance director. But the nine-month, £40 million ($51 million) U.K. civil trial—among the longest and most expensive in modern British history—has painted an unflattering picture of the American corporation, full of infighting and internal skulduggery, documented in dueling emails and testimony from top HP executives. When HP split in two in 2015, Hewlett Packard Enterprise Co. (HPE), the half that kept the AI division under former Chief Executive Officer and EBay Inc. legend Meg Whitman, continued the legal fight against Lynch.

Edited by Jeff Muskus and Rebecca Penty

Lynch, 54, is on the cusp of something approaching either redemption or defeat. A ruling is expected by midyear in HPE's civil suit, and sometime in March, another British court will begin considering whether the U.K. should extradite him to California to face criminal fraud charges brought by the U.S. Department of Justice. A civil decision in his favor could make extradition less likely; defeat would make it more so. Spokespeople for HPE and Lynch declined to comment on the civil trial and extradition case, beyond representations each side has made in court.

Lynch and Hussain deny overseeing any fraud, arguing that HP simply ran their business into the ground and that it had rushed into its agreement to pay a 60% premium for Autonomy, which wasn't desperate for a sale. Lynch says the $5 billion figure was entirely reverse-engineered, barely an estimate calculated on the back of an envelope, and manufactured to explain away HP's disastrous management of the acquisition. He brought emails to court to show that the day HP alleged fraud, investors in his fledgling venture capital firm pulled their money out. Lynch lost a high-profile government advisory role, too. "The effect was like a bombshell," he told the court.

The verdict hangs on whether High Court Justice Robert Hildyard believes Lynch and his subordinates deliberately inflated Autonomy's value. HPE's attorneys characterized Lynch as a controlling and dishonest CEO with intimate knowledge of his company's accounting practices. They're relying in part on an admission by Autonomy's U.S. sales director, Christopher Egan, that Egan booked fraudulent transactions to inflate the company's revenue, actions Lynch denied knowledge of.

Lynch is counting on Hildyard finding that HPE failed to produce a smoking gun for the fraud it alleges. At the moment, Lynch seems to have an advantage on his home turf. HPE pursued Lynch through a U.K. civil court after prosecutors at Britain's Serious Fraud Office found "insufficient evidence" to proceed with their own criminal case against Lynch and Hussain. Robert Miles, Lynch's attorney, has used internal company documents to argue the case was a function of infighting at HP, where top executives disagreed about the Autonomy purchase and the board wavered on strategy.

The Autonomy purchase was critical to former HP CEO Léo Apotheker's plan to shift the PCs-and-printers company's focus toward software. Apotheker, an outsider who came from Germany's SAP AG, encountered internal opposition to the takeover, according to documents shown in court. Cathie Lesjak, the company's then-chief financial officer, registered a surprise vote against the deal at a board meeting in August 2011, blindsiding Apotheker, he said in court. In the same meeting, she privately emailed Ray Lane, HP's chairman at the time, to say, "We are reactive and act without good planning. There is no financial discipline."

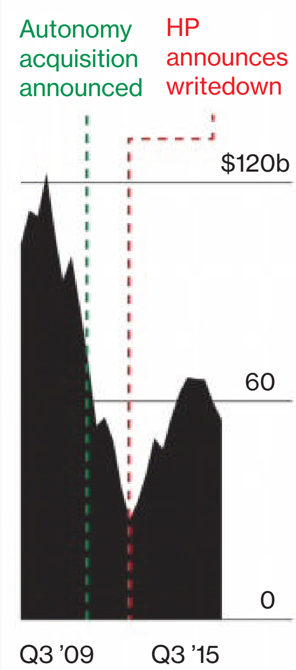
That afternoon, Lesjak sent a second, one-line email to Lane hinting at Apotheker's sinking fortunes. "One PR person says…Leo is a dead man walking…he had never seen worse press for a CEO," it read. Apotheker defended his deal in a Sept. 4, 2011, email to Lane—two weeks after it had been publicly announced, alongside a reduction to sales forecasts and a wider company strategy shift: "If Autonomy and more software isn't the solution, what is the alternative?" he asked. Even Peter Weinberg, HP's own mergers-and-acquisitions adviser, called the atmosphere inside HP "poisonous" in an email he wrote to Apotheker, the court heard. On Sept. 22, 2011, Apotheker was fired after 10 months on the job. Whitman, one of the company's directors, replaced him and announced the writedown and fraud allegations in November 2012.

HPE argued that Lynch and Hussain conned HP into overpaying by presenting financial documents filled with phony transactions from supposed resellers. The software was simply "not as good as Dr. Lynch and no doubt everyone else hoped," so Autonomy increasingly cooked its books to keep revenue on an upward trajectory until the whole company began to resemble a Ponzi scheme, HPE attorney Laurence Rabinowitz said.

This side of the story lost some credibility during testimony by Lesjak, the former HP CFO. How, the judge wanted to know, did she and her colleagues assess $5 billion in fraud? Lesjak said the math was done on a whiteboard and wiped clean. When pressed by the judge for any written record of the calculation, she said it was a verbal conversation and didn't know if it had been put in writing. Lynch's attorney shared an email showing HP's executive team knew the figure was shaky. "We are getting a lot of push back from media that they cannot understand how the accounting issues at AU could result in a $5 billion writedown," HP's public-relations chief wrote to Lesjak and corporate controller Marc Levine in a Nov. 29, 2012, email entered into evidence. "We've never formally prepared anything to attribute the irregularities to the amount of the write down," Levine replied.

In his closing argument, Rabinowitz said the company got the figure by calculating that Autonomy's growth and margins would be lower. "Overstated" revenue was one of the factors in the drastically cut valuation, he said. Judge Hildyard's final exchange ▶

▼ HP's market value



● Lynch

PHOTO ILLUSTRATION BY 731; PHOTO: GETTY IMAGES. LYNCH: SIMON DAWSON/BLOOMBERG. DATA: COMPILED BY BLOOMBERG

◀ with Rabinowitz, 93 days and 58 witnesses after the trial started, suggested this question might've proved a sticking point. "One often wonders when fraud is suggested, what can have been its purpose?" he asked. Autonomy was being readied for sale, Rabinowitz said. "OK, I shall look at that," Hildyard responded before adjourning.

The decision is crucial for Lynch, because his prospects in the U.S. don't seem great. He could face a prison term as long as 20 years if he's extradited to the U.S. and found guilty in a criminal case there. In 2018 a San Francisco court convicted Hussain of fraud, and he was subsequently sentenced to five years in prison. Hussain has appealed. His lawyer in the U.S. case had argued that HPE deployed an army of company lawyers and consultants to support the government prosecution, which he said relied on false testimony from cooperating witnesses. Hussain's lawyer for the U.K. civil trial leaned on Lynch to make the executives' case in Britain, with Hussain opting to stay in the U.S. to focus on appealing the criminal ruling there. A representative for Hussain didn't immediately return a Bloomberg request for comment.

An HPE victory would offer some vindication for shareholders with long memories. Autonomy, whose assets the company mostly sold off a couple of years back, was its biggest disaster, capping a run of lousy acquisitions before HP split. (Remember the Palm tablet? Neither does anyone else.)

HPE has cautioned against putting too much weight behind the U.K. civil court judgment. There's no reason it would be "relevant or even admissible" in a San Francisco criminal court, the company said in its closing argument. Political allies of Lynch, on the other hand, argue that if he's cleared in the civil case, he shouldn't be extradited. David Davis, a member of Parliament, said in a January speech in the House of Commons that if HPE fails to win its civil case against Lynch, the case for extradition "would evaporate." Lynch has become part of Davis's broader crusade against what he calls a one-sided U.S. extradition policy. Most recently, the U.S. Department of State refused to extradite an American intelligence official's wife to the U.K. on charges that she killed a teenager while driving on the wrong side of the road outside a military base in England.

Lynch's lawyers have another strategy to keep him out of the San Francisco courtroom: arguing that a person shouldn't be extradited if the alleged offenses could have been tried in the U.K. This has worked twice recently, with a British trader and a computer activist.

If Lynch can keep himself on British soil, he'll be able to refocus on wooing investors for his venture firm, Invoke Capital. Invoke is important to Lynch's standing, and that of the U.K. tech community, in more ways than one. Darktrace Ltd., a prominent U.K. cybersecurity startup that Invoke has backed, is considering going public. Something that could help Lynch's ventures: The $160 million he's sought, in a countersuit, from HPE to account for alleged damages to his reputation. —*Jonathan Browning*

THE BOTTOM LINE A coming verdict in a U.K. civil trial has Lynch facing either redemption or defeat. If he's cleared, he could avoid extradition and a U.S. criminal trial.

Europe's Banks Rest on American Clouds

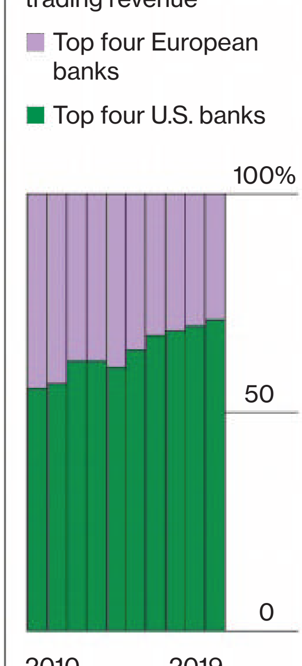
● Despite the Continent's skepticism of U.S. tech giants, much of its sensitive financial data is under their stewardship

Europeans grumble that they haven't had a truly global tech giant since Nokia Oyj's heyday. But for Europe's banks, the most pressing digital need isn't for a homegrown phone that can compete with Apple Inc.'s or Google's. The banks are looking for cloud computing providers with higher security standards than they can find in the U.S. Their search is far from over.

In a recent Bloomberg survey of Europe's top banks, 22 of 22 respondents said their primary cloud services are American. The three leading U.S. cloud providers—Amazon, Microsoft, and Google—are at the top, though unlike in the broader market, Microsoft Corp. beats out Amazon.com Inc. for No. 1. Rounding out the list are IBM, Salesforce.com, and NetApp. While some lenders say they also work with European cloud companies, it's usually in a secondary role. The U.S. companies' servers support the sophisticated numbers crunching for tasks like risk management and increasingly house such sensitive data as borrowers' personal information.

The banks aren't happy about this. The virtue of off-site cloud servers is that their scale generally allows companies to store and compute data for less than they'd spend on their own—and the prices per

▼ Share of global trading revenue



unit of storage tend to decrease markedly with each passing year. Europe's institutions are already losing the investment banking wars with Wall Street and can't afford to cede competitive advantages. But some bankers say they worry about client data in the hands of foreign companies. U.S. tech doesn't enjoy the reputation for trustworthiness that it did even a few years ago, when European regulators were among the first to challenge the industry's standards for privacy and competition.

Now, German and French government officials are in talks with leaders in telecommunications, technology, and finance to create a competitive continental cloud service run by local tech companies. At the same time, banks including Germany's Commerzbank AG are trying to team up to present joint cloud demands to U.S. providers in an effort to increase the little leverage they have. "Europe is looking at ensuring technological sovereignty and reducing its dependence because it does fear that somehow, all of a sudden, technologies that we depend on could be switched off," says Eline Chivot, a Brussels-based analyst at the Center for Data Innovation, a U.S. think tank.

The banks' odds aren't great. Previous attempts to build European alternatives to U.S. tech have foundered, and at this point the upfront costs would be immense. Microsoft says it spends more than $1 billion a year just on its global cloud network's security, while European banks are struggling with declining revenue and profit. "In 2020, waking up and saying that we want to build a European cloud, I'd say it may be too late," says Bernard Gavgani, chief information officer at French banking group BNP Paribas SA.

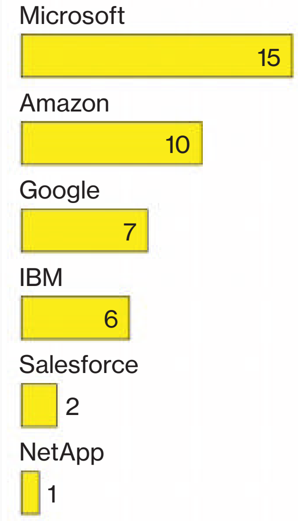
Big Tech is also savvier about lobbying regulators than it used to be, working actively to charm market watchdogs it ignored five years ago, say three regulators who spoke on condition of anonymity because they weren't authorized to discuss the matter. Patrice Amann, a leader of the Microsoft cloud team catering to financial-services companies in Europe, the Middle East, and Africa, says increased outreach efforts represent an interest in a constructive dialogue. "It's really to understand what is the concern, how this concern is progressing, and what we need to do as a company to comply completely with the rules," Amann says.

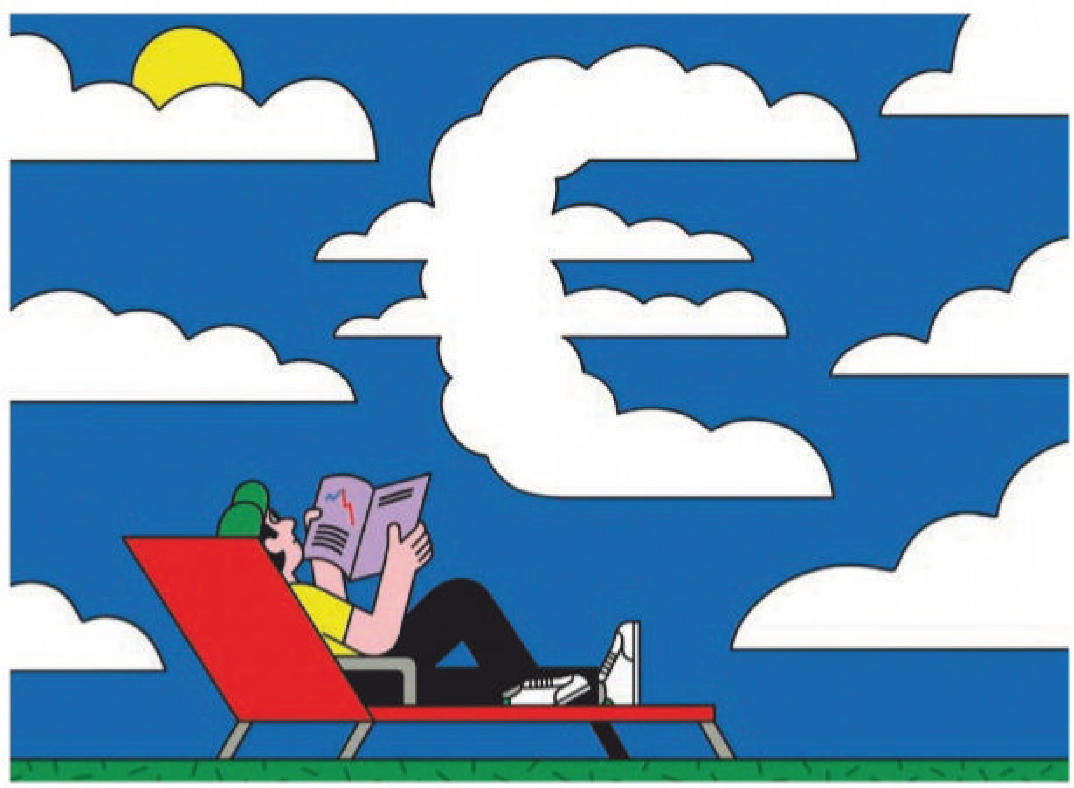
There's no legal requirement for banks to keep data in the European Union, but the bloc's regulators have nudged them in that direction. Several cloud companies offer lenders the use of servers based in Europe or their home country specifically. "They need to evaluate the risk of having data in a location that applies different security and data protection standards," says Slavka Eley, head of banking markets, innovation, and products at the European Banking Authority. "If the risk is too high, they shouldn't agree to such locations."

DNB ASA picked Amazon and Microsoft largely because the Norwegian country's watchdog approved of the company's audit policies for cloud network security and because "they have a number of data centers in Europe and the Nordics," says Alf Otterstad, the bank's head of technology and services. Still, under President Trump's Cloud Act, U.S. storage providers can be ordered to provide U.S. authorities information held on their servers no matter where that data are physically located.

The U.S. companies say they'll defend client privacy. Andreas Wodtke, a vice president for financial services at IBM Corp. who sells cloud services to banks in Austria, Germany, and Switzerland, says the U.S. company will resist demands for data from state agencies unless they're made through internationally recognized channels such as mutual legal assistance treaties.

▼ Number of European banks that identify one of the following companies as a primary cloud provider*





By the end of 2020, the European coalition working to develop a viable local cloud network hopes to complete its first proof-of-concept testing. For now, though, the Continent's banks remain unambiguously dependent on Seattle and Silicon Valley. "You hurt Germans with car tariffs or the French by taxing red wine," says Heiko Gewald, a professor of information management at the Neu-Ulm University of Applied Sciences in southern Germany. "But if you want to hit Europe as a whole, then cloud is the way to go." —*Nicholas Comfort, Steven Arons, and Justina Lee*

THE BOTTOM LINE European bankers are chafing at the need to store sensitive client data on the cloud servers of U.S. tech giants, but they appear to be a long way from having a credible alternative.

ILLUSTRATION BY ANDREA CHRONOPOULOS. *BLOOMBERG SURVEY ASKING "WHO IS YOUR PRIMARY CLOUD PROVIDER?" SOME BANKS SAID THEY HAVE MULTIPLE PRIMARY PROVIDERS
DATA: COMPILED BY BLOOMBERG

Should You Buy the Dip?

It's a good instinct not to get carried away with the emotion of a falling market, but that doesn't mean you should get aggressive instead

PHOTOGRAPH BY RYAN DUFFIN FOR BLOOMBERG BUSINESSWEEK

Edited by Pat Regnier

When equity markets fall, there's always a chorus urging you to take advantage of the opportunity to buy stocks for less than they cost the day before. Everyone loves a bargain, and after 11 years of a bull market, the S&P 500's 11% plunge during the week of Feb. 24 made for the worst-performing five-day stretch since the financial crisis more than a decade ago. Even Larry Kudlow, head of President Trump's National Economic Council, said investors should heed the old advice to "think about buying the dip."

Plenty did, for a moment at least. The S&P 500 rallied 4.6% on March 2. Then it wobbled again, dropping even after an emergency 50-basis-point cut to the Federal Reserve's benchmark rate, before climbing the next day. It will likely rise and fall dramatically again and again while the markets grapple with the spread of Covid-19 and what it means for the global economy and the risk of a recession. Meanwhile, the bond market keeps flashing signs of economic anxiety: Traders are willing to pay so much for safe-haven bonds that the 10-year Treasury yield slid at one point to a record of below 1%. (Yields fall as bond prices rise.)

This is the trouble with buying the dip: It's basically a form of market timing, which even professional traders can rarely do well for very long. Many investors planning for a long-term goal such as retirement do themselves no favors by letting market noise creep into their consciousness and narrow their vision. It doesn't make sense to abandon a well-thought-out asset allocation because one part of a portfolio may suddenly appear cheaper than it was a few months ago.

Cheapness is always relative. What feels like an ugly downdraft looks inconsequential in light of the market's stubborn climb over the years. From March 9, 2009, through Feb. 21, the S&P 500 had a price gain of 393%. Against that, even an 11% plunge hardly gets you to bargain-basement prices.

Of course, what really matters isn't the price alone but the corporate profits and growth you get for your buck. It's not clear yet if you can discern by looking at, say, price-earnings ratios whether stocks are really a better buy now. "As markets fall, we are also seeing earnings estimates fall and are not sure where they are going to settle," says Katie Nixon, chief investment officer for the wealth management business at Northern Trust. "When you don't know the 'e' in p-e, it's hard to say whether the market is cheap." This process could take awhile: Richard Bernstein, chief executive officer of Richard Bernstein Advisors, says Wall Street analysts have been slow to lower their profit estimates in response to the outbreak, because they typically wait for company guidance before making adjustments.

Investors with workplace retirement plans such as 401(k)s who actively buy into the dip may actually be double-dipping. Since employees have money deducted from their paychecks and automatically moved into their 401(k) funds every month or so, buying into the market even when it drops is already baked into the plan for many people.

It does make sense to rebalance portfolios periodically, adjusting allocations when market moves push your mix of stocks and bonds far away from where you want it. But again, that readjustment often happens in portfolios without people having to do anything. Popular target-date mutual funds—all-in-one investments that split assets among stocks and bonds based on an investor's age—are designed to rebalance assets over time. Many of the new online investment services known as robo-advisers offer a similar service.

● Price gain of the S&P 500 from March 9, 2009, through Feb. 21

393%

Retirement savers have been making an unusually high number of moves in their accounts lately. Trading activity in 401(k)s for the week of Feb. 24 made it among the busiest five-day periods in the 20-plus years that benefits administrator Alight Solutions has tracked such activity. Almost all of the recent activity was savers moving from equities to the relative safety of fixed income. Still, there was evidence of a buy-the-dip mentality: Savers made a slight increase to the equity allocation for their future 401(k) contributions.

Some financial advisers are fine with opportunistic buying as long as clients have enough cash set aside so they don't run the risk of needing to sell stocks into a downturn. "When the market moved to a 10% correction point, the conversations with clients became 'Are we going to be adding to equities?' " says Kerrie Debbs of Main Street Financial Solutions. Debbs says this additional buying generally only makes sense for retirees with enough safe assets to cover expenses for two to three years and for working people who can cover one to two years.

One helpful thing investors can take away from the current volatility is a better reading on their own tolerance for risk—a gut check. If you didn't before, now you know what an 11% drop feels like. "Talking about risk is an academic exercise if it's not happening to you," says Paul Simons, president of private banking, wealth, and trust at Boston Private. "In times like this, you find out what a client's real risk tolerance is."

For younger investors, it may be difficult to know how much risk you can stomach if all you've known since you had significant money to invest is a bull market. "To clients that started working with me in 2010, I look like a genius because I don't carry the baggage of the financial crisis," ▶

◀ says Darla Kashian, a financial adviser with RBC Wealth Management in Minneapolis.

Shifting some money into bonds can lower your volatility, but they aren't obvious bargains in this market either. Investors in plain-vanilla bonds have been riding their own bull market: This year through March 3, Treasuries have returned about 5.8%, according to the Bloomberg Barclays US Treasury Index. If interest rates turn back up, bonds will fall in value. And for retirees and other investors who aim to buy debt and hold it to maturity, they're locking in very low yields by buying now. That's not to say bond prices can't still rise or that yields can't fall further: There's more than $14 trillion worth of debt around the world with negative yields.

Kashian says a good thing about the market chaos is that it opens a conversation with clients: "Do we still really believe what we believed before, and are we in consensus about goals and objectives?" Or, as she puts it more bluntly, "What are you really afraid of?" —*Suzanne Woolley and Liz Capo McCormick*

THE BOTTOM LINE For many investors, "buying the dip" is already a part of their habit of investing a little with every paycheck. Those who want to do more should be sure they can handle more losses.

He's Got the 30-Year Mortgage In His Hands

● A lot's riding on what this regulator does with Fannie Mae and Freddie Mac

As the director of the U.S. Federal Housing Finance Agency, Mark Calabria has a relatively low-profile job. He's the designated watchdog for a small group of financial institutions, most notably the mortgage giants Fannie Mae and Freddie Mac, which have been under government control since the financial crisis. But as the Trump administration moves to take both companies out of conservatorship, Calabria is for the moment one of Wall Street's most powerful and closely watched regulators.

Billions of dollars in hedge fund bets—and the fate of a $5 trillion market in mortgage bonds—could hinge on the decisions Calabria makes in the coming months. So could the availability of affordable 30-year mortgages, which Fannie and Freddie help make possible by buying up home loans and packaging them to be sold in the bond market. By May or June of next year, he says, Fannie or Freddie may be ready to exit U.S. control and seek an infusion of cash from new investors in what could be one of the largest public stock offerings ever.

Fannie and Freddie are two of the strangest creatures in finance. U.S. taxpayers rescued the companies from failure in 2008 with a $191 billion bailout. Since then, they've been required to send the bulk of their profits to the government, but their shares have continued to trade. Investors who snapped those up after the collapse could get a windfall if Fannie and Freddie become fully private again. On the other hand, investors in mortgage-backed securities worry about the government stepping away from Fannie and Freddie and giving no assurance that it will back those bonds in the event of another crisis.

Calabria insists that he's tuning this out. "The law says I have to get Fannie and Freddie out of conservatorship; it does not say 'unless some hedge funds benefit,'" he says. "There's nothing that says, 'You shall exit unless Wall Street doesn't want you to.' That is not a relevant consideration."

Since he took the helm of the FHFA last year, Calabria, who was previously Vice President Mike Pence's chief economist, has spent a lot of time on the road reassuring people he's not going to blow up what amounts to 15% of the U.S. economy. Allies and foes agree that Calabria, who's spent most of his career in Washington, is skilled at knowing just what to say to pacify the concerns of lawmakers, lobbyists, and housing advocates. But almost a year after he became head of the agency, he still hasn't answered some of the thorniest questions about what comes next, and he's fallen behind on some of his own deadlines.

"If you want things to be durable and stick after you leave, it takes time," says Calabria in an interview during a visit to the National Association of Home Builders annual trade show in January. The conference is in Las Vegas, and this year a big draw is a private tour of a 6,400-square-foot luxury home overlooking the city's skyline, complete with infinity pool, walk-in wine cooler, and custom fire pit. As Calabria strolls past the motorized screens that line the mansion's windows, he reflects on how 12 years ago Nevada was a hot spot of the foreclosure crisis that triggered the worst recession in a generation and forced Fannie and Freddie to the brink.

"My job is to make sure they don't fail again in the next downturn," Calabria says.

"My job is to make sure they don't fail again in the next downturn"

◀ Calabria

Even so, Calabria's skeptics worry that the lessons of the crash will be forgotten in a rush to reprivatize. "I've still got a lot of concerns," says Senator Mark Warner, a Democrat from Virginia who's been part of several failed efforts to get Congress to pass a housing reform bill. "At the talking stage, I've found he's got a lot more openness to some of our ideas. But I want to make sure that whatever reform takes place doesn't end up with the same duopoly with no constraints that got us into this crisis in the first place."

Calabria has several big tasks ahead. One is writing a rule dictating how much capital Fannie and Freddie will need to avoid ever needing another bailout. As recently as 2017, there was still a risk the U.S. Department of the Treasury would have to shoulder the companies' quarterly losses. If Fannie and Freddie have to retain more capital, they might have to buy fewer loans or back away from riskier ones, which could raise mortgage rates or make some types of loans less available. Last year, Calabria said the capital rule would be announced in the first quarter of 2020. In Vegas, he says, "It could slip a little bit, but it will be soon."

Also on Calabria's to-do list is ending Treasury's sweep of Fannie's and Freddie's profits, which is required under the 2008 bailout agreement. In September, Calabria and Treasury Secretary Steven Mnuchin took a key step by raising the amount of profits the companies can keep before sending the rest to the Treasury. Calabria says within the next year he hopes to negotiate more substantial changes to the bailout terms.

It's these potential changes that get to the heart of what hedge fund titans such as Pershing Square Capital Management's Bill Ackman and Paulson & Co.'s John Paulson have for years been waiting for. Shareholders in Fannie and Freddie have gone a decade without a dividend. The end of conservatorship could increase the value of the shares and, depending on the deal that's hashed out, result in a substantial payday for some hedge funds. Calabria says the treatment of shareholders will ultimately be decided by the Treasury Department. "I haven't seen a term sheet yet from Treasury; we're still negotiating," he says. Calabria has consistently said that shareholders should have been wiped out when the companies were bailed out in 2008.

Still, money managers with Fannie and Freddie stakes have friends in all the right places in Washington. Paulson is a big fundraiser for President Trump. Mnuchin invested in Paulson's hedge fund before joining the Trump administration. Mnuchin also served on the board of Sears Holdings Corp. with Bruce Berkowitz, whose firm Fairholme Capital Management is also a shareholder in Fannie and Freddie. A spokesman for Paulson declined to comment, and a spokesman for Fairholme didn't return calls for comment. A Treasury official said the agency's preference is to work with Congress and it hasn't considered any specific proposals for recapitalizing the companies.

Also lobbying hard are bond investors, banks, and asset managers. Groups such as the Securities Industry & Financial Markets Association are trying to convince Calabria and the Trump administration that releasing Fannie and Freddie without an explicit guarantee of their bonds could make investors wary about buying them, which in turn would increase funding costs and mortgage rates. An explicit guarantee is something only Congress can provide, though Mnuchin has said that even if Congress doesn't act, Treasury will continue to provide some supports. Calabria insists he'd have to sign off on that as well and says that while he's willing to proceed without it, no decisions have yet been made.

There are lots of things that could throw Calabria's plan off track–for starters, Trump not getting reelected. Democrats have generally been leery of taking the duo out of conservatorship, worrying that as private companies they wouldn't be able to ensure housing affordability. A turn in the U.S. housing market is also a risk, and a long slide in the U.S. stock market could also complicate any plans for the companies to attract equity investors. Calabria is "clearly learning the realities of the job and how hard this is," says Mortgage Bankers Association lobbyist Bill Killmer. "There's a reason why it has taken so long to fix Fannie and Freddie." *—Elizabeth Dexheimer*

THE BOTTOM LINE Hedge funds made a big bet on the mortgage giants going private again. But bond investors and housing advocates are worried about the mortgage market's stability.

PHOTOGRAPH BY LEXEY SWALL FOR BLOOMBERG BUSINESSWEEK

Trump's Market Cheerleader

● Larry Kudlow's upbeat economic message isn't soothing investors unnerved by the coronavirus

It's shaping up to be a doozy of a Tuesday morning. At 10 a.m. on March 3, the U.S. Federal Reserve announces its first emergency rate cut since the global financial crisis. Soon after, in a hastily called press conference, Fed Chair Jerome Powell will tell reporters—and investors watching from afar who seem to be quickly losing faith in the healing powers of monetary policy—that responding to what's now a quasi-global coronavirus outbreak and its economic fallout will require a "multifaceted" response from health and fiscal authorities.

A few hours later, the 10-year Treasury will set off alarms as its yield slips below 1% for the first time, and President Trump's preferred gauge of his performance, the Dow Jones Industrial Average, will extend its most miserable streak since 2008.

As it all unfolds, Larry Kudlow is installed at the dining room table that serves as a desk in his second-floor West Wing office. He remains defiantly optimistic—and resistant to the idea that the unfolding health crisis demands a greater economic response from an administration for which he's become the camera-ready, genial face.

"We're not there yet. First of all, the economy is in good shape," says Kudlow, who heads the president's National Economic Council, before rattling off a flurry of recent positive statistics. "I am aware that there are going to be some speed bumps coming. But in talking to the president about this, a) We're not going to panic over this at all, because the economy is sound, and we will get through this, and then the virus will end. Secondly, frankly, short-term fixes never work. You know, these temporary tax cuts or rebates and things of that sort. You look at the history—I mean I've

Edited by Cristina Lindblad and Rebecca Penty

lived with this for decades—they just never work."

On the wall behind him hangs a framed copy of a 2018 Kudlow speech headlined "The Trump Economy," overwritten with the unmistakable black Sharpie autograph of the president and the declaration "Larry, So great!" On the wall facing him is a gilt-framed canvas of a vase holding a bouquet painstakingly rendered by his wife, Judy, a realist painter.

There are printouts of emails and briefing binders on the table before him and newspapers on the coffee table across the room. But nowhere in sight is a television that might relay investors' skeptical reaction to the Fed's emergency rate cut. Or a computer to track the indexes trending down.

The only screens on view are a pair of smartphones. When one buzzes, Kudlow picks up. It's Treasury Secretary Steven Mnuchin. Powell has just held a press conference, he informs Kudlow, who seems unaware: "Was it a presser this morning? I didn't see." An aide chimes in: "He said the economy is strong." Kudlow tells Mnuchin, "He stayed with our line: The market is fundamentally strong."

"He's a good friend and policy ally," Kudlow says of Mnuchin after the brief exchange. In an age of manic news cycles and whipsawing markets, this is how the 72-year-old Kudlow works. He's an old-world, social-media-free optimist in pinstripes who describes almost everybody as a "friend" or "pal," even when he's delivering a political jab. "Biden? Bernie? Biden is Bernie lite as far as I can tell. I'm disappointed in Joe, who was a friend of mine," he says as he ruminates on the economic debate taking shape before November's presidential election.

As Trump squares up for a reelection bid that leans heavily on an economic expansion that, until recently, looked unstoppable, Kudlow occupies a special place in the administration. He's waged economic policy battles, pushing for a truce in the trade war with China, and taken a stand against such ideas as intervening in currency markets or imposing tariffs on cars imported from Europe. But his most important role has been that of market magician.

The president praised his powers at the January signing of a "phase one" trade deal with China. "We had a day where the market went down $1 trillion. Think of that," Trump told a gathering of chief executives and luminaries such as Henry Kissinger. "But Larry Kudlow went out onto the beautiful lawns of the White House," the president said. "And he started talking. And by the time he finished, I said, 'You just made a trillion dollars. A trillion.' Because the market went up like 250 points. I said, 'Larry, what the hell did you say?'"

Kudlow, a former TV host on CNBC, is more humble about his abilities. "I appreciate President Trump's support, but my influence on markets is vastly overrated in this building and anyplace else."

Kudlow is also conscious that his efforts to talk up the markets—especially in recent days as he's repeatedly urged investors to "buy the dip"—have left him open to criticism from those who say the White House shouldn't be offering investment advice to the American people.

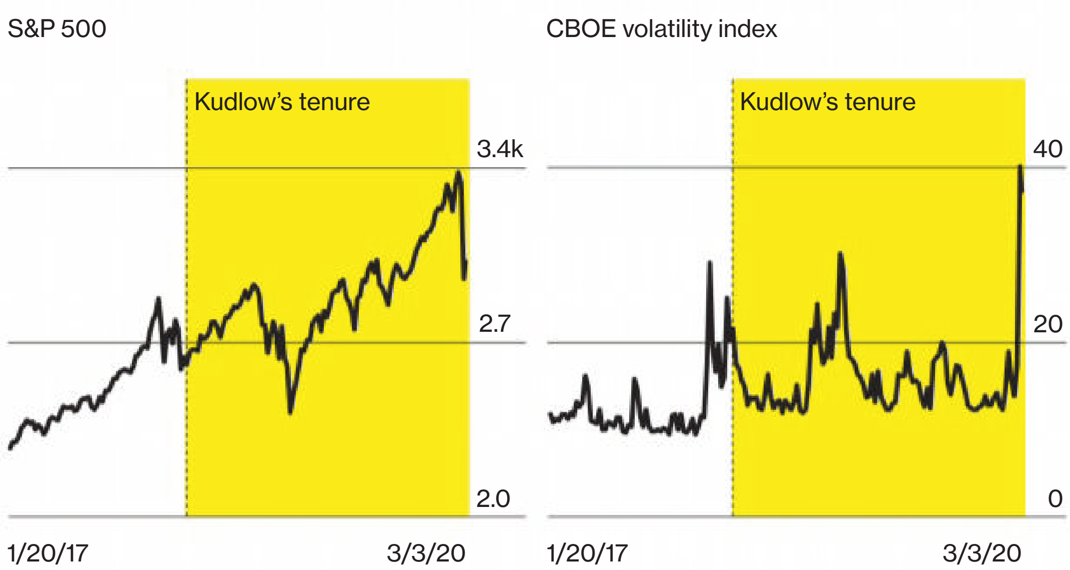
"It probably hurts his credibility to have been in that situation in which he is talking about people should go out and buy and we have literally the worst week ever," says Tony Fratto, who served as a White House and Treasury Department spokesman during the administration of President George W. Bush. There's a good reason presidents avoid linking their fortunes to financial markets, as Trump explicitly has, says Fratto: "They're outside of your control. They're very fickle. And you don't want that as the measuring stick for how you are doing."

Peter Borish, chief strategist at Quad Capital, says Kudlow's positivity has become a sort of trap. "It's a no win situation," he says. "He needs to be an optimist because people will discount anything he says that is positive and will accent what is negative."

Kudlow says all he's doing is trying to keep investors focused on the big picture. "I'm there just to remind folks of President Trump's growth policies and our generally constructive long-term outlook," he says. "The seesaw was so crowded at the bottom. I was just trying to say things are more balanced than that."

Kudlow says he can't help but be upbeat. "Pessimism has never truly set well with me; as though bound by a shirt collar that was too heavily starched, it made me feel uneasy and irascible," he wrote in the introduction to his 1997 book, ▶

Navigating Troubled Waters



DATA: COMPILED BY BLOOMBERG

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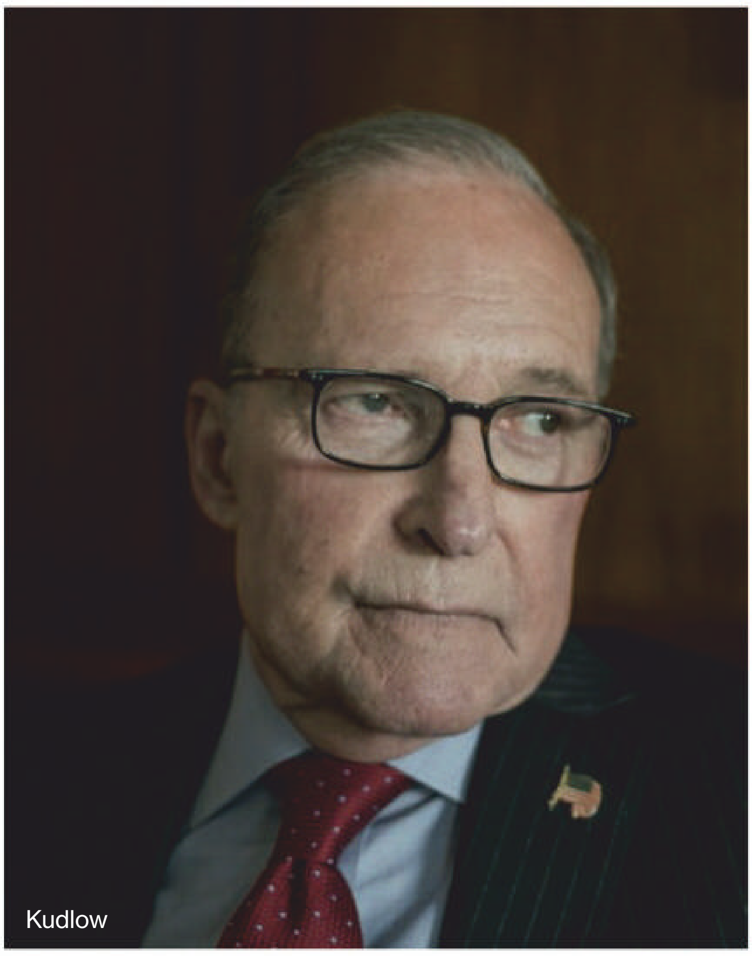


Kudlow

◀ *American Abundance*, a collection of columns and speeches that, like much of his writing, lays out the case for supply-side tenets including tax cuts, deregulation, free trade, and a gold anchor for the dollar.

His optimism is a trait he acquired in the aftermath of what he calls "my personal crash and burn." In 1994, Kudlow, who'd risen rapidly from his first job as a staff economist at the New York Fed to Wall Street, then to a post in the Reagan administration, was forced out from his job as chief economist at investment bank Bear Stearns for abusing alcohol and cocaine. His going public that year in a *New York Times* article, in which he ascribed his addiction to the pressures and travel that came with the job, was followed quickly by a relapse; his firing from the *National Review*, where he'd landed as an economics commentator; and a five-month stint in a Minnesota rehab clinic, where he deepened what had been a budding interest in Catholicism.

Born into a middle-class Jewish family in New Jersey, Kudlow was baptized in 1997 into not just the Roman Catholic Church, but also a community of conservative Catholics of which he remains a proud member. The ceremony at St. Thomas More Church on New York's Upper East Side was attended by his former boss at the *National Review*, William F. Buckley, and *Wall Street Journal* columnist Peggy Noonan. Kudlow, who's been sober for 25 years, says he was drawn to Catholicism by its basic idea of rebirth: "The message of salvation, redemption, and good orderly direction attracted me."

Kudlow's relentless optimism has occasionally made him a target of scorn from other economists. In mid-2005 he derided those warning of a coming crash in housing prices as "bubbleheads." In December 2007 he dismissed talk of a recession just as the Great Recession that accompanied the global financial crisis was beginning. "I've had good forecasts and not so good forecasts," he says.

Like other successful senior officials in the administration, the self-described happy warrior has learned not to try to manage or control Trump. An avowed free-trader, Kudlow doesn't hide the policy disagreements he's had with the president. He still opposes the steel tariffs that triggered the resignation of his predecessor, Gary Cohn, he says. And he continues to lobby internally against auto tariffs, which Trump has threatened to impose on Europe if it doesn't agree to some sort of trade deal.

During a recent meeting with Trump and other cabinet-level officials in which those tariffs came up, Kudlow says, he proposed that for "at least a year" the administration should "have some tariff tranquility" and focus on implementing Trump's deal with China and his replacement for Nafta, the United States-Mexico-Canada Agreement. "Several cabinet members said, 'Yeah, Larry's right,'" he says. "And the president kind of looked up and had a smile on his face. It registered. It registered. I'm not tying his hands. He's the boss. But the thought registered. Let's let things calm down."

Whether Kudlow's current optimism about the U.S. economy and markets and their ability to weather a budding pandemic will stand the test of time is unclear, of course. Some Wall Street veterans who remember his days at Bear Stearns say that, though he didn't have formal training in economics and was generally pooh-poohed by the Ph.D. crowd, Kudlow understood markets. One longtime investor says that when he was a junior analyst at a major U.S. bank, his boss swapped out the bank's own research and gave him Kudlow's to read instead.

Kudlow insists he's just taking the long-term view on markets and the economy. The Fed may have been moved to announce an emergency cut, but he's confident the U.S. economy will soldier on.

So, too, will he. Kudlow recalls that sitting in a green room with Trump at the World Economic Forum earlier this year, discussions among the president and his staff moved to whether one cabinet official might be too tired to continue in his role. "Somebody said, 'Everybody is tired.' I just looked up and said, 'Well, I'm not tired.' And I'm the oldest guy there except for him [Trump]. And he [Trump] said, 'Yeah, I've given you a second life.'"

Kudlow has navigated health problems during his time at the White House, including a heart attack and a hip replacement, though he says he's

▼ Kudlow and the Art of Jawboning

● Making the case for lower rates, June 29, 2018

"My hope is that the Fed, under its new management, understands that more people working and faster economic growth do not cause inflation."

● Upbeat about U.S.-China trade talks, Nov. 14, 2019

"We're getting close. The mood music is pretty good, and that has not always been so in these things."

● Tamping down coronavirus fears, Feb. 25, 2020

"The virus story is not going to last forever.... To me, if you are an investor out there and you have a long-term point of view, I would suggest very seriously taking a look at the market, the stock market, that is a lot cheaper than it was a week or two ago."

now well enough to have resumed playing tennis every Sunday. He expects to stay in the administration until the end of this year but hints it's unlikely he'll return for a second term. That doesn't mean he plans to retire. "My last rites will be at a desk or a TV studio somewhere," he says. —*Shawn Donnan, with Katherine Burton and Jennifer Jacobs*

THE BOTTOM LINE Trump's economic adviser's penchant for optimism may become a liability as businesses and investors await a more robust policy response to the coronavirus pandemic.

The End of the Jaffa Orange

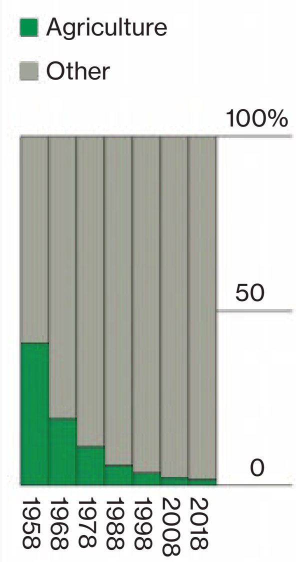
● The decline of the much-loved fruit highlights the travails of farmers in a changing Israel

Almost two centuries ago, Ottoman farmers in what's now Israel began cultivating a new citrus variety, a sweet-but-tart-and-juicy delicacy called the Jaffa orange—named after the historic port city adjacent to today's Tel Aviv. Exports surged as gourmands across the Middle East and Europe fell in love with the fruit, and the Rothschild family made citrus plantations the economic foundation of their efforts to create a home for Jews in the region. When refugees flocked to the area in the early 20th century, they quickly saw the potential of the Jaffa orange to fund the state they dreamed of building.

But in recent years, the fruit has fallen on hard times. Since peaking in the early 1980s at 1.8 million tons a year, Israeli citrus production has dropped almost 75%. That decline highlights Israel's shift away from its socialist, agrarian roots and its emergence as a tech powerhouse. With a strengthening currency making exports less competitive and scarce water supplies raising the cost of cultivation, oranges—and many other crops—are no longer worth the effort. Agriculture has fallen to 2% of goods exports, from a peak above 40% in the 1950s, as the plains and gentle hills around Tel Aviv have been bulldozed to make way for malls, apartment blocks, and office parks for growing ranks of software coders and pharmaceutical researchers. "Land here in the center of Israel is so expensive, most of the orchards were cut down," third-generation orange grower Idan Zehavi says in the grove first planted by his grandfather.

Just 1% of Israelis now work in agriculture, down from 18% in 1958, while the tech sector has shot up from virtually zero to 10% of jobs today, many developing software used outside the country. That's helped double exports of services since 2008, to more than $50 billion last year—with ▶

▼ Israeli exports*



◀ Zehavi in the orchard planted by his grandfather

KUDLOW: PHOTOGRAPH BY GABRIELLA DEMCZUK FOR BLOOMBERG BUSINESSWEEK; ORANGES: PHOTOGRAPH BY AMIR LEVY FOR BLOOMBERG BUSINESSWEEK.
*ONLY INCLUDES GOODS EXPORTS. DATA: BANK OF ISRAEL, CENTRAL BUREAU OF STATISTICS

◀ services in 2020 poised to surpass goods exports for the first time. The shift "from basic agriculture like Jaffa oranges to top-of-the-line tech" makes economic sense, says Karnit Flug, former governor of the country's central bank, now a vice president at the Israel Democracy Institute research center. "Israel doesn't have any comparative advantage in agriculture. Water is not abundant here. Land is not abundant here."

The changing fortunes of farmers were a potent political issue in the election campaign that ended on March 2, Israel's third in the past 11 months. Prime Minister Benjamin Netanyahu—who won a plurality in voting—promised stronger support for agriculture to lower food prices. "You're real patriots," Netanyahu told farmers in December. "You protect the land, and we will protect you." His primary rival, Benny Gantz, who grew up in a farming community, pledged to allow entry to more foreigners to work the fields to double farm exports within five years. Farmers "guard the borders, open territories, and offer food security," Gantz wrote on Facebook.

One sector that's prospering even as farming suffers sits at the intersection of tech and agriculture. The country has more than 200 startups in that field, with venture capitalists more than doubling annual investment over the past five years, to $100 million-plus in 2019, according to Start-Up Nation Central, a business advocacy group. Netafim, a pioneer in drip irrigation started in 1965, has added sensors and software that allow farmers to precisely control the water their crops get. Taranis, founded in 2015, provides high-resolution aerial imagery to help growers decide precisely where they need to apply more water, pesticides, or herbicides. And Vertical Field, founded in 2006, is expanding to the U.S. with its technology for growing plants on walls, allowing for more efficient use of space—and water. "We're using every drop," says Chief Executive Officer Guy Elitzur.

Orange farmer Zehavi says he spends about 2,000 shekels ($580) a month on water for his 600 trees in the summer months—whereas rivals across the border in Egypt pay nothing for water. While Israeli farms are among the world's most efficient in irrigation, the cost of water, combined with rising salaries and the shekel's 21% appreciation against the dollar this century, has priced the country out of many export markets. Agriculture workers in Israel earn about $2,200 per month, 10 times what similar jobs in neighboring countries pay. In regional rivals such as Egypt, Turkey, and Morocco, "labor is very cheap, and water is very cheap, and the currency is better for exporters,"

◀ Ottoman growers developed the Jaffa orange, and by the 1920s it was exported across the Middle East and Europe

says Nitzan Rottman, who oversees work on citrus at Israel's Ministry of Agriculture. "We can't compete with them."

Some farmers are shifting from crops such as oranges—water-intensive even with the best irrigation systems—to less-thirsty alternatives such as grapes, olives, and *Argania spinosa*, the nut tree that produces argan oil for shampoos and skin creams. And climate change, which has made rainfall more volatile and increased fears of a prolonged drought, has accelerated that shift, says Elaine Solowey, who teaches sustainable agriculture at the Arava Institute, a research center in Israel's bone-dry Negev Desert. "We don't want to be caught in a trap as far as water goes," she says. "We're hoping to start diversifying and have other orchards ready relatively quickly."

"We don't want to be caught in a trap as far as water goes"

With suburban development encroaching on his five acres of Jaffa orange trees, Zehavi came up with a different solution: a pick-your-own operation. When he pilots his tractor along the road linking the two sections of his orchard about a half-hour south of Tel Aviv by car, he says, "People look at you like, Where the hell did you come from?" But those suburbanites, nostalgic for a slice of the Israel of their grandparents, flock to his grove on weekends to pick bushels of oranges for 7 shekels a kilo. "I want children to see where oranges come from," he says. "And it's not just from the supermarket." —*Ivan Levingston*

THE BOTTOM LINE Agriculture has fallen to 2% of goods exports in Israel as a strengthening currency, rising labor costs, and scarce water supplies have rendered many farms unprofitable.

Spain Gets Left Behind

● Unemployment remains stubbornly high, even with job gains across the Continent

Each year, Raquel García anxiously awaits the warm weather that draws tourists to Spain's southern beaches—it's her only opportunity to find full-time work. "When the summer comes, boom!" the 34-year-old says. But when the season's over, thousands in the province of Cádiz are left unemployed.

At the end of last August, García lost a full-time waitress job, and she and her son were forced to live off a couple hundred euros of unemployment insurance and subsidies each month. She recently found work at a restaurant once a week—not enough to pay her bills. "Cádiz is so rich because it has the ocean, it has the mountains, and the food is absolutely delicious," she says. "But at the same time, it's so poor."

While successive interest-rate cuts have propped up the broader European economy—helping to reduce overall euro-area unemployment to 7.4%, the lowest level since 2008—joblessness in Spain, and in particular the south, remains persistently high. Spain's unemployment rate of about 14% is almost twice that of the bloc; at 25%, the rate in Cádiz is among the highest in the developed world. Much of the blame lies in deep-seated domestic problems: Spain has the European Union's highest rates of temporary employment contracts and high school dropouts and is among the EU countries with the largest segments of low-skilled workers. It also has one of the least mobile workforces, since elevated rates of homeownership and other hurdles often keep Spaniards in cities with few job opportunities.

There are some signs that those long-standing issues have become more entrenched. Job growth in Spain has started to stagnate, and economists say the unemployment rate probably won't fall much below 12% or so in the coming years. "It is a dysfunctional labor market," says Marcel Jansen, a professor at the Autonomous University in Madrid.

About 90% of the jobs created in Spain in recent years have been temporary—a quarter lasting less than a week. Some employers roll over those short contracts repeatedly, for months or even years at a time, leaving workers uncertain about how long their job will last. That's mainly because it's easier and costs less for employers to fire a worker on a temporary contract. The high turnover discourages companies from investing in training, so workers don't build up the skills they need to escape the trap of sporadic unemployment.

Successive governments have failed to tackle the overreliance on temporary contracts and the chronic problems plaguing the job market in general. The last major attempt to improve labor laws was in 2012. Spain's new left-wing government has put the issue back in the spotlight with plans to reverse some of those changes. Economists warn it would be better to improve rather than undo the previous reforms, which could be damaging at a time of slower economic growth.

Many workers are also stuck with mortgages that make it difficult to relocate for work. Homeownership in Spain is the highest among large EU countries, at 76%, while the rental market is short on apartments and long on complex and costly paperwork. "There's not an extensive rental market to facilitate those kinds of moves—it's an important impediment to mobility," says Miguel Cardoso, an economist at Spanish lender BBVA.

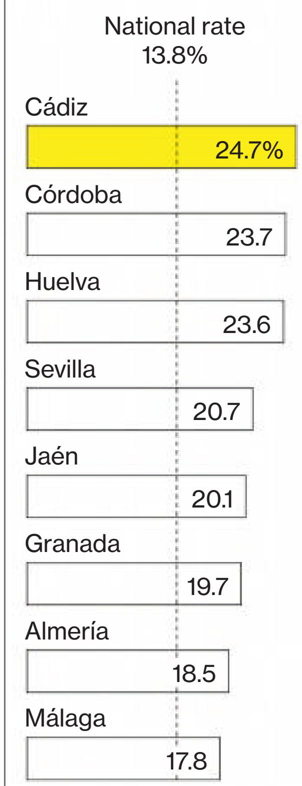
Even those who take the financial risk of moving have difficulty finding good employment opportunities. Spain has a government-run website for job seekers, but economists say it's not updated often and doesn't include many available positions. Publicly funded employment agencies aren't used as much as in other EU countries, and fewer than a quarter of the long-term jobless are helped by individualized, targeted support from employment services, compared with an EU average topping 80%.

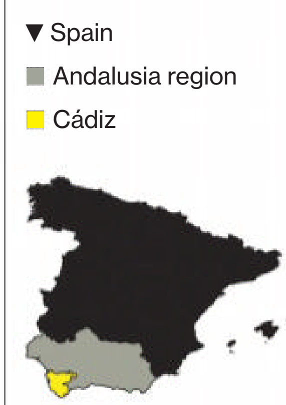
Some Spanish regions, such as in the industrialized and autonomous Basque Country, have had success training unemployed workers for in-demand jobs. But those in the less industrialized south—where unemployment is the worst—have struggled. In Cádiz, the problems date to before the 2008 financial crisis. The province's once-powerful shipbuilders have been shedding jobs for decades, and the production of Cádiz's famed sherry wine has become more mechanized, requiring less labor.

Rosario Rodríguez, 49, has spent her adult life working on short-term contracts, most recently as an assistant in the kitchen and laundry room of a nursing home. Still, she's never considered leaving her home city of Cádiz. "In cities where there are more opportunities, the rent is a lot more expensive," she says. "When I think about the future, it's very bleak." —*Jeannette Neumann*

THE BOTTOM LINE Temporary contracts and a weak rental market are barriers to employment in Spain, where workers in the south in particular have missed out on Europe's broader economic expansion.

▼ Unemployment rate of provinces in the Andalusia region





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Joe Biden's Very Good Night

● The candidate's comeback defied expectations. But he still has a long way to go

Bill Clinton dubbed himself "The Comeback Kid" after experts wrote him off early in the 1992 Democratic primaries. After the Super Tuesday primaries on March 3, Joe Biden can lay claim to the nickname. Left for dead after dreadful finishes in Iowa and New Hampshire, the former vice president came storming back to edge Bernie Sanders in the delegate lead and narrow the race for the Democratic nomination to a two-man affair. Appearing onstage in Los Angeles, Biden, always prone to overstatement, for once undersold the scale of his victory. "We are very much alive," he declared.

The emergence of Biden and Sanders presents Democratic voters with a stark choice about how best to take on Donald Trump in the fall: Pick Biden and follow the moderate path that delivered Democrats huge suburban gains in 2018 and control of the House of Representatives—or tack left to embrace Sanders's message of generational change.

For some Democrats, that quandary summons up memories of another recent presidential primary, one they'd like to forget. With the field narrowing to an establishment favorite and a liberal insurgent, some strategists fear the primary contest could soon mirror the contentious clash four years ago between Sanders and Hillary Clinton.

"What worries me is that we're looking at a 2016 redux," says Rebecca Katz, a progressive strategist, "where the nominee limped into Election Day and then lost to Donald Trump."

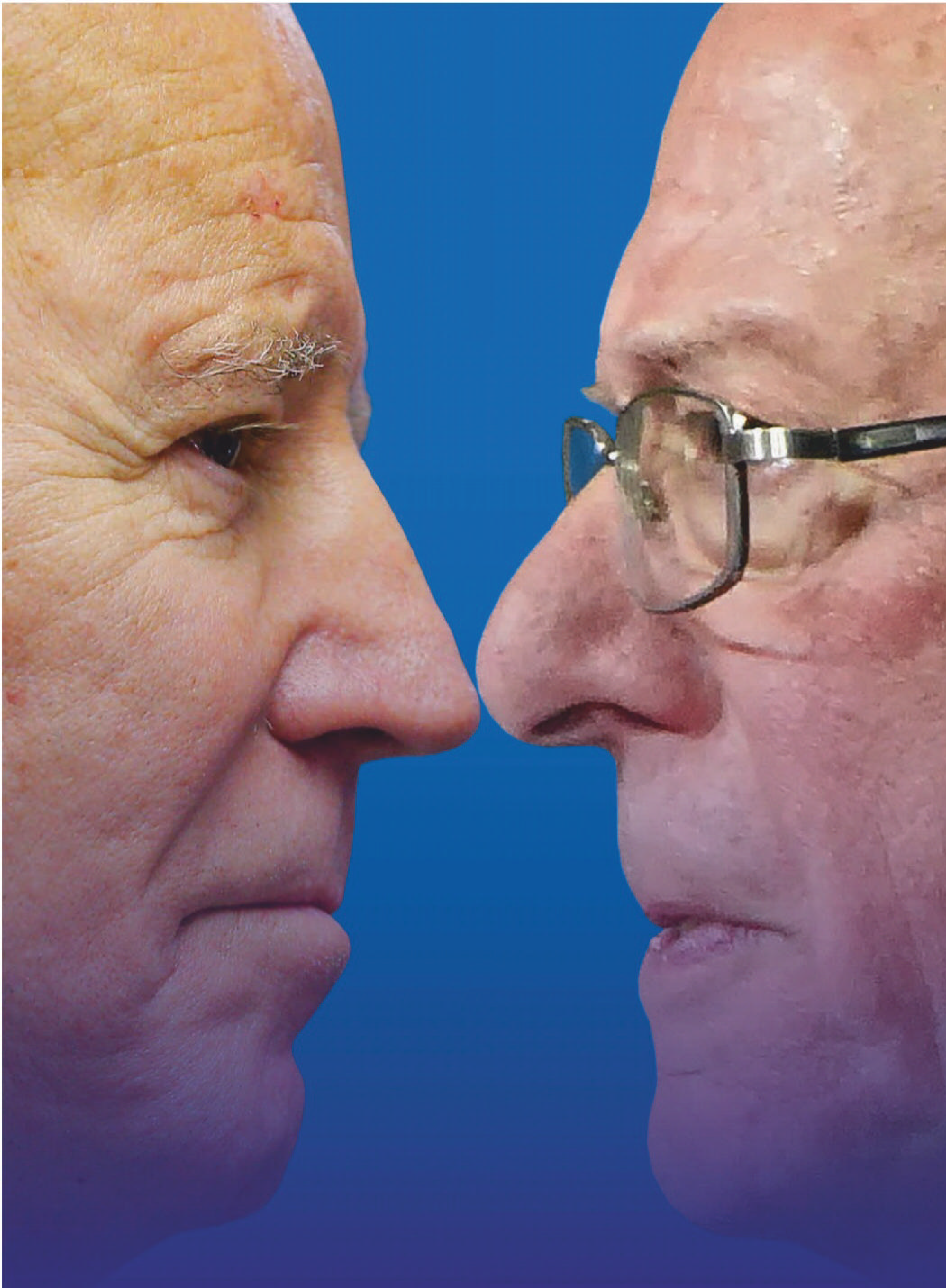
Entering Super Tuesday, the preoccupying concern among most Democratic lawmakers and party officials was that moderate support hadn't yet coalesced around any single candidate. That problem has disappeared, aided by the exit of former New York Mayor Michael Bloomberg from the race on March 4. (Bloomberg is founder and majority owner of Bloomberg LP, which owns *Bloomberg Businessweek*.) Biden's surge creates a different challenge for a party that must unite if it hopes to prevail in November.

In deciding between Sanders and Biden, Democrats are effectively choosing between the past and the future of the party. On Tuesday night, Biden's ties to Barack Obama and his promise to restore American politics to the era of relative civility that existed before Trump won the day. As Democratic strategist Addisu Demissie said, Biden, who tirelessly invokes his affiliation with "Barack," managed to reconstitute most of the former president's key groups of support—not only seniors and African Americans, but also the white-collar suburban voters who powered the party's gains two years ago. That represents, Demissie noted, "a pretty formidable coalition."

Yet Biden is still missing one vital component of Obama's support that proved decisive in past presidential elections: young people. He's consistently failed to attract younger and even middle-aged voters, leading some Democrats to question whether he can ultimately generate enough excitement to defeat Trump. "Moderation is not what gets people out to vote," Katz says. "We lost with Clinton, Kerry, and Gore. You win when you do something different."

Younger voters have instead flocked to Sanders, who's built a committed following beyond what he drew in 2016 that now includes working-class voters and Latinos. Collectively, they represent the future of the Democratic Party. Sanders showed the possibility of this coalition by decisively winning the Feb. 22 caucus in Nevada, a state whose demographics more closely resemble those of the ▶

Edited by Amanda Hurley



BIDEN: BRIAN SNYDER/REUTERS. SANDERS: MICHAEL TULLBERG/GETTY IMAGES

◀ country—and, especially, the country's future.

But the "revolution" Sanders has promised has yet to materialize. Even while winning key states such as California and Colorado on Tuesday, he didn't generate a big influx of new young voters. In fact, NBC News exit polls showed that 13% of voters were age 18 to 29, which means they turned out at only half the rate that seniors did.

In the areas where primary turnout has spiked this year, such as Virginia, it's mostly been fueled by the suburban moderates who drove Democrats' midterm gains and voted overwhelmingly for Biden. Although he now must unify Democrats, on Tuesday night Biden couldn't resist taking a dig at Sanders. "People are talking about a revolution," he said. "We started a movement."

The question Democrats face is whether Biden's movement or Sanders's revolution can manage to assemble the 1,991 delegates necessary to clinch the nomination before arriving at the party convention in July. If neither candidate amasses a majority of delegates, it would precipitate an historic—and likely damaging—clash when Democrats gather in Milwaukee. The last time a major party convention went beyond the first ballot was in 1952.

In recent weeks, the specter of a contested convention generated intense controversy among Democrats and Sanders supporters over whether the party establishment could deny him the nomination if he entered with a delegate lead. But as with so much else this cycle, that concern has suddenly been turned upside down. For now, Biden, not Sanders, looks likelier to move forward with a delegate lead—and re-create the dynamic that divided the party four years ago and fueled acrimony among Sanders supporters that's never abated.

This time Biden, not Clinton, is the anointed establishment favorite. And his strength with black voters and other party regulars may be just enough to prevent Sanders from ever regaining his delegate lead.

That would also saddle Biden with the same problem of how to placate frustrated Sanders supporters. "If Biden holds on to his delegate lead," says Brian Fallon, a top aide to Clinton's presidential campaign, "his task will be the same as Hillary's in 2016: How do you bring a disaffected wing of the party into the fold? It would have been nearly impossible if Bernie had the most delegates. But it's still a chore, one that was never fully accomplished four years ago and contributed to our defeat."

Biden's fate ultimately may rest on whether he

can persuade Sanders and, more important, his legions of young followers, to accept him as the legitimate leader of the party—and one they will actively support. In a defiant speech in Vermont on Tuesday night, Sanders gave no sign that he'll make Biden's job any easier. "We cannot beat Trump with the same old kind of politics," he said.

To avoid a repeat of the 2016 primary and an existential crisis for his party, Biden may need to beat Sanders handily in the delegate race heading into Milwaukee. While that will take time, Tuesday's results are about the best start he could have hoped for.

"Nobody," says Bob Shrum, a veteran strategist for Democratic presidential campaigns, "has ever come back from the dead the way Biden has come back from the dead." —*Joshua Green*

THE BOTTOM LINE The former vice president's resurgence on Super Tuesday gives Democratic voters a stark choice for how to beat Donald Trump in November: moderation or revolution.

Coronavirus Could Fell Japan's Abe

● The prime minister is criticized for a haphazard response to the outbreak

Shinzo Abe has overcome countless political perils on the road to becoming Japan's longest-serving prime minister. He may have met his match with the novel coronavirus.

In a sign of mounting concern, Abe abandoned his relatively mild approach to the epidemic with a shock announcement urging schools to close nationwide beginning on March 3. The move sent millions of parents rushing to arrange child care and raised doubts about the government's grasp on a situation threatening to tank the economy, scuttle Tokyo's plan to host the Summer Olympics in four months, and tarnish Abe's legacy.

"This step signals both the government's alarm at the outbreak's trajectory and—perhaps more importantly—Abe's awareness that mismanaging the outbreak could critically damage his premiership," says Tobias Harris, a Japan analyst for Teneo Intelligence in Washington. "However, it seems unlikely that this step will either contain the outbreak or restore the public's confidence in Abe's leadership."

The reversal followed weeks of controversy over the prime minister's efforts to contain a disease that's infected more than 300 people in Japan (as of March 4). Abe's health minister acknowledged that Japan was conducting only a fraction of the number of tests that its peers have, meaning the cases confirmed so far may be only the tip of the iceberg.

The episode has damaged Japan's reputation for competent governance, even as people began to wonder whether it might be safer to postpone the Olympics for the first time since World War II. Tokyo has spent more than $26 billion to prepare for the event this summer, which Abe has made a centerpiece of his campaign to attract foreign tourists.

The blow has fallen on a Liberal Democratic Party-led government weakened by a series of corruption scandals and a sales tax hike in October that left the economy on the brink of a recession. Support for Abe's cabinet has sagged to its lowest average level since July 2018, according to data compiled by Bloomberg Economics. One poll published by the newspaper *Sankei*, which backs the LDP, showed support falling 8 percentage points, to 36%, from a month earlier.

Abe defended his response to the outbreak at a news conference on Feb. 29. "A decision that affects people's daily lives will of course result in various opinions and criticisms," he told reporters. "As prime minister, it is a matter of course for me to listen to those voices. But at the same time I need to protect the lives of the people."

Japan's benchmark Topix stock index marked its worst weekly decline in four years in the last week of February. Market jitters bode ill for an economy that contracted 6.3% in the last three months of 2019.

While Abe benefits from a divided opposition, a simultaneous collapse of the economy and the Olympics might be too much for the LDP to ignore. Further declines could prompt the ruling party to ditch Abe before the next general elections, which must be held by October 2021.

Abe, like leaders in South Korea, Hong Kong, and elsewhere, has faced criticism for the government's reluctance to institute a total ban on Chinese arrivals. That's complicated his push to restore ties with China. The two countries were mired in one of their biggest crises ever when he took power in late 2012. Tokyo and Beijing still say they plan to go ahead with a state visit by President Xi Jinping in April, though *Sankei* reported the trip could be delayed until autumn or later.

Although Abe has survived worse slumps before, the coronavirus outbreak is shaping up to be his toughest challenge yet. Waiting in the wings is Shigeru Ishiba, a former LDP defense minister whose efforts to distance himself from the government have helped make him the most popular candidate to succeed Abe. "There are major cracks appearing in [Abe's] bedrock support," says Shigeharu Aoyama, an upper house LDP lawmaker who says the prime minister's policies had shown consideration for China while placing burdens on the Japanese people. "Doubts are emerging over the nature of the administration and whether it's appropriate for the nation." —*Isabel Reynolds*

THE BOTTOM LINE Abe has survived other crises, but the novel coronavirus threatens to deliver an economic blow he won't be able to overcome before the 2021 elections.

JUSTIN SULLIVAN/GETTY IMAGES

CORONAVIRUS CHECKLIST

● Nine steps to making your company disaster-proof-ish

The business world was caught off guard by Covid-19. According to a report by Dun & Bradstreet, 94% of Fortune 1,000 companies are experiencing supply chain delays—not to mention workplace absences, lower productivity, travel cutbacks, and reduced trade and investment. "Many companies had plans for floods or earthquakes, but their backup factories were in another region of China," says Razat Gaurav, chief executive officer of Llamasoft Inc., a supply chain software provider. "This should be a wake-up call for a lot of industries."

Bloomberg Businessweek talked to a dozen crisis planning and supply chain experts about how to prepare for continued complications from the coronavirus, as well as future disruptions. Tony Adame, an associate director at Aon Plc, says many executives are good at planning for short-term crises, such as an active shooter or power outage, and ignore long-term impacts. Follow this checklist to make sure you're doing both. —*Arianne Cohen*

Edited by Bret Begun

THE EASY STUFF

❶ Know the basics. Depending on the crisis, Adame says, business disruptions require four types of responses:

A) Emergency response and safety. This is making sure people and facilities are safe.

B) Crisis management and communications. Analyzing the situation and informing staff, media, suppliers, and customers of the crisis and the plan.

C) IT recovery. The tech department protects corporate information, hardware, and software.

D) Business continuity. Keeping essential operations running.

❷ Establish a war room—three of them. Start on-site, but have off-site and online options as backups. They should be "cross-functional," Gaurav says, meaning they're places to reach out for collaboration on, say, sharing a factory with another business.

❸ Update your HR guidelines. "The policies shouldn't be specific to any individual event," says Doris Dike, a health-care attorney at Friedman & Feiger LLP. They should include remote work rules and family medical leave allowances.

Rachel Conn, a labor and employment lawyer with Nixon Peabody LLP, suggests establishing a communicable illness policy. It should include what sicknesses are covered, employees' obligation to report them, sick leave rules, how the employer will communicate and keep workers informed in an outbreak, and travel restrictions.

THE MEDIUM-HARD STUFF

❹ Identify critical operations. A finance department, says Adame, might have to pay vendors and employees, but its tax and audit work could be put off. Then figure out your critical needs, such as raw materials or subcontractors, and plan for how you would maintain those supplies and relationships.

❺ Assemble skeleton staffs. "Prepare for situations when critical personnel are unable to come into work," says Brion Callori, manager of engineering and research at insurance company FM Global.

❻ Consider a digital supply network. Execs should spend their time making decisions, not calling Asia to track down what's where. DSNs link businesses with suppliers, customers, and logistics companies.

THE HARD STUFF

❼ Work those connections with companies you rely on. Are you a priority—or client No. 168? Although there's not much companies can do about pecking order during the Covid-19 crisis, building relationships in every facet of production now will help in a future disruption. "The power behind the supply chain is people," says David Cahn, director of global marketing at Elemica Inc., a digital supply network. For example, China is requiring that factories obtain health department approval to reopen, and if you know the local inspector, getting a signoff could be a smoother process, says Rodney Manzo, CEO and founder of Anvyl Inc., another DSN.

❽ Defuse your supply chain time bomb. Corporate risk is defined by the number of buffer days in your inventory and your short- and long-term options for sourcing, says Llamasoft's Gaurav. Work on backups—and backups to backups. Industries with more regulatory oversight, such as pharmaceuticals, need even more buffering, because switching facilities requires time-consuming inspections.

❾ Think creatively. Of Manzo's hundreds of Chinese suppliers, 93% are affected by Covid-19, with an average manufacturing delay of 17 days. If inventory is held up, do you have alternative markets to sell in? AJ Mak, who runs Chain of Demand Ltd., an artificial intelligence supply chain company, says a clothing retailer could sell late-arriving summer wear in Australia, New Zealand, and Brazil.

HAVE YOU READ ISO 22301?

The International Organization for Standardization's guidelines include No. 22301, which deals with disturbances. It's dense—"This document specifies requirements to implement, maintain, and improve

a management system to protect against, reduce the likelihood of the occurrence of, prepare for, respond to, and recover from disruptions." Here's a tip: Just Google "ISO 22301 in plain English." —*A.C.*

ILLUSTRATIONS BY PATRIK MOLLWING

THE ENLIGHTENED OFFICE

● New research takes a deeper look at the role emotions play on the job

Google Scholar counts more than 17,000 studies on regulating emotions in the workplace in the past two years alone. “Workplaces are more emotionally charged given current events, work, and family stressors,” says Allison Gabriel, an associate professor of management at the University of Arizona. A sampling of the latest scholarship on how to keep calm and carry on. —*Arianne Cohen*

Don’t hide your feelings

TITLE:
“Are Co-Workers Getting Into the Act? An Examination of Emotion Regulation in Co-Worker Exchanges”

PUBLICATION:
Journal of Applied Psychology, December 2019

SUMMARY:
Pair your negative emotions with forward-looking positivity, then express that. “We are horrible actors when it comes to faking our emotions,” says Gabriel, a co-author. “All those negative emotions still leak out.”

TITLE:
“Unpacking the ‘Why’ Behind Strategic Emotion Expression at Work: A Narrative Review and Proposed Taxonomy”

PUBLICATION:
European Management Journal, February 2020

SUMMARY:
“We often regulate our emotions to meet other people’s needs,” says co-author Dirk Lindebaum, an organizational psychologist at Grenoble École de Management. “If you suppress emotions, you’re more likely to suffer psychologically.” Instead, ask why you’re doing it.

Don’t worry, be happy

TITLE:
“Investigating the Effects of Anger and Guilt on Unethical Behavior: A Dual-Process Approach”

PUBLICATION:
Journal of Business Ethics, September 2018

SUMMARY:
Co-author Daphna Motro, an assistant professor of management at Hofstra University, says angry people are more inclined to lash out or overpay themselves. Guilt, however, reduces unethical behavior.

TITLE:
“Positive Emotions at Work”

PUBLICATION:
Annual Review of Organizational Psychology and Organizational Behavior, January 2020

SUMMARY:
Growing evidence shows that positive emotions—including creativity, engagement, coping, teamwork, customer satisfaction, and leadership—are good for workplace success.

Don’t get overwhelmed

TITLE:
“Managing Job Burnout: The Effects of Emotion-Regulation Ability, Emotional Labor, and Positive and Negative Affect at Work”

PUBLICATION:
International Journal of Stress Management, August 2019

SUMMARY:
Those with positive traits such as enthusiasm, confidence, energy, and alertness are more likely to manage ups and downs successfully.

TITLE:
“A Nonlinear Relationship Between the Cumulative Exposure to Occupational Stressors and Nurses’ Burnout”

PUBLICATION:
Journal of Mental Health, October 2017

SUMMARY:
Despite stressful situations, some nurses successfully avoid burnout by not suppressing emotions, avoiding rumination, and positively reframing circumstances they can’t change.

Q&A

EMAIL: THE AFTERLIFE

Death provides a sweet release from the hell that is replying to email, but it raises questions about who gets to look at your inbox after you're gone. Laws governing digital content in the U.S. are all over the place—emails, pics, direct messages, and social media posts can be treated differently after you die—so know what options you have to protect yourself and your company, says Edina Harbinja, a senior lecturer at Aston Law School in Birmingham, England, and an expert in postmortem privacy in emerging technologies. Here are edited excerpts of her conversation with Arianne Cohen:

● When you die in the U.S., what happens to your personal email?

In most cases, nothing, unless your family requests access or you'd set up an online tool.

● Like Google's Inactive Account Manager?

Yes. That allows you to request the deletion of your Google account after a period of inactivity from three to 18 months. Start by going to account.google.com, and selecting Manage Your Data & Personalization.

The second option is to designate up to 10 beneficiaries to bequeath some or all of your Google data to, including YouTube videos and Calendar and Drive data.

● What if you don't set up the account manager?

Next of kin may request access.

● Will they get it?

Sometimes. These questions are very open. Last year in New York, a court ordered Apple to give Nicholas Scandalios access to his deceased husband's photos. In the absence of an account manager or an express direction in a will or trust, the terms of service are followed. Those provisions are quite vague, which usually means that a court order will be required.

● What about executives who might have sensitive work information in personal email?

Ideally, private emails shouldn't store crucial business information. If they do, then the executive should make provisions in her wills and trusts and authorize executors to handle the data.

● What happens to your work email if you die?

It depends on company policy. The law is unclear, and so it's safest to treat every email like a document that would be handed over to the company.

● How would I know what my company's rules are?

Procedures should be specified in contracts, but in my experience, this is rare.

● The U.S. sounds progressive compared with Europe on these matters.

Over 40 states follow the Revised Uniform Fiduciary Access to Digital Assets Act, which creates a hierarchy for how inactive accounts will be addressed. In Europe it's different in every country. France's Digital Republic Act recognizes "specific or general directives" for passing on digital assets, including emails. In Germany a court ordered Facebook to grant parents access to their deceased daughter's Facebook account in 2018, so it's likely that emails would be treated in a similar manner–inherited like other property under German law. Ⓑ

ILLUSTRATIONS BY PATRIK MOLLWING

WHO REALLY OWNS A

JOHN DEERE?

IS IT THE FARMER WHO PAYS $800,000 FOR A TRACTOR—OR THE COMPANY THAT WON'T LET THE FARMER GET UNDER THE HOOD?

BY . . . . PETER WALDMAN AND LYDIA MULVANY

PHOTOGRAPHS BY. . . . . WALKER PICKERING

IT'S HUSKER HARVEST DAYS, Nebraska's biggest agricultural trade show, and Kevin Kenney is working the pavilions. The engineer, inventor, and inveterate manure-stirrer is trying to be discreet. He has allies here among the sellers and auctioneers of used tractors and aftermarket parts. There are farmers, mechanics, and the odd politician or two who embrace him. But enemies lurk everywhere.

Kenney leads a grassroots campaign in the heart of the heartland to restore a fundamental right most people don't realize they've lost—the right to repair their own farm equipment. By sheer dint of personal passion, he's taking on John Deere and the other global equipment manufacturers in a bid to preserve mechanical skills on the American farm. Big Tractor says farmers have no right to access the copyrighted software that controls every facet of today's equipment, even to repair their own machines. That's the exclusive domain of authorized dealerships. Kenney says the software barriers create corporate monopolies—and destroy the agrarian ethos of resiliency and self-reliance.

"The spirit of the right to repair is the birthright we all share as a hot-rodding nation," he says, channeling his inner Thomas Jefferson and Big Daddy Don Garlits. Tall and trim at 55, with gray-flecked hair and a passing resemblance to a corn-fed George Clooney, Kenney has kicked up significant pushback against the computerization of U.S. agriculture. His crusade to pass right-to-repair legislation in Nebraska has spread to proposals in 20 states. Last spring, Senator Elizabeth Warren, campaigning for the Democratic presidential nomination, called for a national law "that empowers farmers to repair their equipment without going to an authorized agent."

At stake for Deere & Co. and other big manufacturers is the free rein they've had to remake farming with data and software. The transformation has helped U.S. farmers increase productivity, but at the cost of a steady shift in operational control from farmer to machine. One of the world's oldest and most hands-on occupations has literally become hands-off.

Anything a farmer does on a modern tractor, beginning with opening the cab door, generates messages captured by its main onboard computer, which uploads the signals to the cloud via a cellular transmitter located, in many Deere models, beneath the driver's seat. These machines have been meticulously programmed and tested to minimize hazards ▶

Fig. 01 — Jeremy Davis

◀ and maximize productivity, Deere says, and it's all too complicated for farmers to be getting involved in. The issue isn't actually repair, says Stephanie See, a spokesperson for the Association of Equipment Manufacturers—it's agitators who insist on the right to modify the machines.

"One tweak could cascade throughout an entire software system and lead to unintended consequences," says Julian Sanchez, Deere's director of precision agriculture strategy and business development. In a fast-moving vehicle weighing as much as 20 tons, he says, that could mean carnage. It doesn't take much imagination to envision a coding mistake by a hacker, or even a well-intended farmer or mechanic, that sends a 500-horsepower combine careening into a farmhouse or through a clutch of workers eating lunch in the fields.

For a decade, the right-to-repair battle cry has rattled around rarefied circles of digital-rights activists, techno-libertarians, and hands-on repair geeks—primarily on the East and West coasts. Now, largely because of Kenney's persistence, it's tugging at the Farm Belt. Why, activists ask, should the buyer of an espresso machine or laser printer have to get replacement pods and cartridges from the original manufacturer? Who is Apple Inc. to dictate that only its certified parts can be used to repair a broken iPhone screen? What gives Deere the right to insist, as it did in a 2015 filing with the U.S. Copyright Office, that its customers, who pay as much as $800,000 for a piece of farm equipment, don't own the machine's software and merely receive "an implied license" to operate the vehicle?

"We've been telling people for years that if it has a chip in it, it's going to get monopolized," says Gay Gordon-Byrne, executive director of the Repair Association, a national coalition of trade, digital-rights, and environmental groups that promotes the repair and reuse of electronics. Gordon-Byrne serves as an informal adviser, mentor, and reality check to Kenney. She's also helped him set a clear goal: a law modeled on a landmark Massachusetts statute, passed in 2012, that required the auto industry to offer car owners and independent mechanics the same diagnostic and repair software they provide their own dealers. After it passed, automakers relented and made all their repair tools available nationwide.

That's what Kenney demands for farm equipment—and what Deere and its competitors reject.

At Husker Harvest Days, an ag industry blowout held every September in Grand Island, Neb., Kenney moves warily. After lunch, he drops by to see Kenny Roelofsen, co-owner of Abilene Machine LLC, a five-state retailer of used equipment and spare parts based in Abilene, Kan. Roelofsen's company is instrumental in keeping older tractors in the field, an essential service for smaller farmers on tight budgets. But he says software barriers in newer machines are killing his incentive to make and sell parts. "I've stopped developing parts for machines built after 2010, because I know my customers can't work on them without software," he says. "Only giant corporate farms can afford newer equipment. For the small guy, it's not economically feasible."

Deere's pavilion at Husker Harvest Days occupies a huge corner lot decked out in green and packed with gleaming new machines. Kenney is talking quietly there beside an enormous 9000 Forage Harvester, priced at about $600,000, when a familiar face approaches. It's Willie Vogt, executive director of content for Farm Progress Cos., the agricultural publishing company that produces Husker Harvest Days and several other big farm shows. Deere is one of three corporate sponsors here; it also sponsors Farm Progress's namesake show, which will be held in Iowa in September.

Vogt stops to chat. Kenney tenses up. Vogt, whose bio says he's covered agriculture for 38 years and oversees 24 magazines and 29 websites, says he's still not ready to publish stories on the right to repair. "It's a very complicated issue that generates more heat than light," he says.

The two men square off on the green carpet. Vogt says Deere can't let people meddle with the machines for safety reasons, pointing to the 9000 harvester's enormous rotors by their feet. He tells Kenney that "the left side of the issue" pays lip service to repair but really wants access to manufacturers' source code to modify horsepower, emission controls, and other programmed functions. Kenney fires back: "Why should farm vehicles be treated any differently than cars and trucks?"

Kenney is disgusted. "Willie Vogt's basically a knight for Deere," he says, leaving the pavilion. "It's like Napoleon when he ran through Europe. He didn't fight. He knighted everyone."

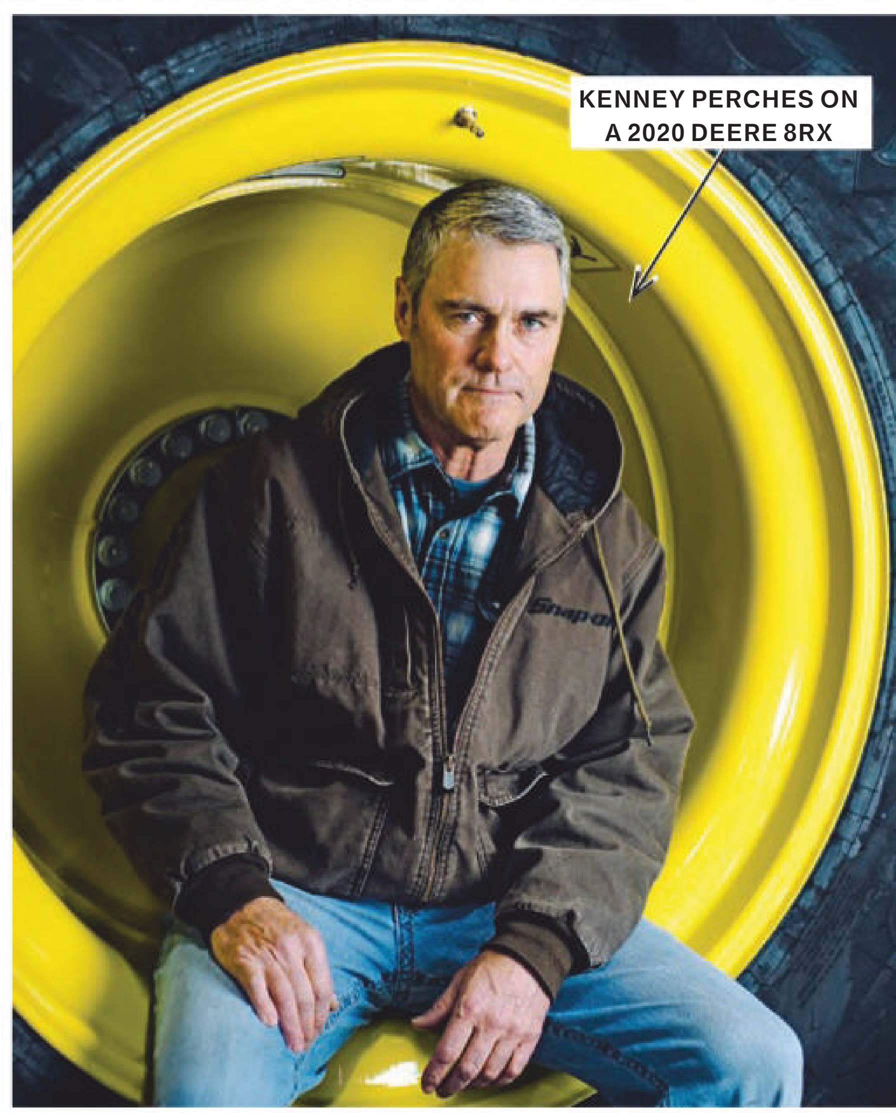


Fig. 02 — Kevin Kenney

Vogt, in a follow-up email, disputes this characterization. "People should be able to repair what they can, and that isn't easy," he writes. "But full access to code remains a concern."

AMERICAN FARMERS HAVE a saying to describe their loyalty to Deere, an attachment stretching back generations in many families: "We bleed green." Deere's metallic-green-and-yellow farm vehicles dominate the world's $68 billion market for agricultural equipment, accounting for more than half of all farm machinery sales in the U.S. and more than a third of equipment revenue worldwide—a bigger market share than that of the next two tractor makers, Case New Holland and Kubota Corp., combined. Customer loyalty is legendary. A 2017 survey by *Farm Equipment* magazine found 84% of Deere owners plan to purchase another green machine.

The company says the world needs digitized farming to feed the 10 billion people expected on Earth by 2050. The proprietary software Kenney and other repair advocates revile enables sensors and computers on machines to log and transmit data on everything: moisture and nitrogen levels in soil; the exact placement of seeds, fertilizer, and pesticides; and, ultimately, the size of the harvest. Having access to so much real-time data enables farmers and their computer-controlled machines to plant, spray, fertilize, and harvest at optimal times with as little waste as possible. All the farmer has to do is link his equipment to agronomic prescriptions beamed to him over the internet.

This is farming's version of big data, and the potential is staggering, enthusiasts say. The efficiency gains of recent decades have increased productivity an estimated 1.4% per year for the past 70 years. U.S. farmers produce an average corn yield of about 175 bushels an acre—that's still less than 30% of what some hyperattentive farmers have shown is possible under optimum conditions. Deere and other agriculture technology companies are betting that what the industry calls "precision agriculture" can dramatically expand output.

"If you were to walk around our buildings with hundreds, thousands of software engineers, it's like every line of code being written there is making it into a machine that's helping a farmer farm more precisely and reliably," says Deere's Sanchez. Consider machine sync, he says, the algorithms that direct the high-speed whirl of different farm machinery. As a combine processes a field of corn or soybeans during harvest, it sprays the separated grain into a wagon towed alongside the combine. When the wagon is full, it's driven to the edge of the field and emptied into a truck while another wagon slides in to take its place. The vehicles are in constant motion, synchronized by software that controls the steering, drive train, and actuators on each like a ballet choreographer. The same technology enables a planter machine to place 40,000 seeds in an acre of land with the precision of less than an inch.

There's also a more obvious motive for protecting proprietary software: money. Historically, the healthy profit margins of the parts and services units have helped smooth out earnings when demand for machines is down. For Deere and its dealerships, parts and services are three to six times more profitable than sales of original equipment, according to company filings. Farmers need to keep aging equipment running; that helped increase annual parts sales by 22%, to $6.7 billion, from 2013 to 2019, while Deere's total agricultural-equipment sales plunged 19%, to $23.7 billion. If a right-to-repair law pried open the parts and services markets to competition, Deere's cyclical balancing act could falter. Sanchez denies the company is fighting to protect a parts-and-services monopoly. "On the repair side, I would say we're all in," he says. "There's a significant number of tools that exist in the market and are available to any farmer without having to go through the dealer."

That's news to Jeremy Davis, owner of Firehouse Repair LLC in Palmer, one of a small number of independent equipment mechanics in central Nebraska. Before going out on his own in 2016, Davis worked for a decade at an equipment dealership, where "you take for granted you can get any software or service manual you need," he says. "Now it's really a struggle. We can't even get basic wiring schematics for particular brands."

At least half the repairs Davis sees involve code faults triggered by emission-control systems. The faults render vehicles inoperable—a bit like a mouse incapacitating an elephant. He can replace the exhaust filters and particulate traps that throw a tractor's codes, but dealerships won't provide the software to restart it unless he or the owner hauls the machine in or pays for a mechanic to make a house call. A few years ago, Davis paid $2,500 for a pirated version of John Deere's 2014 Service Advisor software from someone in Hong Kong, but the discs are now long out of date.

Fig. 03 — Quotation from Kevin Kenney

"I REALIZED IT ALL GOES BACK TO SOFTWARE. THAT WAS THE BEGINNING OF MY JOHN DEERE DERANGEMENT SYNDROME"

Davis scoffs at a main industry argument against providing repair software to farmers and independent mechanics: that they'll abuse it to disable emission-control systems. The incentive works the other way around, he says. Many farmers who own machines going off warranty delete the emission-system software to avoid costly future repairs—often with the back-door assistance of the dealers, he says. If right-to-repair legislation led to more independent mechanics who could resolve faults quickly and easily, owners would have less motivation to disable emission controls, Davis says. "The way it is now is unfair to owners, and it's unfair to me."

TO KENNEY, THE NOTION that farmers can't work on their own tractors is an affront to the rugged individualism that built America. Raised on a central Nebraska farm, he was always passionate about machines. When he was 12, he and a friend rebuilt the transmission of his dad's 1953 Studebaker pickup, ▶

◀ racing to reassemble the parts in a single weekend before his parents returned from a trip.

He earned his agricultural engineering degree at the University of Nebraska in Lincoln, and he'll still drive a dozen hours in a weekend to attend a Cornhusker football game. He's angry with his alma mater, though, for no longer making agricultural engineering students get their hands greasy working on tractor engines. An administrator told Kenney, in an email exchange that still pains him, that engine repair is taught at community colleges now. "We couldn't graduate if we didn't know how to break down and rebuild a diesel engine," he says.

After failing as a tenant farmer in the early 2000s, Kenney patented a design for a low-emission engine that burns diesel with a mix of ethanol and water. He couldn't commercialize the so-called dual-fuel technology. In his mind, the big equipment manufacturers were making so much money rigging their conventional diesel motors with clumsy emission-control systems to meet U.S. Environmental Protection Agency standards that they had no interest in cleaner-burning alternatives. "I realized it all goes back to software," Kenney says. "That was the beginning of my John Deere derangement syndrome."

He now makes his living installing tractor software for a farm data company and tuning and tweaking trucks and tractors. His calling, however, is the right to repair. He's spent the past four years turning conservative farmers against the corporate incarnation of motherhood and apple pie.

For Nebraska farmers, horror stories about tractors "bricking," or shutting down from a computer fault, are as common as waterhemp in their cornfields—and just as annoying. A Deere spokesperson says, "Help is never more than a finger tap away," referring to the communications equipment on modern farm implements. But getting a machine running again isn't always quick. Bill Blauhorn of Palmer lost half a day of harvesting corn while waiting for mechanics to drive 65 miles to his farm to reset the software on his 2017 Case IH combine. The machine's emission-control system would repeatedly ice up on cold nights and in the morning throw a fault code that prevented it from starting. In 2018, Blauhorn was racing to bring in the harvest before an approaching windstorm when the system wouldn't turn over. He says the five-hour wait for someone to show up and do a half-hour software fix contributed to a loss of at least 15% of the crop. Since then he doesn't take chances. "We just let the machine run all night," he says.

Andrew McHargue's tractor went down for an entire week during planting season while he waited for technicians to solve a problem. The Chapman, Neb., farmer paid $300,000 for the new machine in 2014, and over the next few years sank almost $8,000 into clearing fault codes. He finally mothballed the combine in favor of a 2010 model without the latest software and emission-control systems. The used tractor cost him an additional $160,000.

"I'm trying to sell the 2014, but nobody wants it," says McHargue, a board member of Nebraska's Merrick County Farm Bureau. "The whole disconnect is about who really owns it. If it's mine, I should be able to modify and fix it myself. There's no reason we shouldn't have a repair system exactly like the auto industry's."

As things stand, Deere technically could remotely shut down a farmer's machine anytime—if, say, the farmer missed a lease payment or tuned a tractor's software to goose its horsepower, a common hack widely available through gray-market providers. A Deere spokesman says many manufacturers can remotely control vehicles they sell, but Deere has never activated this capability, except in construction equipment in China, where financing terms require it to.

Fig. 04 — Quotation from Terry Griffin

"IF DATA GETS OUT, NEGOTIATING POWERS ARE WEAKENED. FARMERS' FEARS ARE VERY REAL. IT'S NOT PARANOIA"

EQUIPMENT MAKERS DON'T just control farmers' mechanical data. They also collect their production data right out from under their rear ends—unbeknownst to many tractor owners, Kenney says. "You should see their faces when I show them the SIM card under the seat. They go ballistic."

In 2011, when Deere began gathering and transmitting production data from farmers' machines, it didn't immediately tell them. When they found out, some considered it a breach of trust, and some accused the company of appropriating proprietary information. Many growers regard their methods as trade secrets that give them an advantage over competitors when vying for terms with creditors and landlords. "If data gets out, negotiating powers are weakened," says Terry Griffin, an agricultural economist at Kansas State University. "Farmers' fears are very real. It's not paranoia."

There's also a scramble to get farmer data. Companies from startups to behemoths such as Bayer AG are racing to acquire it to help develop and sell their products. Aggregated in datasets covering millions of acres, the information can yield valuable insights about which seeds thrive in which soil types and with which fertilizers and pesticides.

Today, according to Sanchez, farmers control their own data and decide who has access to it. That appears to contradict a disclosure statement on Deere's website, which says the company may share user data with its "affiliates and suppliers." Equipment makers say farmers want the data support. The world's No. 4 tractor maker, AGCO Corp., which makes Challenger and Massey Ferguson machinery, initially refused to disclose customers' production data to anyone. It changed its policy after farmers asked for more data services. "Customers really want us to help them," says Bill Hurley, an AGCO vice president.

Kenney worries more about security than privacy. He claims equipment makers' remote control over vehicle software makes farmers—and the U.S. food supply—vulnerable

Fig. 05 — Inventory at Green Line Equipment in Grand Island, Neb.

to sabotage. His concerns have grounding. In 2016 the FBI issued a warning that U.S. agriculture is "increasingly vulnerable to cyberattacks as farmers become more reliant on digitized data." What if a foreign adversary hacks Deere and shuts down thousands of tractors in the field? What if the internet or the electric grid is knocked out by a cyberattack or geomagnetic storm? Unable to restart their machines without dealer software, farmers might have no recourse but to watch as food production crawls to a halt.

BEFORE CLOSING TIME at Husker Harvest Days, Bruce Rieker, chief of government relations for the Nebraska Farm Bureau, sits down to talk in a breezeway behind his group's pavilion. The bureau's delegates have twice voted, almost unanimously, in favor of the right to repair. Yet after its staff spent months working with Kenney and a group of farmers to draft a state bill in late 2018, the Farm Bureau dropped it. Kenney says he was told they missed the filing deadline.

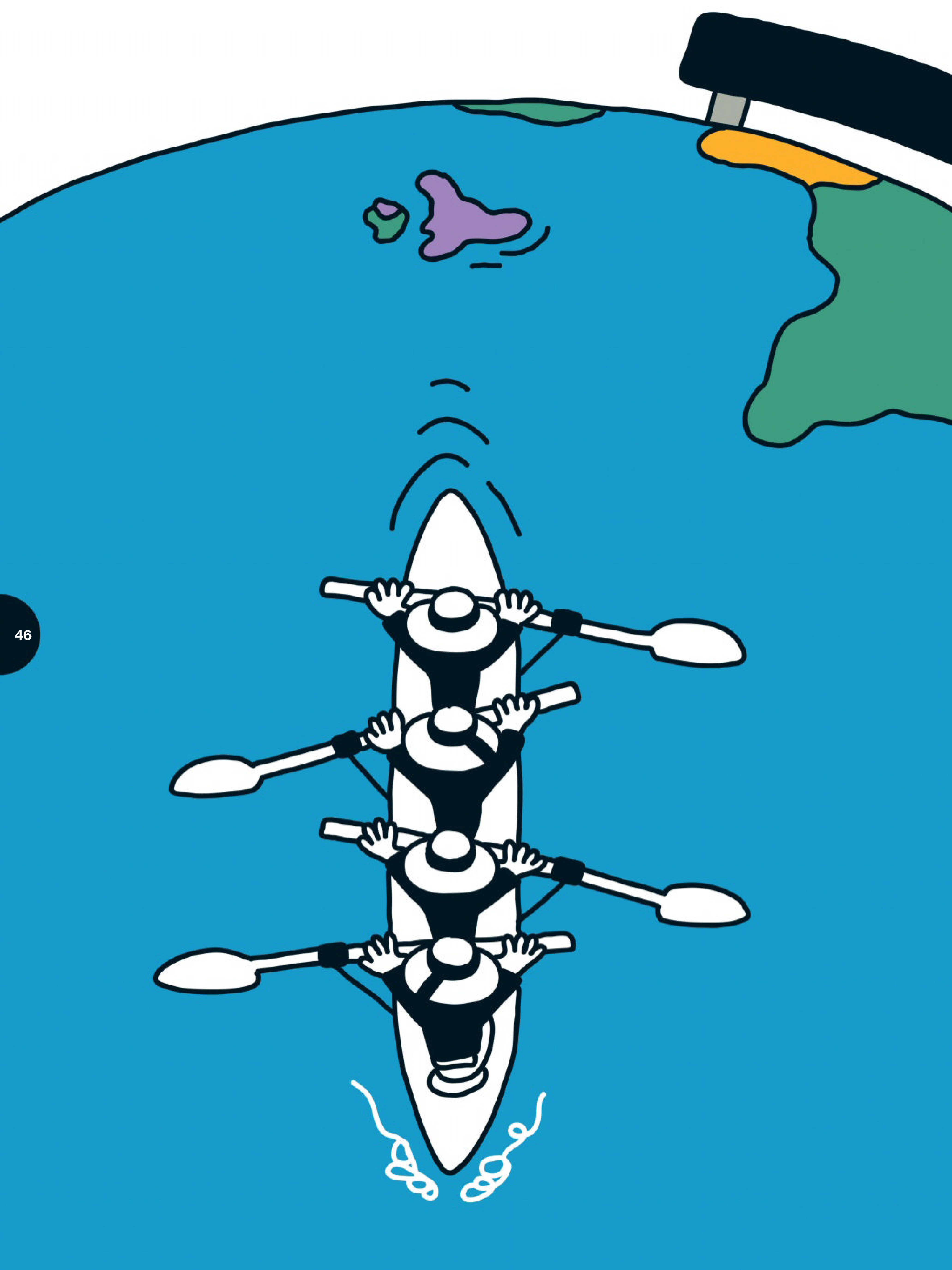
Rieker, who spent years as a Republican aide in Congress, says he's the one who killed the proposal. Despite bipartisan support in Nebraska's legislature, some powerful lawmakers didn't want to take on Deere and the equipment lobby and told the two sides to settle their differences without legislation. "A lot of times I believe the best solution isn't legislative or regulatory, it's parties working things out," he says.

Kenney and his collaborators are livid when told it was Rieker who aborted the legislation. "I feel stabbed in the back," says Tom Schwarz, a Nebraska Farm Bureau leader who'd spent months working on the bill. "Why would we send that signal to the companies that you don't need to worry about us–that we're not going to take any action that threatens your revenue?" The Farm Bureau is negotiating with industry trade groups for farmers' access to the same software provided to dealers. Progress has been limited, and the bureau voted in December to consider another bill in 2021. The Association of Equipment Manufacturers, trying to get ahead of actions like that, is coordinating a 2021 release of repair and diagnostic tools for farmers.

All this could be moot if legislation passes in one of the other states where Kenney and the right-to-repair movement have inspired bills. Prospects of passage this year look good in Massachusetts and New York, where farmers don't use massive machines such as combines and the equipment lobby is less influential, says Gordon-Byrne of the Repair Association. "That will absolutely open the floodgates," she says. "If you can buy software in Massachusetts, you'll have it in Nebraska in milliseconds."

Kenney, not the type to wait patiently, recently emailed Gordon-Byrne a photo of a 2017 Deere combine he'd proudly tuned up for a friend with an extra 50 horsepower using gray-market software. She wasn't impressed. Such tweaking could fall outside copyright law and amount to theft of services, she warned him, because Deere sells higher horsepower models of the exact same machine. The only difference is the software setting. She wishes she had "100 Kevins," she says, but a provocation like this probably isn't good for the cause.

Kenney wasn't buying it. He wrote back: "Gay, thanks but why was it OK years ago to pull the diesel engine fuel pump off, screw the horsepower up, put it back on, and run it with no consequences of 'theft'? Just because these engines are now electronic vs. mechanical, we've lost our rights to repair and modify? Back in my day we truly believed, Hot-Rodding is a National Birthright!" Ⓑ



The Posh School's Burden

Boarding schools that once trained young men to run the British Empire are opening campuses for elites in countries with reputations for corruption and long colonial pasts. It could get awkward

By Simon Akam

Illustrations by Oscar Bolton

On a Friday afternoon in late 2018, children gathered on an artificial-grass pitch in Kazakhstan's former capital of Almaty. In the distance, beyond the hangarlike buildings of their school, the Trans-Ili Alatau Mountains were snow-capped. On the other side rose the glass-walled Ritz-Carlton hotel complex. Shakira's *Hips Don't Lie* blared from the PA.

The occasion was a soccer tournament like many the world over, but, Shakira notwithstanding, this one had a determinedly British bent. The competition was between houses—student groupings traditional in English private education. Pagodas by the pitch bore the signature colors of the Bartle Frere, Edmonstone, Kipling, and Attlee houses. The first two were named for 19th century administrators of British India. The third honored Rudyard Kipling, author of the imperialist panegyric *The White Man's Burden*. The last was named for Clement Attlee, the prime minister who established Britain's National Health Service. All four men attended the English private school Haileybury or its antecedents.

The tourney was taking place at Haileybury Almaty, the first of two Kazakh franchises that have opened since 2008. The move had some strange historical resonances. Haileybury, descended from the East India College, is arguably the school most closely associated with Britain's imperial past. Kazakhstan, meanwhile, is a vast autocracy, flush with petrodollars yet free for less than three decades after more than a century of near-unbroken Russian or Soviet rule. Out on the AstroTurf, a girl with braces waved a Kipling House banner bearing a hand-drawn hammer and sickle. The poet would no doubt have blanched at the image: When the Bolsheviks took power in 1917, he wrote that one-sixth of the world had "passed bodily out of civilisation."

Haileybury's Kazakh outposts—the other is in Nur-Sultan, formerly Astana but renamed in tribute last spring after the country's president since independence, Nursultan Nazarbayev, stepped down—are part of a wider movement by U.K. private schools. According to consulting firm ISC Research, as of last September, 36 of these schools had opened 73 satellite campuses abroad, with a combined enrollment of 44,952 students and income from annual fees of $1 billion. The wave was partly born of financial pressure, but it has also proved an opportunity for the U.K. to export and celebrate its culture, creating a peculiar form of globalization in which youngsters in the Gulf States and East Asia eagerly adopt British traditions and iconography. Harrow's school in Beijing trots out its iconic "boater" straw hats for special occasions. Repton School's campus in Dubai features a grand entrance flanked by turrets.

This global branding opportunity is proving lucrative enough to renew thoughts of empire. "This is not about making a bit of spare cash," says Mark Abell, a lawyer at Bird & Bird in London who's worked on overseas franchise arrangements. "This is really about transforming the school into an international education business." ▶

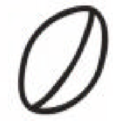
The original Haileybury is on 500 acres of wooded grounds, about 20 miles north of central London. The campus features the largest academic quadrangle in England, ivied walls, and engraved plaques honoring alumni killed in conflict in regions from Somaliland to Tibet. The quadrangle was originally built for the East India College, which was founded in 1806 to educate administrators for the East India Company. The college closed in 1858, and Haileybury opened on the same site a few years later. In 1942 it merged with another empire feeder school. That school's antecedent had educated Kipling, whom the Haileybury mythos enthusiastically absorbed.

With more than 830 pupils, Haileybury is among the larger of the U.K.'s 1,326 private schools, a category that suffers from confusing nomenclature. Schools so labeled are, like their U.S. counterparts, largely funded by student fees. For esoteric historical reasons, some—including, most famously, Eton College, alma mater of 20 British prime ministers and Princes William and Harry—are referred to as "public schools." Government-funded schools, which in the U.S. would be the public ones, are called state schools. Whatever they're dubbed—henceforth we'll refer to all fee-paying schools as private—they collectively educate about 6% of the British school-age population. They also make up a disproportionate share of the student body at top universities (40% at Oxford, 35% at Cambridge, 32% at the London School of Economics) and of elite British professions (65% of senior judges, 29% of members of Parliament, 43% of journalists, including this one).

Adjusted for inflation, British private schooling has become three times more expensive since 1980. The rise owes in part to a facilities arms race that ran unimpeded until the financial crash of 2008, as schools once synonymous with character-forming privation became increasingly luxe. John Coles, acting headmaster at Haileybury Almaty, recalls that when he started at the main U.K. campus in 2001, the culture was restrictive enough that teachers would file into the masters' common room for breakfast in mandatory collar and tie. They were given ironed copies of the *Times of London* to peruse in place of conversation, which was forbidden. Today the rules are looser, and the facilities include at least half a dozen tennis courts, a climbing wall, and a 25-meter swimming pool. The boarding fee has increased commensurately, rising since 2011 from £27,384 ($35,350) to £36,144 for a senior, slightly more than the pretax income of the average British worker.

As fee escalation put private schools beyond the reach of their traditional demographics, they started admitting more students from overseas, but the gambit had limits. Bringing in too many foreign students risked diluting the Harry Potteresque cachet that had attracted their parents in the first place. "They don't want to have lots of internationals. They want lots of British kids," says Lorna Clayton, whose company Academic Families places foreign students in U.K. schools. So the schools came up with franchising, which would bring in money and spread tradition without altering the original product, while also providing overseas parents with a more affordable way for their children to attend internationally reputable schools.

The move was led by what David Turner, a former *Financial Times* education correspondent and the author of a history of English private schools, calls "the second-tier private schools." The more academic ones stood snobbishly aside. The first foreign institution opened in 1998, when Harrow School (alumni: Winston Churchill, Benedict Cumberbatch), which is socially renowned but not highly academic, started a subsidiary in Bangkok. That institution, like all but one that followed, was a franchise with branding rights paid for by local investors; the lone exception was a Malaysian outpost wholly owned by Marlborough College (Kate and Pippa Middleton). Levels of oversight by the home schools varied, as did the financial return. In selling British parents on the idea, the schools would often tout the bursaries they could now afford to give British children, an easier sell than directly subsidizing the offspring of others.



The early partnerships weren't necessarily confidence-inspiring. "They all basically got it wrong," Abell, the lawyer who's worked on school franchising, says. "Some of them made terrible mistakes." One institution accidentally gave away its worldwide intellectual-property rights to a Middle Eastern partner.

Haileybury's Central Asian project was its first foray overseas. The idea began with a wealthy Kazakh, Serzhan Zhumashov, chairman of the construction company Capital Partners, whose son was attending Haileybury in England. "My brother got this idea when he visited Haileybury U.K.," says Kalamkas Zhumasheva, who acts as her brother Serzhan's representative on the Almaty school board. "He wanted to create a big charity project in Kazakhstan, and he has chosen education as the field." Zhumashov formed a consortium with six other investors, including Bulat Utemuratov, often cited as the country's richest man. Erlan Ospanov, who represents Utemuratov on the school's governing body and is the chief executive officer and managing partner of Verny Capital, a venture fund in which Utemuratov invests, confirms that the Kazakh school is structured as a nonprofit. "This is not business at all," he says. "We are not legally allowed to get dividends."

Haileybury wouldn't provide details about the early financing in Almaty. Reuters reported in 2008 that the consortium's initial investment was $100 million, but a spokesperson for Verny says the figure is incorrect. A person familiar with the arrangement estimates it was $25 million to $50 million.

The pitch to Kazakh parents and students was for a school

"It was never an academically brilliant school. I would say it is a very respectable school"

of comparable quality to the mother ship. Staff in the U.K. describe Haileybury as on par with Eton and St. Paul's School (John Milton, Edmond Halley), although the perspective isn't universally shared. Turner says Haileybury "was never a school for the aristocracy, and it was never an academically brilliant school. I would say it is a very respectable school." Its most recent parentheses-worthy alumnus is Christopher Nolan.

The Almaty school opened in 2008 with a ceremony featuring red balloons bearing the Haileybury coat of arms, musicians in Kazakh costumes, and a fluttering Union Jack. Enrollment that first year was 420, with pupils ranging in age from 5 to 14. There were growing pains as the school tried to connect with its student body. "The Kazakh culture kind of beat the British culture," recalls Danat Tungushbayev, who attended early on and is now a student at University College London. "Although they were trying to implement a lot of British stuff, it still felt like another ordinary school."

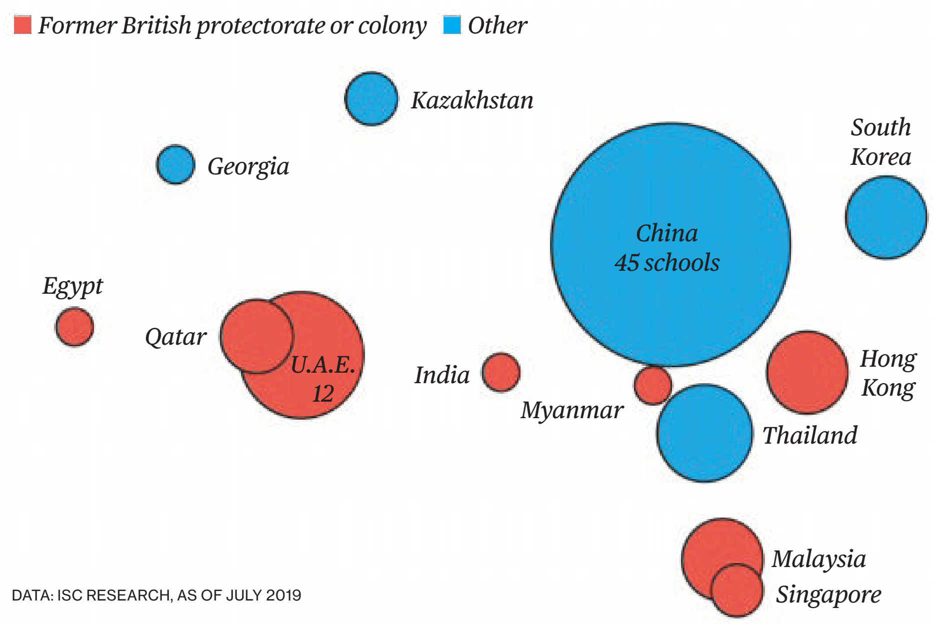
The British stuff carried on and grew. By 2014, enrollment had risen to 544, including pupils over the age of 16. Older students began taking A-levels, the main academic exam for British students leaving school at 18, eventually tripling the share who got the highest grades to a respectable 54%. (The best-performing U.K. private schools push 90%.) Distinguished guests visited from the U.K., including comedian Dom Joly and footballer David Beckham. Joly, a Haileybury alum, later wrote in a column that the Almaty headmaster had confessed to asking an IT teacher to Photoshop sleeves onto a picture of Beckham, saying "an Englishman sporting tattoos up on the wall—it's just not right." (Haileybury couldn't verify the anecdote.)

Kazakh elites showed up, too—none so prominent as Nazarbayev, whose first visit, some three months after the school's opening, saw the construction of a paved road, drainage gutters, and new lighting within 36 hours, according to a teacher who's since left the school. "It's amazing what gets done when the president's coming," the teacher says. The entire day passed, with students growing increasingly restive, before the presidential entourage appeared in darkness around 5 in the evening. Nazarbayev took a tour, with teachers in position to deliver lessons despite the hour. "I like what I see," he said. "Please open another school, in Astana."

Three years later, Haileybury Astana opened 604 miles to the north. The *Times of London* and Source Material, a nonprofit journalism organization, reported last February that the early financing for the school included a $17.3 million loan from Kazzinc, a unit of British-Swiss mining giant Glencore. The report said that the loan was repaid in 2012, and that the company also reported a $23 million investment in the school that year, a 56% stake that it transferred in 2016 to Utemuratov's foundation. The article, which drew on Russian-language Kazakh corporate filings, also noted that Nazarbayev's foundation was the next-largest stakeholder, with 26%. (The spokesperson for Verny wrote in a statement that Haileybury Astana is noncommercial and that Utemuratov's foundation's property can't be legally transferred to its founder. "This is a charity

Study Abroad

Locations of independent school brands



DATA: ISC RESEARCH, AS OF JULY 2019

project," the statement said. Glencore's response to the reporting noted that the investment was disclosed in Kazzinc's financial statements and said, "Kazzinc has supported the country's development over the past 20 years, including through occasional strategic investments in the development of Astana as a modern capital of Kazakhstan.")

Like the Almaty branch, Haileybury Astana includes a number of British trappings. The house names are the same, and a mounted photograph near the entrance shows a scene from the home campus: a hot air balloon hovering above a Romanesque chapel. A mug with an image of Prince Harry and Meghan Markle sits in the headmaster's office.

Fees for a year range from $6,214 to $25,717, depending on the student's age. The student body makeup is similar at both schools, though Haileybury Astana includes more diplomats' children. The school also enters its pupils for the International Baccalaureate exam rather than the A-level. And the climate is distinct—Nur-Sultan is the second-coldest world capital after Ulaanbaatar, situated in a region dubbed Akmola, or "White Grave." Racks of insulated parkas line the halls so pupils can don warm gear as they file out for fire drills. Kim Holmes, head of the senior school, keeps a chart in her office detailing how long children can play outside in given temperatures. The campus, she says, can feel like an "island in the snow."

One fall afternoon, a class of 12-year-olds taught by a Greek-American woman named Anastasia Michala could be found reading *Boy*, an autobiographical book by Roald Dahl describing, strangely enough, the brutalities he suffered at Repton in the 1930s. Michala was also encouraging her pupils to read over short essays they'd composed about important moments in their lives. The essays, written by hand and meant to include both painful moments and proudest achievements, revealed something of the culturally sprawling backgrounds of the children, few of whom spoke English as a first language. "I was born on October 11th 2006 at night," one read. "My father was German and my mother was kazakh and my father had to fly to Germany and go to work but he could not leave us ▶

◀ alone so before flying 6 hours to Germany we did a test try flight to Almaty and back.... We also flew with business class to make it as comfortable as possible."

It isn't hard to find students at either Kazakh school from wealthy backgrounds—children of oil barons or other oligarchs. One teacher who taught at Almaty in its early years describes as pivotal the moment when wealthy Kazakh children realize that the driver-bodyguards who cart them to and from school each day work for their families and therefore have no real power over them. "You see one of them, one 6-year-old, screaming at a bodyguard who is 9 feet tall, an ex-Kazakh wrestler," the teacher recalls. The teacher also encountered an elaborate culture of gifts for staff, including lavish cakes and sewed-up skins containing fermented mare's milk. "A lot of parents there, they'd recently become very wealthy," the teacher says. "From being in a position of not having much financial influence, they went to the other extreme, and sometimes when they weren't able to influence people with money, that was a bit surprising." The school says it sets out "clear rules around the declaration of gifts, in line with the [U.K.] Bribery Act of 2010" and provides this policy to all staff.

The parents still have a great deal of say in some matters. A British educational professional with connections at Haileybury's Kazakh schools says that one head teacher's departure in Almaty—there have been several at both schools—followed a difficult period marked by a widely circulated complaint email from a parent. The professional saw the email, which cited concerns about the teaching staff's qualifications and behavior. "I know from firsthand experience that there are some parents who have the whip hand over the school management in pretty much any matter you can choose," this person says. "If they want little Johnny to get passed in an internal exam, he will get passed. If they want that particular teacher to be fired, eventually that teacher will be fired." Neither Haileybury nor the former head teacher responded to a request for comment on this point. Lynne Oldfield, who spoke with *Bloomberg Businessweek* in October 2018 while she was headmistress in Almaty, said the parents are "no more demanding than in many independent schools in the U.K." She left the school last year.

Investors may also take an active interest in the school's operations. According to a senior figure from Haileybury U.K., at one point, Zhumashov, the main backer in Almaty, got the school to discourage use of Russian, Kazakhstan's effective lingua franca. (The Soviets suppressed Kazakh, and it still isn't widely spoken.) The senior figure says despair stemming from the episode almost led Haileybury to "take the signs down."

Meruyert Kolosova, a Kazakh woman who teaches languages at the school, says, "It wasn't forbidden, but students were punished for speaking Russian." She describes the objective as encouraging the use of English. ("There was no interdiction," writes a spokesperson for Zhumashov's Capital Partners. "Shareholders do not interfere in the academic process." Haileybury says any suggestion the school tried to suppress the use of Russian is "completely untrue" and adds, "All academic programmes and operating activities are decided on by the school not by shareholders.") Russian is today on the syllabus, coexisting with Kazakh language and history instruction that's compulsory for citizens and optional for others. During one such class in Almaty, a pupil's exercise book had "Colonial Oppression" double-circled in two colors of marker pen.

The school has been at pains to retain other Russian-born traditions, trying, for instance, to instill the Soviet system's emphasis on math. "When we first opened, some people had prejudices about the school," says Aruzhan Koshkarova, who came to the school on a scholarship and was head girl in Almaty in 2018. "It was, like, only rich kids who can't do math go here." The school provided leaflets headed "Maths at Haileybury" to reassure local parents that British math isn't congenitally soft.

Teachers who've come from overseas sometimes struggle with local cultural proclivities. Many are convinced that Kazakhs, who often distrust Western medical science, are terminal hypochondriacs. One pupil in Almaty gained notoriety for taking three weeks off after breaking his toe, followed by a revitalizing trip to the United Arab Emirates. "Trying to overcome things like that is really quite difficult," says one teacher in Almaty. "You just don't see the child for three weeks and then you say, 'Where have you been?' 'I had a broken toe, and then I went to Dubai, shopping.' "

"In our culture we believe that if you go outside without enough clothes on, you can catch a cold easily," Kolosova says. "Kazakh parents don't really believe that cold comes from virus. English find that funny." Galym Dosmambetov, who spent five years at Almaty before studying in Switzerland, says any hypochondriacal tendencies trace to class. "If you talk about the average Kazakh person, he can climb mountains, he can jump, he can do whatever in terms of physical abilities," he says. "But if you talk about spoiled kids, they tend to do this a lot." Some students think the teachers are just stereotyping. "Sometimes they're, like, 'Oh, you're Kazakh sick, so you're not really sick.' And sometimes it's a joke, but at the same time it's not really," says one 16-year-old pupil at Almaty. "There's a certain boundary that I don't think the teachers should cross."

Gender relations can be trickier still. Stephanie Tebow, an American counselor with the title director of community well-being at the Almaty school, sees female students, no matter how wealthy, upset by narrow cultural expectations. She recalls one Kazakh girl telling her, "Last night at dinner, I said something at the table, and all my brothers looked at me and go, 'Oh, look, the dishwasher's speaking.' " Other girls, Tebow says, have described being told things like, "I don't know why I'm spending all this money on your education—you are a woman, after all."

"If you're looking at making less than £1 million a year... then you haven't done a very good deal"

In the main, Kazakh parents seem content with the schools. "We're really happy that in my own country, we can find a school like Haileybury, with absolutely British system with all principles and all rules, like in U.K.," says Ainora Ashim, whose family business sells organic cleaning products from Germany and who has three children at the Almaty school. The school, too, says it's been worth it. Martin Collier, Haileybury's head teacher, told parents in 2018, "Our contacts in Kazakhstan continue to deliver a good source of income for Haileybury, and the schools are firmly established."

Still, the financial benefits don't appear to be huge. Paul Watkinson, Haileybury's partnership director, won't reveal the revenue from the Kazakh schools, but he suggests it's comparable to the combined boarding fees of 10 students, which might place it at around £500,000 annually. To put that in context, Tim Williams, the bursar at Wellington School in Somerset, estimates that "half a million a year would seem to be a worthwhile return" for a single school. Abell, the lawyer at Bird & Bird, says, "If you're looking at making less than £1 million a year when the school's up and running, then you haven't done a very good deal." One institution he's familiar with wants to make £30 million annually from a network of six overseas schools.

That kind of money is enough to get even tonier schools to the table. London's storied Westminster School (Christopher Wren, A.A. Milne, Kim Philby) has announced plans for six franchises in China. The somewhat less grand King's College School, Wimbledon (John Barrymore, two Rothschilds) has two in China and plans to open another in Bangkok. The all-girls North London Collegiate School (Rachel Weisz, Anna Wintour) is starting up in Singapore this year, adding to campuses in South Korea and Dubai. A tier or two down, Reigate Grammar School in Surrey (Andrew Sullivan, Fatboy Slim) wants five locations abroad within a decade.

These overseas plans have brought the schools renewed attention and controversy. After Westminster's announcement, Andrew Adonis, a former education minister, tweeted, "Westminster School opening 6 offshoots in China sums up how little the 'public' schools interact with their own country! They're all setting up elite offshoots in Far East rather than partnership schools with state sector in England. They shd be in Bradford not Beijing!" (Bradford is a northern English city.) Steve Tsang, director of the SOAS China Institute at the University of London, suggested to the *Financial Times* that Westminster would be in over its head. "They have no idea what they're dealing with," he said. "If you set up a school in China, they will have a party secretary superintending the whole school and the party secretary will be responsible for political education." Westminster told the paper that its Chinese operations would include core curriculum, supplemented by A-levels and other international standards; a spokeswoman described the school's approach as exercising "soft power" in China.

Then there's the question of corruption, which U.K. educators have been advised to look out for at home. In November 2018, officials warned schools they were responsible for carefully monitoring payment sources. The following March, the "Troika Laundromat" leak showed that 50 education providers in Britain had received fees from shell companies established by a Lithuanian bank before it went out of business in 2013. (There was no suggestion the schools did anything illegal.)

The issue might be even more pressing abroad, where wealth sources can be still murkier and schools risk getting caught up in broader power politics. The Source Material and *Times of London* reporting on Glencore's involvement in the Astana school noted that Utemuratov, to whose foundation it transferred its stake, is a former chief of staff and close associate of Nazarbayev. The authors didn't suggest that the relationship was illegal, but wrote that it "raises questions about how the company does business in jurisdictions that have a reputation for posing corruption risks."

Kazakhstan ranked 113th of 180 countries on Transparency International's 2019 Corruption Perceptions Index. Teachers at the Kazakh schools say students typically either profess ignorance or offer simply "business" when the subject of their parents' livelihoods come up. Staff members say they avoid asking. Describing the schools' approach to potentially corrupt provenance of wealth, Haileybury's lawyers wrote in a statement to *Bloomberg Businessweek* that "Our client complies with all legal and regulatory obligations in relation to the receipt of fees from parents. It has policies and procedures in place to refer individual cases to the relevant authorities should it have any concerns about the legitimacy of funds it receives. Our client is not aware that any parents are involved in any 'corrupt' activities, whatever that may mean."

Haileybury itself wrote that its role in its Kazakh schools has been "to lend our name and to give advice on delivering a high-quality education. Indeed, the schools are academically strong and pupils achieve excellent results." It adds, "We have robust, best-practice processes in place for overseas franchising and any suggestion to the contrary is wrong. The rigorous agreements we insist on ensure all franchise schools follow our policies and code of conduct, with all policies published on each school's website. They ensure regular reporting back to us, tight governance and clear oversight, and cover strict rules around anti-bribery, money laundering and gifts for teachers."

Haileybury's next overseas venture is planned for Malta, the Mediterranean island nation that once hosted a major British naval base and has in recent years been at odds with the European Union. In July, Haileybury announced that the government there had provided "unanimous backing" for its project to convert a former British military hospital at Mtarfa, a small northern town. "Haileybury's highly-successful parallel education model, outstanding academic results, strong international focus and more than 150 years of history," the school said, "will be a perfect fit to the Maltese landscape and its current aspirations and ideals." Ⓑ

Elliott’s plan for Barnes & Noble is to have it act more like an indie bookseller: Less clutter, more cachet

By Thomas Buckley and Scott Deveau

Last fall, during a visit to Barnes & Noble's flagship store in New York City's Union Square, the British bibliophile James Daunt strode about the ground floor in oxblood loafers deploring the bookshop's hideous appearance. The carpets were dusty, and the escalators had broken down. A cheap pine table was littered with trinkets and scented candles. A vase was wedged between new titles, its bouquet of sunflowers sagging in brown water. "I like the idea of the flowers, but you have to change the water," Daunt said. "And you have to put in decent flowers—you can't just go down to the petrol station and grab a bunch. I mean, look at it."

Daunt has opened about 60 bookshops in his three-decade career, every one of them profitable, making him one of the Amazon era's most successful booksellers. After founding Daunt Books, a popular, independent brand of stores in the U.K., he was credited with saving the country's largest chain, Waterstones, from ruin by giving managers more agency over their inventory. Those credentials impressed Elliott Management Corp., a notorious $40 billion hedge fund better known for seizing an Argentine warship as collateral and berating corporate governance at Twitter Inc. and AT&T Inc. It acquired Barnes & Noble Inc. last year for $683 million including debt and appointed 56-year-old Daunt chief executive officer, the man in charge of its rescue.

In its 1990s heyday, Barnes & Noble's superstores blended the sociability of a Starbucks with the bargaining talent of a used-car dealer. But two decades after Amazon.com Inc. capsized the bookselling industry, America's largest chain of bookstores was flirting with bankruptcy. By the time it was acquired by the hedge fund, its footprint had been slashed in half to a little more than 600 stores, sales were in their seventh straight year of decline, and the company was hemorrhaging cash.

Elliott became traditional bookselling's unlikely defender in 2018 after its buyouts of Waterstones and Foyles, a British chain that had been owned by the founding family for more than a century. For Paul Best, who runs a portion of the investment firm from its London office and has taken a shine to companies battered by the retail apocalypse, the distress at Barnes & Noble signaled that he was buying the clunker at exactly the right time. "The more disrupted the category, almost the better," Best says. "Because if you're still there after that, you probably have durability and you've demonstrated a reason to exist." His research showed the book business had potentially reached a nadir: The e-book market had started shrinking in some countries; the overall value of physical books was rising; and America's smaller bookshops were growing again. At three times the size of its closest competitor, and the only major chain left of its kind in the U.S., Barnes & Noble was the cockroach after the catastrophe.

No corner of retail has been more disrupted by the decline of the physical shop than bookselling. In 1995, Jeff Bezos began selling books on Amazon.com because there were more items in the category than in any other. He aimed to sell the majority of the 3 million titles that were circulating in print, more than 20 times the number carried by the largest physical bookshops. Today about two-thirds of all books in the U.S. are sold online, almost exclusively through Amazon. Barnes & Noble is fighting to keep selling 1 in 5.

It's a dramatic reversal of fortune for a bookstore chain that itself was once considered the big, bad, ugly machine that corporatized the staid practice of bookselling. Founded 134 years ago as Arthur Hinds & Co., Barnes & Noble was acquired from U.S. conglomerate Amtel in 1971 by Leonard Riggio, a Bronx native who ran the business until 2002, expanding it from a single, now-defunct location on Fifth Avenue into a nationwide network. Under Riggio, the chain became the first bookstore to advertise on television in 1974 and, a year later, the first to steeply discount literature, selling *New York Times* bestsellers at 40% off the publishers' list price.

In the 1980s, Barnes & Noble acquired 798 B. Dalton stores and 22 Bookstop superstores, making it the largest bookselling chain in the U.S. It used its scale to negotiate lucrative marketing agreements with publishers vying to display their books in every shop's front window. Such deals infuriated independent booksellers, which were unable to match Barnes & Noble's prices. By 1998 the company was fictionalized in Nora Ephron's *You've Got Mail* as Fox Books, a totemic big-box chain that threatens the independent bookstore across the street.

The chain's clout in the publishing industry also meant it could comfortably fend off Amazon, which logged several years of financial losses before eventually turning a profit in 2001. Barnes & Noble was large enough that it could at least match the startup's discounts as well as its breadth of inventory. Now Amazon's bookselling operations account for only a fraction of the group's annual sales of close to $300 billion, which are mostly derived from online retail and cloud computing services.

"No one was really sure that Amazon was going to last or truly threaten brick-and-mortar-style bookselling, because all it did initially was what any bookstore could do, which was, in a sense, special-order any book in print," says Laura Miller, a professor of sociology at Brandeis University and the author of *Reluctant Capitalists: Bookselling and the Culture of Consumption*. "The idea of getting it delivered on your doorstep was not necessarily so enticing that you would stop going to a bookstore."

Over the past two decades, that's exactly what happened. Since Amazon's founding, the number of bookstores in the developed world has collapsed. Crown Books entered bankruptcy for the second time in three years in 2001, and Borders filed for Chapter 11 in 2011, resulting in the closure of thousands of stores. Books-a-Million Inc., the second-largest chain in the U.S., went private in 2015 after losing 90% of its market value. Barnes & Noble discontinued B. Dalton in 2013 after closing down all its bookshops. Barnes & Noble Education Inc., the college bookstore division that was separated into an independent public company five years ago, is expected to report its third consecutive fall in annual revenue this summer.

By 2015, Amazon opened the first of its own 21 bookstores in the U.S.—clinical data-driven spaces where titles are organized ▶

PHOTO ILLUSTRATION BY 731; PHOTOS: GETTY IMAGES (1); ALAMY (1)

◀ according to the bestseller list on its website. (“Not Built for People Who Actually Read,” read a *New Yorker* headline.) The company also sells some titles at its Amazon four-star stores, a bizarre and more extensive embodiment of its purchasing algorithm where books are mixed in with laundry bags, motion-activated doorbells, and other four-star-rated products.

What really terrorized Barnes & Noble was the Kindle tablet. About 3 in 4 e-books in the U.S. are bought and read on a Kindle, giving Amazon enormous sway with publishers. In 2010 the company pulled books from Macmillan Publishers Ltd. in a dispute over the pricing of its e-books on Amazon.com. The fear that e-readers would soon kill the assembly of ink, paper, and glue fueled the development of Barnes & Noble’s own tablet, the Nook, which sought but ultimately failed—at a cost of more than $1 billion—to compete with the Kindle two years after Amazon introduced it in 2007.

The experiment drastically weakened Barnes & Noble at a time when its commoditized approach to bookselling effectively rendered the chain a collection of charmless warehouses. Revenue peaked at $7.1 billion in 2012, which it attributed in an earnings call to a temporary rise in visits to its stores following the liquidation of Borders. Sales have been in free fall ever since. In 2018 revenue crashed to $3.7 billion, the lowest since 2000, and the company has consistently failed to turn a profit.

That February, Barnes & Noble laid off almost a tenth of its employees, a majority of them full-time staff who’d worked at its bookshops for decades. It was one of several culls that saw the company’s onetime workforce of 56,000 slashed in half since the early 2000s. Months later an unnamed acquirer rescinded an offer to buy the chain when its then-CEO, Demos Parneros, described the business in a meeting as “an ugly mess” with “no realistic prospects for success,” according to court filings.

Four CEOs have helmed Barnes & Noble in the past five years, two of them with mass-market retail experience—at Staples Inc. and Sears Holdings Corp. They sought to standardize Barnes & Noble’s network of shops into a single, transposable model—a national blueprint for how books should be sold everywhere. Daunt aims to undo that work, spending three weeks per month in New York running Barnes & Noble. He wants to encourage booksellers to arrange their local window displays with titles that will be relevant to the shoppers passing by. “Anybody will know that people don’t read the same way in Birmingham, Alabama, as they do in New York City,” he says.

Promotional agreements, in which publishers pay bookstores to take on inventory and showcase it, are a common source of revenue in the bookselling industry, but they can be grossly inefficient. Months later shops have to return thousands of unsold copies to their suppliers if demand is weaker than expected. Barnes & Noble’s current return rate across all titles is about a quarter, roughly the same as when Daunt joined Waterstones. It’s worse for new releases: About half of the latest books Barnes & Noble stocks are returned unsold, he says.

Daunt was also aghast at Barnes & Noble’s overzealous focus on in-line merchandising—shelves snaking through the checkout lines targeting impulse shoppers with irrelevant last-minute products such as stockings and sunglasses. The chain, which for years sold complementary but more profitable items including puzzles and calendars, was now hawking lukewarm bottles of Fiji water at its cash registers, along with essential oil diffusers and Himalayan salt lamps.

Under Daunt, Barnes & Noble will shrink the space it allocates to miscellany, including its CD and DVD section, replacing it with expanded children’s and young adult sections. The company is also testing new layouts at some of its stores, such as lower tables instead of midlevel units, to speed up the traffic. Daunt says the New York flagship could start looking “pretty good” after an investment of $5 million. Elliott has agreed to front the initial cost of renovating Barnes & Noble’s stores until the bookshops are profitable enough to reinvest in themselves. “Ultimately it’s going to cost an immense amount,” Daunt says. If the return justifies his early initiatives, the total amount spent on renovating the branches will surpass $100 million.

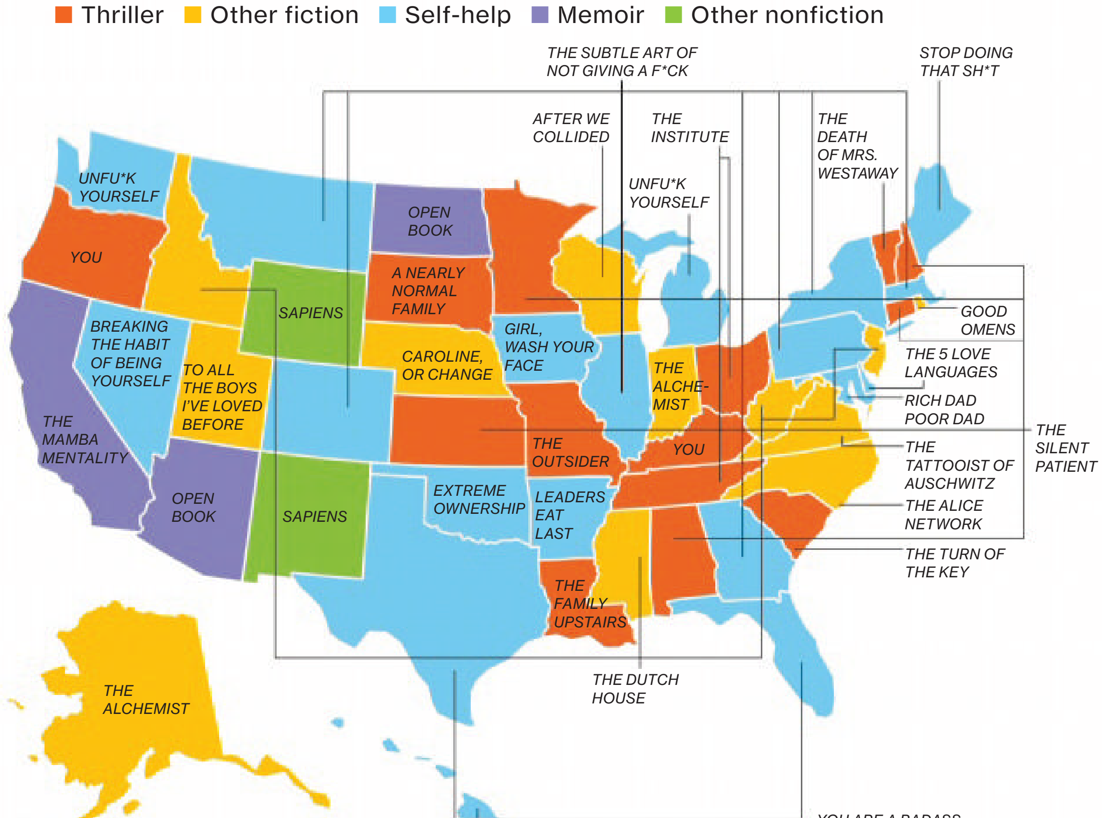
Beyond repairing the elevators, steam-cleaning the carpets, and swapping in sleeker fixtures, Daunt says, the company’s bookselling strategy needs a complete overhaul. In a misstep that attracted national headlines last month, critics accused Barnes & Noble’s Fifth Avenue store of “literary blackface” after it redesigned covers of classics, depicting *Moby Dick*’s Captain Ahab in various skin tones and casting *Frankenstein* with a black monster, all to celebrate Black History Month. The initiative, which Daunt says despite its good intentions was “a little bit daft” and that he knew nothing about until it was announced, was canceled within hours.

Another major aspect of the strategy to revive the

Fifty Local Markets

Top books on Scribd.com by state, Jan. 1 to March 1, 2020

■ Thriller ■ Other fiction ■ Self-help ■ Memoir ■ Other nonfiction



DATA: SCRIBD.COM. OMITS TITLES THAT APPEAR ONLY ON SCRIBD company will be to open new locations in "significantly under-bookstored" parts of the U.S. Daunt is aiming for a total of about 1,500 shops, which would match the company's historical peak. He also sees an opportunity to relocate some of the bigger stores to smaller locations in high-end shopping malls and on street corners in affluent neighborhoods, where he says the brand would fit well alongside other targets of middle-class spending, like Aveda soaps and Peloton exercise bikes. Downsizing some branches, as Daunt did at Waterstones, would also save on rent—all but one of the company's bookshops are leased.

The test will be whether each bookshop can be mindful enough of the community it's attempting to sell to and curate a stock appealing enough to bring back readers. At the New York flagship, changes as small as displaying more softcover books than hardbacks, which are less practical for reading on the subway or in a nearby park, can drive sales. "I don't want every Barnes & Noble to become a version of Union Square," Daunt says. "I want Union Square to be the obvious store to have on Union Square, in New York City, where it becomes really sophisticated, metropolitan, urgent, vibrant, young, energetic, sharp-elbowed—because that's what's going on in the city out there."

Daunt, who has a degree in history from the University of Cambridge, began selling books after his wife advised him to pursue a more spiritually rewarding career than investment banking. In 1990, after leaving J.P. Morgan, he opened his first store after acquiring the space of a former antiquarian bookshop in the affluent London neighborhood of Marylebone. The Edwardian interior is a spectacular corridor of oak banisters and herringbone floors lit through the stained glass of a large baroque window. At the store's entrance, books lie flat on tables in a kaleidoscope of mismatched colors and fonts—the titles related to one another in diagonals of true crime, philosophy, and military history. This spring the independent chain will open its ninth shop. Each branch thrived by trusting the instincts of well-read employees rather than leaning on publishers' payments to promote titles on desirable shelf space. Among London's yuppie classes, Daunt Books is an institution—its tote bags are a staple accessory for cosmopolites affecting the highbrow mating-call look.

That indie cachet made Daunt Books the polar opposite of Waterstones, which had soured under the ownership of stationery merchant WHSmith Plc and later music retailer HMV. Founded in 1982, the U.K.'s largest bookstore chain—with about 300 shops—had become a bland and unprofitable network of outlets staffed by scores of part-time employees. In 2011, hours before Waterstones was set to file for bankruptcy, Daunt was brought in by the Russian billionaire Alexander Mamut to lead the company's turnaround.

In his first weeks, Daunt scrapped the employees' funereal black uniforms, replaced the furniture to make the shops feel more spacious, and angled spotlights on bookshelves tilted at a precise 3 degrees, the better to catch the eye while also protecting the book spines. He also ended Waterstones' promotional contracts with publishers, which cost the chain millions of pounds in lost revenue but gave managers unprecedented agency. It allowed booksellers at the company's stores outside London to promote more relevant titles to their individual locations. In the northern seaside resort town of Blackpool, managers devoted more shelf space to Japanese comics than fiction, and a book about a local soccer team was prominently displayed at a shop in the southern county of Surrey. It also helped reduce the return rate—Waterstones' has since dropped from a quarter to between 3% and 4%, which has drastically cut labor and freight costs. (Daunt says lowering Barnes & Noble's return rate is a major priority.) Another strategy was to open smaller and more discreet stores, without the Waterstones moniker, that passed off as independents in the bucolic market towns of Rye and Southwold.

By 2016, Waterstones earned its first annual profit in eight years. But not all of Daunt's decisions were celebrated. He removed 40% of employees from Waterstones' middle-management ranks and invested some of those savings in raising the pay of senior staff, but not of junior hires. Five Waterstones booksellers delivered a petition to him last April, with 9,300 signatures calling for salary increases, and later resigned from the position because of low pay. In February, Waterstones lifted the average compensation across the company by 6.2%. The success also came at the expense of some publishers, which paid handsomely to pass their risk on to the sellers that would pile their books up to the gunnels everywhere. "But the reality was we weren't selling them everywhere," Daunt says. Last November, at the *Bookseller* magazine's conference on the future of the industry, one attendee said her company was now having trouble selling books to Waterstones and Foyles. Daunt suggested the problem probably rested with the products' appeal rather than the distribution channel. "We're growing, we're selling more books, and we're making money," he said. "We've also managed to sell ourselves to a hedge fund not renowned for making dud purchases."

If Daunt succeeds in rescuing Barnes & Noble, it would earn Elliott a stellar return. In typical hedge fund fashion, it's already insulated itself against not earning anything at all. Corporate filings show that a £32,279,784.11 ($41,456,926) dividend was paid last year to Book Retail Holdco, an entity controlled by the firm and domiciled in a Channel Islands tax haven that indirectly owns Waterstones. "I'm not emotionally attached to the business," Best says of Elliott's investment. "I like bookshops. I like being in bookshops. I buy books in bookshops and, in so doing, I noticed there were a lot of other people in the bookshops I was in."

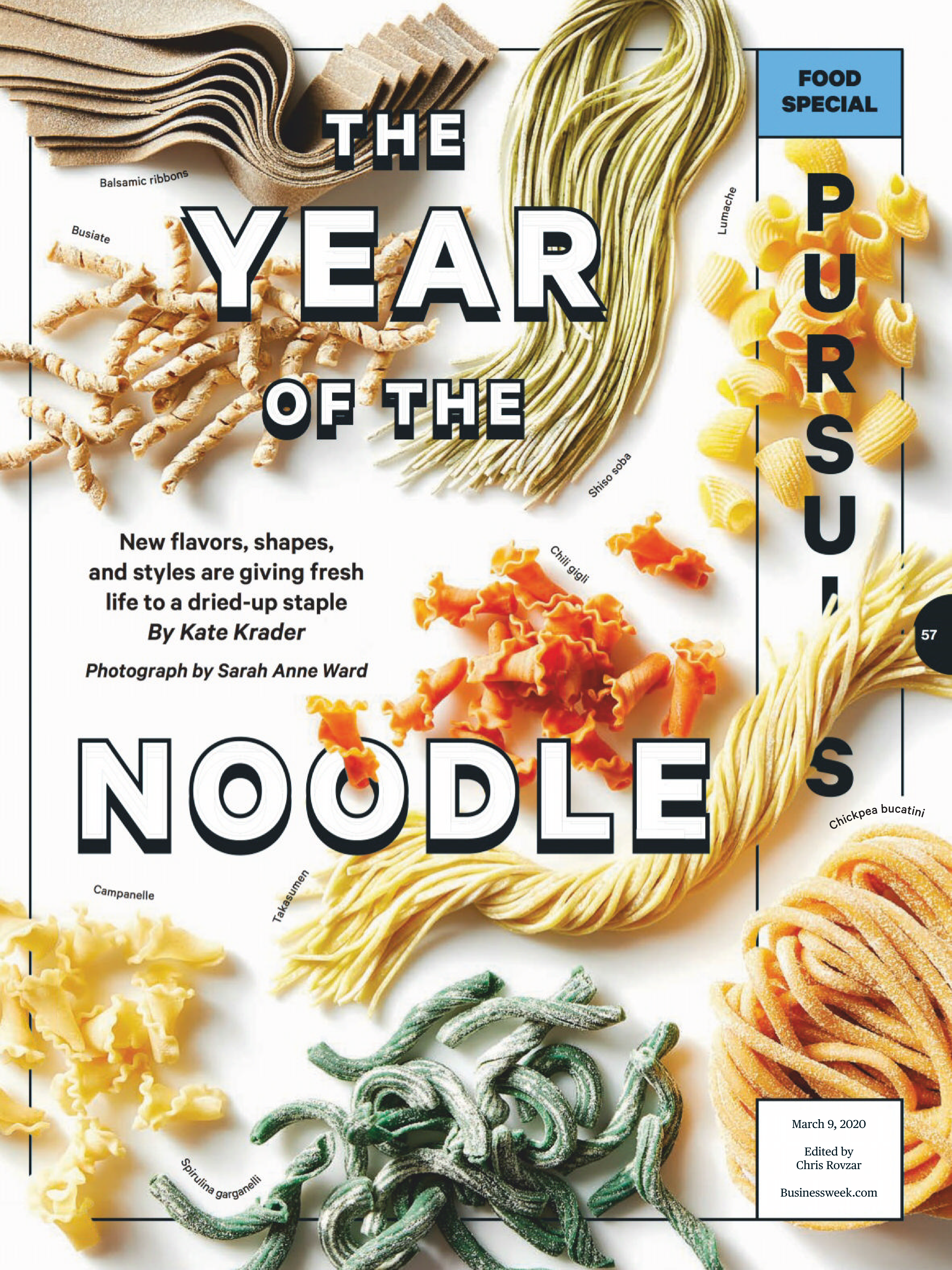
Daunt says he's answering a higher calling. "There aren't remotely enough independents to maintain our industry. Publishers won't keep that infrastructure going, it will become a world completely dominated by Amazon, and the traditional bookshop will disappear," he says. His life's work now depends on saving the giants that were once the enemy. "If we can achieve that goal, the owner will also make a lot of money, so they'll be happy as well." B

THE YEAR OF THE NOODLE

New flavors, shapes, and styles are giving fresh life to a dried-up staple

By Kate Krader

Photograph by Sarah Anne Ward



March 9, 2020

Edited by Chris Rovzar

Businessweek.com

FIRST things first: Couldn't every year be the Year of the Noodle?

After all, the various strands and shapes fashioned from a base of flour and water are celebrated worldwide—and have been since their earliest beginnings. Experts date pasta's origins well before the legend of Marco Polo in the late 1200s, all the way back to at least 2,000 years ago during the Han dynasty.

Over the past fifteen years or so, Americans have intensified their casual love affair with the stuff, whether it's the ramen at Momofuku, the octopus and bone marrow fusilli at Marea in New York, or the brown butter ravioli at Cotogna in San Francisco. Last year alone, the U.S. market accounted for $6.3 billion in pasta and noodles, and that was just for dried varieties.

And yet, I would humbly argue that 2020 represents a new apex in the art of slurping.

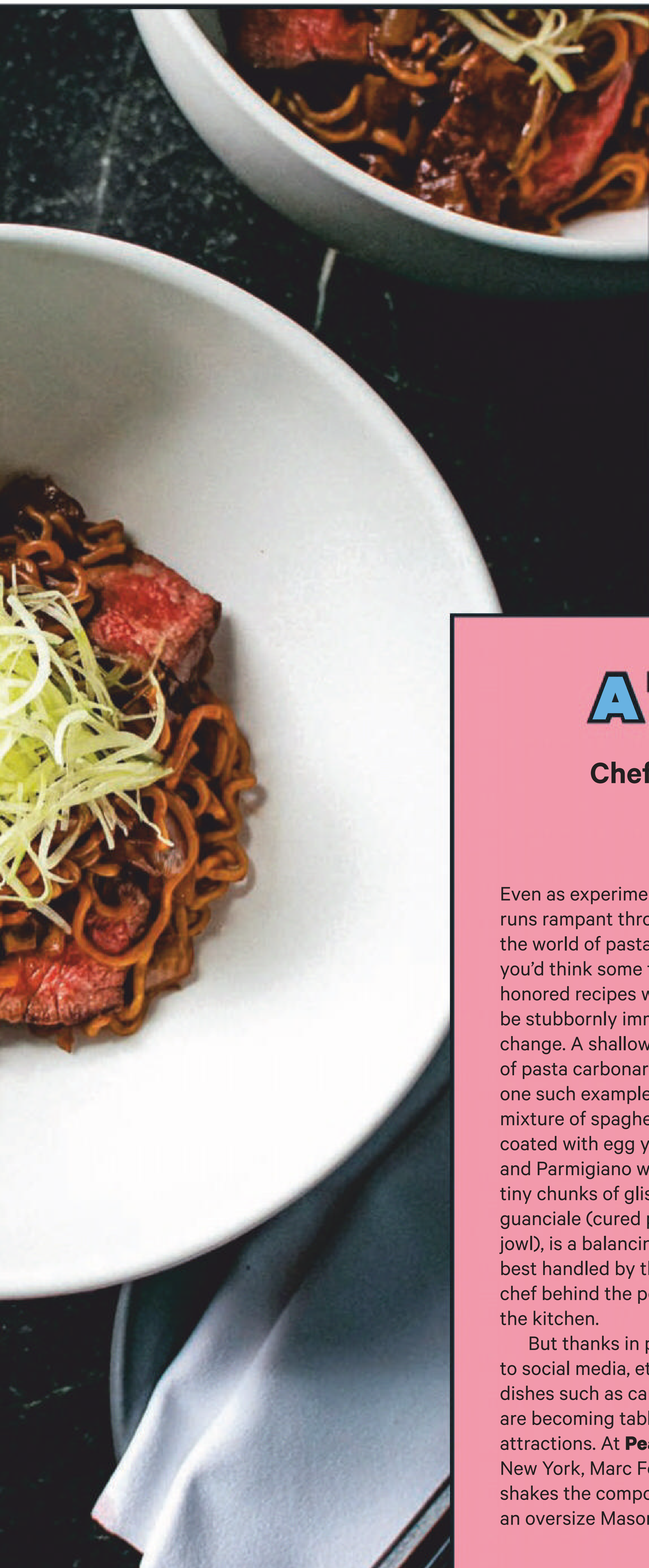
New dishes are making inroads at restaurants where they've traditionally had little visibility. At the carb-scant Korean steakhouse Cote in New York, owner Simon Kim has installed a late-night special of ram-don, also known as chapaguri. The dish, popularized in the U.S. by the Best Picture-winning film *Parasite*, is based around thick instant noodles and stocked with chunks of steak.

Little-known shapes are getting their own micro-moment, too. At three-Michelin-star Manresa, noodle neophyte David Kinch is better known for his modern California cooking than Italian staples. But at his upcoming Mentone restaurant in Aptos, Calif., he will highlight pastas from the French and Italian Riviera such as corzetti, or stamped rounds. At Misi in Brooklyn, N.Y., chef Missy Robbins often dresses her corzetti with sungold tomatoes; Melissa Rodriguez, on the other hand, tops her version of it at New York's Del Posto with buttery razor clams. Jonathan Benno is using it as a branding opportunity at his eponymous spot in Manhattan, where he adds a shrimp garnish to the oversize rounds that have been stamped with his initials.

Even classicist chefs are taking the opportunity to expand their boundaries. Stefano Secchi learned how to make gorgeous stuffed pastas from his former boss, Italy's top-ranked chef Massimo Bottura. This year at Rezdora in New York, he is serving doppio tortelloni, which is a larger version of the thumb-size tortellini. It comes with two stuffing compartments instead of one, and fillings change based on the season: This spring, he'll add one to the menu with prosciutto and Parmigiano cream.

On the ramen side, Foo Kanegae is best known for creating more than 600 kinds of noodle dishes when he ran the kitchen at the category-defining Ippudo in New York. In February he opened his own space in Brooklyn called Karazishi Botan, where the selections run much more unconventional: One bowl he'll serve is made with gluten-free brown rice noodles and a broth that's steamed

The late-night special at Cote steakhouse is chapaguri, a dish that plays a pivotal role in the Oscar-winning movie *Parasite*



in a commercial espresso machine to add a foamy texture. He calls it "Misopresso Botan-ical" ramen.

Fabio Trabocchi, another old-school master of the craft, sees diners who are open to well-considered noodle experimentation. At the three D.C.-area locations of his casual Italian spot Sfoglina Pasta House, he's been rethinking the conventional makeup of popular dishes, adding grassy spirulina to his twisty, tubular garganelli and the ancient grain einkorn, the oldest cultivated wheat, to pappardelle for a toasty flavor. He's committing what could be considered heresy back in his native Marche region in eastern Italy by making bucatini from chickpeas. It now anchors a dish of cacio e pepe.

Trabocchi has also been expanding his repertoire of handmade pastas that are pulled and stretched, a technique similar to the phenomenon of Chinese hand-pulled noodles. (For anyone who hasn't been transfixed by the videos, cooks whip lengths of dough around until they're transformed into thin, chewy ropes.)

At Sfoglina's pasta-making classes at its Van Ness location, dough-rolling expert Simonetta Capotondo teaches the art of *macceroni alla mugnia*, a specialty of Abruzzo ▶

A Theatrical Twist

Chefs are giving Italian and Asian dishes the tableside treatment

Even as experimentation runs rampant through the world of pasta, you'd think some time-honored recipes would be stubbornly immune to change. A shallow bowl of pasta carbonara is one such example: The mixture of spaghetti, coated with egg yolk and Parmigiano with tiny chunks of glistening guanciale (cured pork jowl), is a balancing act best handled by the chef behind the pot in the kitchen.

But thanks in part to social media, eternal dishes such as carbonara are becoming tableside attractions. At **Peasant** in New York, Marc Forgione shakes the components in an oversize Mason jar at the table, then transfers it to plates. The chef says the origins are practical: He came up with the idea at a dinner for 1,400, where it was the easiest way to serve hot, freshly tossed pasta. "Turns out people loved it, so I figured we could do it for single servings as well," he says.

Performative affectations extend to ramen, too. At Brooklyn's **Karazishi Botan**, chef Foo Kanegae credits superhero comics from American pop culture as the inspiration for his porcini-based Captain Brooklyn ramen, which is finished with a ladle of sizzling hot oil. To protect diners at the counter from spattering oil, he gives them a Captain America-style "shield"—sure to delight both children and adult-size kids.

The most dynamic of the new tableside-service pastas is undoubtedly the "noodle dance" at the recently opened **Haidilao** in Flushing, N.Y. The Chinese hot pot chain is already known for its free hand massages for waiting customers. But most viral of all are the servers who hand-pull noodles tableside, whipping lengths of dough overhead and behind their back to a pop music score in the background. It's a made-for-smartphone-video moment that puts even flaming Baked Alaska to shame.

PHOTOGRAPH BY ERIC MEDSKER FOR BLOOMBERG BUSINESSWEEK. OPENER FOOD STYLIST: CAITLIN BROWN

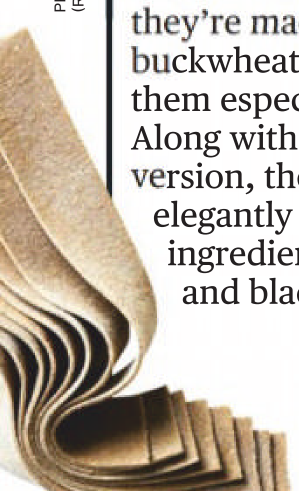
At Emmer & Rye in Austin, chef Kevin Fink experiments with the aptly named "pyramid" pasta

◀ in central Italy; it starts with a single loop of pasta rolled and pulled by hand so it multiplies. There are now classes at Sfoglina on how to make su filindeu, a noodle typically reserved for a handful of people on the island of Sardinia and considered by some to be the most mysterious and rare pasta in the world. It is created from thick cords of dough that are rolled and pulled into 256 individual strands even thinner than angel hair. The name translates as "threads of God."

But you don't need to remember all that. Just keep these nine pastas on the tip of your tongue.

Shiso soba

Soba fanatics have been eagerly awaiting Sarashina Horii, a beloved Japanese chain, set to open in New York this spring. The noodles there are prized because they're made from the core of buckwheat seeds, which makes them especially soft and delicate. Along with the pearly white original version, the restaurant will serve elegantly flavored ones made with ingredients such as shiso, yuzu, and black sesame.



Balsamic ribbons

What sounds like a 1980s power lunch fad is actually a new experiment from Fortunato Nicotra, executive chef at the venerable Felidia in New York. When he added balsamic to the dough, he discovered that the acidity created a very silky type of noodle. He serves them simply with butter and cheese to complement the sweet, tangy vinegar.

Lumache

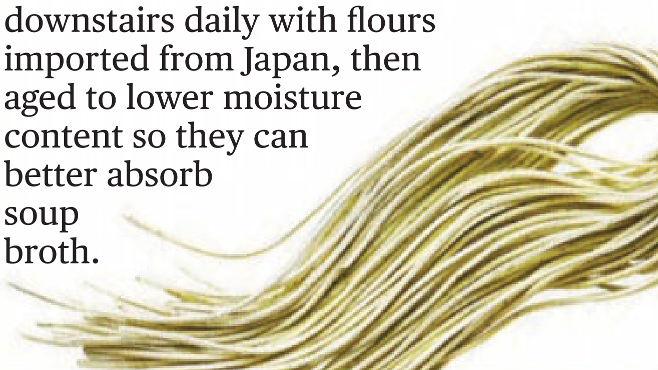
The shell-shaped lumache– Italian for "snails"–does a hero's job of holding sauce in its crevices. At the buzzy new Da Toscana in New York, Eataly alum Michael Toscana makes his in-house and serves it with roasted tomato sauce and stracciatella cheese.

Busiate

The criminally underrated busiate resembles an extended corkscrew, also making it a superior choice for catching sauces. Chef Nick Accardi of New York's Tavolino creates a version with tumminia flour, a stone-ground ancient grain native to Sicily. It pairs especially well with pesto.

Takasumen

These chewy ramen noodles are thicker than conventional ones–they look more like tagliatelle pasta than an Asian noodle. At Sanpoutei in New York, the strands are made downstairs daily with flours imported from Japan, then aged to lower moisture content so they can better absorb soup broth.



A Fashionable Feast

Italian food and finery make for good company

Pasta maker Pastificio G. Di Martino has built a reputation for a robust wheaty taste and chew. Although revered in Italy—the 100-plus-year-old company is valued at more than $200 million—it's probably best known abroad for a collaboration with fashion duo Dolce & Gabbana, which resulted in brightly illustrated packages and a Christmas window takeover at Harrods in London.

What started in 2017 as a limited-edition product that sounded like a joke—clothing designers selling gown-busting carbs—has helped propel the company's expansion. This month, Di Martino, which has a handful of stores in Italy, will open its first U.S. location, **La Devozione**, in New York's Chelsea Market. The store will stock all 126 of the brand's shapes, including seven kinds of spaghetti in a range of thicknesses. The selection will also include new-to-market designs such as ribbon-shaped fresine and tubular elicoidali, as well as what founder and Chief Executive Officer Guiseppe Di Martino calls "party shapes," like the spiral trottole. Eventually the space will include a 48-seat pasta bar serving broken candele tubes with Neapolitan ragu as well as its take on spaghetti al pomodoro, also known as la devozione—hence the name. Bags of pasta start at $5; D&G's collectible tins go for $160.

PHOTOGRAPHS: ERIN FRAZIER/COURTESY EMMER & RYE (EMMER & RYE). ERIC MEDSKER FOR BLOOMBERG BUSINESSWEEK (REZDORA). COURTESY PASTIFICIO G. DI MARTINO. SARAH ANNE WARD FOR BLOOMBERG BUSINESSWEEK (REMAINING)

Campanelle

The ruffled cone design of campanelle means it's especially good at grabbing and holding on to thick sauces. Chef Alfred Portale hand-makes the twists before tossing them with a duck ragu at his namesake Italian restaurant in New York.

Chili gigli

Gigli is another name for campanelle, which translates from the Italian as "lily." At chef Jonathan Benno's restaurant Leonelli Taberna, it's flavored with Calabrian chile and pimenton (smoked paprika) and served fried as a bar snack. But Benno says gigli can do double duty in a more elaborate sauced dish because its beautiful shape is well-suited to high-end platings.

Spirulina garganelli

Fabio Trabocchi is expanding on classic shapes at his Sfoglina restaurants. Among his experiments is the natural additive spirulina, most often used as a booster for healthful juices and shakes. The algae adds beta carotene and a light herbal note to the pasta strands and tints them a pretty bluish-green color.

Chestnut maltagliati

The hard-to-pronounce shape translates as "badly cut" in Italian and was originally made from scraps of leftover tagliatelle. Key to it are the uneven edges and sizes. Trabocchi dresses his up by folding chestnut powder into the dough for a woodsy, hearty sweetness. Ⓑ

The Gluten-Free Option

Pasta made from chickpeas could double as a Rorschach test. Gluten-free diners see it as an opportunity to eat a beloved food they were formerly denied; purists regard it as a mealy-textured affront to wheat.

The increased demand for gluten-free products—the market is projected to be $15 billion by 2026—has made the rise of chickpea pasta inevitable. At **Electric Lemon**, which advertises "clean cuisine" in New York's Equinox Hotel, it is one of the most popular dishes when it's on the menu. And for home cooks, the biggest name is **Banza**, which has expanded its line to 16 shapes, with plans to create more. It's now not only the fastest-growing legume-based pasta, but also the fastest-growing pasta category overall, period, at Whole Foods and Target.

Even traditionalists such as Fabio Trabocchi are coming around at least partly to the idea. At **Sfoglina**, he makes his by grinding, then drying protein-rich chickpeas in the oven to make flour. But he cheats just enough: To make the noodles more pliable, Trabocchi adds semolina, which means they're not really gluten-free.

Doppio tortelloni has two separate fillings, instead of one, at chef Secchi's Rezdora

SO YOU WANT TO OP

With 41 dining rooms under his watch, from Buddakan to Le Coucou, hit-making restaurateur Stephen Starr walks us through the tricky decisions that get a spot from idea to opening night

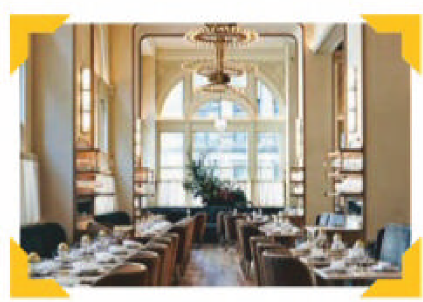
START

Do you already have a space?

Yes

No

Starr compares the question of whether the concept or space comes first to the song-vs.-lyrics debate: "The Beatles would often plug in the tune first, then write the words. Elton John would use Bernie Taupin's words and then write the song. I tend to find the space first." He chose his newest address, **Verōnika** in Manhattan's Fotografiska museum, before he picked the Eastern European concept.



What size is it?

Big

OK, but you need to make it a blockbuster. If it is, it can float passion projects. "It's like Robert De Niro doing *Meet the Fockers*," Starr says, "which lets him do *The Irishman*."

Small

OK, so this isn't going to make you a lot of money. "Small spaces are like an art project," Starr says. It'll have to satisfy your soul.

Are you starting with the concept or the chef?

Chef

Only do this if you have a superstar. This can help you find the concept. Even then, Starr says, big-name chefs can be an aggravating voice in the conversation. "But overall they listen to me," he adds. "I'm like the executive music producer that knows how to make hits."

Concept

What's your concept?

Tried and true

Starr has replicated restaurants occasionally, such as Upland and El Vez. If you do, be smart about it. "I don't like repeating," cautions Starr. "But you can repeat a Mexican concept. Or burgers."

Something new

"Consider the public, but don't pander to it," Starr says. Familiarize yourself with what they like, but supply something they haven't considered.

How expensive will it all be?

Not very

Focus on the small details that pay dividends. "The importance of a restaurant name is underrated," says Starr. "Shake Shack is a great name. If it was Danny's Burgers, it's not the same thing."

Wildly

Do this only when the economy is in good shape—"2008 would have been a tough time to open **Le Coucou**," Starr says.

Are you in New York?

Yes

…EN A RESTAURANT…

No

What kind of neighborhood are you looking at?

Avoid, If Possible

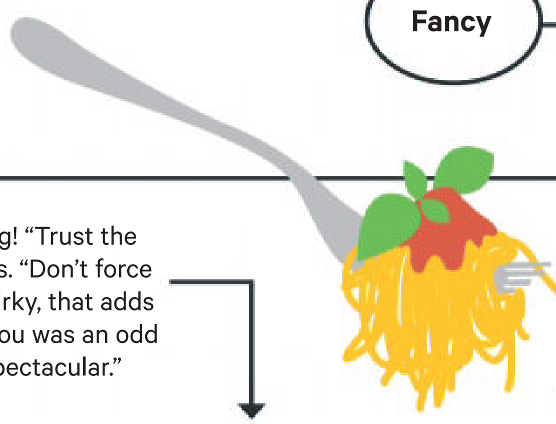
Take a word of caution from one who's been there, done that, in the Big Apple: "All the regulations have made it prohibitively expensive and impossible to do business," Starr says. His next spot opens in Philadelphia.

Good plan! "For **Le Diplomate** in Washington, people told me the location was bad," recalls Starr. "The neighborhood was marginal but developing. Now it's there, and it makes $19 million gross."

Up-and-coming

Fancy

Try to stay away from pricey areas, unless they've been written off by the cool crowd. "I want to do something on the Upper East Side," Starr says. "No one is going there."



That's a good thing! "Trust the designer," Starr says. "Don't force something. If it's quirky, that adds to the vibe. Le Coucou was an odd space but also spectacular."

Something unorthodox

Does it already have some character?

Yes

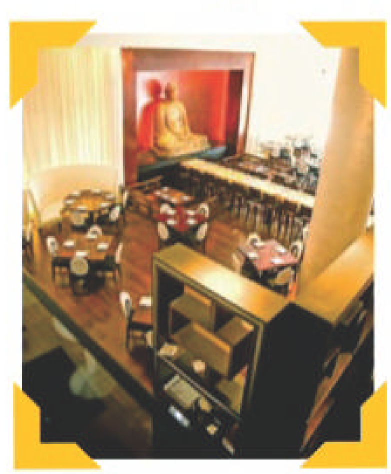
Ambiance, Starr says, is the part of the business that 98% of restaurants get wrong. It's the element of the experience that "takes you away," he says. "It's hard to do." For **Buddakan** and Morimoto, which opened in New York in 2006, "I wanted it to be like a shock and awe campaign. I wanted jaws to drop."

No

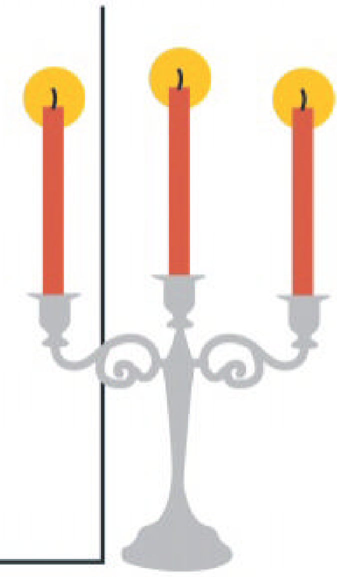
What kind of space are you looking at?

Something plain

Just try to avoid something too corporate. "I don't want to be in an office building. I hate all the glass," Starr says. "You need walls for character, for lighting, for ambiance."



Starr's secret sauce to creating a vibe? "Lighting, lighting, lighting."



You're almost there! Some last advice.

"There are no cheats," Starr says. "Just throw everything you've got into your openings." And don't be afraid of failure: After all, more than half of restaurants close after three years. "Some places have a life span," he says, "like your favorite dog."

Now It's Time to Build Your Empire!

"I think about competing with Shake Shack," muses Starr. "Danny [Meyer] is McDonald's. I could be Burger King."

PHOTOGRAPHS: JEN MAY (STARR), ADRIAN GAUT (VERONIKA), DITTE ISAGER (LE COUCOU), STARR RESTAURANTS (BUDDAKAN, LE DIPLOMATE)

WING IT!

Thanks to Hot Ones, the breakout web series, chicken wings parties are a spicy sensation. By Kate Krader
Photograph by Ted + Chelsea Cavanaugh

FOOD STYLIST: MAGGIE RUGGIERO; PROP STYLIST: KODY PANGBURN

FUNKTOWN CHICKEN WINGS

Recipe from Andrew Carmellini, chef-owner of the Dutch, New York

In a shallow bowl, combine ⅓ cup all-purpose flour, 1 tbsp salt, 2 tsp ground pepper, 1 tsp cayenne pepper, and 1 tsp smoked paprika. Working in batches, lightly coat 36 dry chicken wings and drumettes in the mixture.

Fill a medium-size enameled cast-iron casserole halfway with vegetable oil and heat to 360F. Add about one-quarter of the wings, being careful not to crowd the pot. Fry, turning once, until golden and cooked through, 5 minutes. Transfer to a paper-towel-lined plate and cook the remaining wings. Serve with hot sauces.

Who'd have guessed that one of the best ways to make blasé celebrities interesting is to have them consume incendiary hot sauces while they answer questions? On the YouTube web series *Hot Ones*, host Sean Evans sits down with the likes of Paul Rudd, Post Malone, and Scarlett Johansson while they devour chicken wings doused with increasingly fiery sauces.

The show, which has already led to a spinoff, *Hot Ones: The Game Show*, on TruTV, is now becoming a popular dinner-party theme. "The reactions, the competitiveness, the torture—it's all part of enjoying the sauce and the show," says Krysty Pringle, a partner at hot-sauce specialty store Heatonist in Brooklyn, N.Y. The shop has a section dedicated to *Hot Ones* sauces, including the show's most famous bottle, the Last Dab XXX. Powered by three versions of the scorching Pepper X (said to be twice as spicy as the famous Carolina Reaper), it's usually the final sauce sampled on each episode.

Superfan C.B. Cebulski, editor-in-chief of Marvel Comics, finds hot sauce to be the great uniter at a dinner party: Group tastings are a built-in conversation starter, an instant source of conviviality. It's also the rare person who doesn't like chicken wings. (For vegetarians, he provides rice balls.)

Cebulski offered a few ground rules for those who want to throw their own hot wings shindig:

1. Order in non-sauced chicken wings or make your own (recipe left). Serve about a dozen sauces. If you offer too many, their nuances get lost; too few, and you're basically just eating hot wings.

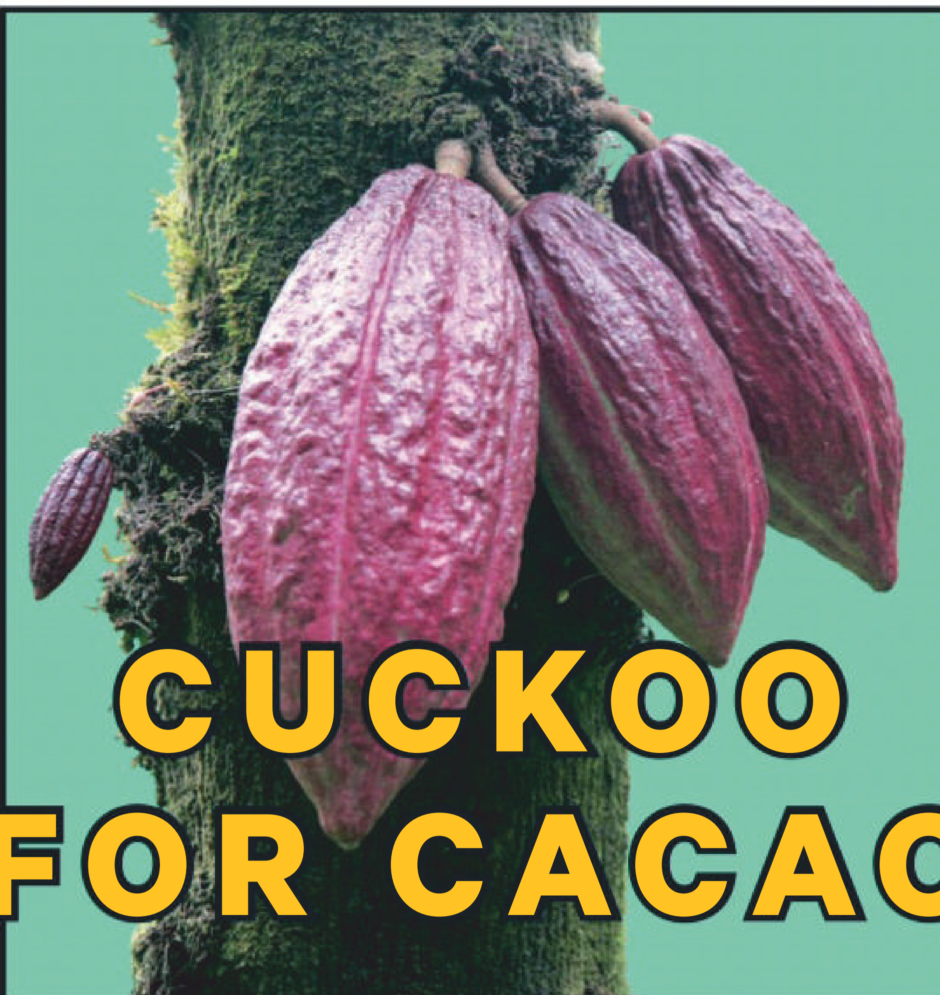
2. Have everyone sample the sauces in the same order, from mild to hot; don't skip around.

3. Guests should taste each sauce at approximately the same time; seeing who can handle the heat and how they react is a major part of the fun.

4. Sample hot sauces from around the world—you might have picked them up as a souvenir, received them as a gift, or bought them on a whim at a market. A wider range adds to the experience.

5. A mix of "flats" and drumettes is the classic way to taste, but boneless wings make for easier dipping.

6. Cool down properly. At an unofficial 3.18 million Scoville units (jalapeños top out at 10,000), Pepper X is no joke. Provide fatty, creamy products like ranch and blue cheese dressings and avocado slices. Honey also helps alleviate the burn—as do salty potato chips.



CUCKOO FOR CACAO

Chocolate that's made from more than just the beans is a delicious disruption of everyone's favorite dessert

By Matthew Kronsberg

Great chocolate, I'd suggest, is the most pleasurable thing a person can experience in polite company.

And for the past 100 years, the process for making the stuff has started in much the same way: The brightly colored, football-shaped pods of the cacao tree are harvested and split open. Inside each 7- to 10-inch-long pod are on average 20 to 40 beans surrounded by a sweet, white, nutrient-dense pulp.

The seeds are separated from the pulp, fermented, dried, and shipped off for processing before being transformed into everything from truffles and puddings to precious bean-to-bar chocolate. The pulp, which constitutes roughly 70% of the pod's weight, is typically thrown away.

But that's about to change. This spring, chocolate manufacturer Barry Callebaut AG will begin rolling out what it calls WholeFruit chocolate that uses the pulp to sweeten the confection. The world's largest maker of bulk chocolate—last year the global behemoth produced more than 2 million tons of it for the likes of Nestlé SA and Hershey Co.—says this version contains 90% more fiber, 25% more protein, and 40% less sugar than popular dark and milk chocolates.

The first release under the WholeFruit label, a dark chocolate called Bold, will go to chefs and chocolatiers in the U.S., Latin America, Europe, and Asia. WholeFruit won't be sold as a standalone bar, though clients may create what they please with it. The company will also roll out Velvety, a milk chocolate.

As a bona fide cacao nut (and a journalist on assignment for *Bloomberg Businessweek*), I was able to get my hands on some of the Bold. It came in a small, round box decorated with a picture of cacao beans; inside were half-dollar-size coins of the chocolate. Based on the jungle imagery on Barry Callebaut's dedicated website—brace yourselves for a major marketing push—I was expecting a rainforest fruit bomb in my mouth.

What I got was merely excellent dark chocolate: It melted quickly on the tongue and gave off notes of yuzu and kumquat, flavors usually associated with high-end products such as Valrhona Inc.'s tangy Manjari chocolate from Madagascar. That bright citrus then quickly resolved into something darker and roastier, comfortable territory for eaters of Lindt or Guittard.

"It's pretty conventional," agrees Clay Gordon, author of *Discover Chocolate: The Ultimate Guide to Buying, Tasting, and Enjoying Fine Chocolate*, who had his own tasting. "This is not a chocolate [where] the fruitiness is going to knock you on your bottom. They've gone with something that will be fairly accessible."

Indeed, Barry Callebaut sees WholeFruit as fundamentally changing how the entire chocolate supply chain works. If successful, it would be even more disruptive to the $24.5 billion industry than the company's mild, naturally pink-colored ruby chocolate, which was released in 2017 as the first new chocolate variety in more than 80 years. (Think of it as the rosé of chocolate—not white, not dark, not milk.)

The company is already providing Mondelēz International Inc.—owner of Cadbury and Toblerone—with processed cacao fruit for on-the-go "wonder snacks" called CaPao. The bright packages contain "fruit jerky strips" and "smoothie balls" that are made using the juice from cacao fruit pulp.

There have been some high-profile precedents toward using whole cacao fruit. After a split from his wildly successful Max Brenner chain, Oded Brenner had an epiphany while eating fresh cacao in the Blue Mountains of Jamaica during his five-year noncompete period.

He returned as an evangelist for the fruit and opened the Blue Stripes Cacao Shop in Manhattan. Alongside decadent chocolate treats, he offers inventive cacao fruit products such as energy bars, packets of cacao fruit pulp powder, flour made from the pods, bottles of juice, and kid-size, squeezable packets of pulp. They all have a lightly tropical taste, with hints of tart passion fruit and marshmallow and a faint scent of cocoa.

Another of Brenner's creations, a gluten-free bread made using the pulp and cacao pod flour, was pleasantly dense and slightly sweet. He also uses the pulp in smoothies and fruit bowls, which come with granola and add-ins like hazelnut butter and yogurt.

Cacao, as Brenner sees it, is poised to knock açaí from the top of the superfruit mountain. "It's not an acquired taste," he says. "People like it immediately." I know I did. B

PHOTOGRAPH COURTESY BARRY CALLEBAUT GROUP

SHAKING IT UP

Empirical Spirits distills an entirely new class of crushable cans

Photograph by Janelle Jones

In Copenhagen, the street Refshalevej curves past the city's most famous restaurants—Noma, Alchemist, and Amass—and takes you to the doors of Empirical Spirits. The distillery describes itself as a "flavor company," making novel alcoholic magic by macerating fruit, herbs, and botanicals into booze outside traditional categories such as gin, rum, or vodka. This spring it delves into the fast-growing world of canned beverages. Its Can 01 (charcoal black) and Can 02 (hot pink), each $11.25, are made from a vacuum-distilled spirit base of beet molasses and Belgian saison yeast—light enough for backyard grilling but rich enough for contemplative sipping.

WHAT'S THE COMPETITION?

There's nothing commercially available that compares with what Empirical is doing. Flavored tonics can be exotic and evocative but aren't alcoholic. And most ready-to-drink cocktails rely on boring simplicity. But premium beers and newer canned concoctions can provide perspective.

- The Flemish ale Rodenbach Classic (5.2% ABV) has a bracing sourness that aficionados rave about—and gentler palates flee.
- Cardinal Spirits' Maui Mule (6.5% ABV) tarts up the vodka-ginger standard with passion fruit puree.
- JuneShine hard kombucha (6% ABV) ferments organic green tea with honey. Tangy and sour flavors may feature hops, grapefruit, pineapple, mint, or trendy activated charcoal.

THE CASE FOR THE CANS

As fridges become increasingly overrun by bland hard seltzers, co-founder Lars Williams, a Noma alum, and Chris Stewart, Empirical's head of research and development, capture an extrasensory, woodsy vibe. The binding element in Can 01 is oolong tea, which rounds out the qualities of its supporting ingredients such as toasted birch tea and a Douglas fir spirit. At 10% ABV, it quickly sends your mind on a contented stroll. As the color of Can 02 (8% ABV) suggests, it's more brisk, thanks to sour cherry juice and a black currant bud spirit. Those flavors, like the oolong, help showcase the taste of pine cones—candied yet sylvan, sophisticated yet green. In the end, these aren't merely drinks: They're intoxicating poetry. *$45 for 330ml four-pack; empiricalspirits.co*

Boeing's Other Headache Is Its Embraer Deal

By Brooke Sutherland

Is it time for Boeing Co. to worry about its proposed joint venture with Embraer SA? As the crisis of its grounded 737 Max jet drags on, Boeing's planned partnership with the regional-aircraft maker hasn't gotten much attention, but more than a year and a half after it was announced, the deal still hasn't closed.

Boeing and Embraer outlined a preliminary agreement for a joint venture to sell regional aircraft—typically planes with 150 or fewer seats—in July 2018. It took five more months to hammer out the details, with Boeing ultimately agreeing to pay $4.2 billion for an 80% stake in the business, later dubbed Boeing Brasil-Commercial. Embraer and Boeing repeatedly projected confidence the deal could be wrapped up by the end of 2019. It wasn't to be.

While the transaction was expected to be a political hot potato in Brazil—where Embraer is a national champion—and in China—which was fighting a trade war with the U.S. when the venture took shape—the biggest roadblock turned out to be the European Union. In October the EU warned that a Boeing-Embraer deal could damp competition in commercial aircraft and opened an in-depth investigation. It's since stopped the clock on its review twice in the quest of more information from the two plane makers, with the latest halt pushing the deadline for a decision to June 23.

The venture was widely seen as a defensive response to rival Airbus SE's move in late 2017 to take control of Bombardier Inc.'s CSeries program, now called the A220. That deal, in turn, was precipitated by Boeing's campaign to get tariffs slapped on Bombardier jets, which it said competed unfairly with the smallest of its Max jets. The U.S. International Trade Commission eventually ruled against that claim in January 2018. But the uncertainty created by Boeing's protests depressed sales of the CSeries, leading Bombardier to turn to Airbus for financial help.

As it happens, Embraer's largest model, the E195-E2, also competes with the smallest Max in certain configurations. This time it's in Boeing's interest to downplay the overlap.

Ultimately, the Boeing-Embraer venture is likely to get EU approval, because the Max crisis makes it difficult for regulators to argue the product mashup gives Boeing leverage to raise prices, Bloomberg Intelligence analyst Aitor Ortiz wrote in a Feb. 24 note. Boeing, which didn't sell a single commercial jet in January, is likely to offer steep discounts to entice buyers for the damaged Max brand.

Also, European regulators didn't object to the Airbus-Bombardier tieup. The *Wall Street Journal* reports that's in part because Boeing's trade complaints kept such a tight lid on CSeries orders that the purchase didn't meet the revenue threshold that triggers a review. Having not stepped in to block a similar deal may make it difficult for the EU to take a hard stance on this one. *—Sutherland is a columnist for Bloomberg Opinion*

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