Bloomberg Businessweek
June 12, 2023

Can the US Ever Build an EV Battery?

How the American innovation machine failed—and why a comeback will be so hard 36

Behind every delivery is a well-orchestrated effort.

We're reinventing our network so you can deliver more value, convenience, and confidence to your customers.

Scan the code to see how USPS can move your business forward.
Or visit **usps.com/totaleffort**

UNITED STATES POSTAL SERVICE® | DELIVERING FOR AMERICA

Bloomberg Businessweek

June 12, 2023

◀ Mujeeb Ijaz, CEO of Our Next Energy

PHOTOGRAPH BY SARAH RICE FOR BLOOMBERG BUSINESSWEEK

1

FEATURES

How to Contact *Bloomberg Businessweek*
EMAIL bwreader@bloomberg.net ● TWITTER @BW ● INSTAGRAM @businessweek ● FACEBOOK facebook.com/bloombergbusinessweek ● AD SALES 212 617-2900, 731 Lexington Ave. New York, NY 10022 ● SUBSCRIPTION HELP businessweekmag.com/service ● REPRINTS/PERMISSIONS 800 290-5460 x100 or businessweekreprints@theygsgroup.com

A Bloomberg Publication Before it's here, it's on the Bloomberg Terminal. Learn more at bloomberg.com/company

■ COVER TRAIL

How the cover gets made

❶

"This week's cover is all about American innovation!"

"Oh, yeah! We talking Apple headset?"

"Not exactly..."

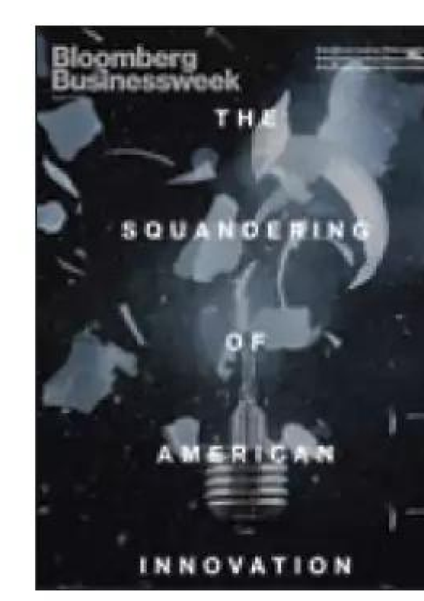
"If we're running another Elon cover, please know I've got nothing left."

"You could say it's Elon-adjacent. It's about the lithium batteries that power cars."

"I imagine since we're doing a cover, America must be killing it in the battery space?"

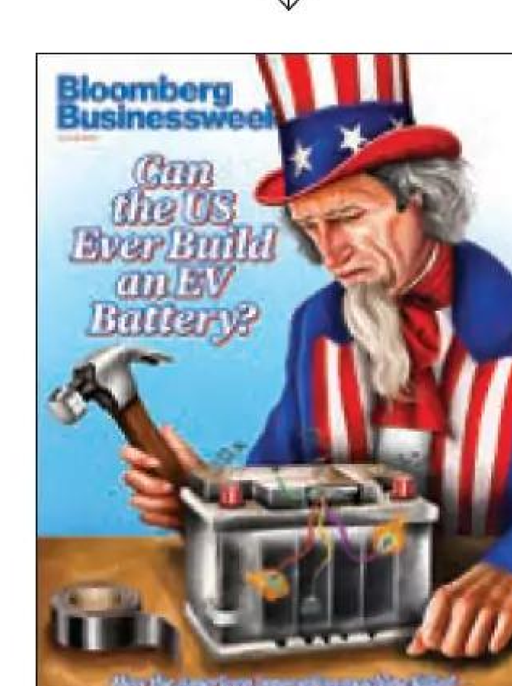
"Oh, you know it."

"Sarcasm detector activated. Let me see if I can turn that into a visual."



"That's close, but I gotta say that I feel like we're missing that 'real 'Merica' angle."

"You want 'Merica, I'll give you 'Merica."



Cover: Illustration by Michelle Rohn

SOLUTIONS: MATTHEW HILL/BLOOMBERG. COVER TRAIL: GETTY IMAGES

● War in Ukraine

Ukraine accused Russia of blowing up the Kakhovka dam on June 6, swamping towns on the banks of the Dnieper River; Moscow blamed shelling by Kyiv's troops for the breach in the reservoir, which feeds water to Crimea, annexed illegally in 2014 by Russia. NATO intelligence is still assessing responsibility but leans toward Russia: The strike—which flooded the front lines south of Kherson—may signal Russian anxiety about the forcefulness of Ukraine's imminent counteroffensive.

● Germany's Thyssenkrupp and India's Mazagon Dock Shipbuilders are closing in on a deal estimated at

$5.2b

to build six diesel submarines for the Indian navy, say people familiar with the matter. Russia's war in Ukraine is pushing New Delhi to source its military hardware beyond top supplier Moscow.

● The PGA Tour agreed to merge with Saudi-backed rival LIV Golf.

The shock combination ends a battle between the two tours that's split players and captivated fans and underscores how the kingdom's money increasingly influences sports around the world. "Getting together is the best thing for golf," said Henry Kravis, KKR co-founder and co-executive chairman, in an interview at the Bloomberg Invest conference in New York.

● The judge overseeing 4,000 lawsuits involving 3M "forever chemicals"—per- and polyfluoroalkyl substances, or PFAS—agreed to delay the first trial until June 26 so the company can work out an agreement over claims by water providers. 3M struck a tentative

$10b

settlement to cover claims related to drinking-water providers.

● Canada's wildfires gave New York the world's worst air.

On June 6 authorities said 423 fires were still raging in Canada, where 2,305 of them have already consumed 4 million hectares this year. As smoke from the blazes drifted south, air-quality alerts stretched down to the Carolinas.

● "We've been warning you all the time. You didn't react, and now it's too late to do something."

Oceanographer Dirk Notz, a co-author of a UN Intergovernmental Panel on Climate Change report that states summers in the Arctic will likely be ice-free by 2050, even if humans lower greenhouse gas emissions, describing the tenor of more and more climate research.

● The SEC sued Coinbase.

In its complaint, filed in a federal court in New York on June 6, the commission alleged that Coinbase evaded regulations by letting users trade crypto tokens that were unregistered securities. The day before, the SEC sued Binance, the world's largest crypto platform, saying it and CEO Changpeng Zhao mishandled customer funds, misled investors and regulators, and broke securities rules. Coinbase and Binance disputed the allegations.

● Salem Sanderson performs in the Miss GayDays Pageant on June 3 in Orlando. GayDays organizers urged visitors to defy Florida's anti-LGBTQ laws and come to Disney World anyway. On June 6 a federal judge ordered the state to drop its ban on gender-affirming health care for transgender children.

● Sequoia Capital said it would split into three entities.

With US-China tensions rising, the venture capital powerhouse is spinning off its Asian operations: Sequoia China will retain its Chinese name and adopt the name HongShan in English; Sequoia India and Southeast Asia will become Peak XV Partners. An early backer of Google, Instagram and some of China's biggest internet companies, Sequoia says it will complete the separation by March 2024.

DAM: LIBKOS/BLOOMBERG. SMOKE: YUKI IWAMURA/BLOOMBERG. DRAG QUEEN: JOE RAEDLE/BLOOMBERG

Can the Crypto Exchanges Ever Be Legal?

The Securities and Exchange Commission has fired a major salvo in Chair Gary Gensler's war on crypto, declaring illegal two of the world's largest digital-token trading platforms, Binance Holdings Ltd. and Coinbase Global Inc. It's a welcome development: In myriad ways, the two enterprises exemplify what financial intermediaries shouldn't do. What's needed now is an actual rulebook.

The SEC complaints, filed in federal court, read like a catalog of what's wrong with the intermediaries through which most US investors interact with crypto. Both Binance and Coinbase sold products that had the features of securities, without registering as such. Much like the now-defunct FTX, they combined exchange, brokerage and clearing services—traditionally separated to avoid conflicts of interest—while failing to meet basic standards for disclosure or investor protection. Among other things, according to the SEC, firms controlled by Binance's owners misused customer funds—putting nearly \$200 million, for example, into an account that was used to buy a yacht—and engaged in "wash" trades that artificially inflated transaction volumes. The agency is right to crack down on such conduct.

Enforcement actions alone, though, won't be enough to civilize the crypto market. One problem is that the SEC must establish jurisdiction in each case by proving that securities are involved. This should be relatively straightforward with Binance and Coinbase, but it won't always be; much of what's traded on these and other platforms probably wouldn't qualify. The two largest cryptocurrencies, Bitcoin and Ethereum, are defined as commodities by the Commodity Futures Trading Commission. That gives the CFTC authority over their derivatives, but not much over trading in the tokens themselves. Other tokens—including, potentially, those associated with useful projects—might be neither securities nor commodities.

This definitional confusion leaves crypto at an impasse. If a token is a security and can't meet SEC requirements, which most probably it can't, it's illegal. If it's something else, which some probably are, it has no rules to follow. This makes operating a legal trading platform nearly impossible. Rules are thus needed, both to keep crypto in line and to allow for whatever benefits it might eventually deliver. But what rules?

Stretching the existing definition of commodities to cover more digital tokens, as a new draft bill in the House seeks to do, isn't a great solution. The legislation's main criterion for identifying commodity tokens—whether governance is decentralized, with no controlling individual—would be extremely difficult to apply in practice. Worse, it would in effect reward issuers for having (or pretending to have) nobody in charge. A better approach would be to create a blanket legal regime for trading in any instruments that don't fall into existing categories, as well as in Bitcoin and Ether (spot trading in which remains largely unregulated). Congress could task the SEC and the CFTC with jointly creating requirements for issuers and intermediaries, including disclosure, governance, safety, soundness and protection of customer assets. Alternatively, the agencies could delegate some or all of that responsibility to an industry-funded entity that they closely oversee, on the model of the Financial Industry Regulatory Authority.

None of this requires regulators to make value judgments about crypto. Whether any good comes of it, and whether people get rich as a result, is a separate matter. But with the right rules in place, the chances of a desirable outcome will at least be much improved. Ⓑ *For more commentary, go to bloomberg.com/opinion*

■ AGENDA

▶ A Fed Timeout?

The US Federal Reserve meets to set interest rates on June 14. Central bankers have been signaling for weeks that the long-awaited pause in rate hikes may be upon us, especially after the mixed jobs report for May.

▶ The US Bureau of Labor Statistics reports inflation data on June 13. Analysts expect the core consumer price inflation rate to continue inching down.

▶ The UK Office for National Statistics releases unemployment figures on June 13; it publishes the country's month-over-month GDP growth on June 14.

▶ Oracle reports earnings on June 12; ReNew Energy and Algoma, on June 13; Urstadt Biddle, on June 14; Adobe and Kroger, on June 15.

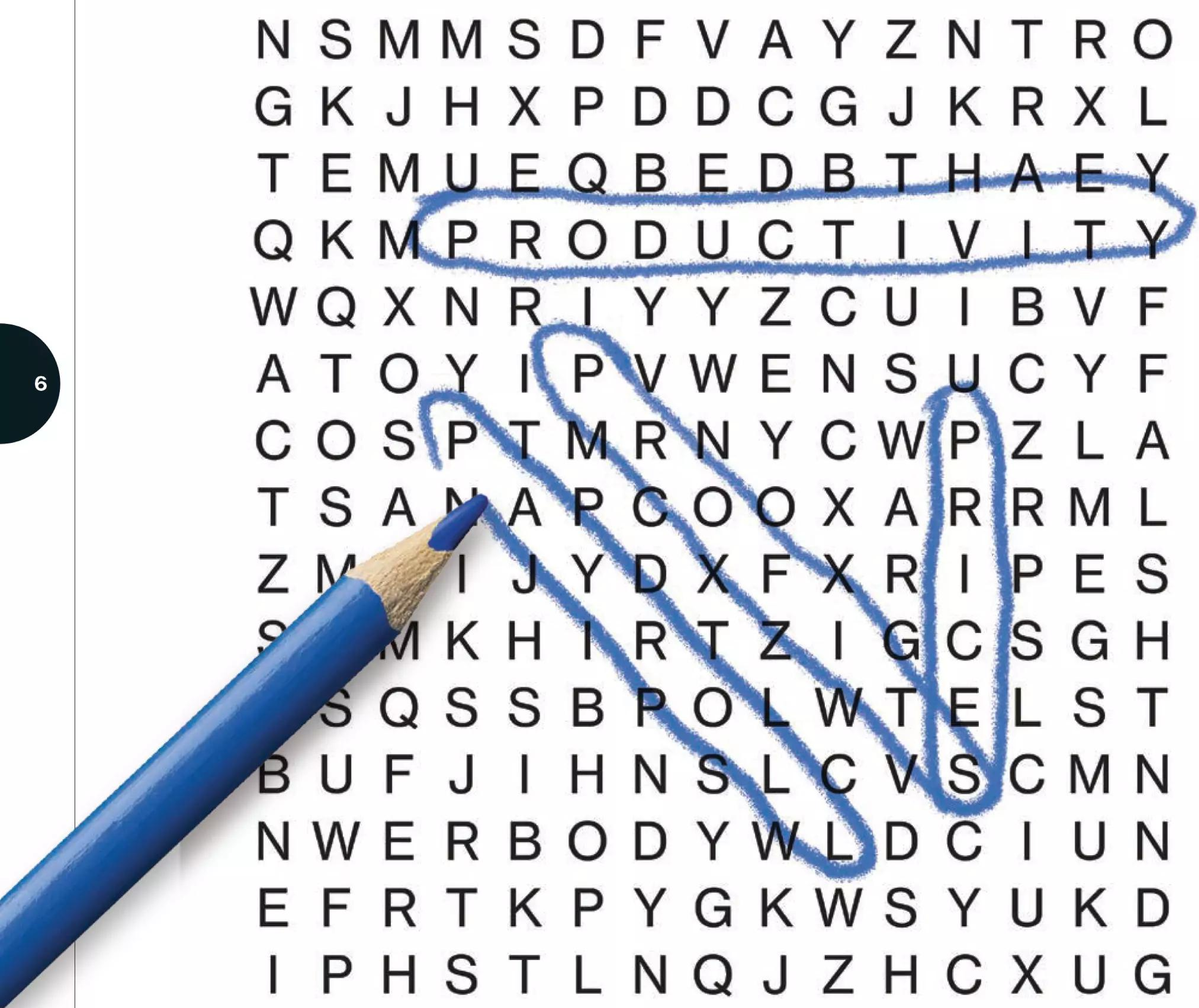
▶ Americans celebrate Juneteenth on June 19. The three-year-old federal holiday marks the day in 1865 when Black slaves in Texas learned of freedom—two years after emancipation.

▶ From June 17 to 25, Berlin hosts the Special Olympics World Games. Thousands of athletes with intellectual disabilities will compete in the globe's largest inclusive sporting event.

▶ The UN observes World Blood Donor Day on June 14. According to Cedars-Sinai hospital in Los Angeles, a person who makes a single donation of blood can save three lives.

ILLUSTRATION BY MASHA KRASNOVA-SHABAEVA

The Puzzling US Economy



To figure out whether it dodges a recession
or becomes mired in stagflation, you need to watch the four p's

By Rich Miller

PHOTO ILLUSTRATION BY 731; PHOTO: GETTY IMAGES

If you love puzzles, this is the economy for you. The data are so mixed, even the experts are stumped. Gross domestic product has expanded at an average annual pace of just 1% over the past five quarters, less than half the rate seen in the last economic expansion. Recession warnings abound, as do layoff announcements by well-known companies, from Goldman Sachs Group Inc. to Best Buy Co.

Yet the labor market remains robust. Companies took on 339,000 new workers in May, more than triple the increase many economists reckon is consistent with an economy that's neither too hot nor too cold. It was the 14th straight month the increase in payrolls exceeded expectations.

To make sense of it all, it helps to focus on the four p's: payrolls, productivity, profits and prices. Their interaction helps describe where the economy is—and where it may be headed. The message in the data: Barring a credit crunch from the recent banking industry turmoil, the US may well dodge a recession. Yet it could end up in an unsatisfactory equilibrium between anemic growth and still-elevated inflation. Then it will be up to Federal Reserve Chairman Jerome Powell and his colleagues to decide whether that's good or bad. Can they live with an inflation rate above their 2% target, or will they feel compelled to drive unemployment up to bring price pressures to heel?

Perhaps the biggest surprise about the economy has been the strength of the labor market. Yes, there are some signs of softening: Unemployment rose last month, and the average number of hours worked slipped. Yet joblessness remains near a half-century low, and companies keep complaining about how difficult it is to find qualified staff. Job openings jumped to 10.1 million in April, the highest level in three months. "Employers are still fighting for top talent," says Amy Glaser, a senior vice president at staffing company Adecco Group.

Part of that goes back to the pandemic. Covid-19 led to a broad reshuffling of the labor market, with some industries—particularly leisure and hospitality—still unable to return to pre-crisis employment levels. "What we're hearing from restaurant operators is that two-thirds of them say that right now they're understaffed," said Michelle Korsmo, president and chief executive officer of the National Restaurant Association, during a May 31 webinar hosted by the *Hill*.

Wage growth, though, has slowed from the early post-lockdown days, when companies were in a mad scramble to add workers. Smaller employers, many of which lack the financial wherewithal to engage in bidding wars, are now driving the job gains, and that's taking some of the edge off pay packets.

Workers, too, have turned a bit more cautious. The quits rate—the ratio of people leaving their jobs during a month as a percentage of overall employment—fell to 2.4% in April, just a smidgen above its 2.3% average in 2019.

For all that, compensation is still climbing at a pace well above pre-pandemic levels, expanding at an annualized rate of almost 5% in the first quarter, almost double that seen in 2019. Demographics are keeping the market tight: Aging baby boomers are retiring, and comparatively fewer younger people are entering the workforce. This dynamic will keep upward pressure on wages in the coming years, no matter what happens to the economy in 2023, says Gad Levanon, chief economist at the Burning Glass Institute, which focuses on the future of work.

Rising wages and expanding payrolls wouldn't be a problem for companies if they were getting more out of the workers they have. Early signs that work-from-home and stepped-up automation had jump-started productivity growth, which had been stagnant in the US for decades, dissipated as workers in leisure and hospitality and other labor-intensive industries returned to work. Indeed, output per hour among nonfarm businesses decreased 0.8% in the first quarter from a year earlier. "Productivity appears to be on track to fall all the way back to its pre-pandemic trend," says Julia Pollak, chief economist at ZipRecruiter.

Normally, the combination of lackluster productivity and a larger wage bill would be expected to take a big bite out of company profits. So far it hasn't, at least based on government statistics. Corporate profits rose to a record in the first quarter, after taking the Fed's losses on its bond portfolio out of the calculation. A narrower measure of corporate profits—earnings per share of companies in the S&P 500—did slip in the first three months of 2023, by about 3% from a year ago, though that was a markedly better outcome than the 8% decline Wall Street analysts were expecting. What's more, S&P 500 profit margins showed signs of improvement during the period, according to Gina Martin Adams, chief equity strategist for Bloomberg Intelligence.

Confronted by rising costs for labor and other inputs, many companies—including Coca-Cola, Hilton Worldwide Holdings and Procter & Gamble—have raised prices to boost their bottom line.

Fortified by savings built up during the pandemic, still-healthy wage gains and lower prices for gasoline, American households have swallowed the price increases and kept on buying. "The US consumer, I think, is holding up well," Procter & Gamble Co. Chief Financial Officer Andre Schulten told Wall Street analysts on an April 21 conference call.

So where does that leave the economy? Stuck with higher inflation and slower growth than most Americans would like.

What comes next lies mainly in the hands of another p: Fed Chair Powell. After raising interest rates by five percentage points over the last 14 months, Fed officials have signaled they're likely to take a break from their credit tightening campaign when they meet on June 13-14, though they've left open the possibility of resuming thereafter.

A Fed pause now would help extend the expansion, but in the end inflation won't fall into the central bank's comfort zone without a recession, says Bruce Kasman, chief economist at JPMorgan Chase & Co. He sees a downturn starting toward the end of 2023 and spilling over into 2024.

In that case, yet another p will come into play: the politics of a presidential election year. Ⓑ —*With Enda Curran*

HONORING THE PAST BY PRESERVING THE FUTURE!

Sustainability to Nature

NATHAN LAINE/BLOOMBERG

BYD Is Racing To the Top Of the Global EV Market

● The Warren Buffett-backed automaker has quickly boosted its clean-car sales beyond China

Mention the growing global popularity of electric vehicles, and most people think of cars from Tesla Inc., the world's leading EV maker. But Elon Musk has an unlikely competitor approaching in his rear-view mirror. The bestseller in emerging clean-car markets Brazil, Israel and Thailand, for instance, isn't a Tesla. Those bragging rights belong to BYD Co., the Chinese EV and plug-in hybrid maker whose wheels are increasingly plying streets from Sydney to Delhi and even Montevideo, Uruguay.

The Shenzhen-based company has been on a tear in China, dethroning Volkswagen AG as the nation's biggest-selling car brand during this year's first quarter—a remarkable disruption of Volkswagen's dominance there since at least 2008, when data from the China Automotive Technology and Research Center became available. One reason for the turnabout: In that quarter, BYD accounted for 39% of the sales of new-energy vehicles (electrics or hybrids)—or 12% of all passenger-car sales—in China, the world's largest auto market, based on data from the China Passenger Car Association.

BYD continues to expand internationally at a blistering pace. Although the US remains off-limits for political reasons, the Chinese company recently entered Mexico, Spain and the UK. This month it plans to try its luck in Italy, kicking off with a launch party in Turin, the birthplace of Fiat. After first exporting new-energy vehicles to Norway in 2021, the company is now selling such cars in places from Singapore to Sweden—a real feat for a Chinese consumer brand.

"By any standard, BYD has come from nowhere to be one of the major car companies in the world," says former Tesla director Steve Westly, now the ▶

Edited by James E. Ellis

◀ managing partner of Westly Group, an early-stage energy and mobility investor. "Some would say they've out-Tesla'd Tesla."

Run by founder and Chairman Wang Chuanfu, BYD, which stands for "Build Your Dreams," is a tangible example of President Xi Jinping's own Chinese dream: to restore national greatness, including a return to the center of world economic affairs. With its cars now sold in 53 countries and regions around the world, BYD is the biggest automaker most people have never heard of.

The company's popularity with drivers at home and abroad stems from having a wide range of good-looking, well-functioning cars at the right price. Its latest electric hatchback, the Seagull—part of the company's Ocean series, which includes the subcompact Dolphin—starts at just $10,400. Its 55-kilowatt motor and 30-kilowatt-hour battery provide around 300 kilometers (190 miles) on a charge, with a top speed of 80 mph.

Further along its EV model spectrum is the Han, named after the first Golden Age of Imperial China and part of BYD's Dynasty range; it starts at about $32,800. At the ultrahigh end is the recently released Yangwang U8 SUV, with a presale price of about $154,000.

One of BYD's biggest selling points—affordability—comes from the company's vertical integration strategy. Management figures that making more components in-house leads to greater cost control and cheaper vehicles. Unlike many other automakers, BYD manufactures its own batteries (it's now the world's No. 2 cell maker) and its own semiconductors, which largely shields it from the supply chain snarls that tripped up other manufacturers during the Covid-19 pandemic.

At BYD's sprawling headquarters on the outskirts of Shenzhen, tens of thousands of employees work in dozens of office buildings and factories, using a sky rail built by the company to get around. Dormitories for workers line the perimeter, and a large on-site museum commemorates hundreds of BYD's engineers and financial achievements. One wall shows a chart of the company's hockey-stick-like revenue growth, from almost nothing in 1995 to 424 billion yuan ($60 billion) in 2022.

BYD sold 1.86 million new-energy vehicles last year, more than in the previous four years combined. Its global workforce doubled, to 570,060, about 200,000 more than the roster at the world's No. 1 automaker, Toyota Motor Corp. Last year also marked an international sales push for BYD, which only started passenger EV exports in 2021.

For all of BYD's overseas expansion, it still derives more than three-quarters of its revenue from China, where auto sales growth has been slowing. In contrast, Tesla generated just under half its revenue in the US, while Toyota earned a quarter of its revenue in Japan.

This year, BYD aims to sell as many as 3.7 million fully electric and plug-in hybrid cars. By comparison, Tesla has said it may produce as many as 2 million EVs in 2023. But BYD has been gaining ground against Musk's operation on an EV-only basis.

BYD, which is backed by Warren Buffett's Berkshire Hathaway Inc., has become the leading clean-car maker in Brazil, Colombia, Israel and Thailand. In those countries it outpaced BMW and Renault as well as fellow Chinese automakers Zhejiang Geely Holding Group and Hozon New Energy Automobile in the first quarter, according to data compiled by BloombergNEF. In Australia, India and New Zealand it's among the top five clean-car manufacturers.

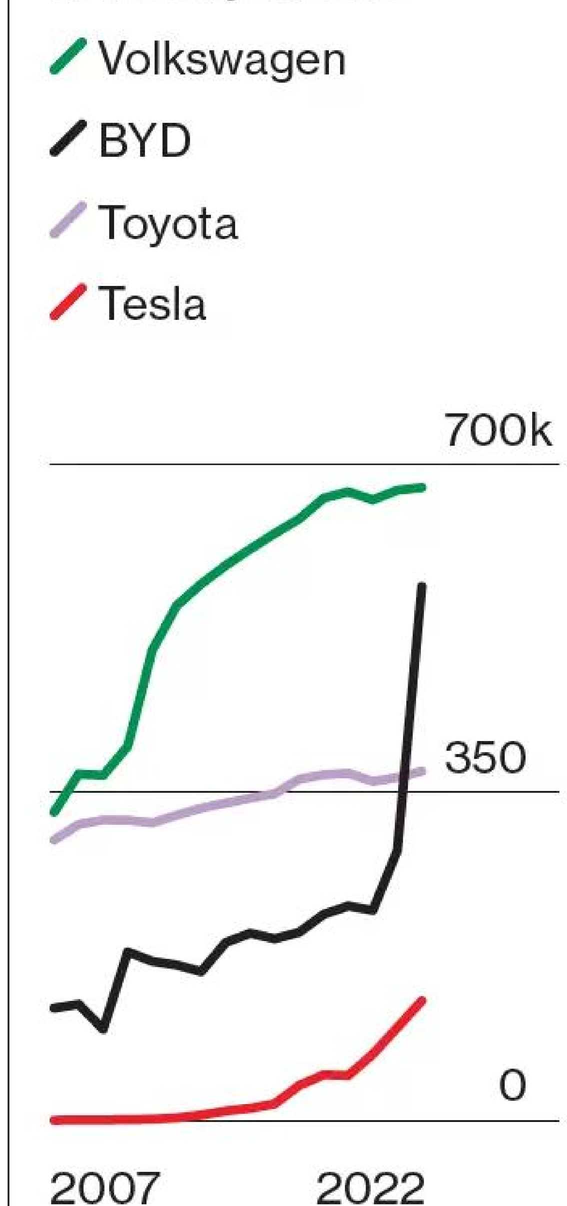
Michael Barnden, a retired teacher living in Adelaide, Australia, made the switch in November to a BYD Atto 3, a five-seat family-friendly electric SUV. The 74-year-old is no stranger to cleaner cars, having bought a Hyundai Ioniq plug-in hybrid about four years ago. When he read the features of the Atto 3, including heated seats and a 480km driving range, he snapped one up. "It feels so welcoming to drive," he says. "I actually look for excuses to get in the car."

In New Zealand, the Atto 3 was named the Motoring Writers' Guild's Car of the Year in 2022. This was the first time a Chinese brand won, according to guild President Richard Bosselman. BYD's car beat 11 finalists, including Tesla's Model Y, Kia's EV6 and the Polestar 2. "BYD was probably the last to release into the market, but it made quite a strong, immediate impact," Bosselman says.

Half a world away, in Uruguay, BYD electric cars have won over customers such as Facundo Fernandez, a taxi driver in Montevideo. He decided to buy his first BYD, a gasoline-powered compact F3, because it was cheaper than Western brands. The 35-year-old purchased the BYD e6 in 2017, with a 50% discount on the license plate fee for electric taxis playing a big role in his decision.

"Gasoline is very expensive in Uruguay," Fernandez says. Whereas a battery charge costs around 500 pesos ($13) and gets you about 400km, a full tank of fuel goes for 2,500 to 3,000 pesos. He says he'll probably get a larger BYD model next year that's more comfortable for passengers. "Chinese brands are able to compete because they offer the same features but are a little bit cheaper," Fernandez says.

▼ Employees at selected automakers at fiscal yearend



● Wang

WANG: BILLY H.C. KWOK/BLOOMBERG. DATA: COMPILED BY BLOOMBERG

BYD's international ascent is missing one important market. Although it sells electric buses in the US, the company has no plans to enter the passenger-car market, where President Joe Biden's Inflation Reduction Act doles out tax credits of as much as $7,500 toward consumer purchases of EVs—but only if they're manufactured in North America. Stella Li, executive vice president and head of BYD's North American operations, says the company doesn't need to go into every market, just ones it feels are ready for its offerings.

BYD is increasingly courted by governments from Europe to Southeast Asia. The company is in talks with authorities regarding potential construction of a factory in France, newspaper *Les Echos* reported in May, citing an unidentified person affiliated with a French ministry. A Vietnamese government website also last month said BYD plans to produce EVs in that country, citing talks in Hanoi between Deputy Premier Tran Hong Ha and Wang, BYD's billionaire founder.

BYD is already building its first overseas production facility in Thailand and has been considering production in the Philippines and Indonesia. In Brazil, Ford Motor Co. is in negotiations to sell one of its plants in Bahia state to BYD.

"What they've done in a short period of time is nothing less than stunning," says former Tesla director Westly. *—Danny Lee, Linda Lew and Jinshan Hong, with Yvonne Yue Li, Ken Parks, Craig Trudell and Chunying Zhang*

THE BOTTOM LINE BYD accounted for 39% of EV and plug-in hybrid sales in China in the first quarter. Since it began exporting passenger cars in 2021, it now sells them in 53 nations and regions.

Why Merck Is Suing Over Medicare Drug Prices

● Its blockbuster cancer medicine, Keytruda, could be a prime target of new price negotiations

When President Joe Biden pushed through his massive Inflation Reduction Act last year, it made headlines as a popular measure to bring down soaring household costs and spur investment in domestic energy production. But as details of the law took shape, it quickly became the worst nightmare of pharmaceutical companies. Under the new legislation, known as the IRA, the US government for the first time was given the power to negotiate drug prices for the millions of elderly Americans on Medicare. That change marked a dramatic challenge to drugmakers' traditional business model—which has long relied on spending heavily on research and development with the assurance they could charge hefty prices for medicines later on.

On June 6 it became clear just how forcefully Big Pharma is willing to push back against having to haggle with government regulators over drug pricing. In a rare move, Merck & Co. filed suit against the US, arguing that the IRA violates the Constitution and is "tantamount to extortion." The lawsuit calls the price negotiations a "sham" that forces companies to convey that they agree to government pricing when they're being forced to do so or risk taxes and monetary penalties.

"Under the IRA, the government will appropriate Merck's property without paying just compensation," a violation of the Fifth Amendment, the lawsuit says. It calls for a court stay against any negotiations involving the company.

The IRA gives Medicare—the largest single buyer of health-care products and services in the US—the power to negotiate prices for a growing list of treatments starting in 2026. Governments in various parts of the world use their bargaining power to bring down medicine costs, which is one reason Americans pay more for many medicines than patients in other countries. The change is expected to save Medicare almost $100 billion by 2031.

"Big Pharma regularly forces Americans to pay many times what they do customers in other countries for the exact same medicines," White House press secretary Karine Jean-Pierre said in response to Merck's lawsuit. "There is nothing in the Constitution that prevents Medicare from negotiating lower drug prices."

But drug companies say pulling money too quickly out of an industry that thrives on cash to innovate may have disastrous consequences. They say the new law will disincentivize them from some R&D—especially in areas where price negotiations are scheduled to happen soonest, such as the production of medicines in pill form or in areas ▶

◀ including oncology, where companies need many years to test new uses of a successful medicine.

That's because a patent's life is dated back to when the drug was initially introduced, not when each new use is approved. In the US, patent protection can extend for as long as 20 years, but IRA guidelines give small molecules—mainly pills—only 9 years and biologics 13 years before negotiations begin, reducing the window for companies to recoup development costs and turn profits. Drugs selected for the IRA program are subject to minimum discounts of 25% to 60%, meaning price cuts could be even steeper, because the law doesn't establish a floor for how low prices can go.

Bringing the US government to court is an unusual move for a major drug company, but Merck might not be the only one going on the offensive. PhRMA, which lobbies on behalf of pharmaceutical companies, said it may take similar legal action. And Biogen Inc. Chief Executive Officer Chris Viehbacher told Bloomberg News he'll look into the possibility. Nick Shipley, chief advocacy officer for the Biotechnology Innovation Organization, said he wouldn't be surprised if more companies make that move. Johnson & Johnson and Eli Lilly & Co. declined to comment for this story.

Merck was first out of the gate with its lawsuit for good reason. The IRA may be particularly damaging for the company, because its bestselling drug by far is facing a loss of patent as well as government price negotiations later this decade. Keytruda, an immunotherapy that treats at least a dozen cancers and has a list price of more than $150,000 a year, is set to reach $33 billion in global sales annually by 2028, accounting for 45% of Merck's revenue that year.

For at least four years, Merck has been working on a newer version of Keytruda as part of a pharma strategy to replace aging drugs with the same product administered in a new way. The drugmaker is developing a self-administered version of the monoclonal antibody, which now must be given by infusion at a medical facility, in the hopes it will carry Keytruda and its lucrative profits into the next decade. It even sent Keytruda into space and applied conditions created in microgravity to create a uniform crystalline suspension that could enable delivery via subcutaneous injection. Wells Fargo & Co. analyst Mohit Bansal says that injectable version, if it's successful in trials, may garner sales of as much as $14 billion at its peak in 2031.

"In earlier cancers, patients are more interested in it being in and out," says Eliav Barr, Merck's chief medical officer. "The idea that you're not spending a huge amount of time in a cancer center, or even having to go to a cancer center, versus a doctor's office or local infusion center and getting a sub-q injection is really appealing."

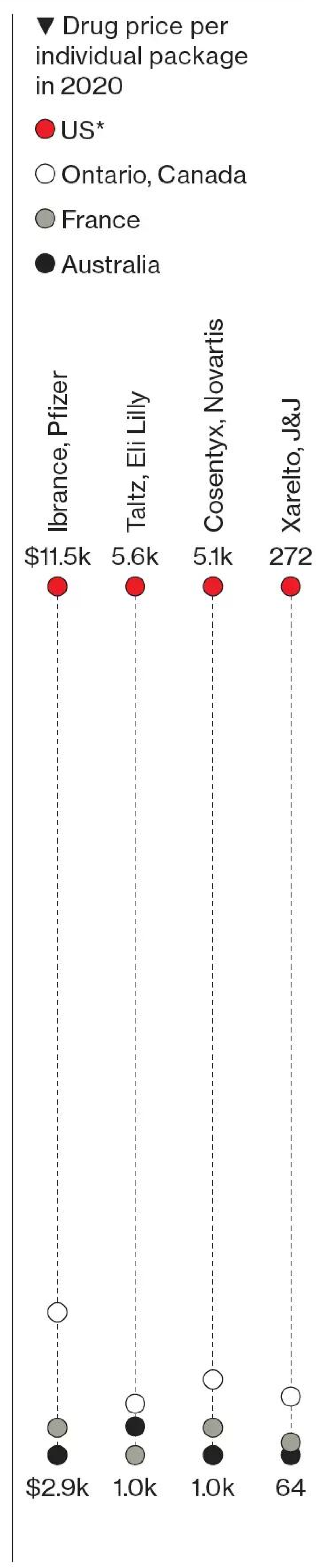
But the IRA may foil Merck's strategy: Medicare issued guidelines in March indicating that treatments with the same key ingredient will be lumped together when the US haggles over prices. In that scenario the newer Keytruda version could end up at the same price as the therapy administered through an IV, despite offering greater convenience for patients. That new provision may have been the straw that broke the camel's back for Merck.

Holly Froum, a litigation analyst at Bloomberg Intelligence, says the prospects for Merck's lawsuit appear weak because the drugmaker has the option of declining to participate in Medicare. "So to the extent they can withdraw from rebate agreements and thus avoid participating in the challenged negotiation program, I think Merck has a weak 'takings' argument," she says.

Not all pharma experts think the IRA is that perilous for the industry. Merck still has an extensive pipeline of new drugs and can extend profits by combining Keytruda with other drugs, allowing them to continue to sell at a high price, including for the injectable version, say SVB Securities analysts Daina Graybosch and David Risinger.

And the self-administered treatment may avoid negotiations altogether if the enzyme added to aid absorption of the drug subcutaneously is considered a new combination therapy. But how such situations will play out is unknown at this point—sending the industry to court. —*Nacha Cattan*

THE BOTTOM LINE The US government's new ability to negotiate drug prices is expected to save Medicare almost $100 billion by 2031. Big Pharma views the change as a disincentive to innovation.



*US FIGURES ARE ESTIMATED NET RETAIL PRICES PAID, CALCULATED USING 2018 MEDICARE PART D REBATES AND OTHER PRICE CONCESSIONS. FIGURES FOR AUSTRALIA, CANADA AND FRANCE ARE GROSS PRICES. DATA: MARCH 2021 GOVERNMENT ACCOUNTABILITY OFFICE REPORT

Bath & Body Works Wants Men to Smell Good, Too

● The retailer is rolling out products to lure millennial and Gen Z guys into its female-focused stores

Female-focused personal-care products such as Gingham Gorgeous shower gel (with fragrance notes of pink strawberries, peach nectar and peony blooms) have for years made Bath & Body Works a go-to mall destination for women. Now the chain is trying to entice a very different clientele for its exfoliating face washes and body sprays: men.

The beauty and fragrance retailer is expanding its men's line, betting on guys paying up for $14 beard oil and $15 face cream infused with hyaluronic acid, among other items. The success of the new grooming products, now being sold in all 1,800 of the chain's US and Canadian stores, is crucial for the company to maintain its pandemic-driven sales boom. More male-targeted products, including shaving gel and shampoo, will come in September.

Bath & Body Works Inc. President Julie Rosen says the mall stalwart can easily double its annual men's sales from 2022's $400 million, which was 5% of total revenue. That figure can reach $800 million in men's products "in the next few years," she says. "It can be a much bigger part of the business."

The company's plan includes marketing via Instagram and TikTok with influencers such as 29-year-old model and marketer Marquis Neal and Adam Wachowiak, a 31-year-old dad who sings about the mahogany teakwood scent to his 97,000-plus followers. The chain is also adding men's-focused displays in stores, in darker hues of navy blue and gray rather than its traditional bright colors.

"We're looking for millennials and Gen Z," Rosen says. "We want to try to get younger customers and have them be sticky and stay with us throughout their lifetime. Our core customer is a little bit older than that."

Bath & Body Works retail locations have been a place for women and teenage girls to linger, sniffing and trying out different scents of hand lotions and candles. The chain has been known for fragrances including sun-ripened raspberry and cucumber-melon, popular throughout the 1990s.

"It's hard for me to imagine that you're going to get a lot of men going into malls to buy this stuff," says Mike Leiser, senior partner and chief transformation officer at consultant Prophet. He says that providing inexpensive and easy online samples may help push product trials of the new male lines. "A lot of men that participate in this would probably rather do it online—it's a little bit behind the scenes—rather than go into the store," Leiser says.

Rosen says the company will be able to get men into its brick-and-mortar locations with "fragrance expert" salespeople to answer questions and make recommendations, along with the chain's new buy-online, pick-up-in-store service. Still, men are likely to purchase refills via the website, she says. The company's new email ads aim to get shoppers into its stores, too—"Wanderers welcome: Come in and discover a corner of the Men's Shop that has *you* written all over it."

Gina Boswell, Bath & Body Works' chief executive officer since December, is under pressure to show she can ignite growth. A former Unilever Plc executive, Boswell has said she can increase the chain's customer base with targeted marketing, to certain segments including "fragrance fashionistas" and "casual fragrance explorers," while decreasing broad discounts. Gross margin in the latest quarter narrowed to 43%, from 46% a year earlier, because of higher employee wages and new-store expenses.

"The men's market specifically—this is a big opportunity for them," says Bloomberg Intelligence analyst Lindsay Dutch. "It's certainly an opportunity for them to stand out and have this growth angle that they haven't had in prior years." The chain's growth has stagnated since it was split off from Victoria's Secret & Co. in 2021, Dutch says.

Competition is growing. Target Corp. has expanded its Goodfellow & Co. men's line to include grooming items priced below those from premium brands. The retailer said it's seen higher demand for the line in recent years, especially beyond the shaving category, and plans to enhance its offerings. And Edgewell Personal Care Co., which makes Banana Boat sunscreen, has called men's grooming a high-growth area. In 2020 it bought Cremo Co., which sells beard oil and men's razors along with shaving creams in scents such as bourbon-vanilla.

Bath & Body Works managers say the potential men's market is too big to ignore. Men's retail beauty and personal-care sales jumped to $11.3 billion last year in the US, up about 22% from 2017, yet they still make up only 10% of the whole category, according to Euromonitor International.

Whether in stores or online, most guys don't want a complicated shopping experience, Leiser says: "It's got to be simple and easy to navigate the portfolio." —*Leslie Patton*

THE BOTTOM LINE Men's products accounted for just 5% of sales at Bath & Body Works in 2022. The chain is counting on beard oil and face creams for guys to bolster that share.

▼ US retail sales of men's grooming products

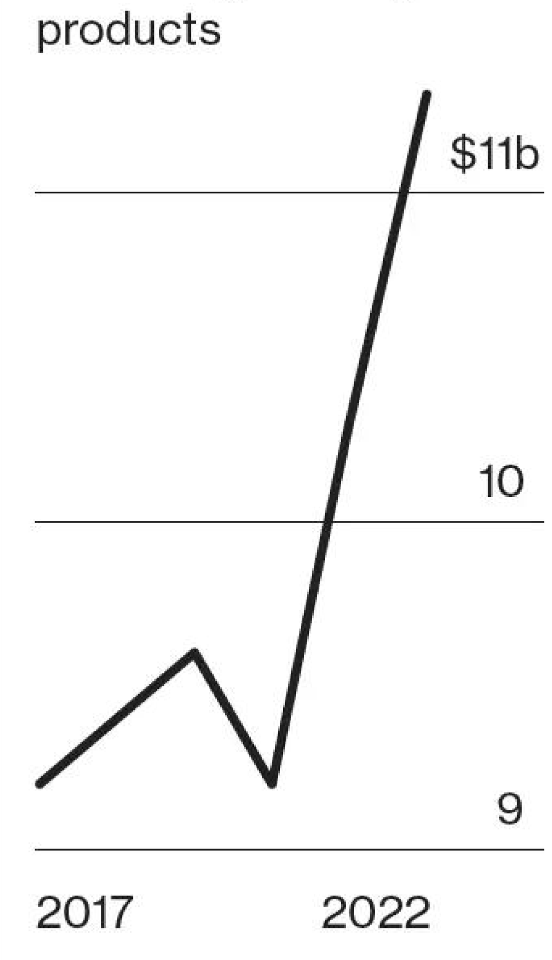


ILLUSTRATION BY JASJYOT SINGH HANS. GROOMING PRODUCT SALES INCLUDE MEN'S SHAVING PRODUCTS, MEN'S TOILETRIES AND MEN'S FRAGRANCES. DATA: EUROMONITOR INTERNATIONAL

When Google Goes to Court

● Halimah DeLaine Prado takes a victory lap after a Supreme Court win, then looks ahead

Google's general counsel, Halimah DeLaine Prado, was with friends in the suburbs of Boston for some rare personal time when she learned that the US Supreme Court had reached a decision in *Gonzalez v. Google LLC*, the case that had dominated her life for a year. DeLaine Prado didn't mind scrambling to respond from the road, given that the 9-0 ruling was largely what she'd been hoping for. "If it's a day off, and you get a Supreme Court unanimous decision, I'm gonna happily offer up my vacation day," she says.

The case—actually two separate lawsuits in which social media companies stood accused of violating federal law by hosting and recommending terrorist recruitment videos—was widely seen as a crucial test for the foundational law of the social media era: Section 230 of the 1996 Communications Decency Act. The law shields online services from lawsuits related to content posted by their users. Companies such as Alphabet Inc.'s Google have long argued that the modern internet couldn't exist without it.

In recent years, critics of large tech companies have focused on Section 230, saying it gives platforms free rein to make destructive decisions about things such as content moderation. With Congress in paralysis, the courts have seemed the most likely venue for major changes to the law, and the Supreme Court's agreement to hear the terrorism cases was interpreted as an ominous sign.

Instead, the case proved to be an anticlimax. The justices declined to weigh in on the merits of Section 230, declaring instead that the underlying claims from the plaintiffs didn't constitute a violation of antiterrorism laws. Just over a week later, the high court declined to hear another 230-centered case brought by victims of child pornography, who accused Reddit Inc. of knowingly facilitating and benefiting from images of child sexual abuse. Maybe the justices aren't interested in rewriting the rules of the internet, after all. "The court indicated they don't want to make a big mess," says Evelyn Douek, a professor at Stanford Law School who studies online speech. "They are proceeding more cautiously than we anticipated."

DeLaine Prado didn't argue Google's case in front of the court. But as the person in charge of the company's 1,400 lawyers, her fingerprints were all over its strategy. "Tons of folks on my team spent hours and hours of work on these cases," she says. "To see a decision that very much maps to some of the arguments we were trying to make is a really positive moment for our department."

While the case was moving through the courts, DeLaine Prado warned publicly that an adverse decision could lead Google to begin preemptively removing a wider range of content from its YouTube video site. In an hourlong interview with *Bloomberg Businessweek* at her office shortly before the decision was announced, she explained how she'd pushed the company's litigation and public policy teams to coordinate with activists who favor an open internet and with smaller internet companies to file amicus briefs explaining how they could be harmed if Section 230 were narrowed. "What Halimah did throughout the whole process, which I really appreciated, was broaden it beyond YouTube and Google," says Neal Mohan, YouTube's chief executive officer. "It's about the impact of this case for the open internet that we've all appreciated for the last couple of decades."

More than 45 digital-rights activists, companies and tech groups ended up filing briefs in support of Google, and these seemed to resonate with the justices during oral arguments.

The issue could soon be back in front of them. Lower courts have offered conflicting decisions on controversial Republican-backed laws in Texas and Florida that prohibit social media companies from "censoring" political speech, with potential implications both for the First Amendment and Section 230. Legal experts say Google's recent victory suggests it has a good chance of getting through the cases without any new restrictions on its content moderation decisions. Still, DeLaine ▶

Edited by Joshua Brustein

PHOTOGRAPH BY MCNAIR EVANS FOR BLOOMBERG BUSINESSWEEK

● DeLaine Prado at Google's headquarters in Mountain View, California

◀ Prado says, she lives in a constant state of low-level anxiety.

DeLaine Prado's boss, Google head of global affairs Kent Walker, calls her a "quiet diplomat" who's affable and friendly yet willing to mix it up when necessary. On a separate front, he commends her work on dealing with Europe's changing rules regarding tech, which he calls "the most complicated regulatory exercise we, as a company, have ever undertaken."

DeLaine Prado is a powerful Black woman in an industry that has few of them, and she works for a company that faces a lawsuit from some Black employees who say they were subjected to racial discrimination at work. While DeLaine Prado is in charge of shaping Google's response, she alludes—in general terms—to racially uncomfortable experiences during her 23-year legal career. She says that bringing the distinct experience of a Black woman to the office helps broaden the perspective of the company's decision-makers. "I don't wear a label that says general counsel of Google when I walk down the street," she says.

The product of elite East Coast educational institutions, DeLaine Prado first came to Google in 2006 after a stint as a First Amendment lawyer. She worked initially as a product counsel, focused on products such as Blogger and Google Plus. She then spent years working in Google's ads business, its main source of revenue, before becoming general counsel in 2020. A partial list of the issues that ended up on DeLaine Prado's desk when she took on her new role included the company's market power, its approach to privacy, the way Google affected the economics of online news media and the algorithms YouTube used to recommend videos.

The thread connecting these issues, says DeLaine Prado, is Google's need to accept that it's no longer a startup. She sometimes compares the company to a child just grappling with the idea that it had to grow up. It's a faintly absurd way to describe a $1.5 trillion operation that's been publicly traded for almost two decades, but it's a framing that's familiar to Google insiders. Daphne Keller, Google's former associate general counsel, interviewed DeLaine Prado when she joined. She says Google is "in the very earliest" stage of figuring out how to operate as a regulated company that's closer to a financial institution than a tech company, and the tech industry is going through "horrible growing pains."

For the past several months, DeLaine Prado has been teaching Google's global affairs and product teams to train employees in their role in the so-called regulatory life cycle. That's her description of how Google works to shape laws in its favor, then figures out how to adapt its current business to comply with them while designing future products to comply with them, too.

The company is already barreling toward a new set of challenges as the tech industry reshapes itself around generative AI, software that creates its own text, visuals and other content. DeLaine Prado was involved in Google's launch of its Bard chatbot, and she's deeply engaged in the company's preparations to incorporate generative AI into all of its products. One thing she's been emphasizing is the need to design products that make it clear to users when they're receiving AI-generated content. Google has also been careful to describe its AI products as experimental, partially as a way to mitigate any legal liability and partially to differentiate itself as a "responsible" actor in AI—in contrast to other big companies like Microsoft Corp. "We are putting a new technology into the world, and we have to acknowledge that it is still developing," DeLaine Prado said in mid-May.

As the AI industry matures, DeLaine Prado may find herself pulled back to Section 230. Legal experts and technologists have been debating who should be considered to be speaking when a chatbot produces text. Is it Google, the company that created the model that generates the text? Or is the output of a chatbot simply a new way to present data posted elsewhere on the internet, in the same way a social media site is a way to display posts from its users?

This distinction, which has never been tested in court, could be important in determining whether Bard's content is covered by Section 230. If it is covered, then Google may have less to fear from lawsuits when Bard produces misleading, defamatory or harmful information. If not, Google may have to develop a more conservative approach to its product development.

"We are putting a new technology into the world, and we have to acknowledge that it is still developing"

Sam Altman, CEO of OpenAI, told Congress in May that Section 230 may not protect the speech produced by generative AI. One of the statute's authors, former Representative Chris Cox, a California Republican, has said definitively that the law does not.

DeLaine Prado hasn't yet staked out a position on the issue for Google. It will probably be years before the Supreme Court weighs in on that particular wrinkle, if ever. But the unresolved debate indicates that her relationship with Section 230 is far from over. —*Emily Birnbaum*

THE BOTTOM LINE A crucial legal shield seems less in danger now than it once did, but the woman running Google's 1,400-person legal team still faces a range of daunting challenges.

Grappling With The Netflix Effect

● Some countries see the streaming giant's global ambitions as a mixed blessing

Despite a wave of international interest in South Korean film and television, the stock prices of many of the country's production companies have been in a slump. Shares of Studio Dragon Corp., one of South Korea's largest producers and the creator of the Netflix hit *The Glory*, have plunged about 25% this year, while Korea's stock benchmark has risen 17%. CLSA Securities Korea downgraded Studio Dragon in May, citing concerns about its "insufficient bargaining power."

The problem, as some people in South Korea's entertainment industry see it, is the overwhelming importance of a single company to distribute their content. "I'm a little concerned that Netflix has been the only channel global audiences can watch Korean series on," says Jeongin Hong.

Hong's company, SLL, signed a licensing deal with Netflix soon after the streaming service made its debut in South Korea in 2016, then went on to produce some big hits, including *All of Us Are Dead*, the fourth-most-watched non-English-language series in Netflix's history. Shares in ContentreeJoongAng Corp., the majority owner of SLL, have declined about 20% this year.

Many TV producers and regulators are worried that US-based companies such as Amazon.com Inc. and Netflix could smother homegrown players, as has happened in social media. Netflix accounts for 33% of streaming video subscribers in South Korea and 42% of premium-video viewership in Southeast Asia, according to Media Partners. It also accounts for 30% or more of customers in the UK, France and Sweden, according to Midia Research.

Many countries have sought to preserve their TV and film industries through government action. France has mandated that the services invest at least 20% of their revenue from within the country into local programming, and it requires that theatrical releases wait 15 months before appearing on streaming services.

Other countries including South Korea have similar, if less onerous, regulations. This year, Canada passed a law that will require streaming services to support local content. Australia is contemplating a similar measure. Netflix declined to comment, but it's said it doesn't oppose laws requiring minimum investments in local content, so long as they're not too restrictive about the form that investment takes.

Korea's experience shows the limitations of laws like France's. The concern in South Korea isn't that Netflix doesn't want local content but that the company's global reach gives it an edge when it comes to acquiring shows and movies, enabling it to take much of the value of the country's content back to California. "Directors want international fame and international coverage," Hong says. "That can only come from Netflix."

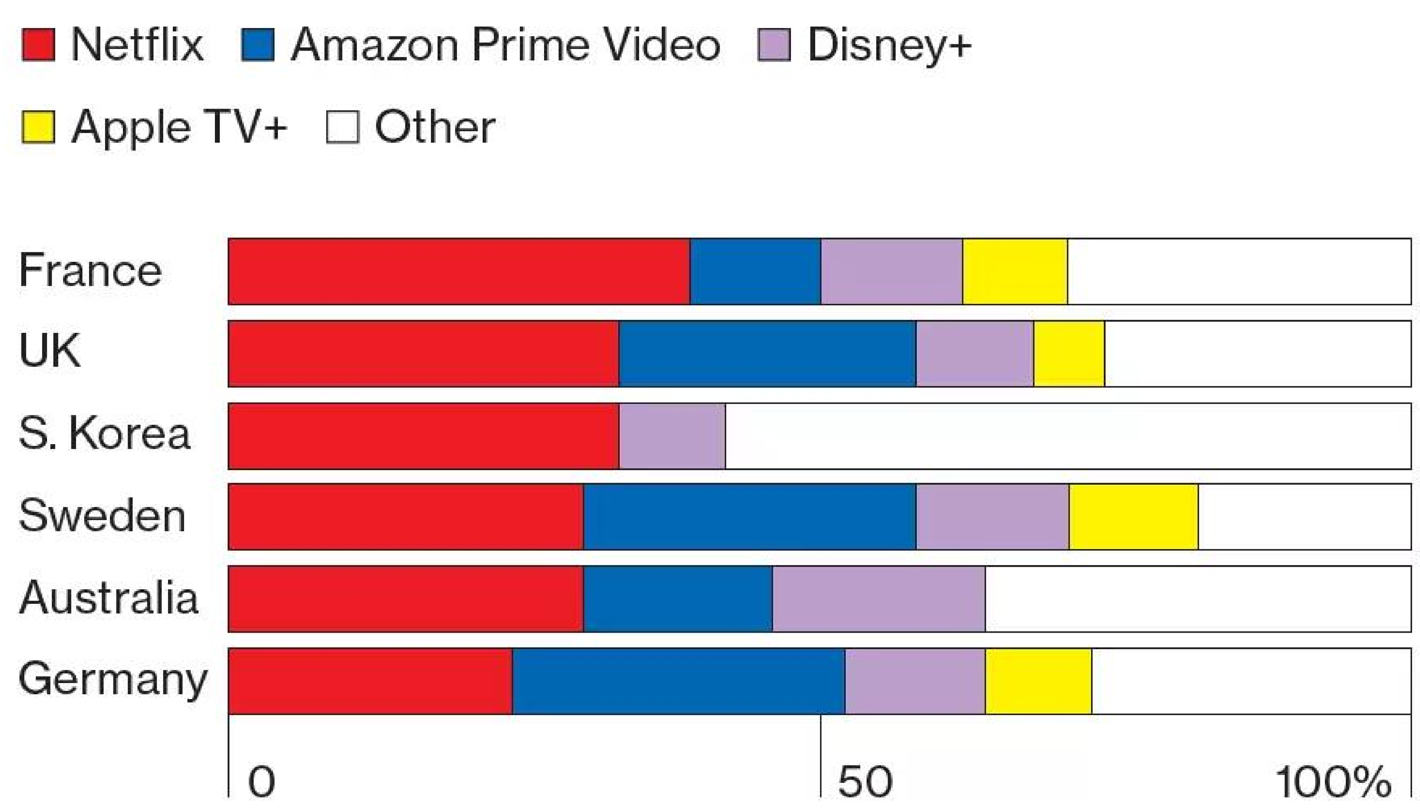
The streaming service dismisses any such concerns. It accounts for less than 10% of TV viewing in many major markets, including the US, its largest. Netflix has noted that it faces competition from Walt Disney Co. and Amazon and also cites YouTube, TikTok and video games as major rivals.

Attempts to protect local industries could backfire, says Michael Geist, a Canadian professor focused on internet law. Netflix and its peers invest billions of dollars in local programming and could pull back from less profitable countries.

Cuts by US media companies such as Disney and Warner Bros. Discovery Inc. may drive filmmakers deeper into Netflix's arms, one of few streaming services, along with Amazon, seeking to increase its investment in local productions. For producers in places like South Korea, the impact of this largesse is complicated. Earlier this year, Netflix said it would spend $2.5 billion in the country over the next few years. Shares in South Korean companies gained on the news, only to slump in the following weeks. *—Lucas Shaw, with Youkyung Lee*

Top Picks *Pour Vous*

Share of streaming subscriptions in 2022



DATA: MIDIA RESEARCH AND MEDIA PARTNERS ASIA

THE BOTTOM LINE Several countries have laws requiring Netflix to invest in local content, but others worry that such investments are distorting their media industries.

The Bots Made A Bull Market

AI may be overhyped, but it gives tech investors a powerful—if scary—new story to latch on to

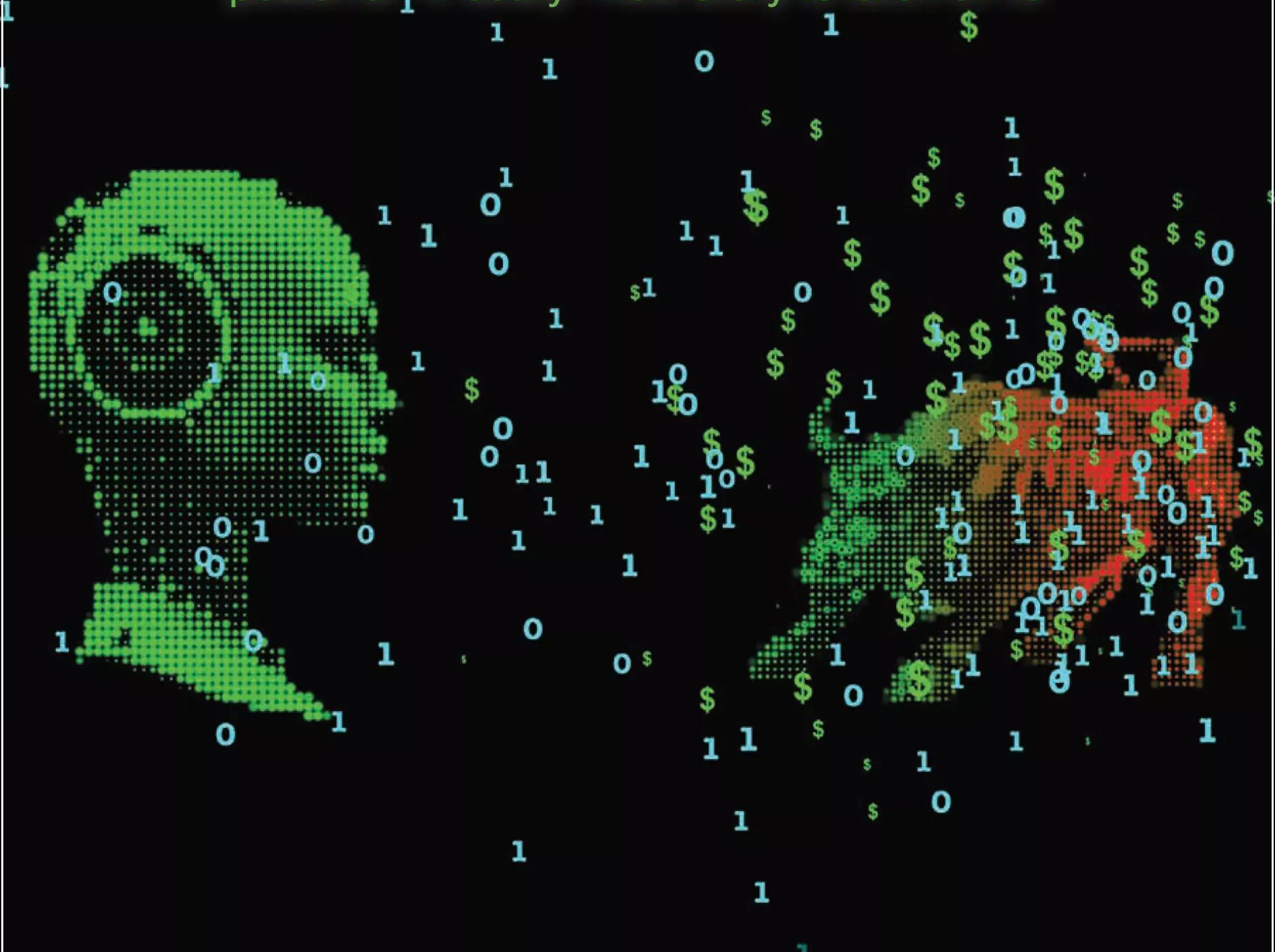


ILLUSTRATION BY YOSHI SODEOKA. DATA: COMPILED BY BLOOMBERG

Need reasons to feel pessimistic about stocks? They're everywhere. Inflation, a hawkish Federal Reserve, endless political strife, nosebleed valuations, a potential recession, wobbly regional banks—those are just for starters. Then there's the bullish case, which has more or less one plank: a nascent technology that's famous mainly for inciting fears of mass unemployment and, perhaps, the subjugation of humanity.

Guess which side investors are on.

A serious rally has—somehow—erupted in US technology stocks thanks almost solely to investor ardor for artificial intelligence. More than $4 trillion has been added to the value of companies in the Nasdaq-100 Index since the start of the year—a particularly fast conjuring of wealth, even by the standards of the pandemic-era frenzy. The Nasdaq is up about 31% so far in 2023, and tech stocks have also helped pull the broader S&P 500 up about 11%. Technology-focused funds attracted a record $8.5 billion from investors during the last week of May, according to EPFR Global data compiled by Bank of America Corp. strategists.

Fear of missing out is a classic inflater of bubbles—see the dot-com boom, meme stocks and crypto—and there's a lot of that around AI. But this anxiety has a darker edge. "It's not just FOMO—my impression is that it's FOBR, fear of being replaced," says

Edited by Pat Regnier

Vincent Deluard, director of global macro strategy at StoneX Financial. “Basically, we think, ‘Oh my God, AI is going to take over the world, my job. And the only way I can hedge it is by owning the damn robots.’ So you buy Nvidia, you buy Microsoft.”

The speed with which the AI narrative transformed previously glum investor sentiment has been as breathtaking as the rally itself. “The really big AI weeks” hit near the end of May, says Lauren Goodwin, economist and portfolio strategist at New York Life Investments. That’s when Nvidia Corp. forecast sales that blew past analysts’ estimates because of demand for its AI processors, boosting its market value to near $1 trillion, a rare feat. The chipmaker’s chief executive officer predicted a vast overhaul of data centers around the world to accommodate “generative” AI applications, which include ChatGPT and other tools that create new content such as text or images based on prompts.

The market for generative AI itself could expand more than 40%, to $1.3 trillion, by 2032, according to Bloomberg Intelligence. “There’s always this element in the market of a bazillion interesting ideas—but show me the money, show me how this is going to impact or disrupt workflow, business processes,” Goodwin says. “And people can see the impact now.”

The gains in AI-tinged stocks are blotting out everything else in the market, with companies whose fortunes are more closely tied to the real economy performing relatively weakly. Value stocks as well as those of small and midsize companies have notched smaller gains in 2023, signaling lingering caution about higher interest rates and slower economic growth. A version of the S&P that weights stocks equally—instead of being loaded with the tech shares investors already value most—is a bit better than flat in 2023. So is the Dow Jones Industrial Average, which tries to be a representative slice of blue-chip corporate America. The normal S&P 500’s gain this year would basically evaporate without just a few names, including Nvidia and Microsoft Corp., which is integrating AI into its products.

The craze is launching valuations to levels that have precipitated significant investor pain in the past. Nvidia stock costs 185 times its earnings per share over the past four quarters, compared with a typical ratio of 19 for S&P 500 companies. The company is trading at 37 times its recent annual sales.

With normal companies, a price-sales ratio of 3 might be enough to give analysts pause. “If you recall, back in early 2000, investors were piling into tech because they were ignoring the fact that tech was trading at 60 times forward estimates” of earnings, says Sam Stovall, chief investment strategist at financial researcher CFRA. “Unfortunately for those who did, it took them five years until the Nasdaq got back to breakeven.” Of course, internet technology still changed the world after the dot-com crash—it just wasn’t always an easy way to make money.

Pause a moment to consider how little investors—or almost anybody—really understand yet about AI and how it will be applied in the real world. AI bots can carry on eerily humanlike conversations, but the answers they give are still famous for errors and “hallucinations” of made-up information. “Bad results can’t be used for important functions,” says Art Hogan, chief market strategist at B. Riley Wealth Management. “So to the extent this is going to be exciting, it may take longer than initially anticipated.”

Bulls take heart in the maturity of the companies leading this year’s tech boom, which also include Apple, Amazon.com and Meta Platforms. These aren’t the profitless unicorns that dotted the dream landscape during past bubble episodes—they’re the aristocracy of American commerce. In the late 1990s, companies were evaluated on metrics such as eyeballs and clicks “that just made no economic sense,” says Chris Harvey, head of equity strategy at Wells Fargo & Co. “But when we look at the companies that are some of the technological leaders in AI, they have good balance sheets.”

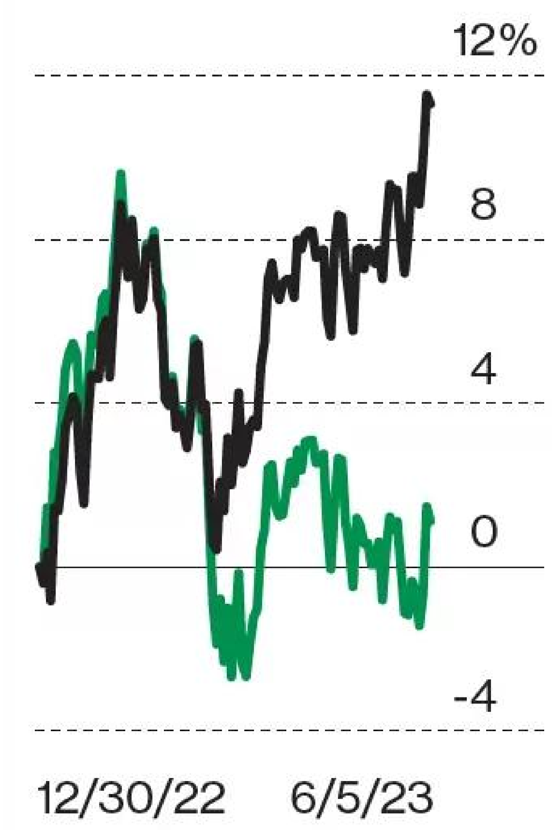
Another distinction is the spending power of the people who might be considered customers of the AI craze: the treasurers of corporate America. Cash on corporate balance sheets soared during the pandemic and remains high. Cash and equivalents for all companies in the S&P 500 clocked in at $574 per share in the first quarter, according to data compiled by Bloomberg. While that’s down from a peak of $659 at the end of 2021, it’s still about 30% above the level of the fourth quarter of 2019, just before the pandemic. Some see a chunk of that pile of cash going toward AI projects.

Capital spending on AI is likely to go well beyond the traditional tech industry. Jennifer Chang, a portfolio manager at Schafer Cullen Capital Management Inc., says health-care and pharmaceutical companies are talking about using the tech to reduce research timelines. But not all businesses will benefit equally from generative AI, because many are unwilling to make “the big changes” required, says Andrew McAfee, a research scientist at the Massachusetts Institute of Technology and co-founder of Workhelix, an AI company. “When you look at the spending on digital technologies by US companies, it’s just going steadily up—our thirst for digital stuff is bottomless,” he says. ▶

▼ Change in S&P 500 since Dec. 30, 2022

Standard index

Equal-weighted index



“Oh my God, AI is going to take over the world, my job. And the only way I can hedge it is by owning the damn robots”

◀ "But technology isn't a competitive leveler. The performance gaps between companies in industry after industry are getting bigger instead of smaller."

And as companies try to ride the boom, investors should expect to sort through a lot of AI-ish-sounding puffery. "We have seen this before—something gets hyped, companies start to change their name so that you can inject 'AI' directly into the name, AI is mentioned on conference calls, company websites and public releases," says Cam Harvey, a finance professor at Duke University and a partner at money manager Research Affiliates. "It can go up very fast and come down very fast. This is not just talk. Consider the history of things that get hyped, that's exactly what happens." —*Vildana Hajric, with Carly Wanna and Lu Wang*

THE BOTTOM LINE AI looks like it will be a big deal for companies and the economy, but that doesn't mean it will always be an easy way for stockpickers to make money.

Homebuyer Helper Or Bank Booster?

● The Federal Home Loan Bank System has less to do with housing than its name suggests

The first sign of deep trouble in US banking this year came from a sunbaked office complex in a San Diego suburb. There, a small bank called Silvergate Capital Corp. assured investors it was weathering a run on deposits. Its lifeline: about $4.3 billion in short-term loans from a Federal Home Loan Bank. Heads turned across the financial industry.

Silvergate didn't have a network of branches serving consumers, and it barely offered mortgages. It specialized in moving dollars for cryptocurrency ventures. Soon it became apparent that a roster of troubled regional banks was leaning on the FHLB system—a relic of the Great Depression originally created to ensure that financial firms have cash to lend to homebuyers. Yet the banks had little to do with everyday mortgage lending.

Silicon Valley Bank, catering to venture capitalists and tech startups, said it held $15 billion from an FHLB at the end of 2022. Signature Bank, with clients including crypto platforms, had $11 billion. And by April, First Republic Bank, offering mortgages to millionaires on unusually sweet terms, ended up with more than $28 billion. All four banks collapsed.

For many, that was a crystallizing moment for the 90-year-old Federal Home Loan Bank System, which has ballooned to more than $1.5 trillion in assets while playing a growing role as a backstop lender for banks taking all kinds of risks—and a diminishing role in funding new mortgages. These changes are raising questions about the purpose of FHLBs and why the private institutions enjoy so much government support.

Many of the largest banks in the US also have become accustomed to drawing financing from FHLBs. Wells Fargo, JPMorgan Chase and Citigroup—among the system's biggest users since 2010—collectively tapped at least $62 billion during last year's relatively sedate markets. Yet the lion's share of US home loans are issued by nonbanks, such as Rocket Mortgage LLC, which sells them and uses the cash to make new loans. Those businesses generally aren't eligible to tap the FHLB system.

One quirk of the system is that the government's assistance doesn't appear as a line in the US budget. Instead it starts with special treatment that gives FHLBs an edge in raising money cheaply. They gather most of their funding by selling bonds exempt from state and local income taxes. Buyers also like the bonds because of the widespread assumption that if an FHLB ever runs into trouble, the government would jump in to prevent default. "The implied guarantee is also not something that's conveyed by the government," says Ryan Donovan, chief executive officer of the Council of Federal Home Loan Banks. "It's something the market perceives, that we're a safe place, that our debt that we issue is solid."

Economists debate the value of the government's support. Defenders of the system, such as former White House adviser Jim Parrott and economist Mark Zandi, estimate it was worth about $5 billion last year, whereas detractors peg the boost closer to $9 billion. Some of that is passed on to banks as a discounted source of financing. It also translates into higher profits for the FHLBs, which last year produced $3.2 billion in net income.

They held on to more than half of that, lifting their stockpile of retained earnings to $24.6 billion. A portion—about $1.4 billion—was paid to banks and other members as dividends. (Each FHLB is essentially a co-op owned by the financial institutions it serves.) Executives earn private-sector salaries, with the CEO of each of the 11 regional FHLBs earning more than $1 million in total compensation last year. (Jerome Powell, who oversees the Federal Reserve System, earns about $200,000.) In the end, the $1.5 trillion FHLB system contributed just $355 million to a program supporting housing affordability

▼ Annual compensation of CEOs of Federal Home Loan Banks in 2022, by district

DATA: FHLB DISTRICTS' 10-K REPORTS, US OFFICE OF PERSONNEL MANAGEMENT last year. That's just a bit more than the 10% of profits FHLBs are required to contribute by law.

"It's embarrassing," says Cornelius Hurley, an independent director on the board of Boston's FHLB for about 14 years through 2021. "This is a public entity. We should be demanding more from them."

Defenders acknowledge that the system is a quirk of history but say its ability to provide funding quickly is crucial, especially when crises erupt. FHLBs can start stabilizing lenders before they resort to tapping the Fed's discount windows—a move that can be seen as a distress signal, stoking even more panic—and before policymakers can meet to discuss other measures. "People underestimate how much value they bring," says Ted Tozer, the former president of Ginnie Mae, a government-owned mortgage agency. "The FHLBs are the shock absorbers."

FHLBs can react quickly when a bank needs money because it's hard for them to lose. Their loans are backed by collateral, and they have a so-called super lien putting them at the front of the line to get repaid if a bank collapses. "You can look at who they are lending to and see it's not because they're doing a good job screening for bank quality," says Kathryn Judge, a professor at Columbia Law School who focuses on financial regulation. "It's a byproduct of the fact there's a mechanism in place to protect their interests." The lifelines can help troubled banks avoid fire sales of assets. But Judge says that if a bank's balance sheet is in bad shape, collateralized lending may do little more than postpone its demise, potentially letting losses worsen.

Last year the FHLB's overseer, the Federal Housing Finance Agency, announced it would conduct a sweeping review of the system. But in the wake of the banking blowup, Biden administration regulators have been emphasizing the importance of FHLBs in stabilizing the industry. The agency's recommendations are expected later this year.

Some FHLBs are starting to voluntarily pay 50% more than required to housing affordability, and others are in the process of doing so. That would raise their contribution to 15% of their profits. Housing advocates argue that affordability should be an even more central part of the FHLBs' business. "You can be outraged, but the outrage is in their purpose," says Bruce Morrison, a former regulator of the FHLBs. "The question is whether we really need this huge trillion-dollar institution or if they should be restyled. They serve a private purpose with public subsidy." —*Heather Perlberg, with Ann Choi and Noah Buhayar*

THE BOTTOM LINE The Federal Home Loan Bank System provides billions to banks and millions to its executives, but critics say it's not doing enough to boost housing affordability.

The White-Collar Dragnet Loosens

● Federal rulings could make it harder to go after some alleged financial schemes

The US Supreme Court has long been divided on everything from abortion to immigration. But there's one issue on which the justices have been in broad agreement: They think federal prosecutors have overreached with certain kinds of white-collar fraud cases. Recent rulings by the court and a lower appellate panel may make it more difficult to bring charges related to suspected financial schemes including bank fraud, insider trading and money laundering. Some defense attorneys see the decisions as a way out for their clients.

"The government isn't sure what it can or cannot enforce"

In May, the Supreme Court narrowed the use of federal fraud statutes in two rulings involving scandals in New York. On the same day, a Boston panel overturned the convictions of the only two parents who went to trial in the high-profile "Varsity Blues" college admissions scandal, saying the government had tried to "criminalize a wide swath of conduct" that isn't illegal, even if it might be unethical.

The decisions brushed back attempts to use federal wire fraud charges to criminalize conduct that didn't involve stealing money or tangible property. "You are beginning to see a string of cases—that are somewhat related—that are pushing back on these very aggressive theories used by prosecutors," says Andrew Boutros, a white-collar defense attorney at Dechert. "Rather than going after cases that are straightforward layups, you have a scenario where the government is taking shots from the half-court line and missing."

In one of the key cases, the court overturned the wire fraud conviction of New York real estate developer Louis Ciminelli. Prosecutors said he was part of a bid-rigging scheme in which the requests for bids on a $750 million public development contract were narrowly tailored so that his company would be the likely winner. Based on a theory called "right to control"—the idea that information needed to make economic decisions can be a kind of property—prosecutors argued that Ciminelli defrauded the nonprofit agency in charge of the project of its ability to make a sound decision about which developers to hire. ▶

ILLUSTRATION BY INKEE WANG

◀ The court shot this idea down. "The 'right-to-control theory' vastly expands federal jurisdiction without statutory authorization," wrote Justice Clarence Thomas in its opinion. "Because the theory treats mere information as the protected interest, almost any deceptive act could be criminal." Thomas wrote that such cases might be a matter for civil suits or state law.

Since 2010, prosecutors have used the right-to-control theory in the 2nd US Circuit Court of Appeals against at least 125 people, according to an amicus brief filed by the New York Council of Defense Lawyers in support of Ciminelli. The brief listed a number of financial schemes where juries found defendants guilty of wire and bank fraud. In one case, the government charged defendants for tricking banks into processing marijuana-related transactions. Another involved a chief executive officer who was found guilty of inflating bond values to get loans for his company. Another found that money managers inflated hedge fund values to keep investors from redeeming.

The Supreme Court's decision will likely drag out cases, because the government will now question theories it previously relied on, says Miriam Baer, vice dean at Brooklyn Law School and a former federal prosecutor in New York. "That level of uncertainty certainly harms consumers and investors, because the government isn't sure what it can or cannot enforce," she says.

The decision could also hurt efforts to clamp down on money laundering and evasion of sanctions in situations where foreign banks and individuals are accused of deceiving US financial institutions to process dirty money.

The tough-on-prosecution rulings aren't limited to the right to control. On the same day as the decision in *Ciminelli v. United States*, the high court partially overturned the conviction of Joseph Percoco, a onetime adviser to former New York Governor Andrew Cuomo. He had been found guilty of taking payments to benefit a developer, but the justices said he couldn't be prosecuted for conduct that took place after he resigned his official position. The decision limits the scope of prosecutions for the theft of honest services—that is, violating the expectation that an official will act ethically. Likewise, in the Varsity Blues case, prosecutors alleged honest-services theft because parents had made donations to persuade university officials to admit their children. But the Boston appeals panel rejected this because the alleged victim, University of Southern California, was also the one receiving the money.

Some defense attorneys may use the latest rulings to push for their clients' release or persuade the government to drop investigations. Michael Binday, a former insurance agent who was sentenced to 12 years on mail and wire fraud charges, has spent more than eight years unsuccessfully challenging the right-to-control theory. On May 22 the Supreme Court said that, in light of *Ciminelli*, the 2nd Circuit must reconsider his case.

Binday was accused of tricking life insurance companies into issuing policies they would have otherwise rejected. Prosecutors contended that his conviction should be upheld even if the right-to-control theory is tossed, because his commissions from the insurance companies were essentially stolen. Binday has disputed the idea that he stole money from the companies, which he argued reaped premiums from the policies. David Shapiro, Binday's lawyer, has asked for bail. "Michael is very frustrated that the government doesn't recognize that he should not be in prison," Shapiro says. "He has made the argument over and over." Binday is currently on home confinement.

Former FTX CEO Sam Bankman-Fried is also trying to take advantage of the rulings, arguing that some charges against him were based on the right-to-control theory. A day after the high court released its decision, his lawyers wrote to US District Judge Lewis Kaplan arguing that *Ciminelli* has "direct bearing" on his case. The 31-year-old is accused of orchestrating a multibillion-dollar fraud through his once-bustling cryptocurrency exchange.

"The end of the right to control won't affect many cases overall," says Daniel Richman, a former federal prosecutor in New York who teaches at Columbia Law School. "But it will affect the way a lot of important cases are prosecuted, and maybe even whether some get prosecuted at all." —*Sabrina Willmer and Patricia Hurtado*

THE BOTTOM LINE Prosecutors said a bid-rigging scheme deprived its victim of information it needed to make an economic decision. The Supreme Court says that's not a federal crime.

Meloni Is Putting Her Stamp on Italy Inc.

● Italy's new prime minister is unsettling investors as she moves to cement her power

On her first day in office, Giorgia Meloni renamed the country's economic development department the Industry and Made in Italy Ministry. It looked like a small bureaucratic tweak for a government inheriting almost €3 trillion ($3.2 trillion) of debt that will curb spending on new policy initiatives. Instead it was a statement by the country's first female prime minister of what some have dubbed a nationalist vision for corporate Italy—one that aims to use state-owned companies to cement power and drive change in the economy.

From a €20 billion deal to sell Telecom Italia's network to the recent sale of a stake in ITA Airways and attempts to restrict the role of Chinese owners at Pirelli SpA, the Meloni government has already taken an active role in Italy Inc. The goal now is to influence and reshape the country's long-term industrial strategy and institutions.

Top of her "Italy First" agenda is the creation of national champions in energy, fashion, luxury and other areas, and the launch of a sovereign wealth fund to finance them. The prime minister is morphing from populist campaigner—anti-immigrant, dismissive of LGBTQ rights and protective of Italian sovereignty—to pro-investor politician, steadfast in her support of Ukraine in its fight against Russia and navigating a right-wing coalition of vested interests.

Meloni is overseeing complex financial deals that only go ahead with her approval, according to several people involved in the process, who asked not to be named while discussing sensitive matters. The deal to sell the ITA stake to Deutsche Lufthansa AG was effectively rubber-stamped during talks between Meloni and German Chancellor Olaf Scholz at the Group of Seven meeting in Japan in May, days before it was announced.

There have been missteps. The most high-profile of these involved the appointment of new leadership at state-owned Enel SpA, the energy group. The choice of chairman and chief executive officer were hotly debated inside Meloni's coalition, with the eventual outcome interpreted by some as a defeat for her.

Meloni's greatest success is something that didn't happen. Despite widespread predictions that the markets would react poorly to her election last September, Italy's infamous "*lo spread*"—the difference between Italian and German bond yields, which is crucial to the sustainability of about

Edited by Cristina Lindblad and Tom O'Sullivan

ALEXI WITWIKI/KOMMERSANT/POLARIS. DATA: EUROSTAT

€2.8 trillion of the country's debt—has remained virtually unchanged. "Everyone was saying locusts would have come, the stock market would have crashed," Meloni told Italian TV on June 5. "But now the stock market is going well, the spread is lower than the previous government, hedge funds have stopped betting against Italy's public debt."

By a fluke of timing, Meloni has the chance to pick scores of like-minded people for senior roles at the top of key state-owned companies, where high-level posts often carry three-year term limits. In theory such involvement would give her government greater influence over everything from new energy contracts signed by Eni SpA to job creation efforts or reducing debt in other sectors. It might also be a form of insurance, perhaps, that her policies will be carried through at the corporate level even if she loses power in a country where no postwar government has served a full five-year term. It also means moving politically toward the center, potentially ostracizing some of the right-wing voters who, attracted by her relentless anti-immigrant messaging, brought her to power.

Her Brothers of Italy Party won just 26% of the vote but is part of a right-wing coalition that controls both houses of Parliament. Many believe disarray in the opposition and the survival instincts of her coalition partners could deliver Meloni a full term. "Meloni is ultimately a national conservative, and her politics involve pragmatic responses to external challenges," says Giovanni Orsina, director of the School of Government at Rome's Luiss University. "She has the luck to be able to place her people in the corporate world. It is only natural that she should take advantage of it."

The team around Meloni—a hybrid of family and decade-long friends, plus technocrats who served under Silvio Berlusconi, the former prime minister—must now help her grapple with decisions that could define her tenure and Italy's place in the world.

Meloni's government must decide by the end of the year whether to renew its involvement in the "Belt and Road" initiative (BRI), China's infrastructure investment program. Italy is the only G-7 member of the pact, and Meloni is under pressure to pick sides in the increasingly fraught rivalry between China and a US suspicious of Beijing's ambitions. Italian businesses that have invested in China or those with Chinese investors—such as Pirelli and Inter Milan football club—worry about a backlash from Beijing if the matter isn't properly handled.

The China decision is a minefield, says one official on condition of anonymity. "We need to cut the agreement in a silent way, not to blow it in China's face," the official adds. "It is impossible to think that we can avoid doing business with China."

Italy joined the BRI in 2019. Chinese President Xi Jinping was welcomed to Rome to announce the agreement, which was criticized by the European Union and the US, worried about Italy's growing closeness to both China and Russia.

The government at the time gambled that membership in the BRI would turn Italy into a gateway for Chinese investment into Europe. Yet, according to data compiled by Rhodium Group, Italy hasn't enjoyed as great an uptick in investment as it might have expected. From 2000 to 2022, China invested about €16 billion in Italy, compared with €17 billion in France and €32 billion in Germany. It does remain a key destination for Italian exports; shipments to China rose above €7 billion during the first quarter of this year, further complicating Meloni's decision.

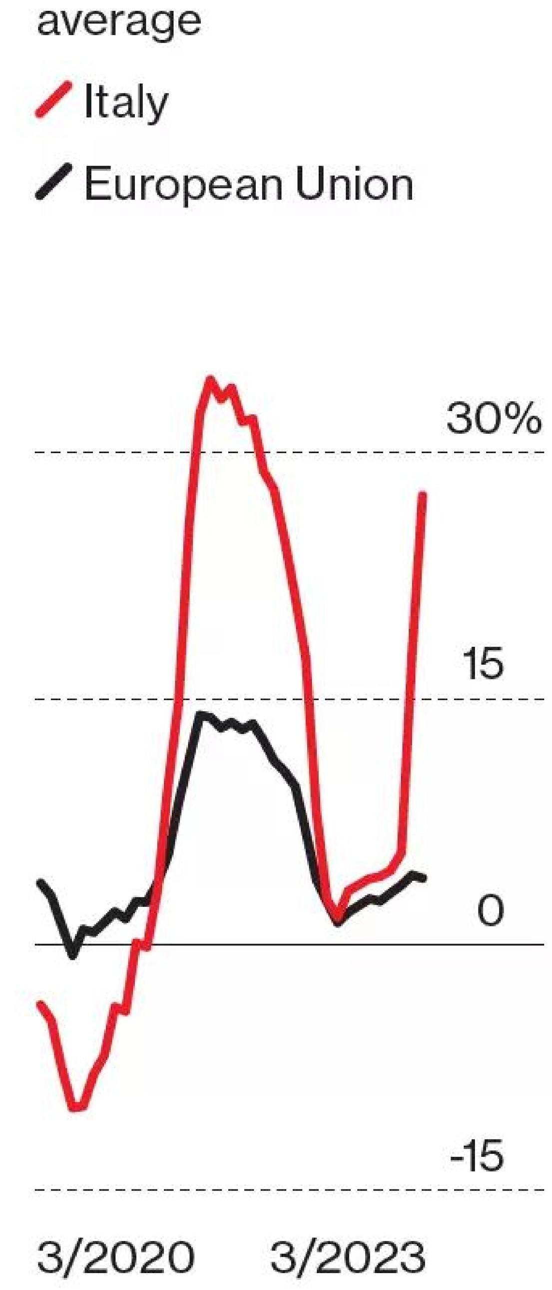
A critic of the original BRI deal, the prime minister must now decide whether to allow it to automatically renew for another five years on Dec. 22 or opt out knowing that ending the agreement risks trade retaliation by Beijing and also could jeopardize her plans to reshape corporate Italy. "Whatever decision we will take will have consequences," Meloni said during a press conference at the recent G-7 summit in Japan. "You know what my opinion was, and I have not changed my mind about it. But conditions have changed."

With interest rates still edging higher across Europe and lackluster economic growth, it's becoming increasingly difficult to service Italy's debt, which stands at 145% of gross domestic product amid mounting concern that the country's financial system remains over reliant on waning support from the European Central Bank. The country cannot afford a conflict with a major trading partner.

About 2,000 Italian companies are active in China, according to the Italy-China Foundation, employing about 157,000 people and business worth €17 billion. At Singapore's Raffles Hotel in May, several Italian executives—some with billions invested in China—met informally to discuss the impact of their government quitting the BRI. All asked to remain anonymous for fear of retaliation from Beijing but said they are lobbying the Meloni government to find a way to delay the decision, possibly for months. Many worry about being locked out of the Chinese market.

Government advisers in Rome are investigating concessions to offer Beijing—from an easing of some import and export tariffs to trade deals and ▶

▼ Year-over-year change in exports to China, 12-month rolling average



◀ investments linked to specific sectors–to reduce the damage of any withdrawal. "How Meloni will solve her dilemma on Italy's role in the Belt and Road will be a watershed moment for her government," says Nathalie Tocci, director of the Istituto Affari Internazionali think tank, and former board member of Eni, adding that the prime minister has demonstrated unwavering support for Ukraine and for the US as a way to gain the trust of international partners. "Up to now," says Tocci, "this has worked."

Meloni's backing for Ukraine put her at odds with two of her key political allies: Berlusconi, a personal friend of Vladimir Putin's, and Matteo Salvini, now a member of Meloni's coalition and leader of the right-wing League, who's said that Russia's president is a better leader than Angela Merkel, Germany's former chancellor. Some compromises with Salvini have cost Meloni political capital.

When she bowed to him over the appointments at Enel, Italy's biggest company by market value, investors took note and the value of its shares fell immediately. Until April, Enel was led by Francesco Starace, brother of Italy's ambassador to Russia. His departure as Enel CEO sparked weeks of political maneuvering that ended with Meloni locked in a room with Salvini and a handful of advisers to select Starace's successor along with a new board. The expectation was that the top job would go to a Meloni ally. Instead, Flavio Cattaneo, close to the League and Salvini, emerged as CEO and Paolo Scaroni as chairman.

The choice of old-school managers like Scaroni, with connections to Moscow and Berlusconi, angered some investors, many of whom believed the decision had weakened the prime minister. London-based Covalis Capital LLP challenged the appointment of Scaroni and accused the government of running an "opaque" nomination process. While the one-month boardroom standoff ended with investors backing the government's picks, the episode bruised Meloni's credibility and raised doubts over whether she'll be able to force through changes at the top of other key state companies.

Several corporate deals have drawn close government attention. The most contentious involves Telecom Italia. The former monopoly is at the center of negotiations over the sale of its network and the future role of its largest shareholder, French conglomerate Vivendi SE. While the government has repeatedly said it wants to keep control of the network, the structure of any deal being discussed at Palazzo Chigi, the prime minister's official residence, is yet to emerge.

"For Meloni, a slew of highly political corporate appointments is a way to distribute power without being too caught up in the public debate," says Martina Carone, an analyst at YouTrend, a political consultant. "While the fate of companies worth billions is key for investors, it is not closely followed by her right-wing electorate. Meloni seems stable, her opposition is in disarray."

"But her strategy also has a risk," Carone says. "It is likely that when Meloni's perceived novelty loses its shine, tensions within her coalition will emerge, and that could happen earlier than one might think." *—Chiara Albanese, Daniele Lepido and Alessandra Migliaccio, with Giovanni Salzano, Alberto Brambilla and Carla Canivete*

THE BOTTOM LINE Italy's right-wing prime minister must decide whether to opt out of a Chinese investment program as she looks to drive change in the economy through state-owned companies.

Is the Dollar Right For Argentina?

● An ex-Wall Street investment banker is causing waves with a plan to ditch the peso

The Argentine peso has had a tumultuous life. In the 1980s it was temporarily dethroned by a new currency called the austral. An arranged marriage with the dollar in 1991 produced some years of bliss but ended in a ruinous divorce. More recently, the peso has suffered the humiliation of being tagged the worst-performing currency in emerging markets.

Now an Argentine economist running for president is proposing to put the currency out of its misery once and for all. Javier Milei, who's also a congressman, says that to quash triple-digit inflation, the nation should formally adopt the dollar. "The peso melts like ice in the Sahara Desert," Milei likes to say, alluding to the currency's rapid depreciation: It's lost half of its value against the dollar just in the past year.

If Milei wins the presidency in October and follows through on his pledge, Argentina will become the largest economy to dollarize. Its gross domestic product is about five times that of Ecuador's, which is the biggest among the seven sovereign nations that have embraced the greenback, according to the International Monetary Fund.

● Milei

FROM LEFT: ERICA CANEPA/BLOOMBERG; PHOTOGRAPH BY SARAH PABST FOR BLOOMBERG BUSINESSWEEK. DATA: COMPILED BY BLOOMBERG

If more haven't done so, it's because it's a last-ditch solution for countries in desperate straits. Argentina certainly fits the bill: Inflation reached 109% in May, and the central bank's benchmark interest rate sits at 97%. Economists surveyed by Bloomberg have penciled in a recession for 2023; it would be the third in five years.

A byzantine system of currency controls and differential exchange rates has not succeeded in breaking the peso's slide. (A new 2,000-peso bank note is worth $4.) Instead, the thicket of red tape is spurring a de facto dollarization. Landlords now demand dollars as payment, as do lawyers, sellers of musical instruments and wedding venues.

"Dollarization is already taking place," says Diana Mondino, an economist and finance professor who's running for Congress under Milei's banner. "Argentines are saving in dollars and making more and more transactions in dollars."

Milei has publicly endorsed a dollarization plan advanced by Emilio Ocampo, a descendant of an illustrious Argentine family who has an MBA from the University of Chicago Booth School of Business and worked as an investment banker at Salomon Brothers Inc. in New York during the 1990s.

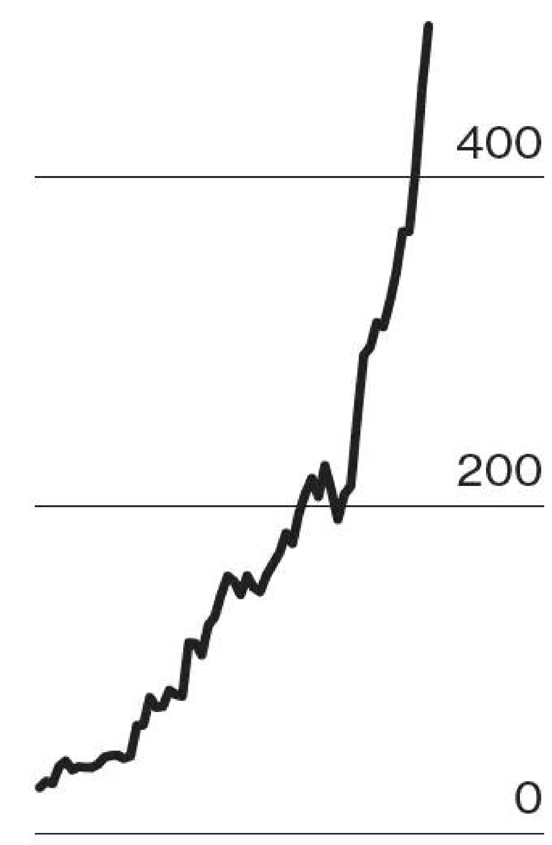
A book Ocampo wrote on dollarization sold out in Buenos Aires bookstores last year. But the broader public is skeptical. Two recent polls that each surveyed about 1,000 Argentines showed that more than 60% oppose dollarization. "The dollar is an object of desire in Argentina, but most Argentines don't know what dollarization is nor understand how it can affect the local economy," says Gustavo Córdoba, director of polling company Zuban Córdoba y Asociados.

Argentines' weariness to get hitched to the greenback is rooted in trauma. In the early 1990s, as the country battled hyperinflation, economists advising President Carlos Menem proposed a bold solution: Peg the peso to the dollar one for one. The arrangement, known as a currency board, was wildly successful in its early years. Inflation evaporated and growth picked up, helping turn Argentina into an emerging-market darling. Menem's government took advantage of the turnaround in investor sentiment to crank up bond issuance to fund persistent budget deficits.

Argentina's good fortune ran out in the late 1990s, when the combination of sagging prices for the country's grain exports and a rush of money out of emerging markets plunged it into a deep recession. The country secured a rescue package from the IMF, but a revolving door of presidents struggled to revive the economy. President Eduardo Duhalde, in office for fewer than 15 days, severed the peso's link to the dollar in early 2002, sending the currency into free fall.

Steven Hanke, a professor of applied economics at Johns Hopkins University who's one of the world's most enthusiastic advocates of dollarization, says he advised the Menem administration to switch to the greenback in the 1990s. He's ▶

▼ Argentine pesos per US dollar



◀ Ocampo

◀ still convinced that's the best route. "It's time to mothball the central bank of Argentina and the peso and put them in a museum," he said in an email. Milei says that if he's elected president, he'd "blow up" the central bank.

Within Argentina, several economists have pronounced themselves against dollarization, saying it would effectively cede control over monetary policy to the US Federal Reserve. Among the possible downsides is that a strong dollar would spur Argentine demand for imports while making exports more expensive, potentially setting the stage for a balance of payments crisis.

Others say Argentina's leadership should focus on reining in its chronic budget deficits, which they claim are the root cause of peso weakness and inflation. "Dollarization is putting a fat man in a straitjacket instead of prescribing the fat man a better diet," says one former central bank official who requested anonymity to speak candidly.

Argentine economist Luciano Laspina echoed that view, using a different metaphor, in an April 27 tweet that read: "We don't have to change collars, we have to stop being dogs."

Members of Argentina's political establishment have watched nervously as Milei, a self-described libertarian, has climbed in the polls. In a TV interview in April, Buenos Aires Mayor Horacio Rodríguez Larreta suggested that Ocampo's plan would subject Argentines to a much bigger devaluation at the outset than if the country were to dismantle currency controls.

Ocampo calls this assertion "nonsense" and says a devaluation is inevitable no matter who wins the election. (Already a dollar fetches 497 pesos on the parallel market, compared with an official exchange rate of 244.) "I don't trust very much polls that say that Argentines oppose dollarization," Ocampo says. "If you talk to people on the street, most people save in dollars."

The former Wall Street banker likens dollarization to a pizza: There are a variety of options for toppings, he says, but the dollar is always the crust. One type of pie would be a bimonetary system where the dollar and the peso are both legal tender. Another would oblige Argentines to trade in all their pesos for dollars.

Ocampo, who gave up a career in finance to write books about Argentine history, says he's not on the payroll of Milei's campaign and hasn't stumped for him.

Even if he wins the presidency, Milei will have to negotiate huge obstacles to enact dollarization, starting with the problem that his coalition is unlikely to secure a big enough block of seats in Congress to push it through.

Ocampo acknowledges that despite his best attempts to make his plan accessible, the mechanics are difficult for a general audience to grasp. "There's no TikTok explanation for this," he says. "Argentina's problem is very complex, and we're designing complex financial engineering to resolve it. For better or worse, Argentina will dollarize." *—Ignacio Olivera Doll*

THE BOTTOM LINE The front-runner in Argentina's presidential race says he would make the greenback the official currency and "blow up" the central bank.

Let Sparks Fly

● The renewables and fossil fuel industries are both willing to go to the mat for US permitting reform

In the US, the most elusive piece of any new energy project isn't material such as copper or steel, labor or even capital. It's a permit: Without the right approvals, nothing gets built.

When developers want to put up a power line or lay a gas pipeline, they must run a regulatory gauntlet that can consume more than a decade. The permitting process is so slow and convoluted that the clean energy and fossil fuel industries, along with Democrats and Republicans, are united in calling for reform.

The push to streamline energy permits even became a part of negotiations to raise the US debt ceiling, with some limited changes included in the final deal President Joe Biden signed on June 3. But energy experts say there's much more to be done.

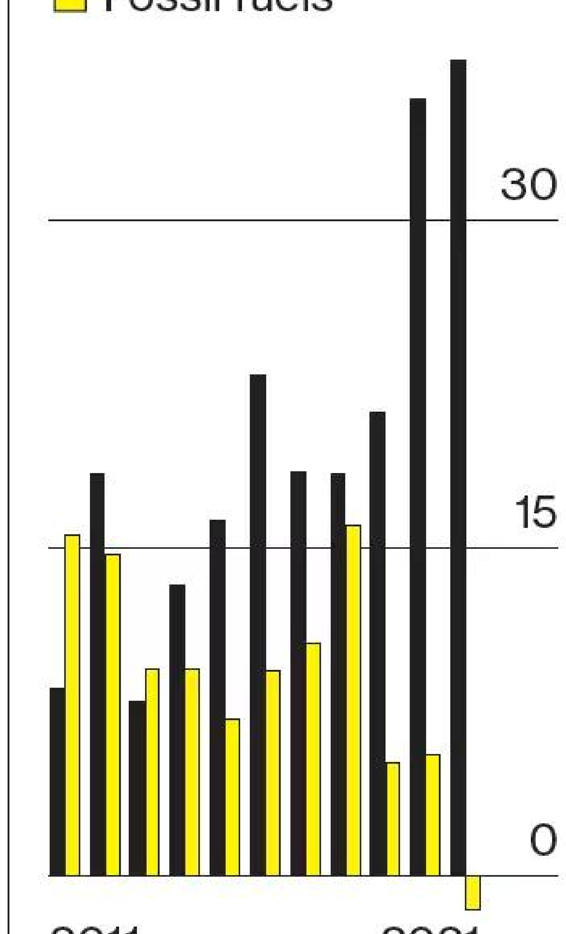
"The same underlying issues that are causing delays and cancellations of oil and gas projects are stymieing efforts on the Democrat side to build out renewable energy," says Anne Bradbury, head of the American Exploration and Production Council, which represents independent oil and gas companies. "It creates a situation of strange bedfellows."

To understand how daunting the permitting process can be, consider a humble power line. Transmission is crucial for decarbonization because the best sites for wind and solar farms are usually far from the cities and industries that consume the most electricity. A developer building a long-distance transmission line must get permission from an alphabet soup of federal,

▼ Year-over-year change in US installed energy capacity, in gigawatts

■ Renewables

■ Fossil fuels



MINESH BACRANIA/BLOOMBERG. DATA: BLOOMBERGNEF state, local and tribal agencies, plus win over any private landowners. The initial step, getting the US Department of Energy to designate a broad corridor for the line, can take up to two years. Then the DOE performs an environmental assessment, which usually takes four or five years. Getting state authorities on board and starting the Federal Energy Regulatory Commission approval process eats up two more years. At that point FERC begins yet another environmental review, which can take an additional four or five years.

That means putting up a power line to carry, say, wind power from New Mexico to the giant neon signs and slot machines in Las Vegas can take more than 17 years—as it has for the 500-mile-long SunZia Southwest Transmission Project, which won its final federal approval on May 18. With such lengthy delays, Biden's stated goal of purging polluting fossil fuels from the electrical grid by 2035 looks out of reach.

While most everyone agrees the energy permitting system is broken, any overhaul will face resistance. Oil drillers favor less federal oversight, while clean energy developers want more federal involvement to help bypass balky state governments, says Christine Tezak, managing director at research firm ClearView Energy Partners LLC.

Indeed, despite their shared objective, parties in the debt deal talks were unable to find all that much common ground. Democrats fended off several top Republican priorities, such as setting time limits on lawsuits that invoke the 1970 National Environmental Policy Act to challenge government reviews and shrinking the role of states in permitting projects that may affect waterways. And Republicans were able to block major changes that would have sped up the approval and construction of transmission lines, amid resistance from some investor-owned utilities. "We didn't do permitting reform," says Senator Brian Schatz, a Democrat from Hawaii, explaining that the debt bill made only narrow changes. "I think there is a deal space. But we're not going to do the American Petroleum Institute wish list and call it permitting reform."

Lawmakers are already laying the foundation for a second round of changes. Senator Martin Heinrich, a Democrat from New Mexico, on June 1 introduced two bills meant to speed grid upgrades, including legislation that would give FERC authority over high-voltage power lines that cross multiple states and set a deadline for its final decisions.

Reaching net-zero by 2050, the carbon-cutting target most often cited by corporations and governments, will require building the clean energy equivalent of 3,000 power plants, says Jason Grumet, head of the industry group American Clean Power Association. And all of that new generation will require permits.

▲ Cattle graze near wind turbines in New Mexico

"There is an imagination that somehow clean technology just flows into society in this kind of gentle, small-is-beautiful, solar-panels-on-dairy-farms-in-Vermont kind of way," Grumet says. But that ignores how hard it is to transform the world's largest economy in under three decades, he says, adding, "You're not going to do that at speed and scale through community-based decision-making."

Green groups are concerned that broad permit reform will unlock more fossil fuel projects, like the stalled Mountain Valley Pipeline, a controversial pet project of West Virginia Democratic Senator Joe Manchin that will be fast-tracked as part of the debt ceiling deal. But experts argue that streamlining approvals will be far more beneficial to clean energy. One reason is that Biden's landmark clean energy law, the Inflation Reduction Act, is expected to unleash an estimated $3 trillion in spending on renewable projects. Another is that there are about three times as many clean energy projects under federal environmental review than there are fossil fuel projects, according to an analysis of 2021 records for large projects by think tank R Street.

"If you create a more efficient system for everything, it'll benefit oil and gas some, but it'll improve clean energy a lot," says Xan Fishman, energy policy director at the Bipartisan Policy Center. "We're adding clean more than we're adding dirty." *—Josh Saul, Cailley LaPara and Jennifer A. Dlouhy*

THE BOTTOM LINE Modest changes to permitting rules for energy projects enacted as part of the debt-ceiling agreement have whetted appetites for a bigger overhaul.

New Economy

The port at Mocímboa da Praia is getting a $30 million face-lift to prepare for the restart of the project

Reviving Dreams Of Gas Riches

As a jihadi rebellion fades, Total is slowly returning to a $20 billion LNG project in Mozambique

On the road into Palma, a Mozambican town about 15 miles south of the Tanzanian border, motorcycles, trucks and buses jostle for space on dusty streets lined with coconut trees. Construction workers in hard hats pass ads for money transfer services. Makeshift storefronts covered with corrugated zinc roofs are stuffed with goods ranging from cellphones to cooking

Bloomberg New Economy Gateway Africa
June 13-14, 2023
Morocco

Edited by David Rocks and Rebecca Penty

oil. At a roadside stall offering seafood, a hand-painted sign displays an octopus and the slogan "Never give up."

It's easy to understand why the fishmonger might have been inclined to give up. Two years ago most of Palma's residents fled in fear as rebels linked with Islamic State rampaged through the town, killing dozens, looting shops and besieging a hotel where more than 100 people had sought refuge.

The real prize for the rebels was five miles south of town: a seaside patch of land about the size of Manhattan that's home to a $20 billion liquefied natural gas project led by France's TotalEnergies SE. Two years after Total arrived to breathless predictions that the facility would supercharge Mozambique's economy by making it a major gas exporter, construction abruptly stopped.

Since Mozambique's leaders appealed to Rwanda and nearby countries for help pushing back the insurgents, the rebels' numbers have dwindled to fewer than 300, from more than 2,500 in 2021, according to the United Nations. Some vehicles in the area still travel in armed convoys, but attacks by the rebels are increasingly rare.

Although Palma's revival is far from complete, its population has rebounded to more than the 75,000 people it had before the conflict. Walls are pockmarked with bullet holes, and many buildings are black shells where shattered roof tiles crunch underfoot, but tents providing some government services have popped up. Foreign workers are trickling in, and the Amarula Hotel—the scene of a desperate escape attempt during the attack that left at least 10 people dead—has resumed its Sunday pizza nights. "Clearly, people are getting more confident," says Victoria Kwakwa, the World Bank's vice president for eastern and southern Africa. "There's a general sense of peace and security."

Total hasn't confirmed any timeline for officially restarting construction, but it's reinforced security at the site. Tall fences topped by razor wire are dotted with lookout towers, staffed by Mozambican soldiers who get food, housing and extra pay from the company. Inside the perimeter, workers in blue overalls direct traffic along gravel roads. Bulldozers and front-end loaders are clearing the way for facilities that will process gas from fields just offshore. Jets again ferry workers to an airstrip built for the project, and an expansion to accommodate bigger planes is in the works.

Nearby, a group headed by Exxon Mobil Corp. aims to build a similar facility, which it now says could export more gas than anticipated before the attacks—despite criticism from environmental groups who say the Mozambique projects will sharply increase the country's greenhouse gas emissions. The two installations would augment production from a floating platform anchored just south of Palma, which dispatched its first cargo to Europe in November. Together the projects could produce up to 31 million tons of LNG annually, about a third of the European Union's imports last year—making the region an important new source for Europe as it seeks to wean itself from Russian energy providers. Britain's Centrica and Electricité de France SA have signed long-term deals to buy much of the output of Total's plant.

About an hour's drive down the coast, the port of Mocímboa da Praia—which became the de facto capital of Islamic State's self-declared Mozambique province—is getting a face-lift. While almost every structure shows signs of the fighting, roads are being repaved, children play in the streets, and trucks carry returning families and their bundles of clothing and food. At the waterfront, workers are building a jetty to handle shipments of materials and equipment for the LNG operations until port facilities can be completed at the site.

With little government presence so far, Total says it's working with its partners in the venture to create a foundation with a $200 million endowment. That group will be tasked with accelerating development in Cabo Delgado province, a land of scrubby coastal plains, dense forests and mountains rising in the west. The French company has taken on an outsize role, offering food aid and other services as the government struggles to provide education and health care in the region, according to João Feijó, a researcher in the national capital, Maputo. "The Mozambican state is very fragile," he says. "Total is trying to compensate."

Some 250 miles farther south, the provincial capital, Pemba, is slowly returning to normal. Rwandan forces patrol the streets in pickups, and the population—which more than doubled during the fighting—is headed back to its pre-conflict level of about 200,000 as displaced people make their way back to homes farther north. Construction on upscale buildings for gas-field workers is starting again, and security industry workers in the city say they're getting more calls from clients eager to return.

Júlio Sethy, a developer born in Palma, vacated his Pemba office this year to make way for Total, which asked for more space in a building it rents from him. "In the last few months we have seen things happening," Sethy says. He welcomes the return of the foreigners but cautions that the situation remains tense. Mozambique is the world's sixth-poorest country, with 500,000 people entering the labor force annually, competing for the 25,000 formal jobs created each year, according to the World Bank. And the north has the worst poverty rates, so Sethy urges Total and the Mozambican government to focus on opportunities for locals. "I'm very optimistic," he says, even as he's scaled back the lofty expectations he had a decade ago. "But we must also remember the people of Cabo Delgado deserve to be involved." —*Matthew Hill, with Borges Nhamirre*

THE BOTTOM LINE As the number of rebels has fallen from 2,500 to fewer than 300 and attacks are increasingly rare, residents and businesses are going back to the northern province at the center of the conflict.

MATTHEW HILL/BLOOMBERG

Moving Saharan Sunshine to Europe

At least a half-dozen projects seek to transmit solar and wind energy from Africa via undersea cables

For decades, North Africa has been a key supplier of fossil fuels to Europe, with oil and gas fields pumping millions of barrels a month that power cars and heat homes from Athens to Aberdeen. Now, as European energy companies seek to cut carbon emissions, they're looking to the region for a new source of power: solar and wind farms that would ship electricity northward via undersea cables.

Greece, Italy, Portugal, Spain and even the more distant United Kingdom are looking for ways to tap renewable energy from the region's deserts. Since 1997, Spain's grid has been linked to Morocco's via a cable that crosses the Strait of Gibraltar, the only such connection in operation. But entrepreneurs and utilities across Europe are considering at least a half-dozen projects, ranging from an expansion of the Morocco-Spain cable to a 2,000-mile line departing from Morocco's Atlantic coast and traveling to southern England. "This project will be the first of many as the world realizes the enormous benefits of transmitting electric power long distances," says Simon Morrish, chief executive officer of Xlinks Ltd., the company planning the UK cable.

In April investors in the UK and United Arab Emirates committed £30 million ($37.6 million) to the idea, though that's just a tiny fraction of the expected £22 billion cost for solar and wind installations and the undersea link—four separate cables running parallel to one another. Morrish says the project could be up and running by 2030, but it would require the British government to offer subsidies similar to those that benefit offshore wind in the UK. When hooked up to a giant wind and solar farm Xlinks is planning in southern Morocco, the system would have enough capacity to power about 7 million homes, helping the UK reach its target of net-zero carbon emissions from its power sector by 2035. The length of the route means it would lose about 13% of the power it carries, on top of smaller transmission losses once it lands, but Morrish says the project can be viable despite that.

Laura El-Katiri, an energy economist and visiting fellow at the European Council on Foreign Relations, says it's risky to rely on any single supplier for energy, as the Xlinks project would. She suggests it would be more robust to connect solar or wind installations in Africa more fully with the European grid, giving everyone along the way a stake in its success. "Doing everything alone has its costs," El-Katiri says. "North Africa can be a great source of energy for Europe, but a single country trading with another is always different to a bloc of 26 countries trading with another." She acknowledges, though, that the political challenges of such an idea make it tough to implement.

Although Xlinks would send power in only one direction, others are planning two-way connections, which would allow electricity to flow southward when European grids are overloaded and prices drop, giving them a market for excess power. Morocco is set to start building one such line to Portugal as soon as 2027. Egypt and

The only current connection links Spain (foreground) with Morocco via a cable under the Strait of Gibraltar

Greece are discussing a cable via Cyprus, and various entrepreneurs are pushing for similar links from Tunisia and Algeria to Italy. “There are major renewable investments in Portugal and Spain, but if we open the tap, believe me, the African kilowatt-hour will be very competitive,” says Karim Choukri, a professor at the University of Hassan II in Morocco.

It makes sense to connect countries with different weather patterns, allowing them to help one another when there’s little local wind or sun. If the North Sea—where the UK has thousands of wind turbines—is calm, the weather might be sunny or blustery in Morocco. And on windy days in Italy, utilities could sell cheap surplus power to Tunisia, where most electricity is generated with natural gas.

The proposals offer an uneasy echo of failed attempts to harness renewable energy from the region two decades ago. In 2009, European, African and American investors founded the Desertec Foundation to build solar plants in the Sahara, but that effort foundered in the early 2010s because of high transport costs and instability following the Arab Spring. Nonetheless, tapping the region’s ample sun and wind resources makes sense, says Jack Richardson, an analyst with Onward, a think tank in London. “What you want is a diverse range of sources,” he says. “I don’t think electricity from North Africa is such a bad way to go. It’s safer than relying on Russian energy.” —*Todd Gillespie and Eamon Akil Farhat*

THE BOTTOM LINE Proposals range from an expanded cable at the Strait of Gibraltar to a 2,000-mile line from Morocco to England.

An App to Stop Malaria

Software from an Israeli startup uses satellite imagery to identify mosquito breeding sites for fieldworkers to treat

Malaria is preventable and curable, yet nearly half the world’s population remains at risk of catching the mosquito-borne disease. In Africa, which racked up 95% of the 247 million global cases in 2021, bed nets and indoor spraying of insecticide are the main tools to curb infections. New vaccines are also being aimed at preventing transmission in young children, who are among the most at risk of dying from the illness. Entrepreneur Arnon Houri-Yafin says policymakers should pursue another approach: Stop the bugs from reproducing in the first place.

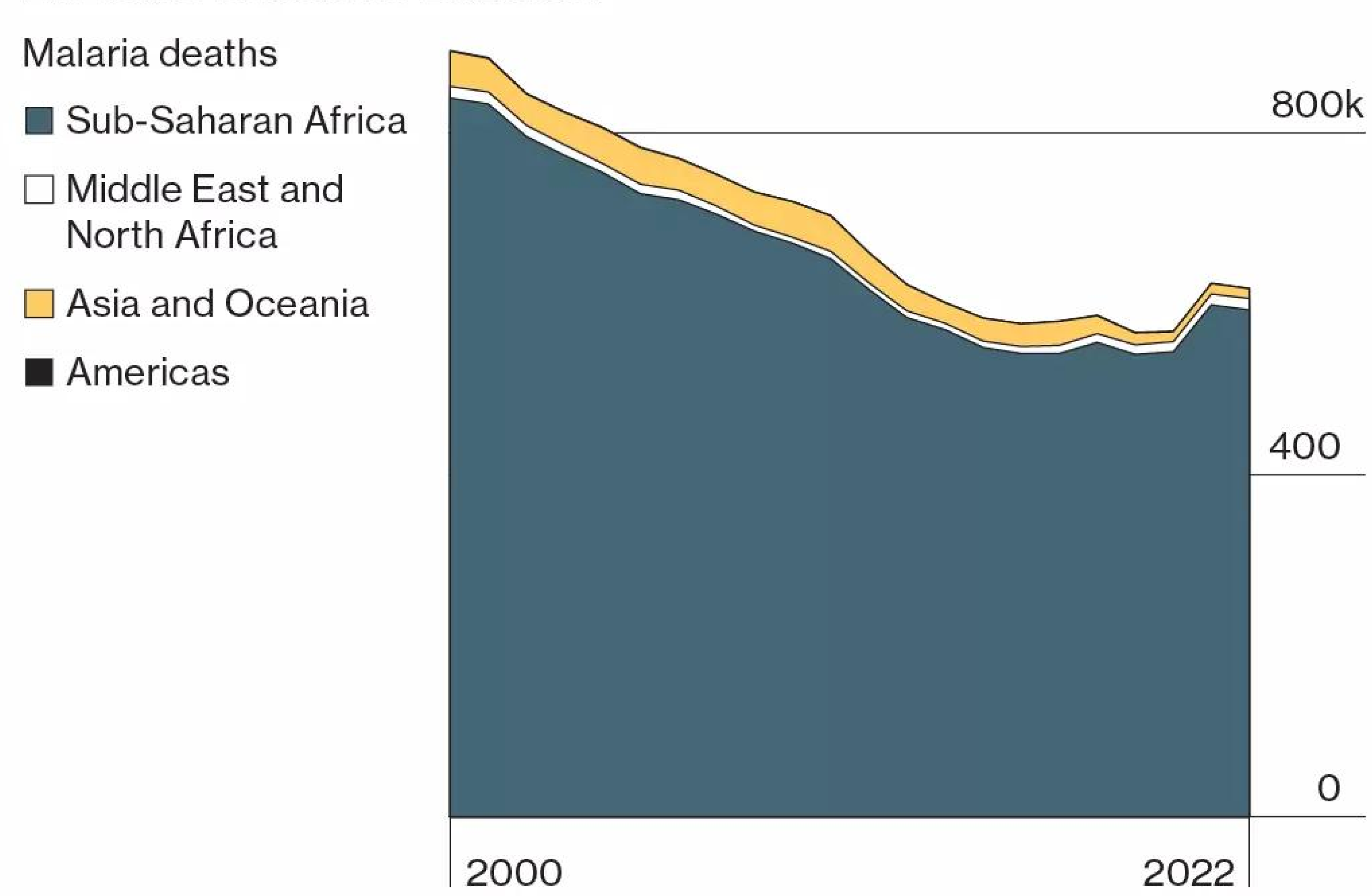
Houri-Yafin is the founder of Zzapp Malaria, a startup based in Tel Aviv that’s created a tool that uses satellite imagery to identify water bodies in which malaria-carrying mosquitoes reproduce and to predict where new water sources will form. Zzapp’s mobile application then helps fieldworkers find water sources they can treat with a biological control—a bacterium called *Bacillus thuringiensis* subspecies *israelensis* (Bti)—that targets the larvae of mosquitoes, gnats and black flies and isn’t toxic to other insects, humans and animals.

While other antimalarial efforts are effective at reducing infections, they don’t attempt to stem the problem at its source, Houri-Yafin says. Referring to the treatment of water bodies, he says: “We believe this is the only way to eliminate the disease.” At about $1 per person annually in an urban setting, Zzapp’s solution has a cost comparable to that of bed nets, he says.

By 2030 the World Health Organization aims to reduce both the incidence of malaria and mortality from the disease by 90%, as well as to eliminate it in 35 countries and prevent its resurgence in places that are currently free of it. Progress was hampered by the Covid-19 pandemic, which disrupted prevention and treatment efforts. Other challenges are the parasite’s increasing resistance to widely used drugs and insecticides and the threat that climate change will push transmission from mostly tropical areas into new regions.

Zzapp says it has run trials in São Tomé and Príncipe, an island nation off Africa’s west coast, and in five East African countries. After treating almost 13,000 water bodies ▶

Africa’s Disease Burden

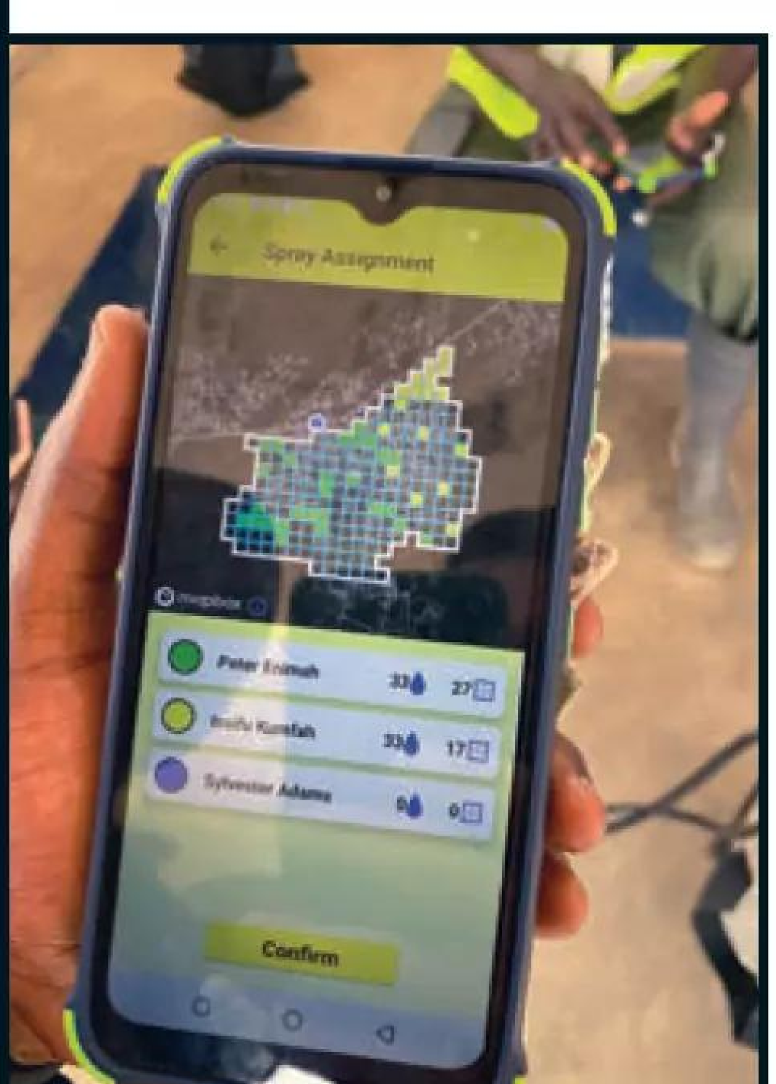


BEN WELSH/ALAMY; DATA: WORLD HEALTH ORGANIZATION

A worker sprays against mosquitoes in Ghana

◀ in São Tomé and Príncipe, the mosquito population dropped 75% and malaria cases halved, says Zzapp.

The company is a spinoff of Israeli blood test startup Sight Diagnostics. About $3 million in prize money from artificial intelligence startup competitions has helped fund Zzapp's operations. The nonprofit Innovative Vector Control Consortium, with funding from the Bill & Melinda Gates Foundation, also awarded Zzapp $70,000 and covered the costs of its trial in Zanzibar, which was led by Andy Hardy, a senior lecturer at Aberystwyth University in Wales.



The Zzapp app on a worker's phone

Treating water sources to halt the development of malaria-carrying insects isn't new. It was successful in some areas of Brazil decades ago and was used in Israel to eradicate the disease by the 1960s. But the WHO recommends going after mosquito breeding sites only when they are "few, fixed and findable," says Basil Brooke, the head of the vector control reference laboratory at South Africa's National Institute for Communicable Diseases (NICD). "That's those that lend themselves to treatment because they are big enough, but not too big."

As Africa's population rapidly increases—it's expected to almost double by 2050—more people will live closer together in villages, towns and cities. Malaria control experts have identified that one way to prevent mosquitoes from breeding is to limit open bodies of water near communities, Brooke says, calling urban planning "quite an important feature" of disease prevention.

Houri-Yafin says that Zzapp's water identification and treatment, which must be done weekly, can work in both urban and rural settings. But he says that countries may be daunted by logistical challenges and elect to apply the method only around populated areas.

Gaining community acceptance for the use of larvicides could be another hurdle, says Jaishree Raman, the head of the NICD's laboratory for antimalarial resistance monitoring. "If you are wanting to use larvicides, especially in urban areas, you have to have community buy-in," Raman says. "Whether the water is for drinking or animal use, you definitely have to have very good community engagement prior, during and after treating the water."

Zzapp is in talks with officials in Mozambique and Ghana about potential contracts; if finalized, they would constitute its first significant paid work, Houri-Yafin says. "It'll be an opportunity to save so many lives," he says. "Mozambique is one of the leading countries in terms of malaria per capita—in terms of not only mortality but also morbidity."
—*Marissa Newman and Janice Kew*

THE BOTTOM LINE Some countries have eradicated malaria by preventing disease-carrying mosquitoes from being born. Zzapp Malaria says its tech offers an affordable way for African countries to target the bugs' larvae.

COURTESY ZZAPP MALARIA (2)

America’s Long, Tortured Journey To Build EV Batteries

The fall of startup A123 still haunts the US decades later—and reveals everything that's wrong with this country's approach to innovation

By Gabrielle Coppola
Illustration by Michelle Rohn

On a 3-mile stretch of farmland in southwest Michigan, Ford Motor Co. is building a battery factory. The technology Ford needs to make cheap, stable batteries to power electric vehicles will come from China's Contemporary Amperex Technology Co. Ltd., better known as CATL, the world's biggest battery manufacturer. By most measures, Ford's deal with the Chinese giant is a coup for the state—it's getting a $3.5 billion investment in a 2.5-million-square-foot factory, thousands of new jobs and the ability to produce enough batteries annually to power 400,000 electric vehicles when the plant opens in 2026. But for anyone who's been paying attention, it's a devastating moment of irony for the US: The deal could have been the other way around.

In the mid-1990s, a compound called lithium iron phosphate (LFP), the primary battery chemistry now used by CATL and most battery companies in China, was discovered by scientists at the University of Texas at Austin and commercialized a few years later by the startup A123 Systems LLC in Watertown, Massachusetts. In 2009, A123 was awarded hundreds of millions of dollars by the Barack Obama administration with the great hope that it would help kick-start production of electric cars in the US. But it was too early. There wasn't demand for EVs, and car companies making vehicles that use less gas didn't want to risk relying on an unproven startup.

By 2012, A123 had filed for bankruptcy and become a symbol of government waste often mentioned in the same breath as Solyndra, the California solar-panel maker that filed for bankruptcy in 2011 after receiving a half-billion dollars in federal loan guarantees. To this day, Dave Vieau, A123's former chief executive officer, is dogged by occasional finger-wagging when people learn he ran the company. "You're the A123 guy who stole all the government money" is a line he's gotten more than once.

Now, almost 30 years after the discovery of LFP, the US is scrambling to build its own battery supply chain, and the pioneer of the modern assembly line is turning to China to learn how to make the engine of the 21st century. It's an unsubtle reminder that America learned the wrong lesson from A123. Rather than letting a potentially breakthrough technology, or a young company trying to commercialize that technology, live or die by the whims of the free market, the US could have been committed to a much longer game. And rather than allowing a battery discovery to slip through its fingers and into the hands of what's now its greatest economic and geopolitical rival, the US could have figured out how to nurture and protect a nascent industry that was inevitably going to encounter trial and error. With the wisdom of hindsight, A123 is a case for tweaking the orthodox rules of American capitalism in the age of competition with China.

In 2013, China's then-biggest auto parts company purchased A123 out of bankruptcy. That year the Chinese government also began implementing its plan to build a domestic EV market at a breathtaking pace. A decade later, China accounts for 58% of the world's EV sales and 83% of all lithium-ion battery manufacturing, according to BloombergNEF. Even if all of President Joe Biden's climate policies succeed in reviving American manufacturing, the US is now at least a decade behind China when it comes to battery manufacturing, in terms of both the necessary technology and the capacity, industry experts say. "China has just marched ahead with a very consistent strategy over the past 20 years," says Brian Engle, president-elect of NaatBatt International, a trade association that advocates for battery development in North America. "We create all kinds of really cool technology, and then we abandon it."

Soon after A123's collapse, some of its engineers answered the call of China's young and booming battery industry. One eventually became the billionaire chairman of a Chinese maker of carbon materials. A few of A123's former executives still wonder what would have happened if, at the time, the US had found a way to keep the company going—a government supply contract or even a sale to another American business. Given time and support, could A123 have eventually become a billion-dollar American battery behemoth, the linchpin in a homegrown battery supply chain?

"The US has an industrial policy. Here's the policy: We don't have one," says Jeff Chamberlain, who spent more than a decade at Argonne National Laboratory trying to commercialize battery tech before starting a venture capital firm in 2016. "I'm not saying we should become socialist or communist, but other countries that have decades-long industrial policies, they're gonna eat our lunch."

In early 2001, a 26-year-old entrepreneur named Ric Fulop started knocking on doors at the Massachusetts Institute of Technology, hoping to find someone to help him start a battery company. One of the people who answered was Yet-Ming Chiang, a professor of materials science, who invited his friend with a doctorate from Cornell University, Bart Riley, to meet with them regularly. They narrowed in on Chiang's idea for a "self-assembling battery." Batteries have three basic components: two electrodes—a cathode and an anode—that store and release a charge, and an electrolyte that helps shuttle the charge between them. The materials used to make batteries determine how much energy they store and at what cost. Chiang's dream was to find three materials that would, under the right conditions, fall into the exact structure of a battery.

That summer they hatched A123, and soon raised $8 million, along with recruiting Vieau, an executive from a Rhode Island power equipment company, to be CEO. But six months in, the team realized that making the self-assembling battery a reality would take a long time. Meanwhile, Chiang's lab was publishing science papers on LFP as a superior material, and he convinced Vieau that A123 could use it to pursue a commercial battery instead.

LFP was discovered by a team of researchers led by professor John Goodenough in 1995. Goodenough, who would win the Nobel Prize decades later, had given his lab researchers at UT Austin an assignment: Take a lithium-ion battery cell and swap out different metals to see if they can hold more energy without catching fire, as journalist Steve LeVine chronicles in his book *The Powerhouse,* which profiles the pioneers of modern battery chemistry. Goodenough's team chose an iron-and-phosphorous compound and made a test cell. When they charged it, the compound formed an atomic crystal structure that easily shuttled lithium ions back and forth. They had stumbled onto a new cathode material, one that would prove to be cheaper and more stable than existing technology.


President Obama with A123 CEO Vieau at the White House in 2010

A123's lithium-ion car battery in 2007


A123 co-founders Chiang, Fulop and Riley with Vieau

FROM TOP: ANDREW HARRER/BLOOMBERG. DAVID GOLDMAN/MEDIANEWS GROUP/BOSTON HERALD/GETTY IMAGES. RICK FRIEDMAN/CORBIS/GETTY IMAGES

Initially, LFP batteries were slow to charge and discharge. Scientists affiliated with a Canadian electric utility company solved that by coating LFP cathode particles with carbon, an innovation that could make the material commercially viable. Around the same time, A123's Chiang published an article in the scientific journal *Nature Materials*, stating that "doping" an LFP cathode, or injecting tiny amounts of metallic compounds, including an element called niobium, helped electrons travel faster so the battery could produce even more instantaneous power. This discovery, which A123 would later brand "Nanophosphate," became the company's key innovation, enabling batteries to produce two or three times more immediate power than any other similarly sized cell on the market.

It didn't take long for A123 to find applications for it. Within a few years, the startup secured a contract with Stanley Black & Decker Inc. to provide batteries for a new line of power tools and raised another $32 million. Staring down an 18-month deadline with limited cash, A123 decided to outsource to lower-cost countries. They hired a company in Taiwan to make electrodes and cells, later shifting the electrode work to Korea. China, racing to match the electronic manufacturing prowess of its neighbors, was also eager to accommodate the US startup. A123 built its cathode plant in a low-tax economic processing zone outside Shanghai, set up by the Chinese government to help foreign companies lower production costs while creating local jobs.

Despite the financial perks, intellectual property theft was a constant concern. A123 executives visiting from the US would return to their hotel rooms to find screws loose on their laptops. A staffer at A123's offices in Changzhou found an envelope in the outgoing mail basket addressed to a competitor. They opened it to find blueprints of the cathode operation, along with the résumé of an A123 production engineer, who was promptly fired.

To protect A123's proprietary LFP cathode powder, the factory was divided into two buildings with limited access so no single Chinese employee could see the entire process. Larry Beck, a chemistry professor at the University of Michigan who became A123's lead cathode materials scientist, rented a building behind a scrap metal yard and turned it into a low-profile chemistry lab, plucking iron from the heaps of sheet metal and dissolving it in acid to produce purified crystals needed to make LFP.

As the Chinese government nurtured a domestic EV industry by converting city bus fleets and offering tax breaks for EV purchases, local entrepreneurs emerged to capitalize on state support. Zeng Yuqun, now the 41st richest person in the world according to the Bloomberg Billionaires Index, founded CATL in 2011 while running a company that made batteries for consumer electronics. CATL cut its automotive teeth producing cells for BMW AG and its local Chinese partner and would later recruit engineers from the West to sharpen its manufacturing skills. "My job as an older guy was to apply experiential learning so they could learn faster," says Bob Galyen, an American battery engineer Zeng hired in 2012 who later became CATL's chief technology officer.

CATL wasn't the only juggernaut to emerge from China's EV push. BYD Co., which is already outselling Tesla Inc. with its combined EV and hybrid models, also started out making batteries for cellphones. Its founder, a chemist named ▶

◀ Wang Chuanfu, bought a car company in 2003. Five years later, at the Beijing auto show, BYD introduced the E6, an EV with an LFP battery that could go 186 miles on a single charge. Today, its Han sedan, with its own BYD-made battery, can go 410 miles.

As Chinese entrepreneurs built companies that would turn the Communist Party's EV dreams into reality, executives at A123 were riding their own wave of electric euphoria. The performance of the A123-powered Black & Decker drill had attracted other potential customers. Gillette Co. wanted to put A123's batteries in electric razors. Mattel Inc. wanted them for high-end toys. But Fulop, then vice president of business development, knew that to take on Asian battery giants, A123 needed to move into cars. In January 2008 he called Mujeeb Ijaz, an engineer who was running Ford's EV skunkworks in Dearborn, Michigan.

When Ijaz got the call from Fulop inviting him to lunch, the engineer was still reeling from the news from his bosses. A year earlier, at the auto show in Washington, DC, Ford had unveiled his breakthrough: the Edge, a plug-in hybrid SUV that ran on hydrogen and battery power. Now, as the Big Three girded for a recession, he was told Ford was cutting off funding for his department.

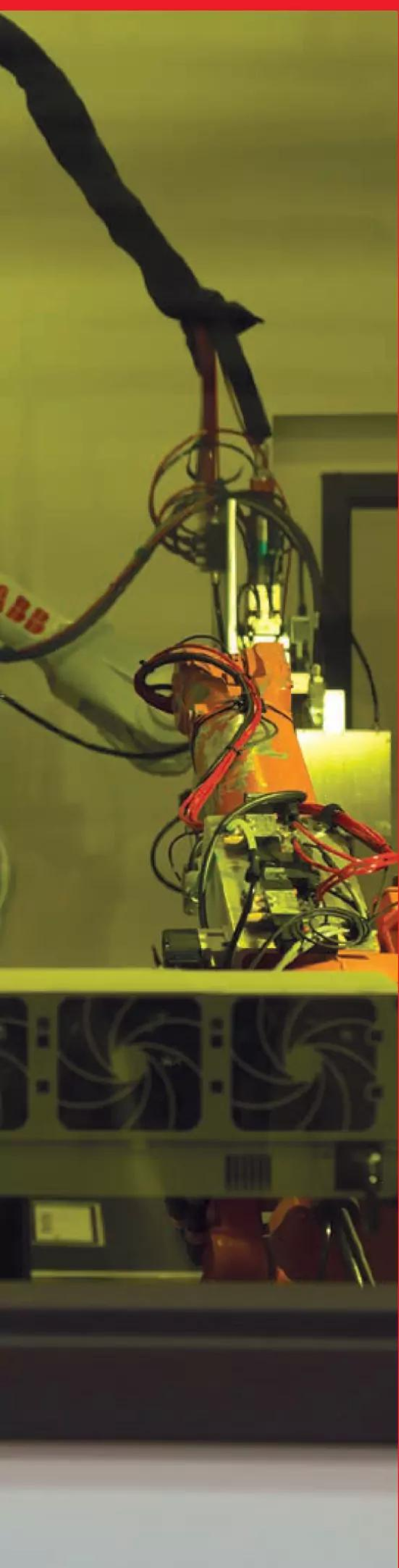
Ijaz could get reassigned to another group within Ford—after all, he'd been with the company for 15 years. But he was intrigued by Fulop's proposition; working on batteries was something he'd always seemed destined for. The son of Pakistani immigrants—a nuclear physicist and a solar panel entrepreneur—Ijaz was born and raised in Virginia, where his father was a professor at Virginia Tech and his mother graduated from the school with two doctorates. Dinner table conversation often revolved around the 1970s oil embargo and how energy access was at the root of global conflict. After participating in a General Motors Co.-sponsored solar-car race as a college student, he was hooked.

Within a week of Fulop's call, Ijaz was leading A123's automotive business, and several members of his Ford team soon joined him. The startup already had deals to build prototypes for BMW and Daimler Truck AG, and it was competing against LG Chem Ltd. to supply batteries for the Chevy Volt, GM's new hybrid sedan. Chrysler had a new electric car division, and A123 was vying to become its supplier, too.

As the economy crumbled in late 2008, everything started to align for A123. Four months after President George W. Bush agreed to throw GM and Chrysler a lifeline, Chrysler executives announced they would build an EV lineup with A123 batteries. By June 2009 the federal government had taken ownership stakes in GM and Chrysler, and Obama sought to pump hundreds of billions of dollars of stimulus money into the economy. A123 won a piece: a $249 million grant from the US Department of Energy to support construction of two manufacturing facilities in Michigan. That government backing, along with the Chrysler EV deal, helped propel A123's $380 million initial public offering that September. The startup wasn't profitable, but it was in promising talks with automakers in China, Europe and the US, and now had enough money to invest in high-volume battery production, giving it the chops to compete with global manufacturers.

But it didn't take long for A123's bet on EVs to start looking shaky. Sergio Marchionne, CEO of the Italian car company Fiat Automobiles SpA, had taken Chrysler off the US government's

Ijaz, founder and CEO of Our Next Energy, at the startup's headquarters in Novi, Michigan hands at a hefty discount, with a promise to make small, fuel-efficient cars. Marchionne was a master negotiator and strategist who would bring Chrysler back from the dead, but he was not a fan of electric cars. By late summer 2009 he shut down Chrysler's EV division. Vieau, A123's CEO, still held out hope that a program to bring an electric Fiat 500 minicar to the US would survive. It did, but despite the public declarations and almost two years of development work, Chrysler awarded the production contract to Samsung Electronics Co. and Robert Bosch GmbH, a global supplier with whom it had existing contracts.



Without Chrysler or GM—which went with LG on the Chevy Volt—A123 had to scramble. Its new plants were set to open in September 2010, and it pieced together enough business to keep its Michigan factories humming. It had a deal to start making batteries for stationary power grids, a small contract with the US Department of Defense and a joint venture with a Chinese car company. GM agreed to use its batteries for the electric version of the compact Chevy Spark. The company's business prospects looked decent, but its survival was contingent on EV sales taking off. (Around this time, it also settled a yearslong legal battle with some LFP patent holders who accused the company of copying their carbon-coating process.)

Then, in March 2012, A123 ran into a problem. It was under contract to build battery packs for the Fisker Karma plug-in hybrid, a $100,000 sedan created by famous Aston Martin designer Henrik Fisker. During a test drive for *Consumer Reports* magazine, a Fisker Karma abruptly shut down. Ijaz, now A123's vice president for cell engineering, was dispatched to the factory to investigate. He traced the issue to a handful

LFP cells for one of Our Next Energy's battery packs

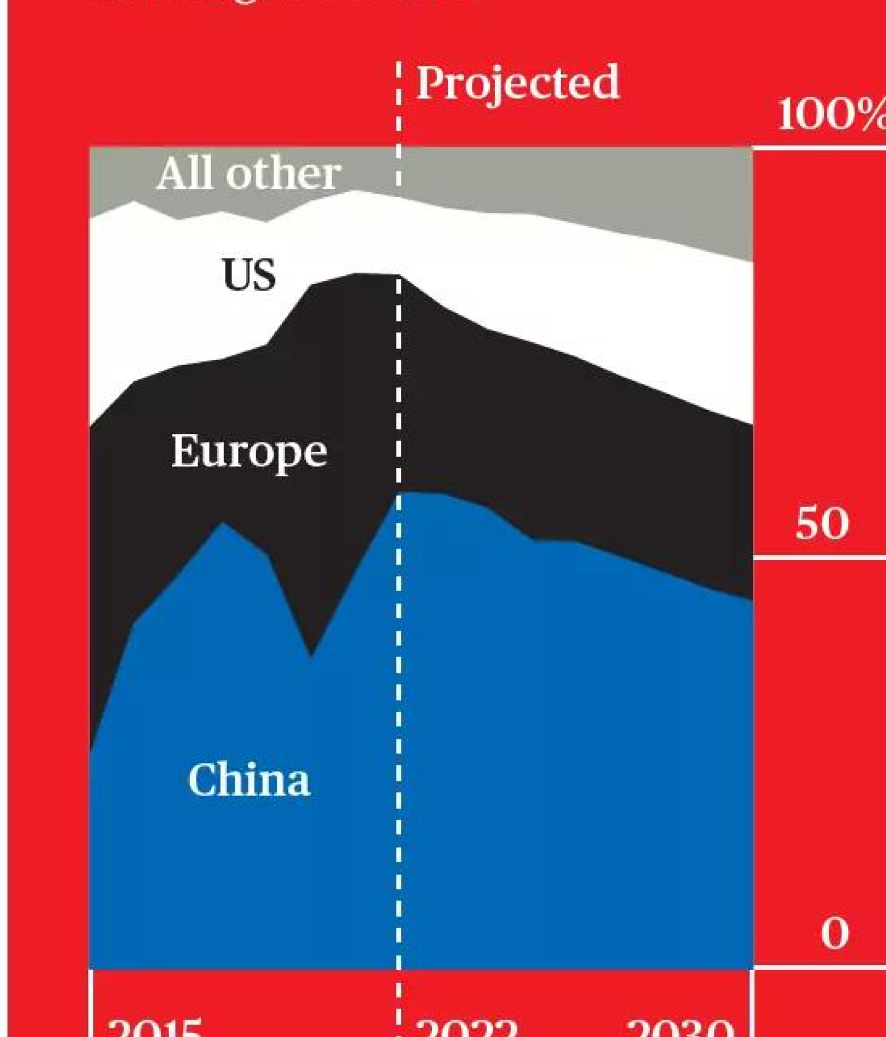
of pouchlike cells that hadn't been sealed properly, allowing electrolyte fluid to leak out, which could cause an electrical short. The Fisker Karma's battery management system, sensing the problem, was shutting down as a safety measure.

Out of an abundance of caution, and perhaps a fear of litigation, Vieau decided to publicly disclose the problem and issue a full recall and replacement of all battery packs shipped to Fisker. It would be painful, but he hoped the recall would burnish A123's reputation as an honest supplier. Instead, it tipped the company over a cliff.

With product quality in doubt, financing for A123's other projects dried up. The recall cost much less than feared and never triggered a battery fire, but it didn't matter. Fisker, a key customer, was in turmoil. In Washington, Obama's clean energy agenda was taking a beating after Solyndra filed for bankruptcy in September. The 2012 presidential election was less than a year away, and Republicans made sure to turn the administration's flailing bets into a handy rhetorical prop. A123 was decried as a loser, along with Tesla, which had received a $465 million loan from the DOE. Vieau appealed to the White House for a lifeline and was rebuffed. The response was essentially "We did our part—you're on your own now," he recalls. Seven months after the defective Fisker batteries were discovered, and a decade after its founding, A123 filed for bankruptcy.

A123 turned to Johnson Controls Inc., a Milwaukee-based auto supplier with its own battery business, to ▶

Global Sales of Electric Passenger Vehicles



INCLUDES BATTERY ELECTRIC AND PLUG-IN HYBRID VEHICLES. PROJECTIONS SHOW THE BLOOMBERGNEF ECONOMIC TRANSITION SCENARIO. DATA: BLOOMBERGNEF ELECTRIC VEHICLE OUTLOOK 2023

PHOTOGRAPHS BY SARAH RICE FOR BLOOMBERG BUSINESSWEEK (2)

“There are many sensitive technologies that the United States should

◀ open the bidding for its assets, but Johnson Controls and its partners were outbid by Chinese auto parts giant Wanxiang. Several congressional Republicans objected to the idea of a taxpayer-funded tech startup going to a foreign company, but A123's creditors wanted whoever could offer the most money.

The acquisition still had to be approved by the Committee on Foreign Investment in the United States, or CFIUS, an interagency group led by the Department of the Treasury that reviews mergers and acquisitions for national security concerns. As CFIUS analyzed the deal, Admiral Dennis Blair, a retired US Navy commander and former director of national intelligence under Obama, reviewed the transaction. On Dec. 20, 2012, Blair published an op-ed in *Politico* supporting Wanxiang's bid, as long as CFIUS found no fault. He urged policymakers to recognize the importance of allowing the deal for both national security and international commerce. “There are many sensitive technologies that the United States should protect,” Blair wrote. “The manufacture of lithium-ion batteries is not one of them.”

Almost all of A123's assets, patents and technology breakthroughs went to China after the sale—as, briefly, did Ijaz. Wanxiang's own battery business was rolled up under the A123 name, and the new A123 pivoted from focusing on pure electric and hybrid vehicles to batteries for engines that shut off at stop lights to save gas. Ijaz was named CTO and visited Wanxiang's headquarters in Hangzhou.

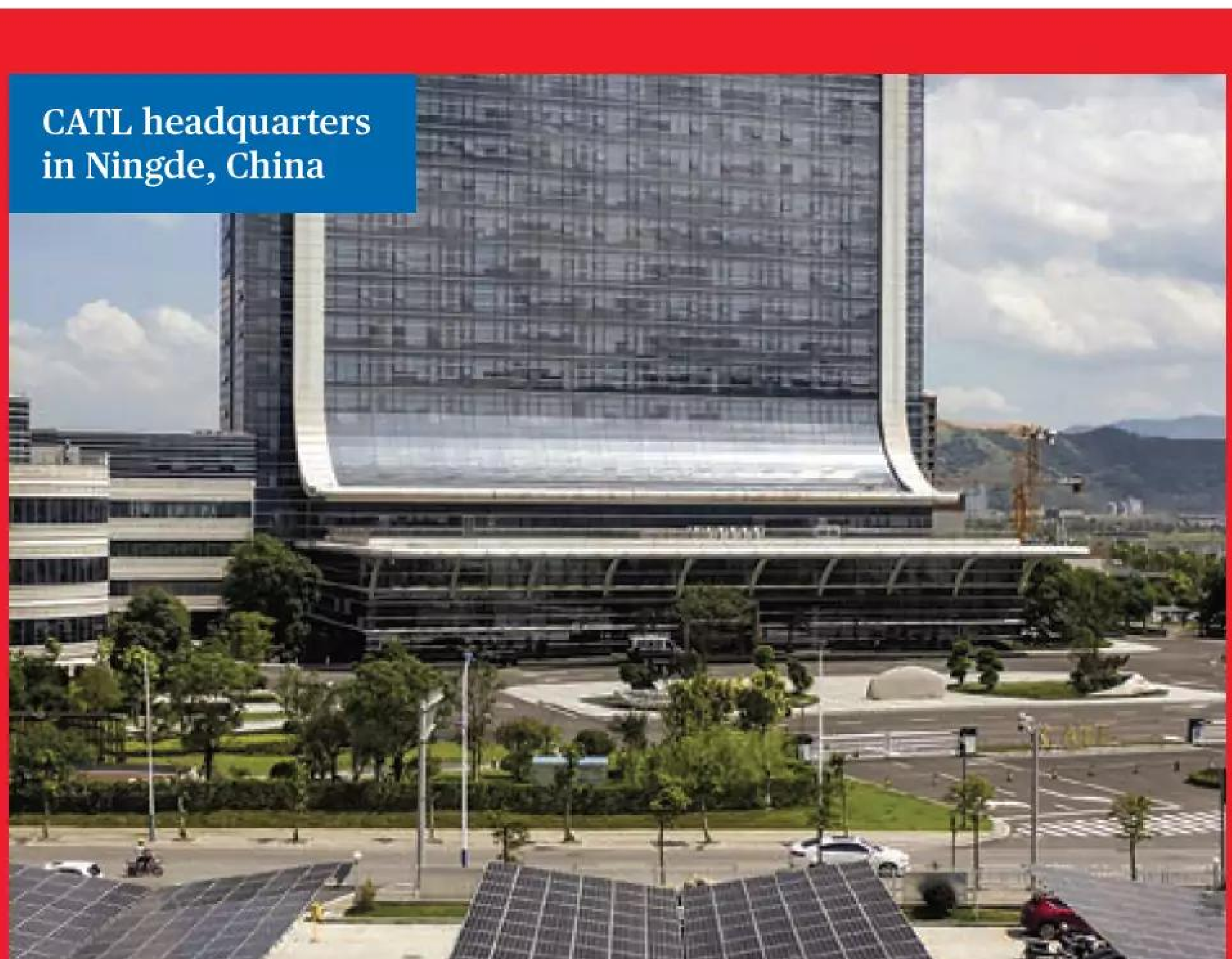
On the trip, his new boss asked Ijaz to check out a company—an outside supplier of cathode material—that was seeking to do business with Wanxiang. Wanxiang says it wanted Ijaz to kick the tires on the prospective supplier “to protect A123's intellectual property and also” its own “commercial interests.” The secret of A123's cathode powder was not only the list of ingredients but also how they were processed. It required special mixing equipment and magnetic filters to remove contaminants. Using the wrong length of pipe or type of machinery could throw off the whole batch. As Ijaz toured the supplier's factory, he noticed the process looked familiar—very familiar.

Ijaz finally came out and asked the new supplier if he was using A123's blueprints. To his surprise, the man retrieved a three-ring binder with his mugshot from when he'd been arrested for IP theft. It had all been a big misunderstanding, he said. Intellectual property rights were loosely enforced in China at the time, and some judges were inclined to favor Chinese companies. The government's 10-year plan to dominate the EV industry was in full swing; to start a battery company was to heed a collectivist call for a new national industry. Instead of punishing him, the Chinese government had provided subsidies to help him build his own business. The man began thanking Ijaz profusely. A123 had changed his life, he said.

When the visit was over, the owner took Ijaz out to his car and popped the trunk. He wanted to give him a gift as a token of thanks. “It was bedsheets—the weirdest damn gift—with horses on them,” Ijaz recalls. “I found out, before he had come into A123's IP, he had a bedsheet factory.”

Ijaz stayed at A123 for another year before leaving in 2014 to work on Apple Inc.'s secretive electric-car project. Six years later, while in pandemic lockdown with his wife and grown kids in Los Altos, California, he began thinking about the three barriers to mass EV adoption: Until batteries could go further on a single charge, range anxiety would persist; lithium-ion batteries with nickel in them were more prone to catch fire; and America still didn't have a homegrown battery giant to compete with CATL, LG and Panasonic. If Ijaz could hatch a company that focused on LFP batteries—cheaper and more stable than the nickel-based ones dominant in the West—he could solve all three problems.

By July 2020, Ijaz left Apple and founded Our Next Energy, dubbed “One” for short. In many ways he was picking up where A123 left off. He moved back to Michigan, his startup office in the suburbs of Detroit standing only a mile away from A123's current US engineering center. Almost a sixth of One's 315-person staff are A123 alumni, including the chief operating officer. Ijaz's goal at the moment: trying to improve LFP batteries' range, something CATL and BYD have been trying to crack with legions of battery scientists and a decade of high-volume manufacturing experience. So far, One has designed a streamlined battery pack that has the same size and energy specs as a nickel-cobalt battery, without the higher price and spotty human-rights record. A more ambitious product, called Gemini, aims to deliver 700 miles of range to passenger cars—double the 350 miles a long-range Tesla Model S offers.

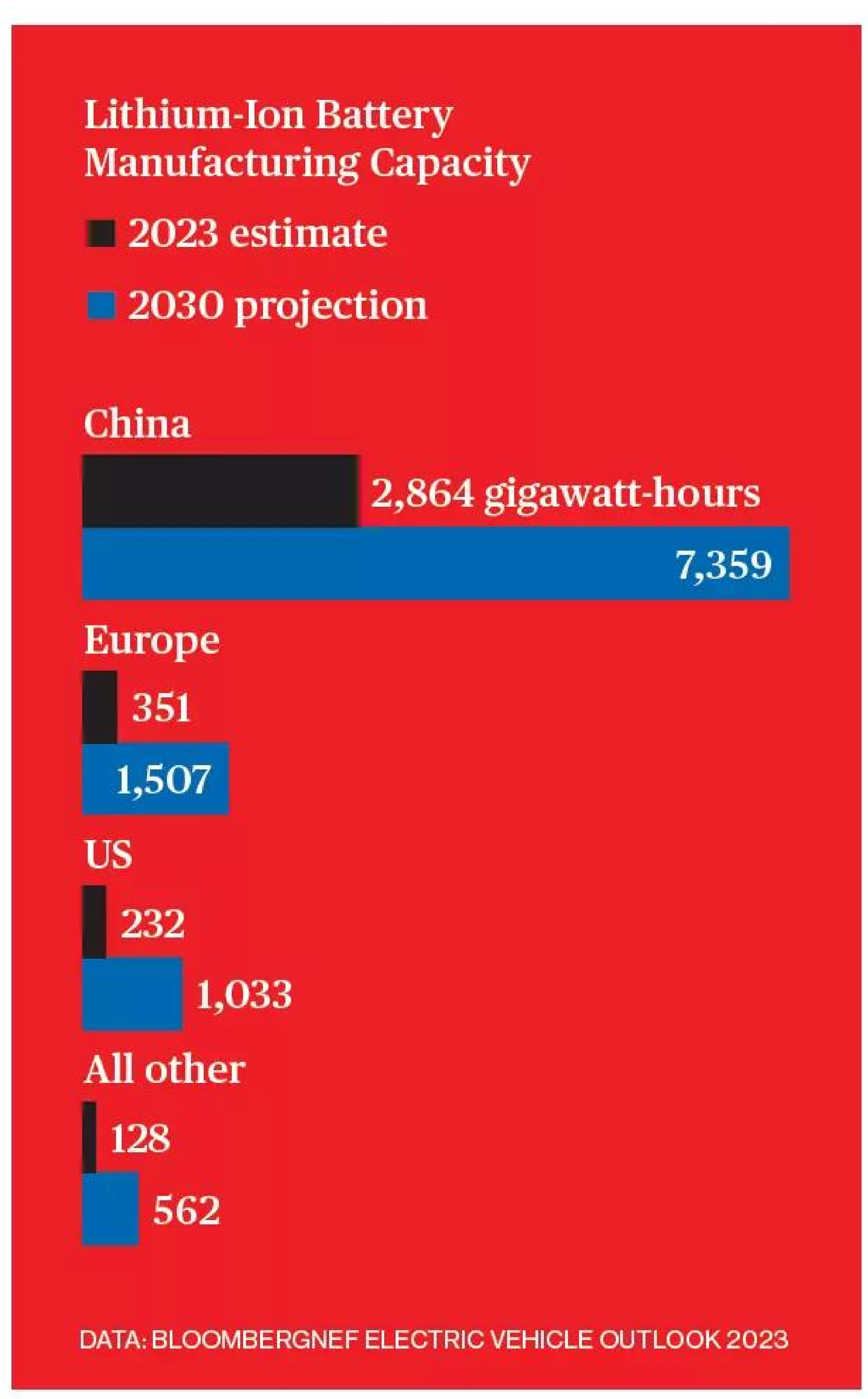

CATL headquarters in Ningde, China

The early excitement about One is eerily familiar. It's raised $355 million from investors including Bill Gates's Breakthrough Energy Ventures LLC, BMW i Ventures Inc. and Franklin Templeton, with a valuation of $1.2 billion. Last fall the state of Michigan awarded it *protect. The manufacture of lithium-ion batteries is not one of them”*

at least $220 million in cash and tax breaks to build a $1.6 billion cell manufacturing plant in the Detroit suburbs, where it plans to hire 2,100 people after it starts production in 2024.

Former House Speaker Nancy Pelosi and Michigan’s Democratic Governor Gretchen Whitmer have visited One’s offices, as have members of the state’s congressional delegation. With the Inflation Reduction Act, the federal government will pay One as much as $6,500 for every 105-kilowatt-hour battery pack the startup produces in Michigan. The IRA is also creating incentives for car companies to do business with One, thanks to rules West Virginia’s Democratic Senator Joe Manchin inserted that require batteries be made in North America, with raw materials sourced domestically or from US allies, to qualify for consumer EV credits. If there was ever a poster child for what Biden is trying to achieve with his climate bill, One is it.

After more than three decades in the industry, Ijaz, now 56, finally seems to have momentum on his side. Detroit and the rest of the global auto industry are all-in on EVs, even if it’s out of desperation. Western carmakers who dragged their feet are now losing share in China. Tesla proved Americans will buy EVs, and Ford and GM have introduced hit products such as the Mustang Mach-E and Cadillac Lyriq. Electric and plug-in hybrid vehicles are forecast to make up about half of US new-car sales by the end of the decade, compared with a share in the high single digits last year.



But there are no guarantees that a gambit to spur an American battery champion will work. One’s success may depend as much on its founder’s tenacity as on America’s overcoming its tendency to get in its own way. In the risky, low-margin battery business, a single manufacturing defect—as Ijaz experienced with A123—can be lethal for a startup. CATL, LG and the world’s other battery giants have major backing in the form of government subsidies or a gigantic conglomerate behind them. That’s why LG was able to absorb a $1.9 billion hit for the Chevy Bolt battery recall in 2021 and keep on ticking.

Even though the national security threats posed by China seem like one of the few areas of bipartisan agreement left in Washington these days, the idea of government taking a more muscular role in commercializing technology doesn’t sit well with many Americans. In a replay of 2012, Republicans in Congress are already taking aim at Biden’s clean energy agenda as a waste of taxpayer money and a misguided attempt to pick winners and losers. They argue that the price tag for the IRA seems grossly underestimated, and they’re scrutinizing Energy Department loan recipients to find the next Solyndra.

And for all the fury over China’s brazen plunder of American intellectual property, the consequences of our unchecked outsourcing don’t attract nearly as much political scrutiny. All these years later, it’s still unclear who had access to the spoils of the A123 IP or how widely they were shared. But there are still traces of A123’s technology inside China’s vast battery supply chain. One of the top suppliers of LFP cathode material in the world today, Hubei Wanrun New Energy Technology Co., started out as a supplier to A123 in Changzhou. Beck, the A123 materials scientist who worked closely with the company to develop battery-grade iron phosphate material, says Wanrun was an honorable partner. After the bankruptcy, though, the Chinese upstart was freed of any nondisclosure agreements. Meanwhile, CATL and BYD, which haven’t been accused of infringement by A123, invested billions in capital to create the scale and cost efficiencies they have today. (CATL and BYD declined to comment. Wanxiang says its operations of A123 have been run “in a manner not detrimental or damaging to the US battery industry nor the Sino-US relationship.”)

The US has long thought of itself as an innovation machine powered by the virtues of shareholder capitalism. “We stick with this belief, largely oblivious to emerging evidence that while free markets beat planned economies, there may be room for a modification that is even better,” wrote Andy Grove, legendary CEO and co-founder of Intel Corp., in this magazine 13 years ago. If the US neglects to alter its industrial policy, he warned at the time, it will fall behind in every technological revolution. “If what I’m suggesting sounds protectionist,” he wrote, “so be it.”

Ijaz has been watching the repercussions of this inaction unfold for years, ever since his first trip to China in 2007 to show off his plug-in hybrid Ford Edge. Back then, it was a new battery technology never seen before in China. Now, China controls the means to make it.

Even if the US does stay the course, Ijaz concedes, it won’t be enough to compete on EVs. Chinese companies, already pushing into new markets in Europe and South America, can lower costs by achieving scale faster than anyone. Even if Ford, his former employer, wanted to tap a homegrown supplier such as One instead of a Chinese behemoth like CATL, it’s simply not realistic yet. The car company, just like most major car companies, is under the gun to pump out EVs, and it’s already desperately behind. It doesn’t have the luxury of waiting for Ijaz’s young startup to get its footing. “The amount of money that we’re putting in is better than I’ve ever seen before, and the IRA is a better step than I’ve ever seen before. With the right policy and the right decision, we can move the needle here,” Ijaz says. “But, boy, is it gonna take a lot more than what we’re doing.” B —*With Danny Lee and Chunying Zhang*

CATL: QILAI SHEN/BLOOMBERG

THE PROBLEM WITH 'FAMILY ON DEMAND'

PAPA OFFERS AN UBERIZED VERSION OF HOME HEALTH SUPPORT, BUT INTERNAL REPORTS AND INTERVIEWS SHOW A LEVEL OF OVERSIGHT THAT FAILS TO MATCH THE TASK

BY PRIYA ANAND

ILLUSTRATIONS BY DADU SHIN

IF YOU'VE BEEN TO AN annual open enrollment fair in the past few years, you may have noticed a new elder-care benefit with the unusual name of Papa. Medicare Advantage and Medicaid health plans offer it, as do a number of large employer-sponsored programs. It's a gig economy version of home assistance, a family-on-demand TaskRabbit for seniors. Customers hire contractors from Papa's network to come to their homes, hang out and chat, do household chores, chauffeur them to doctor appointments—basically anything shy of the most intimate work done by a traditional caregiver, such as bathing people or helping them use the bathroom. Customers are called "papas," the contractors "pals."

Help with shopping was what brought a middle-aged pal named Martin Jermaine Billue Sr. to a 70-year-old woman's house in Duluth, Minnesota, one morning this winter. Billue arrived at 10 a.m. and drove the woman, who gets around using a walker or power wheelchair, to a few stores. When they returned to her home, she began moving the groceries inside, but he didn't offer to help. Instead, he changed clothes and surprised her in a bedroom, holding a knife in one hand and his exposed penis in the other. According to the criminal complaint against Billue, he raped her and then demanded she request that he be sent to her home again. Billue has said the sex was consensual and denied the state's charges of criminal sexual conduct, kidnapping and assault with a dangerous weapon. He's being held on a $200,000 bond pending trial.

Papa Inc., which isn't named as a defendant in the Duluth case but appears throughout the complaint against Billue, said in a statement to *Bloomberg Businessweek* that it was "deeply saddened" by the incident. "Our CEO has had several conversations with the member and has offered her all the help and support we can," the company wrote. "They speak often and have become quite important in each other's lives." Papa said that it removed the contractor from its platform and that it's conducting an internal review of its trust and safety practices. It also said it has added a two-person manual review of background-check data to its screening process, because the previous system ▶

◀ didn't flag Billue's prior conviction for domestic assault. A lawyer for Billue didn't respond to requests for comment.

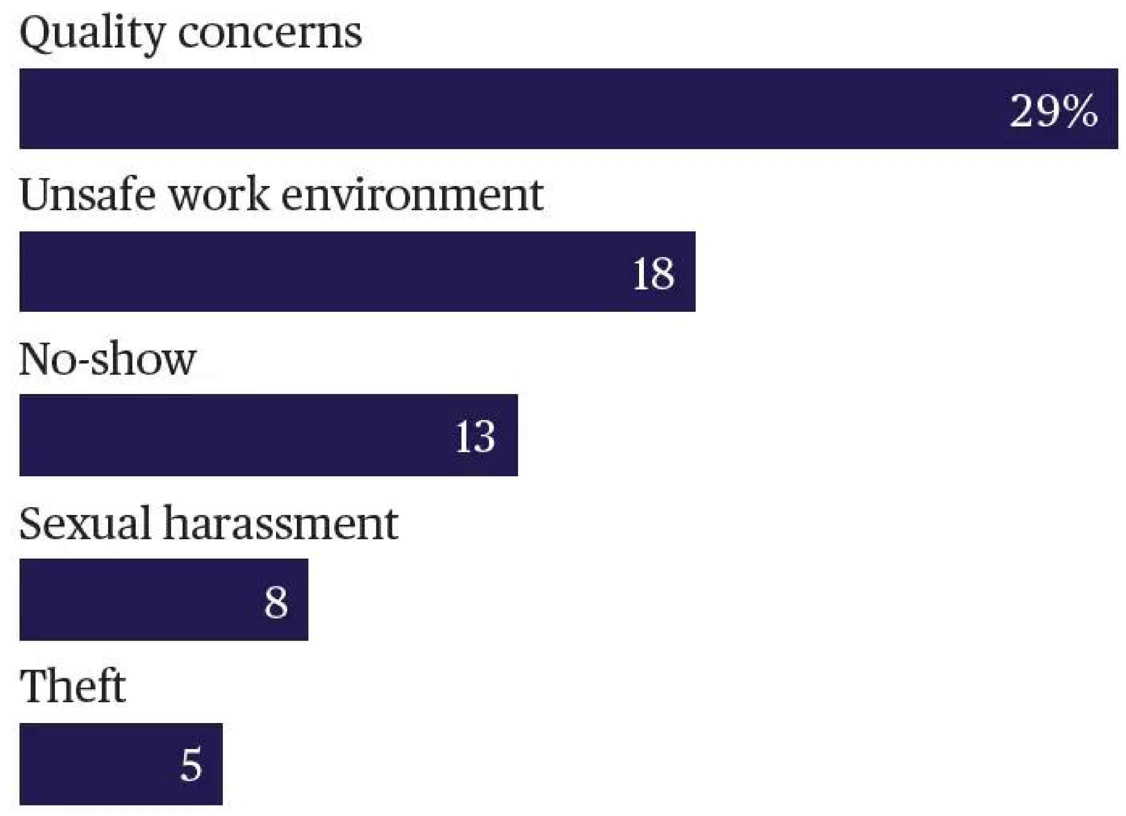
The incident is an extreme example of a problem the company has encountered with some frequency during its six years in business. *Businessweek* reviewed more than 1,200 confidential complaint reports logged by Papa over the past four years and found dozens of allegations of sexual harassment and assault, as well as an allegation of unlawful imprisonment, among a broader range of issues including theft and dissatisfaction with the service's quality. The logs show what can happen to both Papa's elderly clients and its contractors when the company offers little training or oversight.

This scenario has played out pretty much as one might expect, with incident records that are by turns infuriating and heartbreaking and cartoonishly absurd. Sometimes the papas are the ones behaving badly. Pals have filed complaints alleging that clients tried to kiss or fondle them, or that their residences were covered in feces or infested with cockroaches or, in one instance, home to an alligator. Other times it's the pals: stealing, harassing, getting naked. In its statement, Papa disputed the suggestion that it's lax on safeguards.

It's easy to see the appeal of a workaround for America's severe shortage of health-care workers and caregivers. Manuela Lopez, a 72-year-old retiree in Grand Rapids, Michigan, calls Papa a "lifesaver." Lopez, a diabetic and amputee, has been using it for about a year to make it to doctors and the supermarket. "I can't just walk out the door," she says. "They help me." As for insurers, Papa got much more interesting about three years ago, when the government began allowing Medicare Advantage plans to pay for services that address social needs.

Papa's Problems

A sample of the complaints reported to Papa in 2021



DATA: BLOOMBERG ANALYSIS OF 638 COMPLAINTS RECEIVED BY PAPA

And yet. "There has to be a vetting and oversight mechanism," says Donald Berwick, a former administrator of the Centers for Medicare & Medicaid Services, who now lectures on health-care policy at Harvard Medical School. "This should not be an unregulated, unobserved, unevaluated part of trying to meet the needs of elders."

The company said that it carefully tracks complaints and that fewer than 1% are safety-related. "We know any failure in protecting the safety of our members and Pals is unacceptable," the company said. "Whenever you are connecting people, there is a chance something can go wrong, but we are committed to doing everything we can to try and ensure that does not happen. And if it does, we will do all we can for anyone involved."

A spokesperson for the Centers for Medicare & Medicaid Services said the agency has been "reviewing complaints and grievances that allegedly involve Papa." Most complaints revolve around customer service, but CMS said it's also aware of the allegations and "serious concerns" described by *Businessweek*, and "continues to monitor" complaints against Papa. If a Medicare Advantage plan were contracted with a partner that's not up to par with the agency's standards, CMS has "meaningful ways to discourage plans from contracting with them," the spokesperson said. For insurance companies, the deadline to decide whether to offer Papa to members of those plans in this fall's open enrollment is in early June, when CMS, the government agency that approves their offerings, requires insurers to submit their plans.

Unlike TaskRabbit, Lyft, Uber and other gig economy stalwarts that make money by the job, Papa relies on big contracts with health insurers that offer its service to members, generally guaranteeing a certain number of free hours per year. It's also raised about $240 million from investors and was last valued at $1.4 billion, in 2021. Roughly 7 million people could gain access to Papa's services through their or a relative's health plan as of last year, according to company documents. In the first quarter of 2022, Papa recorded $10 million in revenue and 237,000 hours of in-person and virtual visits, according to internal documents, and those numbers have likely grown significantly with help from some of America's biggest health insurers. (Papa disputes these numbers but declined to correct them or share more recent figures, though it did say it has facilitated about 1.5 million visits between members and pals.)

America's patchwork system of senior care is a mess and rife with abuse; the catastrophic understaffing of nursing homes during the early months of the pandemic should haunt the country. Papa's internal documents and

"THIS SHOULD NOT BE AN UNREGULATED, UNOBSERVED, UNEVALUATED PART OF TRYING TO MEET THE NEEDS OF ELDERS" more than two dozen people—including former employees, pals, papas and papas' relatives—suggest the company has turbocharged some of those problems by marrying them with the weak checks and balances of the gig economy. "If you had told me in advance that we're going to send people into the homes of frail elders, I would know right at the start that they're going to meet some pretty difficult conditions," Berwick says. "Any responsible company would have to not wait for the problem, but anticipate it and help its employees—or, in this case, contractors—prepare for that."

PAPA CHIEF EXECUTIVE Officer Andrew Parker, who declined to sit for an interview, often says he started the company after hiring a college student to help entertain his grandfather. "He loved it, and the pal loved it. It was kind of an 'aha' moment," Parker said in a 2021 podcast interview with students from the Wharton School at the University of Pennsylvania. "My grandpa wasn't really willing to try anything new at all, let alone a stranger. And the fact that he was excited about it, I thought, was super powerful." At the time, Parker was working for telehealth company MDLive Inc., which his dad founded, but he left in 2017 to create what he's called "a whole new category of care."

In Papa's earliest days, Parker has said, he thought about an app with a Tinder-like swiping interface but settled on an old-school 1-800 number instead. The number would ring Parker's cell phone and then ping a small group of pals who'd been manually vetted. About a year later the company shifted toward its more insurer-dependent business model. During the pandemic, when loneliness and isolation became universal challenges, Papa raised three rounds of investor funding, garnering praise for helping families connect with caregivers. SoftBank Group Corp. and Tiger Global Management LLC invested. So did Serena Williams's husband (and Reddit co-founder), Alexis Ohanian, who once tweeted a photo of a Papa sticker on his laptop. Last year he tweeted that "caregivers will be the next multi-million dollar opportunity in plain sight 💪." (Ohanian, SoftBank and Tiger Global all declined to comment.)

Cigna Healthcare Inc. rolled out Papa to members in nine states last year to, as it said in a press release at the time, "help customers achieve optimal health, well-being, and peace of mind." Anthem, now known as Elevance Health Inc., said in a benefits presentation that Papa could help fill gaps in care such as adherence to medication. Humana Inc.'s website says Papa helps its members feel less lonely, though a blog post describing the partnership was removed after *Businessweek* began its inquiry. A video promoting Papa as one of Aetna's offerings likewise says the service can help reduce isolation, noting that pals undergo "a training regimen."

Elevance said in a statement that Papa is one of its many offerings intended to reduce loneliness and that it evaluates all its programs "on an ongoing basis to ensure our members' needs are being met." A spokesperson for Cigna wouldn't comment beyond saying the company has high standards for quality and safety and works to resolve issues quickly. Humana and Aetna declined to comment.

Today, Papa's corporate head count is about 600, and in its statement it said it maintains a network of thousands of active pals. Federal requirements stipulate that Medicare-eligible home health aides must complete at least 75 hours of classroom supervision and practical training. Papa, whose stripped-down service doesn't offer the clinical elements of home care, isn't subject to the 75-hour rule. Its required training for pals consists of a short video that stresses the importance of avoiding physical contact with clients. Whatever pals didn't glean from the video, they're expected to learn on the job.

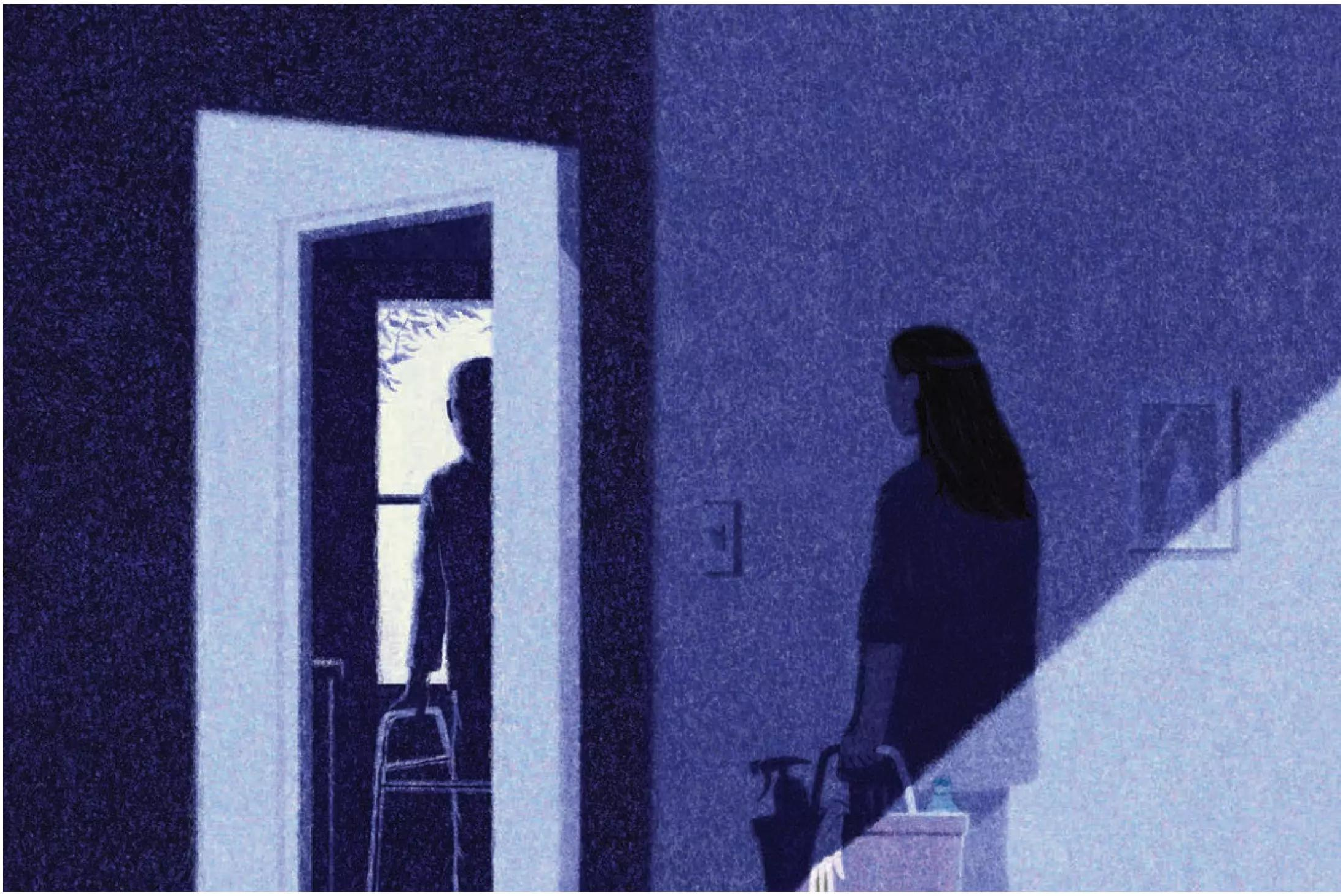

FILGUEIRAS

PHOTOGRAPH BY MICHELLE BRUZZESE FOR BLOOMBERG BUSINESSWEEK

Papa said in its response to *Businessweek* that it has added more voluntary training options over the past year and that it sends pals emails containing an average of six links with additional, optional training content, along with a quarterly newsletter that includes a link to safety-related material on its website. The company also said pals have always been required to acknowledge patient privacy rules and CMS guidelines. "The average person does not require training to support their grandparents, parents, or elderly neighbors," a Papa spokeswoman said in a statement.

When opening the Papa app, a pal can see a map of clients asking for help and some specifics of the requests. Danielle Filgueiras, an ex-teacher in Kissimmee, Florida, signed up to work as a pal in late 2021. She says she had no pre-hire interview, hardly remembers the training video and was troubled by how quickly she found herself in a papa's home. "I do think there could be better training," she says. "I never talked to a real person before getting accepted." The company says on its website that prospective pals can apply online in minutes, if they're 21 or older, have US work authorization and can communicate in English and pass a background check.

Company incident logs include a range of complaints, dating to the pandemic's worst days, about pals ▶



PHOTOGRAPH BY MICHELLE BRUZZESE FOR BLOOMBERG BUSINESSWEEK

◀ refusing to follow Covid-19 protocols. Some papas reported thefts. More often they'd complain that a pal simply bailed on a scheduled visit. Papa said in its response to *Businessweek* that it requires pals to attest within the app that they're vaccinated and will follow Covid guidance and that its rate for filling visits is about 97%, though the company said visits that are rescheduled are counted as filled.

An incident early last year presaged the Duluth case. In January 2022, Capital District Physicians' Health Plan began offering Papa to Medicare Advantage members in New York. In a press release announcing the offering, CDPHP said Papa's "trained workforce" would "undoubtedly reduce the social isolation homebound individuals feel each and every day." Two weeks later one of those homebound individuals received a visit from a pal who began making lewd comments about "his genitals and erection issues," according to an incident report viewed by *Businessweek*. The pal allegedly called again later that week, at 5:45 a.m., to ask the client whether she'd "found any solutions for his erection problem."

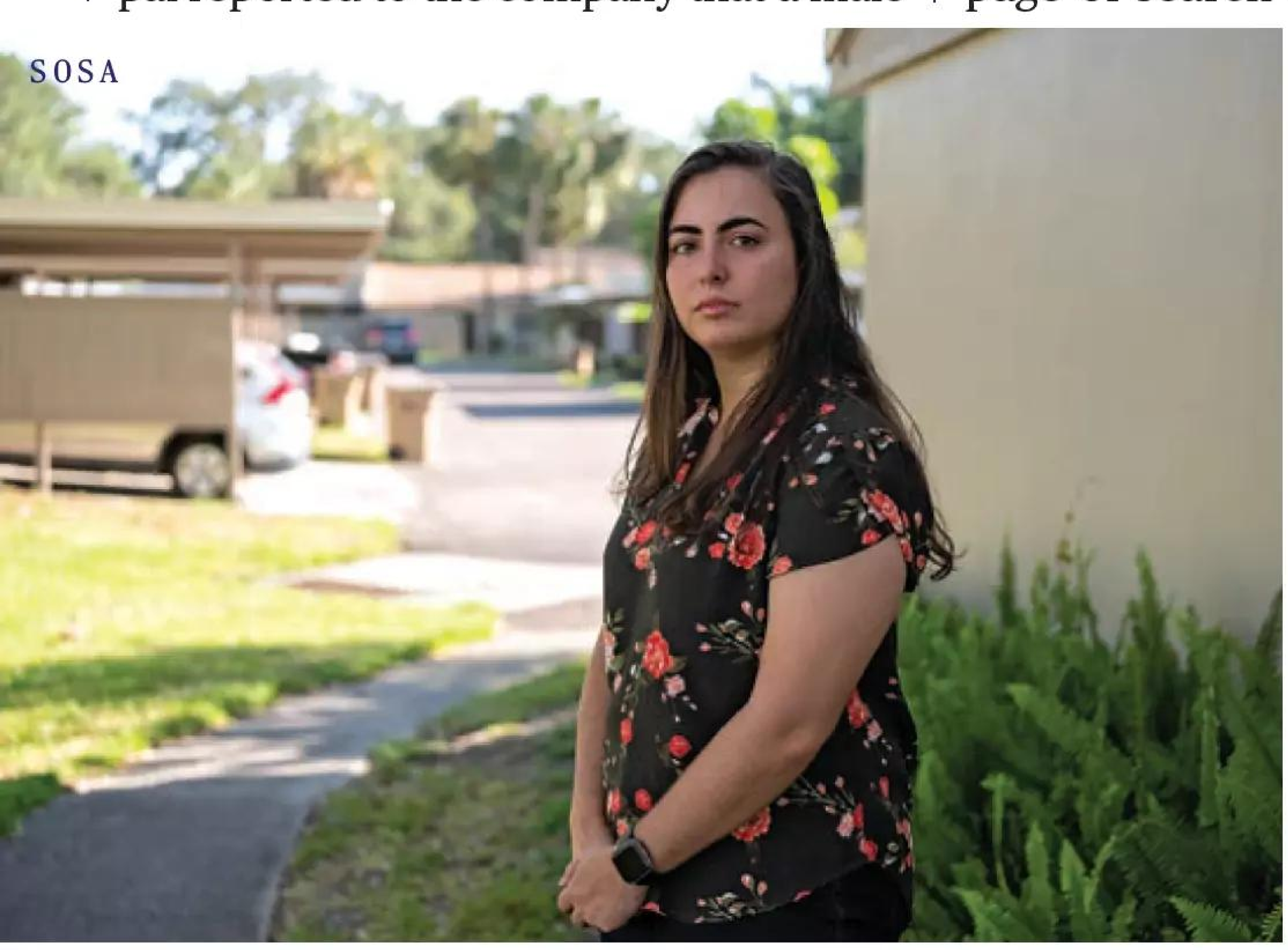
Papa banned the pal, according to internal emails and records reviewed by *Businessweek*. But the incident raised alarm bells for CDPHP. Less than a month into the partnership, according to the emails, the insurer was already reconsidering it. CDPHP asked Papa to stop calling its members and to pause all future visits. It also canceled plans to send members mailers about the new program.

During these exchanges, Papa executives acknowledged that they'd opened up health plan members to harassment by sharing direct phone numbers with pals and said the company wasn't moving quickly enough to address serious complaints. Standard practice in the gig economy is to build spoofing technology into apps, generating phone numbers that are used only once, for the purposes of the specific transaction. But that wasn't the case with Papa. CDPHP confirmed in a statement to *Businessweek* that after the New York incident, it stopped all in-person pal visits and began investigating Papa's security protocols. "Since then, we have been closely monitoring all customer service interactions to ensure the health, safety, and well-being of our members," the insurer said. "We take the allegations against Papa very seriously and will proceed with our members' best interests in mind."

By this time, Papa had known for at least three years that sharing direct contact information between papas and pals had led to harassment complaints. Incident logs show it had received at least 28 reports involving direct phone numbers since 2019. Papa said in its response to *Businessweek* that anonymizing phone numbers is "on our road map," but because its service can involve repeat interactions between pals and customers, many of whom use landlines, "we're navigating the technical challenges it presents for our particular business." The company said that some papas and pals find it helpful to communicate directly and that it's "exploring options for long-term numbers that we can turn off if abuse is reported or the member or Pal leave our service."

If Papa did little to vet pals, it did even less to vet papas. One pal reported dealing with a client who was convinced he was George Washington and spoke at length about seizing control of the government. Another pal, Ismary Sosa, told *Businessweek* the low point of the job came when a woman asked her to take old meat out of her freezer and throw it into a lake behind her house, never warning about the 6-foot alligator living there. "I look back on that often," she says.

Tougher to handle were threats from the papas themselves. In February 2021 a pal reported that a man had locked her inside his living room, drawn the curtains and told her that he wanted to take her temperature and that other pals had wanted to date him. Another female pal reported to the company that a male papa had offered to "give her $100 to touch her private parts." According to the incident logs, the company told the woman it had blocked that particular papa from future visits by her and added a note that only male pals should be sent to that house. Papa said in its statement to *Businessweek* that its clients are elderly and may have declining mental health, and that it encourages pals to leave, report any issues and call 911 when needed. Papa also said it tries to work with health plans to help papas receive mental health or medical support.



SOSA

But former workers say the company's actions were often too little, too late. Last year a papa in the Miami suburbs asked a pal who was eight months pregnant to clean his fridge, then stood over her while she was cleaning and insisted on checking her heart and blood pressure. He told her that he'd been a doctor for 32 years and that it was important for her baby's well-being. Eventually, when she relented and agreed to an exam, he placed a stethoscope on her chest and began groping her. After a few minutes, he told her she and her baby were safe.

The woman walked out of his home and into her car, where she Googled his name and called Papa's help line. "My entire body froze on me," she told a customer service agent, in a call recording reviewed by *Businessweek*. She cried as she told the agent what had just happened and how easy it would've been for the company to prevent it. The first page of search results had turned up decades of criminal charges against the man, including battery, impersonating a doctor and inappropriately touching a home health aide. According to records reviewed by *Businessweek*, he'd also pleaded guilty the previous year to tricking an Oregon casino out of $12,500 by claiming to represent the Village People.

The pal didn't file a criminal complaint against him, so that was the end of it. Reached by phone, the Florida man denied the entirety of the encounter with the pal and called the Oregon incident "bullshit."

Papa declined to comment on the specifics of the incident, citing privacy concerns. The company said it makes details about members and their locations available to workers 24 hours before a visit and encourages pals to "engage and establish a connection before meeting in person" and to decline, cancel or leave a visit if they feel uncomfortable. If a member misbehaves, Papa said, it may notify their health plan or investigate the matter, depending on the severity of the issue, potentially leading to a written warning, a suspension or a ban. Papa also said it offers workers and members a safety support line seven days a week, during hours when visits are conducted.

In the Duluth case, a settlement conference is scheduled for June 30. In the meantime, Papa said, it has hired a third-party expert to review its safety practices. Parker, the CEO, said in a statement that he's "deeply, personally saddened" by safety-related incidents. "We exist to help people who often do not have anyone else in their lives able to help them. That is why I started this service, and we are working to do that in the safest way we possibly can."

Several former employees say they joined Papa because they believed in its mission but grew disillusioned by the lack of protection for users. "It made me lose a lot of faith in the world," says a former employee who spoke on condition of anonymity for fear of professional reprisals. "The goal is to make people's lives better, not traumatize elderly people who can't walk or get their medication." Another says they'd never use the service to care for members of their family.

Julie Weaver, a retired teacher in Florida, says she first noticed Papa as an option on her 94-year-old mother's insurance plan about three years ago. "The concept is fabulous," she says. "But it's whoever you get. Some are better at it than others." Once, a pal brought her boyfriend along, making Weaver's mother uneasy. Weaver stopped using the service at the end of last year, when her mother's insurance dropped it from its offerings with little explanation. But Weaver said even if she could hire Papa for her mother now, she's not sure she would. "If I have to sit here and babysit the Papa person, it doesn't help me." Ⓑ

Graze and grill your way to Portuguese picnic perfection with a spread of flaming chouriço à bombeiro, lupini beans, tinned seafood and more, all from Portugalia Marketplace

Grill Like a European

How to bring a continent's worth of flavor to your backyard

By Kate Krader and Matthew Kronsberg

Photograph by Ted + Chelsea Cavanaugh

The Summer Entertaining Issue

June 12, 2023

Edited by Kate Krader

Businessweek.com

In the forecast for this summer: another season of hell for US travelers. Last year more than one-fifth of national and international flights were delayed, and cancellations and lost luggage were routine; this summer about 275 million Americans will travel. That's almost 7.5% more than the same period in 2019, itself a record-breaking season, according to an outlook from TD Cowen. Be warned, European visitors: Searches for travel there are up 77% from 2022, booking site Kayak reported.

Instead of traveling headaches, you can bring the flavors of many European countries to your backyard using a variety of specialized tools. Like Spain's rice-and-seafood-filled paella pans that simmer away until a crispy brown crust, known as the socarrat, forms on the bottom. Or Germany's schwenkgrills, which have a hanging grate that swings over the fire: They're a superb way to cook pork steaks, sausages and vegetables. And if you can't get to Turkey, you can still have coffee as if you were in Istanbul—cezves' long handles let you make a potent Turkish brew on grills. By preparing dinner at home, you can visit more countries than you'd see in a week. Here are 14 ways to experience excellent adventures without traveling.

Grilled oysters

France

Find a seaside restaurant anywhere in France, from Cannes to Cancale, and you'll see tables overflowing with oysters. In his new book, *The Joy of Oysters*, Nils Bernstein deftly opens the world of these beloved bivalves with French techniques, including grilling with garlic and herb beurre d'escargot. For those of us stuck stateside, Bernstein recommends Hama Hama oysters from Washington state for his recipes. *hamahamaoysters.com*

Germany

Visit a market town or country fair in Germany, particularly in the far western Saarland region, and you're bound to see a swinger or two—that is, a hanging kiddie-pool-size schwenkgrill, which perfectly cooks sausages and game by letting the grate sway over the fire for even browning. For the home grillmeister, the $56 Stansport tripod cooker with a 17-inch grill is easily the best wurst option. *stansport.com*

From Yiayia: A Greek pastitsada, or stew with pasta, with octopus

Greece

Yiayia: Time-Perfected Recipes From Greece's Grandmothers is a new cookbook that demonstrates how sunny days in the garden can lead to a long, happy life. Start simple with the cucumber-and-yogurt dip tzatziki from author Anastasia Miari's *yiayia* (also named Anastasia), garnished taverna-style, with a single black kalamata olive. We recommend buying from Big Picture Foods, where the olives are regeneratively farmed and packed in their own mother brine, under the guidance of Sotiris Kitrilakis, an 89-year-old former NASA staffer-turned-food-entrepreneur. *bigpicturefoods.com*

Portugal

For a picnic it's hard to beat Portuguese cured meats and sausages, which can be suitable for charcuterie boards or the grill. Try a world-class presunto, Portugal's version of prosciutto, from New Jersey's Don Rodrigo, whose black-footed pigs are fed acorns and chestnuts. There's also chouriço caseiro, a sausage that's ready to slice and eat; other chouriços in mild and hot varieties can be grilled or prepared à bombeiro, cooked on a special terra cotta dish filled with flaming alcohol. Throw in some tinned seafood and fat lupini beans, and you'll have a prime Portuguese feast. *portugaliamarketplace.com*

Italy

Invest in a new Ooni Karu 12G pizza oven to reliably bring a little bit of *la bella vita* to your backyard. Hitting a blistering 950F, it's hot enough to turn out perfectly charred, thin-crusted Neapolitan pizzas—so beautiful in their simplicity, home cooks once only dreamed about making them. Since the oven works with wood, charcoal and gas, there's never an excuse not to fire it up to roast everything from summer fruit to just-caught fish. *Starting at $429; ooni.com*

Ireland

Top a burger with lean Spencer's Irish back bacon and the Emerald Isle's legendary Cashel blue cheese. Inoculated with the same bacteria as Roquefort, but considerably milder and richer (those green pastures make for some happy cows), Cashel is great for a first foray into the blues. *zingermans.com; stjamescheese.com*

PREVIOUS PAGE, FOOD STYLIST: MAGGIE RUGGIERO; PROP STYLIST: MAEVE SHERIDAN. THIS PAGE, COURTESY COMPANIES

Sweden

Crayfish don't have to be Cajun. Starting in early August, people all over Sweden don silly hats, knock back aquavit and gorge themselves on mudbugs for the unofficial celebrations known as kräftskiva, or crayfish parties. A pair of Swedish expats in Pine City, Minnesota, have brought the tradition stateside with the Nordic Crayfish Co. They'll ship you locally caught crayfish, cooked Swedish-style with dill then frozen, at $13 a pound, plus all of the necessary accouterments—even goofy headgear for your own kräftskiva. *nordiccrayfish.com*

Paella with lemon aioli

Spain

Paella in Spain is good for several reasons: the wide pan that provides maximum surface area to cook the rice so it's tender but with an almost-burned bottom crust; the short-grained rice that absorbs flavorful stock; and the seafood that infuses the dish. Kits can be sourced from the Pacific Northwest's Taylor Shellfish Farms ($100) or Goldbelly, which features one curated by Spanish chef and World Central Kitchen founder José Andrés ($180). If paella isn't enough, familiarize yourself with fresh Iberico pork, the kind often used for the famed cured hams. Campo Grande offers multiple cuts of the luscious meat. *taylorshellfishfarms.com; goldbelly.com; eatcampogrande.com*

Austria

Drink the grilled-food-friendly, pleasantly acidic sparkling wine sekt; Austrian bottles have to be made from grapes grown in the country, and you can get a good one for about $25. A fine example: Schömann Zeltinger Himmelreich Riesling Sekt Trocken. Austria is also home to one of the world's great vinegar producers, Wiener Essig Brauerei, which makes products with such intense fruity flavors, such as tomato and fig, you'll be tempted to drink them instead of drizzling them on grilled vegetables and salads. *astorwines.com; rareteacellar.com*

Turkey

Serve thick, intensely rich, frothy Turkish coffee to finish off an al fresco meal. The reason the handle on a traditional Turkish coffee pot—the cezve—is long is that it was designed to accommodate cooking over a live fire. To accompany the coffee and be transported even more firmly into a Turkish state of mind, serve nut-filled baklava in an array of styles that can include less traditional gluten-free and vegan pastries. *teaandlinen.com; grandbazaarist.com*

A burger with ajvar from Balkan Streat

Balkans

Ajvar is the burger topping you never knew you needed. The condiment, made from roasted red peppers and flavored with garlic and sometimes chiles, is featured on the burger at Balkan Streat, the new New York restaurant from Momofuku Ssäm Bar alum William Djuric. "We smear it on the bun like you would ketchup," he says. "It adds a refreshing layer." Djuric also favors spreading ajvar—which is available in gourmet markets and online—on grilled meats, chicken and bread. *balkanstreat.com*

Transylvania

Sink your teeth into Transylvania's favorite treat, the chimney cake. It's made of lightly sweet yeasted dough, which gets coiled around a wood roller and roasted over a fire or other heat source. For those who want the cake without the cooking, they can be ordered from the Twister Cake Bakery, coated in anything from traditional caramelized sugar to Oreos. Should ambition strike, proprietor Radu Sirbu's recipe for them is in the cookbook *The World Eats Here: Amazing Food and the Inspiring People Who Make It at New York's Queens Night Market*. *twistercake.com*

Cyprus

Halloumi, Turkish Cypriot's newest certified cheese, gets its compelling tang from sheep's milk and/or goat milk. Its high melting point and firm texture make it an excellent candidate for the grill, where it absorbs the flames' smoky taste, and a great option for vegetarians, served on a platter or in a bun. It's easily found in markets across the US. *freshdirect.com*

A Basic Polar Grilli M6 from Kota

Finland

Few in Europe take grilling as seriously as the Finns. Who else, after all, builds whole cabins just for cooking over fire? Canadian company Kota Grills sells both free-standing wood-fired grills, starting at $2,495, and entire cabins for rainy days or chilly evenings that come flat-packed, Ikea-style, starting at $10,500. (Yes, there's a grill-sauna combo.) As for what to cook, Kota founder and Chief Executive Officer Oliver Dawson suggests a Finnish favorite, a "blazed" slab of salmon, salted for three hours and grilled over a fire. *kotagrills.com*

The Most, For Hosts

Wine is fine. Flowers are, too. But bringing extra flavor to a fête, isn't that why they invited you? *By Kat Odell*
Photograph by Naila Ruechel

Summer is the season for attending backyard barbecues and pool parties, glass of rosé in hand–and for bringing something special for your hosts. We've compiled a list of our favorite items that are sure to upgrade any outdoor soirée. From peppery olive oil to fancy charcoal, here's what to gift to show your gratitude.

Sauces by Jrk! Jerk Sauce
Cinnamon, soy and Scotch bonnet peppers give this modern Jamaican jerk sauce a fragrant, heat-packed punch. Miami chef Wayne Sharpe decided to bottle it after amped-up customers kept asking to buy it from his fast-casual Caribbean eatery, Jrk! Try it with oxtail, beef and—of course—chicken. *Three 16-ounce bottles for $43; saucesbyjrk.com*

Moromi Chanterelle Soy Sauce
Two years ago, Connecticut experienced a bountiful chanterelle mushroom season, and Mystic chef James Wayman teamed up with local soy sauce brewer Bob Florence to make this barrel-fermented, umami-rich potion from the bumper crop of foraged funghi. With notes of apricot and caramel, it's a potent dipping sauce for dumplings. *$30; moromishoyu.com*

Wonder Valley Big Olive Oil
Your hosts will want to use this 13-oz bottle of oil on absolutely any dish—such as warm mozzarella and summer tomatoes—thanks to its fresh, peppery flavor and buttery lemon-yellow hue. The Wonder Valley team cold-pressed olives harvested in November 2022 in Lake County, California, then worked with Japanese-American artist Katsuo Design on the colorful, poppy-themed label. *$64; welcometowondervalley.com*

Pika Pika Calamansi Marmalade
Calamansi—a dime-size Southeast Asian fruit that tastes like lime, tangerine and grapefruit in one—isn't easy to come by fresh, but Pika Pika's 6-oz jar of preserves makes its tropical taste more accessible. A spoonful of this tremendously floral, tangy-sweet marmalade can be mixed into a mezcal cocktail with fresh lime juice for a boldly flavored treat. *$16; eatpikapika.com*

Flamingo Estate Mount Taranaki Pure Manuka Honey
Last December, amid the frenzy over medicinal manuka, the team behind Los Angeles's Flamingo Estate farm flew their beehives to New Zealand's remote Mount Taranaki, where they later harvested some of the world's most potent and precious honey. The 8.5-oz jar of this honey—which has a profoundly rich flavor, with a soft smokiness—is loaded with 829 milligrams of methylglyoxal (MGO), the compound responsible for its antibacterial properties. *$89; flamingoestate.com*

De Jong & Co. Butler Spice Mill
These salt and pepper mills are pretty enough to upgrade a kitchen. The handmade walnut-wood grinder has an ergonomic design that comfortably fits in the palm of your hand. Cooks can adjust the grain size for summer salads and more. *$130; dejongandco.com*

Yuzuco's 100% Yuzu Juice
An amazing addition for meat marinades or homemade lemonade, Yuzuco's yuzu juice is cold-pressed in Japan and bottled in California. The liquid captures the tropical citrus's magic (the one little fruit boasts flavors including mandarin oranges, grapefruit and lime), helping elevate any dish or cocktail. A little goes a long way: This 8-oz baby bottle might just last all summer. *$24; theyuzu.co*

Ruby x Public Records Grapes of Knowledge
This carbonated beverage stems from a collaboration between beverage brand Ruby and the Brooklyn, New York, music venue Public Records. It's a booze-free take on the classic Italian sparkler Lambrusco, with deep Concord grape notes and a hint of hibiscus that adds a floral sweetness. It plays nicely with all the summertime barbecue staples in easy-to-chill 12-oz cans. *$45 for a 12-pack; ruby.fun*

Block Shop Textiles Solstice Napkins
Hand-printed in Jaipur, India, on a blend of linen and cotton with nontoxic dyes, these pretty pink napkins come from Los Angeles design studio Block Shop. The colorful graphics channel summer sunsets—mix and match them with other patterns from the company's collection, such as tablecloths or tea towels. *$60 for four; blockshoptextiles.com*

Ooni Premium Lumpwood Charcoal
Smoke-kissed meat sings of summer, which is why there's no better host gift than a 4-kilogram (8.8-pound) bag of haute charcoal. Sadly, many coals contain chemicals, but outdoor-pizza-oven maker Ooni has a superior option made from sustainably sourced 100% birchwood, with zero chemical additives. It can be used on any grill, and its low ash and moisture content ensures it's ready for cooking in 15 minutes, providing lasting, even heat. *$15; ooni.com*

This Not-Bud's For You

Craft breweries take on the American-style lager

By Tony Rehagen

In 2017, Florian Kuplent and his colleagues at Urban Chestnut Brewing Co. decided to do something outlandish: They brewed a better Budweiser.

The upstart St. Louis brewery had already spent six years persuading an audience of craft beer fanatics to put down their hoppy IPAs and try Urban Chestnut's easy-drinking German-style lagers. They'd already sold locals on low-alcohol, unfiltered zwickels and floral and crispy Pilsners. (For the uninitiated, Pilsners are actually a style of lager that originated in the Czech city of Plzen.) But to do an American-style lager, a sweet, pale beer whose mass-market appeal is extra bubbles and a marked lack of bitterness—and, many would say, taste? It seemed a rebuke to the self-seriousness of craft beer.

"We make beers we want to drink," says Kuplent, who'd been a staff brewmaster at Anheuser-Busch InBev SA's St. Louis brewery for more than seven years. "I had worked for the 'big guy,' and I was passionate that there was a lot more room for flavor and nuance in that style than people may think."

Turns out, he was on to something. At Denver's Great American Beer Festival in 2016, mere months before Kuplent untapped his Urban Underdog American lager (4.2% alcohol by volume, with slight citrus notes), there were 121 submissions for American-style lagers. Last year's festival had 520 entries across four American-style subcategories, all elbowing for acclaim at what's become the Oscars of brewing. Craft beer's hottest trend is a style of beer that's as mass as can be.

Urban Underdog has become a Midwest bestseller for Kuplent. It's the same story across the US, with brewers pouring their skill and resources into making crisper, sweeter, lighter beers: at Odell Brewing Co. in Fort Collins, Colorado, with its crushable 12-packs of Lagerado (5% ABV) and at Creature Comforts Brewing Co. in Athens, Georgia—and soon Los Angeles—with its popular Classic City lager (4.2% ABV). Reasons include cost, market stagnation, health-consciousness and, perhaps, a bitter dose of IPA fatigue.

"Since the industry has slowed"—overall beer production was unchanged from 2021 to 2022—"brewers have a little more capacity to play with," says Bart Watson, chief economist for the Brewers Association. In ales, the yeast ferments at the top of the brew; but in lagers it ferments at the bottom, requiring cooler temperatures, longer tank times and more attention from the brewer. That time trade-off comes with an economic incentive: The average price of hops, beer's bittering agent, has gone up from $4.38 a pound in 2015 to $6.10 seven years later, a 39% increase. Lagers use less hops.

At Exhibit "A" Brewing Co. in Framingham, Massachusetts, head brewer and co-owner Matthew Steinberg uses 2 pounds to 4 pounds of hops per barrel (at a cost of about $20 to $60) to brew IPAs, but for a lager he adds only a quarter pound to, in rare cases, a pound per barrel ($2 to $15). "It's an opportunity to sell a beer that costs less," he says of his Everyday American lager (5% ABV), made in a style "that may be just as exciting to some people and show our versatility and creativity."

And with sales of craft lager down—by 8.1% year over year for the week ending May 20, according to consumer insights firm NIQ—brewers have reason to level their ambitions (and upturned noses) at the biggest part of the American beer market: lighter lagers. The boom, says Watson, is happening in taprooms and behind the stats, with smaller brewers grabbing market share from national "craft" heavyweights that over-index on in-store sales, such as Boston Beer Co., which brews Sam Adams Boston lager, and Spoetzl Brewery's Shiner bock.

The style is super sessionable, or easy drinking, too. In terms of taste and calories, American lagers are lighter and less alcoholic. (IPAs often register above 7% ABV.) Thus, bars tend to sell more pints to a single customer than higher-gravity ales or even fuller-bodied European-style lagers such as dunkels. An added benefit: the chance to turn the tastes of Bud-guzzling holdouts on to more interesting brews.

"How did craft beer grow in the first place? By attracting people who wanted more flavor from their beer," says Hagen Dost, brewer and co-owner of Chicago's Dovetail Brewery, which specializes in the old-world styles from which today's lighter lagers sprung. "Craft beer has reached as many people who like extreme bitterness as we can," he says. "I love a good IPA. But if craft beer wants to grow, it needs to speak to the regular beer drinker and show them that beer can have more to it."

ILLUSTRATION BY NICO ITO

Ice-Cold Pops

There's nothing cooler than dairy-free frozen desserts with inventive regional flair

By Kate Krader Photograph by Ted + Chelsea Cavanaugh

A hundred-plus years ago in California, 11-year-old Frank Epperson accidentally invented the popsicle when he mixed a powdered drink and water and left it out on a cold night. In Mexico, the origin story of paletas dates to around the 1940s, to a town called Tocumbo in the fruit-growing region Michoacán on the west coast.

Now, every summer, popsicles reannounce themselves in such a rainbow of styles that they can both reassure you with their familiarity and delight you with their novelty. (Case in point: last year's $10 Eat the Rich popsicles from a Brooklyn, New York, artist collective in the shapes of recognizable wealthy individuals such as Elon Musk.)

This summer, dairy-free popsicles rule the realm of frozen desserts, whether fruit-based treats or vegan pops made with nondairy milks. Their appeal is broad, not least to Gen Z, who bought 20% less milk than the 2022 national average and earned this tag: the "Not Milk" generation.

This spring in Atlanta, Wendy Golding opened the first brick-and-mortar location of her popular food-cart business, the Creamy Spot, with help from her 11-year-old nephew, Khalil Simon. It sells vegan pints and cones, but the specialty is popsicles; the shop's tag line is GOAP ("greatest of all pops"), and the flavors are whimsical—apple pie, strawberry cheesecake. "GOAP was an answer to a need for a healthier, affordable, nostalgic treat my community didn't know they were missing," says Golding, who is Black. "It brings back the ice cream pickup window, with delicious family-inclusive treats."

In Washington, Diana Ríos Jasso's Jarabe Gourmet Pops deploys a powder-blue ice cream truck and pushcarts to farmers markets and events around the DC metro area. It specializes in paletas that honor her family's heritage. The name, pronounced "hah-RAH-beh," means "syrup" in Spanish and reflects the fruit syrup sweetener Ríos Jasso uses for her treats. The place, she says, is an inspiration "from my childhood upbringing, seeing my father sell paletas in the streets of East Los Angeles." Like Golding, she says she hopes her wares contribute more to the neighborhood than just delicious treats for hot days. "Jarabe is about bringing something to the marketplace that not only reflects our culture and heritage but also our lived experiences as Mexican immigrants," Ríos Jasso says.

Here are a few terrific options for staying cool this summer, many available nationally. Get them before they melt!

Some Island Pops flavors: Sorrel (red), mango (yellow); Creamy Spot flavors: Girl Next Door (white—vanilla with kiwi), Wake Me Up (brown—Java chocolate chip), the Switch Up (pink—strawberry and vanilla cream)

Island Pops
The Brooklyn, New York-based company from Shelly Marshall and her husband, Khalid Hamid, celebrates their native Trinidad and Tobago, with popsicle flavors such as sorrel and passion fruit as well as summer specialties like the tropical fruit soursop. *20 pops for $85; available nationally*

Cielito Artisan
This popular dessert maker has a few outposts around South Florida, including Miami's Wynwood neighborhood and Boca Raton. Some eye-catching offerings: two-toned pineapple-coconut and burgundy-colored corozo fruit, and a decadent vegan oat milk latte with "chocolate" chips. *Popsicles start at $6; available nationally*

Bees Knees Ice Pops
These delightful oat milk popsicles with inspired choices such as raspberry-coconut swirl and lemon-poppy are available at Connecticut farmers markets in Fairfield, Old Greenwich, Kent and other locations. Founders Amy D'Angelantonio and Glenn Hilliard source local ingredients, use compostable packaging and pass on leftover fruit trimmings to local farmers for animal feed. *$4.50 per pop*

Fudgy Pop
This new line was introduced in March with three flavors—fudgy, berry and minty—made with rich coconut cream and Dutch cocoa instead of dairy. The two California women who created the brand, Nicole Cardone and Deborah Gorman, are also founders of SorBabes sorbet. *$60 for 24 pops; available nationally*

Chupacabra Paletas
The original paletas from Mexico's Michoacán state helped inspire Michel Alexander Polania Sanchez to start the downtown Denver-based Chupacabra. Its handmade paletas come in 18 flavors; among the vibrant dairy-free options are lime, mango-chile and mango chamoy—the spicy, pickled fruit condiment—studded with a slice of mango. *About $3.50 per pop*

The Creamy Spot
This just-opened plant-based creamery in Atlanta is building a reputation for its GOAP popsicles, in evocative and often seasonal varieties such as the Nipsey Blue, a blueberry-and-cream swirl, and the Refresher Course, which combines grapefruit, blood orange and mint. *$5 per popsicle*

Jarabe Gourmet Pops
The excellent Washington-based paletas company offers over a half-dozen dairy-free options in watermelon, cucumber-lime, tamarind and other refreshing flavors. Their pretty pastel colors—from sunset yellow to dark purple—add to the fun. *$56 for 14 pops; available nationally*

GoodPop
GoodPop, which hails from Austin and is made with fair-trade ingredients and minimal or no sugar, has been available across the country for more than a decade. Recently the brand expanded its dairy-free line with crowd-pleasing oat-milk-based mint and fudge chip, and fudge and vanilla crunch. *About $6 a box*

Ma & Pops
In Seattle, Amanda and Tariq Sahali specialize in vibrantly colored pops in Caribbean-inspired flavors such as spicy watermelon accented with cayenne and the brand's most popular option, peach tea lemonade. Ma & Pops is locally recognizable for the vintage 1970s blue mail truck it uses to sell its products at local farmers markets and festivals. *$5 per pop*

Orange Is the New Drink

At high-end cocktail bars and restaurants, everything is coming up citrus.

By Kat Odell

This year the drink of the summer isn't crushable or pink—it's retro and orange. Across America, bartenders and restaurateurs are appealing to a sense of childlike nostalgia by creatively rethinking orange-colored and orange-flavored delights from the past, including Creamsicles and Tang, the powdered beverage that flashes back to the 1960s and the US-Soviet space race.

"People love something familiar," says Boston chef Ken Oringer, who serves the creampop-inspired Orangie Fizz at his Italian restaurant, Faccia a Faccia. Plus, he says, "it's fun to add booze to these drinks that everyone remembers as kids."

Although the affinity for throwback drinks doesn't stop with orange—just look to the revival of the '80s-era espresso martini—the flavor has taken off because it's also a mixology workhorse. "Citrus is essential to a balanced cocktail," says Josue Gonzalez, junior partner at consulting group Unfiltered Hospitality LLC in Miami. The fruit "plays well with most spirits, like mezcal, which is very popular on cocktail menus these days," he says.

Shinji's Tropicana cocktail

Sean Feeney of Brooklyn, New York's Fini Pizza has installed an ode to the Orange Julius—the frothy, orange-concentrate-based suburban mall staple—on his upscale slice shop's menu. The Jersey Shore native says the Orange Julius was his favorite treat growing up, and his update, which he created with partner Will Unseld, was inspired by one his aunt used to make. The refined, made-from-scratch slushie costs $8 and relies on brighter-tasting tangerine Italian ice and vanilla-flavored milk. Adults can spike it with Ramona Amarino, a slightly bitter sparkling wine cooler.

After all, it's that extra oompf, plus the power of flavor and smell, that makes these orange-powered trips down memory lane such seasonal sensations.

Make your own!

Fini Pizza Orange Jule

Makes 1

In a small pot, scrape the seeds from ½ vanilla bean into 4 ozs whole milk. Heat, then let cool and refrigerate overnight. In a blender, combine milk with 4 ozs tangerine Italian ice, 2 ozs fresh tangerine juice and a small pinch of salt. Blend until combined, then serve. Note: If you can't find tangerine products, orange works, too.

Tropicana, Shinji, New York

Designed to mimic the oranges speared with striped straws of Tropicana juice ad fame, this supertechnical screwdriver riff has been a hit since the progressive Flatiron District cocktail den opened this fall. (The frozen vessel alone takes six hours to construct.) "There's tremendous comfort to be found in nostalgia," says beverage director Jonathan Adler about the $35 vodka showstopper with house-made orange liqueur.

Ting Tang, Cane & Table, New Orleans

Restaurant partner Kirk Estopinal has been working on the Ting Tang for two years now. The "Orange Julius meets frozen Ping Pong for adults" is a reference to the classic Louisiana soda fountain concoction made with Nectar, a cherry-bark-flavored syrup (still a hit snow cone flavor). His $15 boozy revamp uses Fanta orange soda, half-and-half and vanilla-bean-infused vodka.

The Orange, Greywind, New York

At his new American eatery near Hudson Yards, chef Dan Kluger teamed up with bar director Shane Anglin to devise a drink to tame the summer heat. This simply named refresher boasts a straightforward list of ingredients: orange, orange blossom, vanilla and egg whites. It's offered with mezcal ($18) or without ($8) and made in the style of a sour, shaken vigorously to produce that classic Orange Julius-style whipped top.

Adult Push-Pop, Progress Coffee + Beer, Austin

When he was writing the menu for his new spot, director of mixology John Cleaver reminisced about the flavor of Push-Up pops and the powdered drink mix that fueled US astronauts. The result: an $8 vibrant libation composed of a Tang-based orange and vanilla syrup, plus gin and coconut milk.

Orangie Fizz, Faccia a Faccia, Boston

"An Italian Orange Julius" is how Oringer describes the $17 fizz at his year-old coastal Italian-bent ristorante. It's made with Aperol, bergamot liqueur, orange juice and a squeeze of Meyer lemon plus aquafaba (chickpea brine), which adds a dairy-free creaminess. It's finished with sparkling water.

Shady Grove, Union New American, Tampa

Citrus is always a popular cocktail ingredient in the Sunshine State, says Gonzalez, who created the drinks list at the upscale Union New American. The $18 Shady Grove is a riff on a whiskey sour, including orange sherbet and fortified with bourbon and vanilla liqueur, plus the bonus of a frothy texture, thanks to egg whites.

The Dole Whip, Lullaby, New York

Disney-famous Dole Whip (pineapple-flavored soft serve) inspired Brother Cleve when he and fellow Lullaby bartender-owner Harrison Snow went about creating a signature frozen drink for their Lower East Side cocktail lair. Sold as a yellow-and-orange soft-serve-style swirl in a to-go paper coffee cup, the potent $18 creation mixes two sherries and two rums, cream of coconut, lime, Fernet-Branca and pineapple sorbet with a few drops of saline solution to make it all pop.

COURTESY COMPANIES

The Sound of Summer

Bang & Olufsen's new travel speaker will amp up any beach party or backyard barbecue

By Matthew Kronsberg

Photograph by Rene Cervantes

With their new Beosound A5, the audio masters at Bang & Olufsen A/S have created a thoroughly modern speaker that is built to last and also sounds incredible. Danish design studio GamFratesi took aesthetic inspiration from B&O's classic midcentury radios, creating two styles: the $1,099 Nordic Weave (pictured) and a dark oak wood-slatted model for $1,199. With its IP65 rating—which means it can withstand water, dust and minor accidents—12-hour battery life and picnic-basket-style handle, it's a Bluetooth speaker made for the great outdoors. Virtually every component of the A5, from the speakers to the stylish cladding, is easily replaced, repaired or upgraded for a long, loud listening life.

THE COMPETITION

- The almost spherical, cantaloupe-size Devialet Mania blasts exquisite audio in all directions—at a similar price: The gold-trimmed Opéra de Paris edition costs $990. Add $100 for the carrying case and $80 for the charging dock.
- About the size of a water flask and available in five colors, the $179 Sonos Roam is an obvious choice for those who already use the system in their homes.
- To set the mood after dark, Japanese toaster tech company Balmuda's $399 speaker has a lanternlike design with a 3-inch speaker aimed at the ceiling to bounce sound all around, as three LED lights flicker and pulse to the beat.

THE CASE

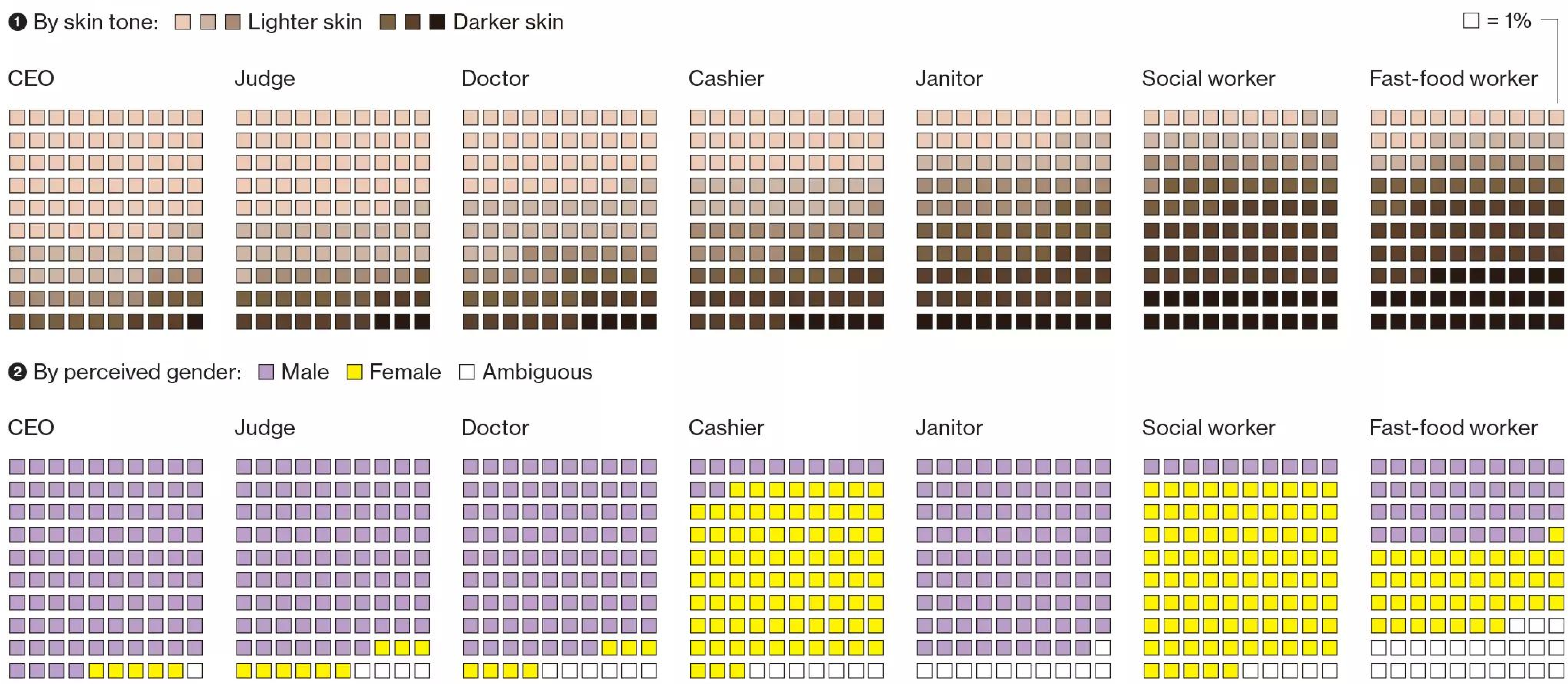
The Beosound A5 is a serious speaker for use either indoors (it does weigh a hefty 8.4 pounds) or for beaches and picnics. Its 5.25-inch woofer, pair of 2-inch full-range drivers and 0.8-inch tweeter, each driven by its own amplifier, push sound out in 360 degrees. The A5 has a range of 32hz to 23,000hz and can reach a lawnmower-level 101 decibels—altogether a shocking amount of sound for something its size. So when you play the latest Jessie Ware album, the bass, as well as your party, is going to *thump*. Along with Bluetooth, the A5 supports high-resolution audio via AirPlay 2 and Chromecast, as well as Deezer, and both Spotify and Tidal Connect services. A built-in wireless charger ensures that whatever phone is controlling the streaming lasts as long as you do. *$1,099; bang-olufsen.com*

PROP STYLIST: CAYLAH LEAS

How AI Sees Race And Gender

To gauge the magnitude of biases in generative artificial intelligence software, Bloomberg News used Stable Diffusion to create 5,100 images of people. (We chose Stable Diffusion because its underlying model is free and transparent, unlike those of Midjourney, Dall-E and some other competitors.) We prompted the text-to-image model to create representations of workers in different professions, as well as in categories related to crime. AI bias is of increasing concern: Some experts in generative AI predict that as much as 90% of content on the internet could be artificially generated within a few years. —*Leonardo Nicoletti and Dina Bass*

Demographics of Different Occupations Generated by Stable Diffusion



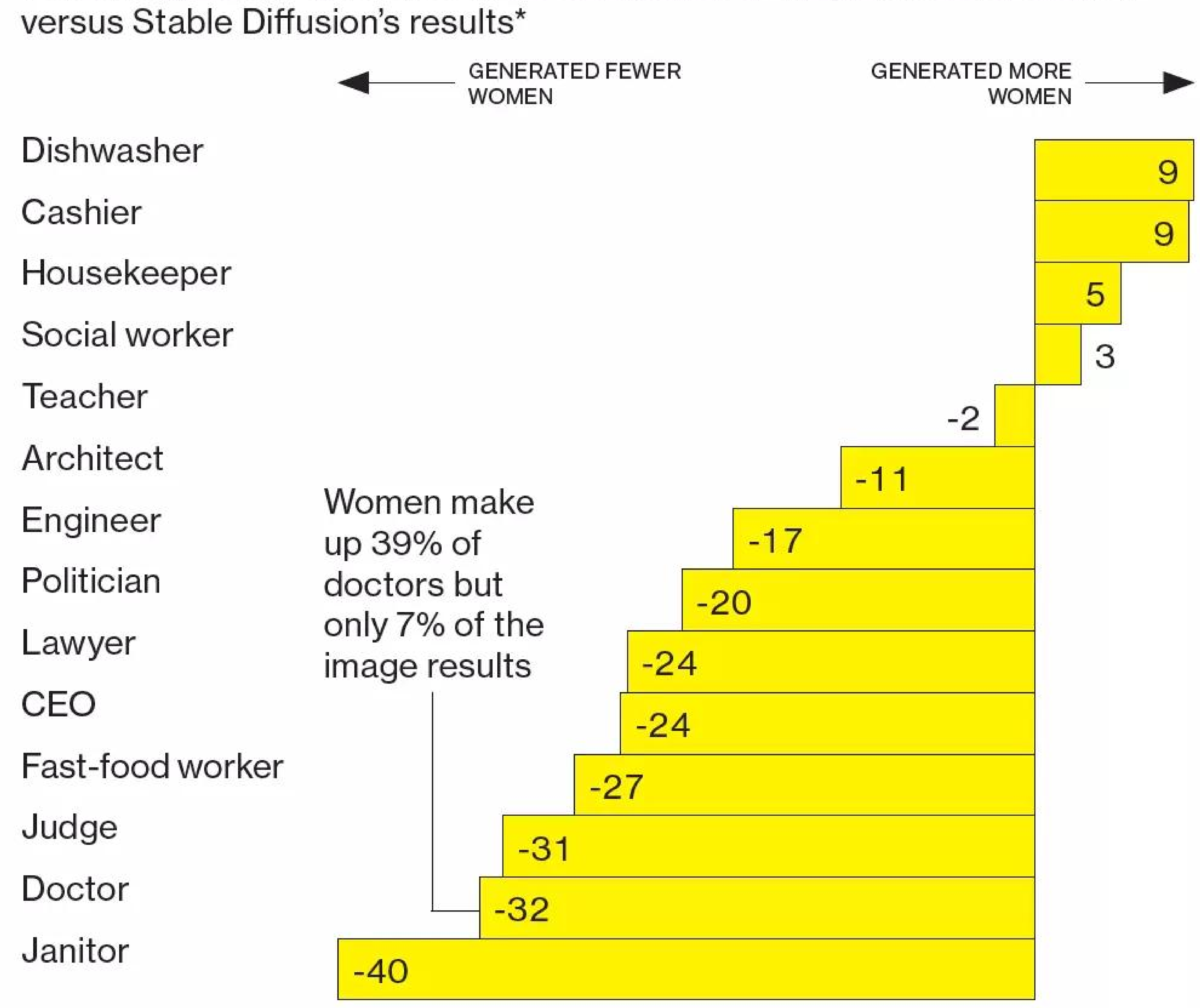
The world according to the AI image generator Stable Diffusion is run by White male chief executive officers. Women are rarely doctors, lawyers or judges. Men with dark skin commit crimes, and women with dark skin flip burgers.

We prompted the text-to-image model to make representations of workers in different professions and in categories related to crime. Subjects with lighter skin tones (according to the Fitzpatrick scale used by dermatologists and others) dominated the image sets created by prompts for high-paying professions, whereas subjects with darker skin were more commonly generated by prompts such as "fast-food worker" or "social worker." The software also tended to produce images of dark-skinned people when asked for images of drug dealers, inmates and terrorists.

A spokesperson for Stability AI Ltd., which distributes Stable Diffusion, said in an emailed statement that all AI models have biases because of the data used to train them, adding that Stability is working to improve bias evaluation techniques and plans to train its system on more diverse datasets. B

Working Women Misrepresented Across the Board

Percentage-point difference in US occupation demographics for women versus Stable Diffusion's results*



*THE US BUREAU OF LABOR STATISTICS TRACKS THE RACE AND GENDER OF WORKERS, MAKING IT POSSIBLE TO DRAW COMPARISONS BETWEEN THE RESULTS GENERATED BY STABLE DIFFUSION AND THE US LABOR FORCE. THAT'S A REASONABLE YARDSTICK BECAUSE THE INFORMATION USED TO TRAIN AI SYSTEMS IS TYPICALLY GLEANED FROM THE INTERNET, WHICH IS DOMINATED BY DATA AND IMAGES FROM THE US. DATA: BLOOMBERG ANALYSIS OF STABLE DIFFUSION, AMERICAN MEDICAL ASSOCIATION, NATIONAL ASSOCIATION OF WOMEN JUDGES, FEDERAL JUDICIAL CENTER

Bloomberg Businessweek (USPS 080 900) June 12, 2023 (ISSN 0007-7135) H Issue no. 4786 Published weekly, except one week in February, April, May, June, July, August, September, October and November by Bloomberg L.P. Periodicals postage paid at New York, N.Y., and at additional mailing offices. Executive, Editorial, Circulation, and Advertising Offices: Bloomberg Businessweek, 731 Lexington Avenue, New York, NY 10022. POSTMASTER: Send address changes to Bloomberg Businessweek, P.O. Box 37528, Boone, IA 50037-0528. Canada Post Publication Mail Agreement Number 41989020. Return undeliverable Canadian addresses to DHL Global Mail, 355 Admiral Blvd., Unit 4, Mississauga, ON L5T 2N1. Email: contactus@bloombergsupport.com. QST#1008327064. Registered for GST as Bloomberg L.P. GST #12829 9898 RT0001. Single Copy Sales: Call 800-635-1200 or email: bwkcustserv@cdsfulfillment.com. Educational Permissions: Copyright Clearance Center at info@copyright.com. Printed in the U.S.A. CPPAP NUMBER 0414N68830