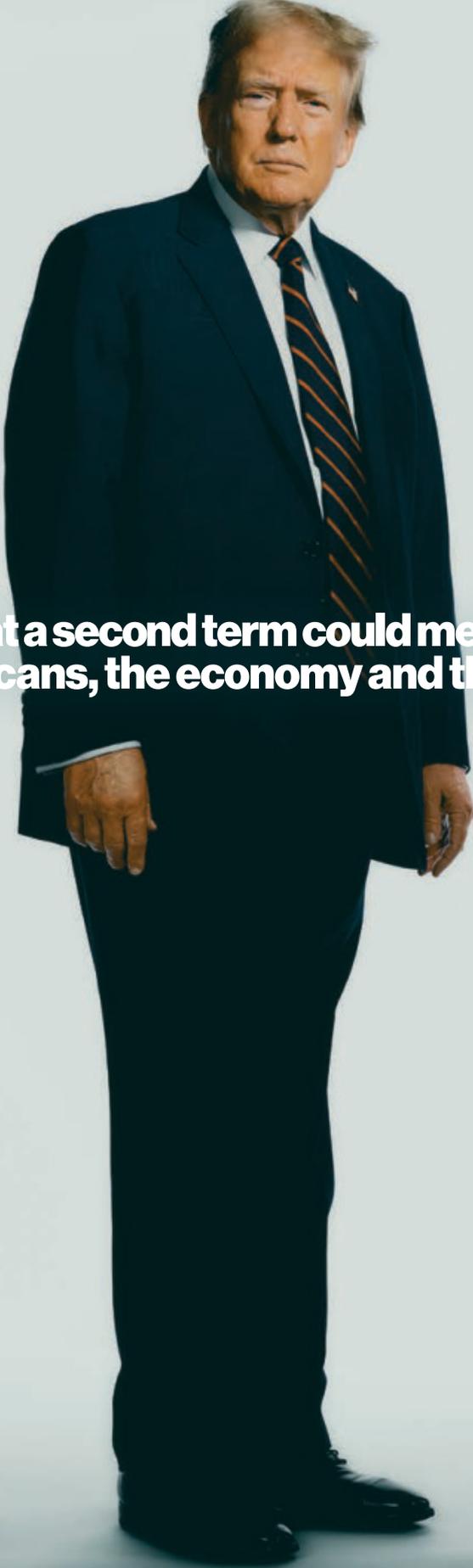


Bloomberg Businessweek

August 2024



**What a second term could mean for
Americans, the economy and the world**

PERRY ELLIS





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PHOTOGRAPH BY EVAN JENKINS FOR BLOOMBERG BUSINESSWEEK

Rivians have inspired a small but devoted fan following ▷ 68

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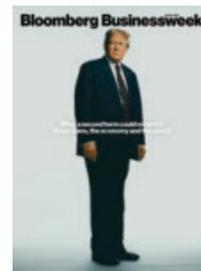
● **Nancy Cook, Joshua Green** and **Mario Parker** have followed Donald Trump since he first ran for president in 2015. Nancy is a senior national political correspondent in Bloomberg News' Washington bureau, Joshua is a national correspondent for *Bloomberg Businessweek*, and Mario is managing editor for US economy and government at Bloomberg News in Washington.

● **Olivia Carville** and **Cecilia D'Anastasio** filed dozens of public records requests for police reports linked to Roblox for their story on the online video game platform. Olivia is an investigative reporter, and Cecilia is a video game reporter, both at Bloomberg News.

● **Ed Ludlow** hosts the TV show *Bloomberg Technology*, and **Max Chafkin** is a senior reporter for *Bloomberg Businessweek*. The reporting for their story on Rivian included 100-mile Uber rides (not in a Rivian).

● The origin of **Jordan Robertson** and **Drake Bennett's** story on an undersea data cable attack goes back to a 2021 tip from a Norwegian security source. Jordan and Drake are technology reporters at Bloomberg News.

Cover



For our August issue, we tapped Victor Llorente, a Spanish photographer based in Queens, New York, to photograph former President Trump. The portrait, made in the Mar-a-Lago library, took place two days before the June debate between Trump and President Joe Biden.

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Facing Trump

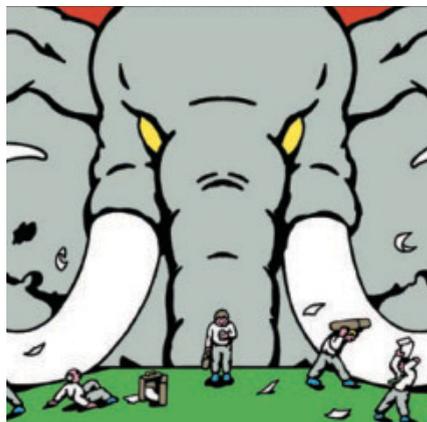
● By Brad Stone

Interviewing a presidential candidate in person before a monumental election is always a coveted opportunity. But after President Joe Biden's disjointed debate performance raised doubts about his candidacy and Donald Trump escaped an assassin's bullet in Pennsylvania, examining the GOP nominee and his economic agenda for a *Bloomberg Businessweek* cover story became a journalistic imperative.

Trump has an aggressive plan for the US economy and American companies that includes radically higher tariffs, a lower corporate tax rate and mass deportations of immigrants that could further constrict an already tight labor supply. Without this, he says, "you can fold up *Businessweek*, because I don't think it's gonna be worth a damn. I think the whole country will go down the tubes."

Most economists disagree. In June, 16 Nobel Prize winners published an open letter arguing that Trump's agenda would reignite inflation and balloon the federal debt. A recent report from the nonpartisan Peterson Institute for International Economics said Trump's proposed tariffs would cost a typical household \$1,700 a year "while inflicting significant collateral damage on the US economy."

But there's vocal support for Trump in some surprising quarters. Elon Musk and Bill Ackman, founder of Pershing Square Capital Management, are two recent converts who've endorsed Trump. In early June prominent venture capitalists contributed more than \$12 million to his campaign at a San Francisco fundraiser. Among the co-hosts was Shervin Pishevar, a backer of Airbnb, Slack and Uber, who once proudly hung photos of himself with Hillary Clinton and Barack Obama



in his home. Now he posts photos with Trump to social media and rails against Biden's appointees at the Securities and Exchange Commission and the Federal Trade Commission, who've worked to restrain tech giants and cryptocurrency. Biden's administration "has gone after the crypto world, they have gone after the business world, they are trying to regulate by executive policy with a much more liberal, far-left view of capitalism and corporations," Pishevar says. "The Republican Party is much more open to new ideas and big ideas from our world."

On the other side of innumerable social media battles about the election is LinkedIn Corp. Executive Chairman Reid Hoffman, who sent an email to followers after the debate calling Biden a "resolute fighter" and saying attempts to replace him were misguided. Hoffman argues that European policy shows unequivocally that high tariffs impede growth and raise prices, and that the unavoidable central feature of Trump's style is his tendency to govern as if he's still starring in a reality-TV show. "Investors need a sense that they are investing in a stable future," he says. But he gets why some business leaders

may be drawn to the former president: "Trump has a better understanding than the Biden administration that regulation can be a business impediment."

There's also nervous silence from many others in the business community. In 2021 former American Express Co. Chairman and Chief Executive Officer Ken Chenault helped organize dozens of prominent Black business leaders to oppose restrictive voting rights bills in Republican-led states. There's been no such groundswell now, despite similar perceived stakes for the future of democracy and fair elections. Chenault attributes this to Trump's record of vindictiveness toward his enemies. But he says he hopes others will join the fray soon. "I would not criticize a CEO for not speaking out because of the threat to their company," Chenault says. "What I would hope is that a few CEOs, and I don't think it's going to be large number, are able to act on their conscience."

In the interview with *Businessweek*, Trump was personable, as vainglorious as ever in attempting to prosecute his case for another term, and characteristically boastful, bragging about everything from first-term accomplishments to the vaulted ceilings at Mar-a-Lago. (Considering his penchant for making false claims, we're publishing the entire transcript of the interview on [Bloomberg.com](https://www.bloomberg.com), annotated with fact checks.) It was clear that Trump is feeling exceptionally confident—even for him—about his prospects in November. Surviving the assassination attempt, and having criminal charges over his handling of classified documents thrown out, has only strengthened Trump's improbable momentum. But four months is a lot of time, and as recent events have shown, a campaign can change overnight. **B**

ILLUSTRATION BY FELIX DECOMBAT



Location: Star Energy Geothermal, Mount Salak, Indonesia

Powering the Future with Geothermal Energy

At Star Energy Geothermal, a proud subsidiary of Barito Renewables, we're leading the charge in the global energy transition. Our cutting-edge geothermal technology delivers a consistent and reliable baseload energy source, ensuring clean power 24/7. We've already generated an impressive 7,077 GWh of clean energy for Indonesia, showcasing our dedication to operational excellence and a greener future.



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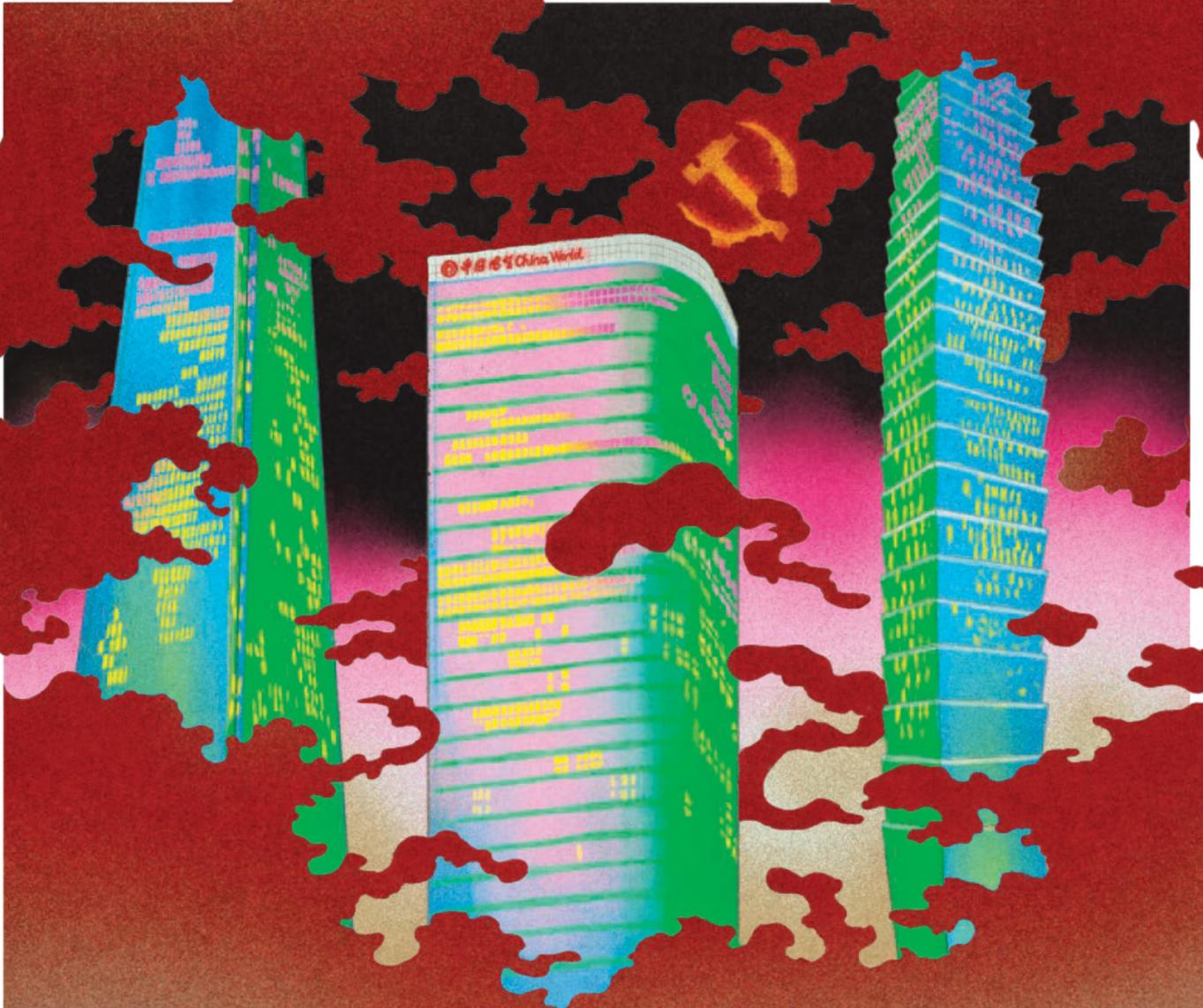
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InContext

A new way to think about the world



Banking on the Party

● By Cathy Chan

China International Capital Corp. was conceived as the mainland's Morgan Stanley, an investment bank unleashed from the constraints of state planning and bureaucracy. But lately, the hottest credential at CICC is... membership in the Chinese Communist Party.

Three decades after its founding, China's answer to the hard-charging

giants of Wall Street is in the throes of a counterrevolution. Heeding Xi Jinping's call for "common prosperity" and party criticism of "hedonistic lifestyles," CICC has cast aside its dream of one day challenging the giants of global finance.

One after another, CICC's bankers are pledging their loyalty to the party, promising to follow the CCP's directives, guard its secrets and, per the official oath, "sacrifice my all for the

party and the people." The swelling ranks of badge-wearing communists at CICC—roughly a third of its 2,000-plus bankers have joined the party, insiders say—underscore the new realities for capitalists in the China of Xi.

Gone is the burning ambition, the long hours, the princely pay. So, too, is the steadfast belief that the markets rule. In their place has come a new playbook in which the party is paramount and ▶

ILLUSTRATION BY CHAU LUONG

◀ vital to career success. “There has been a political redefinition of finance,” says Zhiwu Chen, a professor at the University of Hong Kong.

The trend highlights Xi’s increasing control over the nation’s financial system and the consequences, intended and not, of his drive to reshape the business and cultural landscape. Interviews with several senior CICC bankers paint a portrait of the ideological makeover and its repercussions. Given how China polices dissent, these people spoke on the condition they not be identified. CICC didn’t respond to requests for comment.

Founded in 1995 during a period of rapid growth and reform, CICC was soon dubbed the “Morgan Stanley of Guo Mao”—a nod to an early backer and the complex of office towers where it’s based. (CICC’s other shareholders include state-run China Construction Bank, Singapore investment fund GIC Pte Ltd. and various private equity firms.) Morgan Stanley severed its ties with CICC in 2010 and soon set up its own China securities venture, which has recently been slashing jobs because of a lack of investment banking activity.

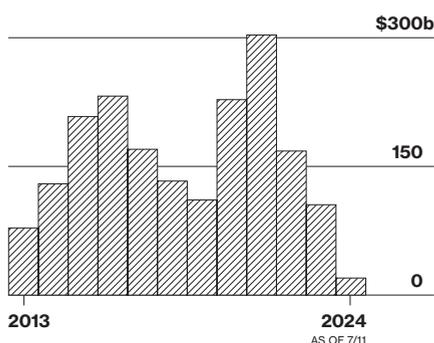
At its founding, CICC aspired to challenge the giants of London, New York and Zurich. If bankers were Communist Party members, they rarely bragged about it. The subject was taboo in financial circles. Some refused to join the party because doing so can heighten government scrutiny and threaten personal freedoms, for instance requiring approval to travel abroad.

Today, CICC bankers boast of their party standing and encourage colleagues to join. As the calculus of success has shifted, many have taken to knocking off early, at least by Wall Street standards. By 6 p.m. most evenings, the 27th and 28th floors of China World, home to the investment banking business, have mostly cleared out, one person familiar with the operation says.

That’s because CICC no longer appeals to the ultimate capitalist motivator: old-fashioned greed. In April, CICC notified its mainland bankers that their base pay would be cut by as much as 25%, and few received bonuses in 2023.

Dealmaking Suffers Steep Decline

Volume of IPOs on China and Hong Kong exchanges



Senior bankers whose salaries once almost equaled those of counterparts at Goldman Sachs Group Inc. or Morgan Stanley now earn roughly half as much.

By law, Chinese companies must maintain CCP committees in their ranks. Even international banks operating in China have them, albeit on a smaller scale, as enforcement tends to be limited. But the growing number of party members at CICC stands in sharp contrast to the Wall Street culture it once embraced.

The party’s increased influence worries longtime employees. Morale is flagging. Productivity is down. Worst of all, business has dried up. Given the running tension between China and the US and the Chinese government’s effort to assert control over its markets, 2024 is shaping up to be the worst year for Chinese initial public offerings worldwide in more than a decade.

Over the past two years, CICC’s Hong Kong-listed shares have shed almost half their value. The bank has been unseated as the top arranger of overseas stock sales for Chinese companies, a position it held for five years, and it’s losing market share in cross-border Chinese merger deals. With the dearth of IPOs, profit and revenue slid for a second year in 2023.

Leading the charge is CICC’s new chairman, Chen Liang, who signed on last year from a smaller state-run investment bank, China Galaxy Securities Co. And several key CICC executives seen as friendlier to market capitalism have exited. Among them were former Chief Executive Officer Huang Zhaohui and Chief Operating Officer Chu Gang,

close associates of the earlier, longtime CEO Levin Zhu, son of former Chinese Premier Zhu Rongji.

These days, Chen and division heads typically open meetings by reciting slogans known as “Xi Jinping Thought.” Next are highlights from the most recent State Council and Politburo conclaves. At a recent annual general meeting, senior bankers pinned party badges to their suit jackets to demonstrate their allegiance to the CCP. Another time, bankers unfurled a Chinese flag and a banner emblazoned with Xi’s slogans at the offices of a mainland client.

Behind the patriotic displays is a sober reality: Bankers must follow party prescriptions about which companies and industries China does—and doesn’t—want to nurture. On the “yes” list: manufacturing and technology. Luxury goods and fintech, meanwhile, have fallen out of favor. Between satisfying regulators, reconciling financial reports, working with clients and lining up investors, orchestrating a big domestic Chinese IPO can now take five years or more.

Granted, other Chinese investment banks are in a similar boat. At CICC’s biggest rival, Citic Securities Co., more than 750 employees, about a third of the staff, quit between 2021 and early 2023. Employees in Beijing and Hong Kong have clashed over tight budgets, pay cuts and other management issues. The largest financial conglomerates have asked senior staff to forgo deferred bonuses and in some cases return pay from previous years to comply with a pretax cap of 2.9 million yuan (\$400,000), people familiar with the matter have said. And a government-led anticorruption drive resulted in at least 130 financial officials and executives being investigated or punished last year alone, according to Bloomberg calculations based on official announcements.

But the future for CICC—which once symbolized China’s vaulting ambition in global finance—is less certain than for most others, according to Chen at the University of Hong Kong. As its overseas business fades, the bank must pivot to mainland markets and carefully hew to the party line. And at home, it’s

bound to face stiff competition from domestic rivals, including some, such as Citic, with closer links to the government. “The future of CICC,” Chen says, “is that there’s no more CICC in a few years’ time.” **B**

The Future of Macronisme

● By William Horobin

President Emmanuel Macron’s bet on regaining control of France with snap elections backfired spectacularly, but the resulting political gridlock means investors and business have escaped with the least worst outcome.

Coordinated maneuvers by disparate political forces aimed at blocking the ascension of Marine Le Pen’s far-right National Rally delivered a hung parliament where no group has anything approaching a majority. With Macron unable to call fresh elections for at least a year, France is saddled with a legislature riven with ideological and personal divisions so great that it’s unlikely it will enact any meaningful changes to current policy.

Investors initially panicked when Macron dissolved parliament on June 9, because they feared he’d opened a door for National Rally to take control of the legislature and drive through disruptive and costly laws, including much tighter immigration controls. The prospect also unsettled many in business—especially

those in the growing tech sector, which has benefited from the creation of a visa that fast-tracks hiring nationals from outside the European Union.

In a turbulent campaign, the specter of a far-right France was joined by the ghost of a far-left past. Firebrand Jean-Luc Mélenchon brought moderates and greens into an electoral pact geared at resuscitating Gallic *dirigisme*, with its soak-the-rich taxation and boundless public spending.

Either extreme would have laid waste to Macron’s reform project. Over seven years in office, the youngest-ever leader of the republic has worked to transform France’s reputation as a country hostile

Medef, France’s largest business federation, also wants to see the status quo preserved. “The engine of growth can only start up again if the country pursues economic policy that is clear and stable,” it said in a statement.

The most pressing challenge for the gridlocked National Assembly is the budget. Even before the election, France’s finances were in the spotlight after the budget deficit swelled to 5.5% of gross domestic product in 2023, prompting S&P Global Ratings to downgrade the country and the EU to instigate a procedure to enforce greater discipline on countries with excessive debt and deficits.



to business and finance. His corporate tax cuts are unpopular with the public, but foreign capital has flowed in, helping to turn the tide of deindustrialization and drive unemployment to a four-decade low.

The outcome of the elections means it will be hard to undo much of this. Leftist parties won the largest number of seats in the National Assembly, but not enough to enact their more radical policies, such as sharply increasing the minimum wage or rolling back the recent increase in the retirement age. “We must prevent any reversal or revision of supply-side policies,” said Finance Minister Bruno Le Maire. “We must make our best efforts to build a majority based on projects that continue to defend this.”

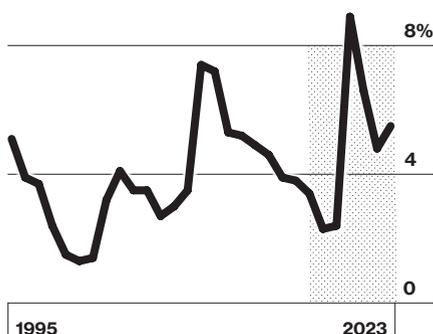
In France, there’s a tradition of opposition parties voting against a budget, no matter the circumstances. So when whatever government emerges presents its spending plans at the end of September, there’s the risk it will suffer a defeat and possibly collapse in a no-confidence vote. New bills and new governments could come and go, and a budget might not be adopted.

Fortunately for France, there are provisions in the constitution that would allow the state to continue collecting taxes and roll over spending approved the previous year. That autopilot setting may lend some comfort to business and investors as they navigate through a tense time. **B**

Loss of Discipline

France’s budget deficit as a share of GDP

■ Macron’s tenure



■ PHOTO: ED ALCOCK/MP/REXUS ■ DATA (CICC): COMPILED BY BLOOMBERG, (FRANCE): EUROSTAT, COMPILED BY BLOOMBERG

Josh Harris, co-founder of Apollo Global Management, talks about his second act as a sports mogul

1 Did you ever think you'd have a sports empire?

Not in my wildest dreams. The notion that I would own the Philadelphia 76ers where I had gone to college at Penn, the New Jersey Devils where my dad had grown up, and then the Washington Commanders where I spent my youth was an incredible dream come true.

2 What's different about investing in sports teams?

In business, it's about Ebitda, stock price, valuation, cash flow. In sports, it's about winning championships and creating memories. Obviously the journey started as more of a value-oriented journey, very similar to what I do at 26North [the alternative investments company Harris founded in 2022]. But the evolution is quite different. At the time I paid \$6 billion for the Commanders, and at 60 times Ebitda my credentials as a value investor were shattered, I like to joke.

3 What's driving the surge in sports team valuations?

If you look at the evolution of sports content, particularly the big sports with the NFL and the NBA leading the way, there's a massive globalization because of the ability of people to stream content and watch it on their phone. So in many cases there are more people watching the Sixers in China than there are in Philly. And that's the case all over the world. So you're seeing massive upward

pressure on valuations as more and more eyeballs really engage in it.

4 So is there a ceiling at this point?

That's all being driven by these becoming entertainment businesses and not local event businesses. I would expect that to continue if the rumors about the NBA are true and it's going to double over the next eight or nine years. And there's a scarcity value. Sports teams are operating businesses, and they generate cash flow. Some of them don't, a lot of them do. But then it's also kind of a piece of art. There's only 30—or 20 depending on the league or franchises—and people want them. So at the end of the day it's worth whatever someone will pay for it.

5 You're also in youth sports. What's the business case there?

Sports changed my life. I was a college wrestler. If I hadn't gone through the experience of having to go out there and literally be physically dominated by another human being, I probably wouldn't have worked as hard as I did in my youth. We want the opportunity for everyone's kids to experience sports. So we started Unrivaled Sports, a series of youth sports leagues and camps. It spans baseball with Cal Ripken to Shaun White in adventure sports. Most recently we're in flag football. We reach more than 1.3 million kids, and people pay a lot of money to send their kids to get better at sports.

Interviews are edited for clarity and length.



AI Versus Hurricanes

By Brian Kahn

With the pull of a cord, a balloon laden with sensors rises into the cloudless sky above a parking lot in Palo Alto, California. Below, the three co-founders of WindBorne Systems Inc., an artificial intelligence weather-forecasting startup, crane their necks to watch what looks like a jiggling jellyfish begin a multiday journey monitoring speed, temperature and atmospheric pressure.

WindBorne sells weather-related data primarily to energy traders looking to get ahead of potential strain on the grid. Since 2021 the startup has also been working with the National Oceanic and Atmospheric Administration (NOAA),

HARRIS: PHOTOGRAPH BY JEAN-PIERRE UYS FOR BLOOMBERG BUSINESSWEEK; BALLOON, WINDBORNE SYSTEMS



WindBorne's Sushko releases a balloon in Bodega Bay, California

which is testing whether the balloon data can improve its forecasting abilities.

In addition to collecting data, WindBorne is developing its own AI forecasting tool. Its tech, and that of competing startups, will be put through its paces during what could be a record-shattering hurricane season this year. “This is one of the first seasons to really test these [new models],” says Matthew Chantry, machine learning coordinator for the European Center for Medium-Range Weather Forecasts (ECMWF), an inter-governmental organization.

John Dean, Kai Marshland and Andrey Sushko founded WindBorne in 2019, motivated largely by a love of releasing things into the sky. Weather balloons—which government agencies and even amateurs launch from hundreds of locations around the world each day—were a way to indulge that passion while

improving the existing technology. Since weather balloons first took flight in 1890, they’ve been subject to the vagaries of the atmosphere, riding the wind and going wherever it blows. WindBorne’s have the ability to navigate on their own, thanks to a unique ballast system and a suite of sensors about the size of a Starburst candy. The company can set a flight path at takeoff, and operators can take control in real time.

Regular launches from four locations in the US, South Korea and the Cabo Verde islands off Africa’s west coast provide a steady stream of global data, whereas specially programmed launches capture information about specific weather events. Throughout this season, WindBorne is launching from Cabo Verde, a hurricane formation hot spot.

On its website, NOAA has called the data that WindBorne provides a

“valuable addition” to weather balloon data. The balloons’ ability to navigate the atmosphere vertically means the startup can capture differences at various heights in temperature, pressure, wind direction and more. This fine-grained data gives forecasters a clearer picture of what’s going on in the atmosphere. If traditional weather balloon data is akin to trying to figure out how warm the ocean is by sticking a toe in, the startup’s is instead diving all the way in.

So far, NOAA has tested whether incorporating WindBorne’s data into experimental models actually improves predictions. Doing so would have improved the accuracy of the agency’s forecast for the track of 2022’s Hurricane Fiona by 18%, according to results presented at the American Meteorological Society conference in February.

NOAA and ECMWF both work with several weather startups. A spokesperson for ECMWF says that it still hasn’t fully vetted the impact of WindBorne’s data on its model.

WindBorne is using its balloons for its own AI-powered forecasting model. The system is trained on a vast dataset of hourly weather since 1940. In traditional weather modeling, meteorologists process observations using physics equations; AI instead looks for patterns in past weather to predict the future.

WindBorne’s model isn’t available for public use, but the startup has published case studies showing the quality of its forecast by applying its model to past hurricanes. In a blog posted in May, it compared its ability to predict eight cyclone tracks with NOAA’s and showed that its model outperformed the agency’s physics-based tool. WindBorne also releases comparative analyses showing that since March its model has routinely been better at predicting near-future weather than the NOAA and ECMWF models. The company is in the process of assimilating the data from its weather balloons, which it expects will yield major improvements in accuracy.

WindBorne isn’t alone in applying AI to weather forecasting. In July 2023, researchers at Huawei Technologies Co. published a study in *Nature* showing ►

◀ they'd created an AI-based model that could predict the weather more accurately than ECMWF's physics-based model, which is considered the world's gold standard. A few months later, Google scientists published a paper showing that an AI-based model they'd built was even better. In February, WindBorne said its forecast bested Google's in geopotential height, a key metric that helps meteorologists track weather systems, though its results haven't been peer-reviewed. WindBorne's Dean also acknowledges that it can be hard to nail down what exactly counts as accurate, because all three analyses use slightly different metrics.

Dean says the startup has more interest from customers than it can keep up with for now, but it has competition, too. Rival AI forecasting startups including Atmo, Jua and Tomorrow.io are all hoping to sell their weather predictions to government agencies and weather-dependent industries such as energy and aviation. ECMWF and NOAA are also working on AI models of their own.

AI models face the risk that climate change could make training data obsolete as it shifts global weather patterns. Then there's the possibility that an inaccurate AI forecast could undercut public trust in the technology. Although AI models are showing great promise at predicting the paths of hurricanes, physical models have a clear lead for now at predicting intensity, says Chantry of ECMWF. "Neither system is perfect for anything."

WindBorne's founders are aware of these risks. But they also point to the promise of what a better-observed world and more powerful forecasts could mean for society. A 2024 National Bureau of Economic Research working paper found that hurricane forecast improvements since 2007 have reduced the costs of damage and loss of life by 19%, saving billions of dollars.

The long-term goal, WindBorne's Marshland says, is to have 10,000 data-collection balloons aloft at a time. "What I want is for weather to be like a calendar," he says. "It affects your operations, you know that it exists. But it isn't something unexpected." **B**

The products, experiences and innovations we're obsessing over this month



The Brawn in Britain

The toughest nameplate in England just got tougher. Land Rover's Defender OCTA is the most powerful Defender yet, with a 4.4-liter turbocharged V-8 hybrid engine producing 626 horsepower and 553 pound-feet of torque. A launch control function can hit 60 mph in 3.8 seconds, but the vehicle's off-road prowess may win more converts: A widened stance and redesigned wheel arches have improved incline attack, and it can wade through more than 3 feet of water—all while cossetting the driver in leather seats and ebony textile trim. With prices starting at \$152,000, order books are open.

A High-End Hotel in Low Country

Opening just a short drive from Charleston, South Carolina, the Dunlin is the latest addition to the Auberge Resorts Collection. Situated on 20 miles of waterfront property and with 72 rooms decked in wicker and mint-green gingham (from \$749), it will attract both sporty and stylish types. Guests can hike, fish or explore the Kiawah River estuary for sightings of dolphins, sea turtles and great blue herons before hitting the Aster spa.



Lego Rocks The Boat

Jaws returns this summer, but this time as a 1,500-piece, 2-foot-long Lego set. The \$150 model includes the great white shark, of course—along with the Orca, manned by Brody, Hooper and Quint and equipped with fishing rods, spears and those famous yellow barrels. It's the brainchild of fan Jonny Campbell, who posted it to the brand's Ideas platform, where it got the 10,000 likes needed for production consideration.

A Cossstly Necklace

Italian luxury house Bulgari filled its 140th anniversary high-jewelry collection, dubbed Aeterna, with riffs on its classics. One of the most spectacular is an abstract take on the Serpenti motif, which made its debut in 1948. This white gold necklace (price on request) evokes a slithering snake with ribbons of diamonds trimmed with onyx. At the center is a 21.63-carat tanzanite.



One Small Sip for Man...

Breville has upgraded its flagship Oracle Jet automatic coffee machine with the ability to make cold brew (and cold espresso) in less than 4 minutes, instead of the usual 12-hour-plus process. The \$2,000 stainless steel device comes with 45 grind settings as well as settings for dairy and nondairy milks so you can make an espresso martini faster—and better—than your bartender.

A Scorching Vintage

Dom Pérignon's latest bottle of bubbly is from 2015, the hottest growing season ever recorded. The \$295 bottle, the brand's 46th vintage, shows that even with the extreme weather of climate change, great Champagne can still be made. Sensual, powerful, harmonious and rich, it has a creamy texture, subtle aromas of peonies, and vivid flavor notes of ripe, salty lemons and green papaya.



Shuffleboard, Under Glass

Milan design house Impatia takes the rugged stuff of bars and taverns—think foosball and billiards—and reimagines them as modern, minimal art objects. Its latest release is Scivolo, a 12-foot-long shuffleboard table (\$27,750) that seems exclusively meant for penthouses. Its frame is made of walnut, and the top and legs are constructed of low-iron glass. But there's no reason to fear an errant shot from the stainless steel pucks: Their edges are covered in suedelike Alcantara leather.



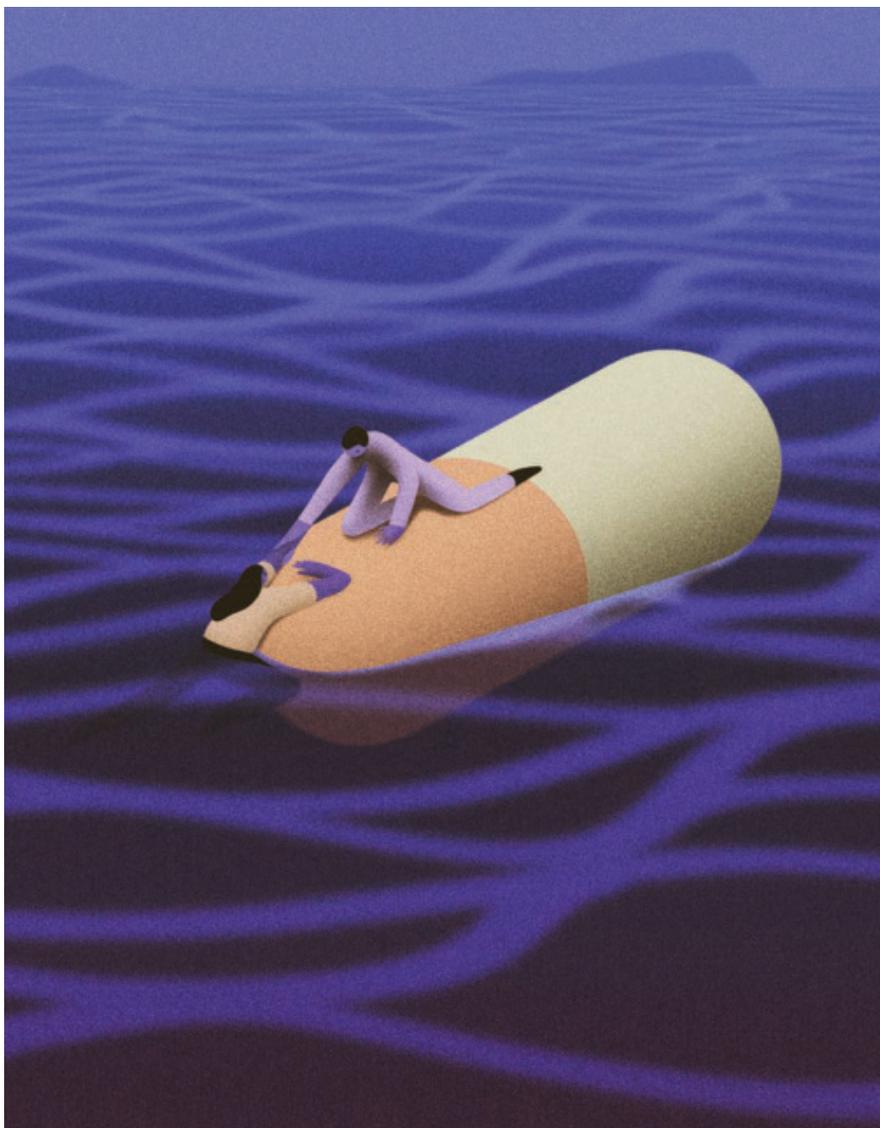
RENDERING COURTESY THE DUNLIN/AUBERGE RESORTS COLLECTION. REMAINING: COURTESY COMPANIES



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Why America Can't Quit Opioids

● By Gerry Smith

Opioids. They're a public-health pariah, leading to more than 80,000 overdose deaths a year. Patients worry they'll get addicted to them. Doctors want nothing to do with them. And politicians of all stripes are calling for less dangerous options for treating pain.

"We are looking for absolutely anything that's not an opioid," says Seth Waldman, an anesthesiologist and director of pain management at Hospital for Special Surgery, a top orthopedic medicine center.

Against that backdrop, the success of a safer painkiller would seem assured. A new drug, which Vertex Pharmaceuticals Inc. is developing, has been hailed as a scientific breakthrough because it treats pain without entering the brain, where opioids create addicts. The drug, suzetrigine, met its goal this year in pivotal trials for acute pain and is poised to become the first new class of pain medication in more than two decades.

But all that may not be enough to loosen the grip opioids have on American medicine. Despite their dismal reputation, they have two powerful things going for them: They're cheap, and they work. The number of opioid prescriptions has been cut by half over the past decade, but some 130 million are still doled out each year.

"Opioids are the most effective fast-acting meds that we have," says Gerard Limerick, an assistant professor at Johns Hopkins Medicine.

Usually, a new drug must outperform what's already on the market to be widely prescribed by doctors and paid for by insurers. Vertex's drug didn't quite do that. In late-stage studies of patients with acute pain after surgery, suzetrigine worked better than a placebo. But it failed to reduce bunion surgery patients' pain faster than a combination of an opioid and acetaminophen, raising questions about its commercial potential.

"It's hard to make a case for denying a patient a drug that has clearly superior efficacy to everything else out there," Brian Skorney, a biotech analyst at Baird, wrote in a note this year about Vertex's pain studies. "It's much easier to deny an expensive branded drug when there are a myriad of effectively free, generic options, some of which have now been shown to even be superior to the expensive brand."

Health insurers often require patients to pay a higher copay for a branded drug and try a cheaper generic first, a practice known as step therapy. And hospitals typically get the same payment from Medicare whether a doctor prescribes an opioid or a non-opioid, creating an incentive to go with the cheaper, more addictive option.

For instance, an intravenous version of acetaminophen during surgery costs more than \$40, whereas a morphine drip costs about \$1, says Jianguo Cheng, a professor of anesthesiology at the Cleveland Clinic. "The reimbursement won't increase just because you use \$45 acetaminophen," he says.

Vertex is betting the nonaddictive properties of its drug will make it an attractive alternative to opioids. But it isn't leaving anything to chance. Knowing it faces an uphill battle commercially, the company last year boosted its lobbying spending almost 50%, to more than \$3 million. Vertex is pressing Congress for new policies that remove "structural impediments" blocking access to opioid alternatives, says Stuart Arbuckle, its chief operating officer.

Vertex has scored at least one legislative victory: The No Pain Act, which goes

ILLUSTRATION BY SOPHIE GULLBRANTS ■ DATA: IGVIA, XPONENT

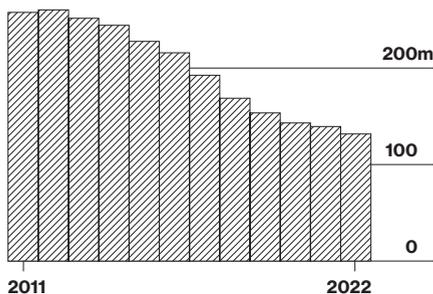
into effect next year, provides an extra Medicare reimbursement to hospitals that prescribe alternatives to opioids. Another bill introduced this year in Congress would prohibit step therapy and limit how much Medicare patients pay out of pocket for non-opioids.

Other types of new drugs face this cost hurdle, too. The rollout of new contraceptives or antibiotics has been hampered by insurers guiding doctors and patients to older, less pricey meds. The difference is that those generics haven't been declared a public-health emergency.

Without new laws to promote the use of alternative painkillers, insurers will continue to steer patients to lower-cost opioids and fuel the addiction crisis, says Chris Fox, executive director of the nonprofit Voices for Non-Opioid Choices. And even with new legislation, other obstacles remain. Getting doctors to prescribe a drug such as Vertex's may require a massive reeducation effort. "The challenge we have is, by and large, our health-care workforce is trained to treat pain with opioids," Fox says.

Opioids Are Down but Not Out

Prescriptions dispensed by US retail pharmacies



Each year, about 80 million Americans are prescribed a medicine for acute pain, caused by the likes of broken bones, burns and the aftermath of surgeries. Some 50 million more have diabetic nerve damage or other types of chronic pain that lasts at least three months, an area Vertex is also studying. For the most part, patients have only two treatment options: anti-inflammatory drugs like ibuprofen, which aren't very strong, or opioids, which are highly addictive. They frequently fight with insurers over coverage of safer pain medications, which

Waldman calls "a cruel joke." "There are times when we can't get a non-opioid medication approved, but we can get approval for an opioid," he says.

Vertex isn't the only biotech company looking for an opioid alternative. Earlier this year, Latigo Biotherapeutics Inc. started with \$135 million in funding to find a nonaddictive painkiller. South Rampart Pharma Inc. recently completed an early-stage trial for a nonaddictive pain drug that works through unique pathways in the brain and aims to be safer and more effective than Tylenol, ibuprofen and other traditional medicines, says Hernan Bazan, the company's chief executive officer.

One of the furthest along is Tris Pharma Inc., which is starting late-stage trials in treating acute pain and hopes to develop the same drug for chronic pain and opioid use disorder, says James Hackworth, president of the company's brand division. If Tris Pharma can prove its drug works and is nonaddictive, it can be scheduled differently by regulators so it's easier to dispense and prescribe than opioids, which have restrictions, he says.

Founded in 1989, Boston-based Vertex transformed into a biotech giant with almost \$10 billion in 2023 sales after turning cystic fibrosis from a debilitating lung disease into a manageable condition. Now it's trying to diversify into other treatments, including for diabetes and sickle cell disease. Developing a nonaddictive pain drug, which Vertex has studied for more than two decades, has been "one of the holy grails in pharmaceutical research," says Paul Negulescu, a senior vice president at Vertex.

Vertex's drug blocks a sodium channel that helps control activity in the body's neurons and sends signals to the brain when you're in pain. Wall Street is giddy about its prospects: Vertex's stock soared about 40% over the past year, adding about \$40 billion to the company's value, largely due to optimism about the pain med, expected to hit the market in 2025.

Still, Negulescu remains realistic. "We don't imagine we'll replace opioids with this medication," he says. Instead, the company's goal is "to reduce the need to have to take them." **E**

A Supermarket Antitrust Replay?

● By Leah Nysten

When supermarket operator Albertsons Cos. took over rival Safeway in 2015, it won government approval to complete the \$9.2 billion deal by agreeing to a remedy antitrust regulators had been allowing for decades: selling off some stores in overlapping markets, a move that was supposed to maintain competition and help keep shoppers' grocery bills down.

That divestiture of 168 supermarkets was then the biggest ever. It was also a disaster. Many investors in the sold-off stores lost their shirts, workers lost their jobs, and communities lost vital access to fresh food and low prices. Only half of those stores survive today as Albertsons' competitors, a Bloomberg analysis found, and some were bought back by the large chain for as little as \$1, after their ailing buyer foundered.

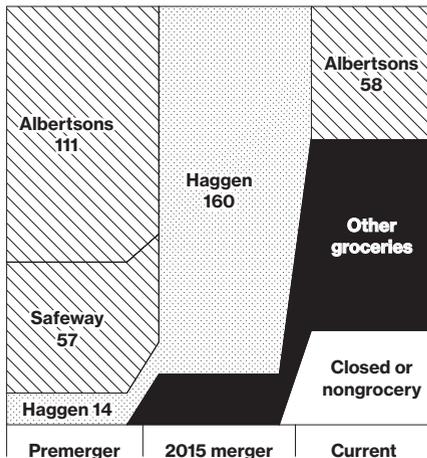
Almost a decade later, that scenario may be playing out again. Kroger Co., with about 2,800 stores across 35 states, agreed in October 2022 to acquire Albertsons, which owns 2,200 in 34 states and the District of Columbia, for \$24.6 billion. The companies are proposing to sell off nearly 600 stores to keep regulators happy, but this time government officials are pushing back. In an antitrust case filed by the Federal Trade Commission and nine states and territories that will go to trial in August, regulators contend that the 2015 Albertsons-Safeway debacle showed that major divestments don't work in the food store business and that this latest supermarket megamarriage should be prohibited.

Skepticism of the Albertsons-Kroger deal "is strongly supported by what happened in the Albertsons-Safeway merger, where stores closed, jobs were lost, consumers suffered, and the divestiture failed miserably to preserve competition," Colorado Attorney General Phil Weiser says. "We won't risk another such failed divestiture."

The stakes are high, not just for shareholders of the two companies but also ►

What the Albertsons Merger Wrought

Ownership of the 182 grocery stores involved in the 2015 deal



◀ for the towns and shoppers that could suddenly find themselves without a convenient grocery store. Just ask Tina McKim, a co-founder of the Birchwood Food Desert Fighters, which distributes food weekly to about 90 families around Bellingham, Washington. The Birchwood neighborhood saw its local Albertsons grocery store close after the earlier merger. Residents—many of whom don’t own cars—were left without a close, reasonably priced outlet for food and staples. Instead, they had to take lengthy bus rides to other markets or shop at expensive convenience stores.

“It’s really been a struggle for people in the neighborhood,” says McKim, who worries that the proposed Albertsons-Kroger tie-up could leave other towns in a similar situation. “We want people to be able to access food with dignity.”

At a Birchwood neighborhood food share



In the 2015 deal, Bellingham-based Haggen Holdings bought most of the stores Albertsons sold off. Within months, Haggen declared bankruptcy—and was gobbled up by Albertsons. The result: Albertsons ended up buying back 44 of its former stores along with the 14 groceries the Haggen chain had originally operated. Ten other locations closed permanently, and 17 more were converted to hardware stores, gyms and even a hotel.

That cautionary tale—which FTC Chair Lina Khan once called a “spectacular” failure—is now a key piece of evidence in the agency’s case, which heads to trial on Aug. 26 in Portland, Oregon.

Kroger and Albertsons say their deal will benefit consumers, bringing them more modern stores, bringing them the grocers’ clout with suppliers to push food prices lower. The increased buying power and cost sharing will help them compete with bigger retailers such as Walmart Inc. and Amazon.com Inc.

The merging companies have offered to sell 579 stores to C&S Wholesale Grocers, the largest US wholesale food supplier, which is affiliated with the Piggly Wiggly chain. It operates only 23 supermarkets in New York and Wisconsin and has little retail experience on the West Coast, where many of the supermarkets to be divested are located.

The merging grocers say C&S is better financed to make the stores successful and shouldn’t be compared with Haggen. But in three separate lawsuits to block the merger, the US and state attorneys general point to Haggen as proof that large store

divestitures risk failure. The Albertsons-Kroger proposal to sell markets to C&S, they allege, is just history repeating itself—this time with even higher stakes.

Haggen, once the largest independent grocery chain in the Pacific Northwest, was sold in 2011 to private equity firm Comvest Group Inc., which closed underperforming stores until only 14 groceries and one pharmacy remained. After Albertsons announced the Safeway merger in 2014, Comvest saw an opportunity when the supermarkets proposed selling off almost 200 stores in areas where they directly competed.

Haggen originally wanted to bid on only 22 stores, but when the firm backing Albertsons, Cerberus Capital Management LP, wanted most stores to go to a single buyer, it agreed to purchase 146 supermarkets for \$309 million—including locations in Arizona, California and Nevada, where it had no existing business. In February 2015, the FTC cleared the sale. Within six months, Haggen filed for bankruptcy.

This was how the merger played out in Bellingham. After buying Haggen out of bankruptcy, Albertsons closed its store in the Birchwood neighborhood, which served a racially diverse, low-income community and the nearby Lummi Reservation. The city couldn’t coax another grocer to the location, because Albertsons maintained a restrictive covenant on the building that prohibited a rival leasing the space until 2038. A Big Lots store opened there in 2019, but it sells only dry goods such as cereal and canned soups. A local Mexican restaurant offers some produce and dairy products, but it can’t accept food stamps.

In late June, Albertsons agreed to lift the restriction on the building’s use after *Bloomberg Businessweek* submitted questions about it and the Washington attorney general’s office began an investigation into the practice.

Now locals worry what impact the pending supermarket megadeal might have on their town: Kroger and Albertsons are the two largest chains in Washington, with over 300 supermarkets collectively—more than half of all grocery stores in the state—so disruptions could follow. **B**

Airbnb Hosts Look To Drop the ‘Airbnb’

● By Natalie Lung

This April, more than 600 landlords, real estate agents and small-property managers traveled to a swanky resort in San Diego to get advice from Jesse Vasquez. A former salesperson at a hospice-care company, Vasquez now manages more than a dozen properties, in addition to his side hustle coaching his peers. “We don’t have to be relying on Airbnb,” Vasquez told his audience. “Don’t allow these big companies to supply your clients. Build your own house on your own freakin’ land.”

Airbnb, the world’s biggest short-term rental platform, is thriving—it added more than a million active listings in 2023 while posting a record profit. Its hosts, at least those in the US, not so much. Through May of this year, earnings for US hosts had declined in 22 of the past 28 months, according to analytics firm AirDNA. Hosts blame oversupply, regulatory changes and Airbnb Inc.’s own policies. Some, like those at Vasquez’s event, think the solution is to cut out Airbnb altogether.

In part, this is what always happens when people rely on internet platforms to make a living. It’s akin to Uber drivers asking passengers to call them directly the next time they need a ride, or YouTube influencers and TikTok celebrities cutting side deals with brands to secure advertising income they won’t have to split with the platforms. Who likes a middleman?

On Airbnb, there’s a specific opportunity in the shift to mid-term rentals—stays of longer than 30 days but shorter than the leases people sign for their primary apartments. Attracting enough new people to rent an apartment once or twice a week essentially requires a service like Airbnb. If you’re only looking for a few renters a year, it becomes more reasonable to find them yourself.

In practice, though, this strategy is often a way to supplement Airbnb income rather than replace it entirely. Vivian Yip, an Austin-based host who

came to Vasquez’s conference, began the shift several years ago and has done well enough to quit her day job. Her property management company now includes more than 20 homes. Still, she relies on Airbnb for half of her bookings. “I’m not strong enough to replace Airbnb,” she says.

Chief Executive Officer Brian Chesky has downplayed the importance of individual hosts circumventing Airbnb’s services. In an email, a spokesperson added that the company offers benefits that are hard to replicate, including background checks, payment processing and insurance. “When bookings and communication move off our platform, we are no longer able to ensure hosts and guests are covered by our extensive built-in protections and support,” they wrote.



Airbnb wants to hold on to those hosts who are focused on longer stays, a group that’s bigger than it was before the pandemic. It’s tailoring its platform to appeal to them. Last summer, for instance, it reduced service fees for stays of more than three months.

For now, the mid-term segment is dominated by large companies such as Anyplace, Blueground and June Homes, but smaller players are also setting up their own booking websites, drawing renters in with lower prices for properties also listed on Airbnb or Vrbo.

For some hosts, the trick is not to find renters one by one but to form relationships with institutions that will bring in regular business. These can be companies helping their employees relocate, or insurers and government agencies in search of temporary housing for

displaced families or contract workers.

The interest in direct bookings creates an opportunity for businesses such as Furnished Finder LLC, which charges \$100 annually for listings rather than taking a commission. Interest in the site spiked last fall when New York City effectively banned short-term apartment rentals, and in October the platform added more homes than in any month of its 10-year history, according to CEO Jeff Hurst.

Today, Furnished Finder has 300,000 listings in the US. It’s a far cry from Airbnb’s 7.7 million globally, but the company is profitable and plans to hire more engineers and product managers, says Hurst, who was hired in late 2023, one of a wave of former Vrbo employees who’ve migrated to the company.

The hunger to develop alternate strategies to find tenants is a big reason people were willing to pay the \$897 Vasquez charged for his conference. He talks up the benefits of rental hosts referring potential clients to one another. “The mid-term space is all about connections,” he says.

Vasquez rented out his first mid-term property to a travel nurse in 2015, then built up his portfolio by making a housing deal with his local hospital in Modesto, California, and managing other people’s rentals. He now brings in more than \$80,000 a month in profit.

His social media following exploded after he appeared on a real estate investing podcast last year. The increasing prominence provided a significant boost for what has become an even bigger source of income for Vasquez than rental housing: giving other people advice about rental housing.

After the podcast episode, Vasquez got more than 300 new students for his yearlong mentorship program, which costs \$6,500. He says his online mentorship program turned a \$1.3 million profit last year. The conference attracted 60 more sign-ups, adding to the 450 people who’ve taken the course. Profit is once again projected to top \$1 million.

“It’s so crazy to feel like this movement is happening,” he says, “and I get to be a catalyst.” **B**



Anita Elberse studies what makes celebrity empires soar—then teaches A-listers attending her Harvard Business School program how to hatch their own

■ PHOTOGRAPH BY TARA RICE FOR BLOOMBERG BUSINESSWEEK

A swarm of students waits in the classroom at Harvard Business School's McCollum Hall to take selfies with Anita Elberse. They've just finished her sought-after executive education course, and though a bunch of big names are among the most recent batch of grads—skiing icon Mikaela Shiffrin, ex-*Daily Show* comedian Roy Wood Jr., FIFA World Cup winner Juan Mata—Elberse is evidently the bigger star on campus. “She’s a very popular lady right now,” says one student after angling for a shot.

Elberse, a Nike-wearing scholar of marketing, is best known for her course *The Business of Entertainment, Media, and Sports*—or #BEMS to its alumni who post about it on Instagram and LinkedIn. The four-day, \$12,000 program, an elective open to professionals not enrolled at HBS, has become a blockbuster for the university. Elberse’s case studies, ranging from David Beckham’s brand management to Beyoncé’s music launch strategies, are often announced like an album drop on social media. Which is why, along with execs from Hollywood and Madison Avenue, stars such as Channing Tatum and LL Cool J have signed up, hoping to build the next celebrity business empire.

Elberse has just wrapped up her final classes of the session, including one on a more new-age cultural specimen—YouTube megastar MrBeast. Not exactly a stranger to image management herself, Elberse wouldn’t allow me to observe the class, though she did have it filmed for promotional clips. Her March 2023 case study of MrBeast offers a peek into the type of analysis she brings to his \$100 million-generating content machine: She covers his financials, mostly validates his virality as a business model worthy of what she calls “the Harvard treatment” and quotes his mom, Sue. (“We are making it cool to take care of people,” Sue said of her son’s charitable efforts.)

Elberse’s students stroll over to a campus cafeteria for lunch, where post-class debate continues. One student, whose day job is as an influencer, argues that MrBeast, like Elon Musk, is driven by his passions, not money. Matte Babel, the chief brand officer of Drake’s production company, takes issue with some of

MrBeast’s ad revenue numbers, then casually pivots to suggesting he and Elberse come up with a case study on Drake’s business. (Left unmentioned is the musician’s recent spat with rapper Kendrick Lamar and the subsequent blow to Drake’s reputation.) “That’d be awesome to do,” Elberse says.

After graduating from college in her native Netherlands, Elberse earned a master’s in communications at the University of Southern California, where she first became interested in the film industry, before transferring to the London Business School for her Ph.D. While her colleagues were drawn to consumer industries with mounds of market data, such as diapers or snack food, she observed there were plenty of metrics on movie budgets and box-office numbers that deserved MBA-level treatment. “I can’t imagine living my life trying to become an expert on the yogurt category,” she says.

Her thesis on supply and demand dynamics for timing international film releases helped win her a tenure-track role at HBS in the early 2000s. There, she wrote case studies on LeBron James’ endorsement deals and how Marvel turned its comics into a cinematic universe. The research formed the basis of an HBS class—a semester-long course for enrolled MBA students, which Elberse still teaches—and culminated in her 2013 book, *Blockbusters*, about the economics and marketing of hit-driven businesses.

When she started teaching her executive course a year later, it was clear she’d taken her own lessons on celebrity marketing to heart. “From the get-go,” she says, “I had the sense that I want to mix the talent side—the artists and athletes—with the executives.” By then she’d developed a strong network from her side gig consulting for brands and corporations and says she called in a lot of favors to get the buzz going. Supermodel Karlie Kloss, whom she’d briefly advised, joined the inaugural class and posted about it on social media. The next year, Miami Heat star Dwyane Wade joined—and decided to bring his actress wife, Gabrielle Union.

The course was an immediate hit. Its appeal isn’t just that it allows C-level normies to study alongside celebrities

but also that it allows famous people to feel like Ivy Leaguers. “This week I got accepted into Harvard! Words cannot describe my excitement!” posted singer Ciara online after getting into Elberse’s program in 2019. “Course complete!” declared *Fixer Upper* moguls Chip and Joanna Gaines on Instagram the same year, next to a photo of the couple wearing Harvard letter sweaters and holding up diplomas. (Elberse later wrote a case on their Magnolia Network.)

Elberse is back in her office a few days after that end-of-course lunch, sipping tea to recover her voice after “inhaling chalk for four days.” She says she generally works on about three or four case studies a year, following her interests, which happen to align with the zeitgeist. In some instances she gets pitched requests, such as when Mercedes-AMG’s Formula One team reached out to recommend she consider a case on boss Toto Wolff. (She did, publishing it in February 2022.) “Ideally the release of a case is an event in itself,” she says. “Like, ‘Oh my God, there’s a case on this? I need to be part of it. When is the next class?’”

She acknowledges that booking A-list guest speakers risks becoming gimmicky but says it’s no different from a finance course featuring a leading banker. “It’s not with the aim of: ‘How can we blow people away with the celebrities that we have in the room?’” says Elberse, whose office doubles as an altar of autographed sports memorabilia, including a photo of her heading a soccer ball to former guest lecturer Beckham. She says the celebrities have to go through the same admissions process to land one of the 80 seats available per session. But when Dwayne “The Rock” Johnson is one of your application references, as Elberse mentions he was for Olympic skier Lindsey Vonn, it can’t hurt.

This year marks the program’s 10th anniversary. Elberse says the more it grows in popularity, the more she has to guard against celebs co-opting the Harvard brand to further their own. “We sometimes say ‘no’ to people if I don’t get a sense they’re here for the right reasons,” she says. “This is not about you taking photos walking around the Harvard campus.” **B**

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In View

Our contributing writers' guide to a changing landscape

The future
belongs to
American
companies, not
necessarily to
Americans, says
Tom Orlik

PHOTOGRAPH BY IAN SHIVER FOR BLOOMBERG BUSINESSWEEK, PROP STYLIST: KELSI WINDMILLER

Is there a better gauge of a nation's strength than the vitality of its businesses? Thriving enterprises are a source of wealth and power, drivers of job creation, foundries for new technologies, and a sign that the institutions of education, finance, law and politics are working as they should.

So, eight years after Donald Trump won the White House with a bleak vision of a US in decline, four years since the Covid-19 pandemic tested national resilience and two years since Russia's invasion of Ukraine rolled the iron dice¹, it's striking that America's biggest businesses are doing better than ever.

In 2023, American companies claimed 32 of the top spots in a ranking of the 50 largest publicly traded firms by market capitalization. That's the highest number in data going back to 1995. Their dominance is even more stark when you consider that by market value, made-in-the-USA firms accounted for 74% of the total; made-in-China companies—America's nearest rival for global supremacy—took only 3%.

Why the divergence? Part of it is strength at home. An unrivaled innovation ecosystem, deep and liquid capital markets, a nation-of-immigrants work ethic, and pro-business taxes and regulations continue to produce winners. Nvidia Corp., whose chips are powering the artificial intelligence revolution, is the latest example.

Weakness abroad is also part of the picture. China's crackdown on its own entrepreneurs, billed as part of President Xi Jinping's campaign to promote "common prosperity," is a self-inflicted wound. India's conglomerates are hobbled by weak governance, as evidenced by the stream of corporate scandals. In Europe, fragmented national markets, high taxes and onerous regulations are stumbling blocks to global competitiveness.

If the world is entering a period of struggle between democracy and dictatorship, free markets and state control, having the most powerful businesses is both a substantial source of strength for Team USA and a powerful symbol of the virtues of a democratic, free-market system. Another positive: With 58% of Americans owning stocks, the financial gains touch a broad swath of society.

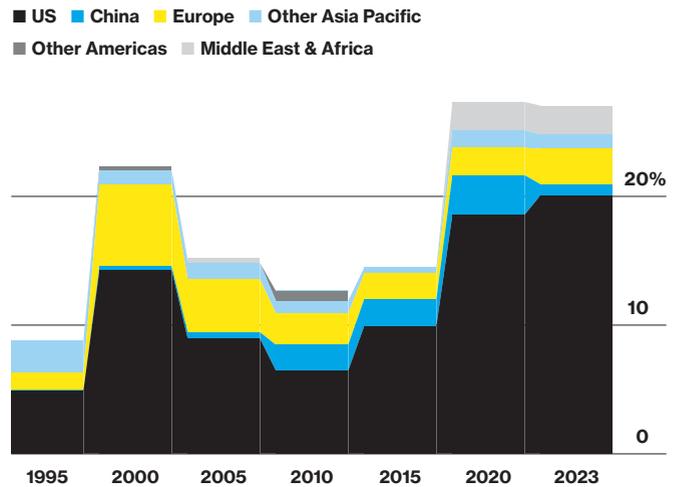
Before breaking out the ticker tape and commencing a celebratory reading of *The Autobiography of Benjamin Franklin*², it's worth asking a question. In 1953, responding to concerns about whether he would use his new position as secretary of defense to benefit his former employer, General Motors Co., Charlie Wilson told members of Congress, "What's good for GM is good for America."³

Even in an era of chrome-plated optimism about corporate success and middle-class prosperity, Wilson's answer appeared over the top. Seven decades later, with corporate profits booming and middle-class incomes stagnating, questions about the alignment between business interest and the public good run even deeper.

Size is part of the problem. In 1995 the market cap of the world's top 50 firms equaled about 9% of global gross domestic product. By 2023 that number had risen to 27%. The Founding Fathers recognized the risks in that concentration

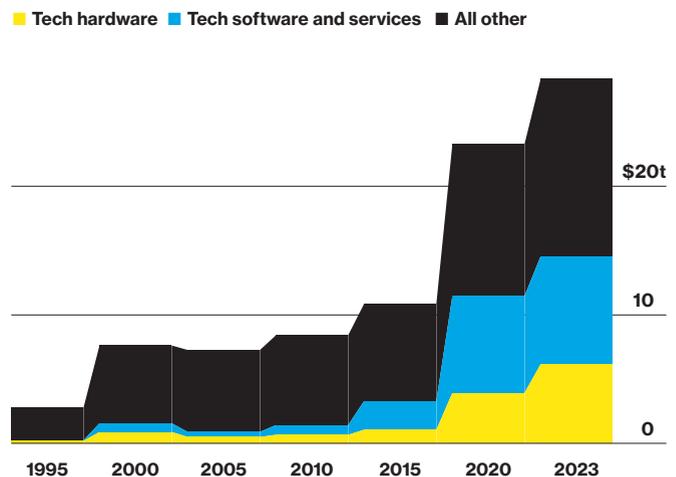
American Century

Geographic breakdown of the world's top 50 firms by market value, as share of global GDP



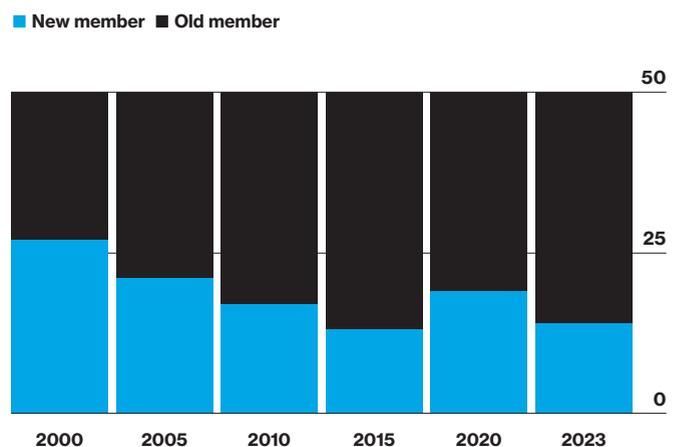
Robots Rising

Sector breakdown of top 50 firms, by market value



Wider Moats

Number of new and old firms in the top 50



DATA: BLOOMBERG ECONOMICS

Sure enough, the evidence suggests today's corporate aristocrats are busy squeezing workers, greedflating prices, minimizing taxes and bending politicians to their will

of corporate power. Thomas Jefferson hoped to “crush” the “aristocracy of moneyed corporations” before they “challenge our government to a trial of strength.”

Sure enough, the evidence suggests today's corporate aristocrats are busy squeezing workers, greedflating prices, minimizing taxes and bending politicians to their will. In 1995 the top 50 global firms paid a median effective tax rate of about 35% and had a profit margin of 6%. By 2023 the effective tax rate had fallen to 20%—reflecting the growing use of offshore tax havens—and the profit margin had risen to 20%.

With a portion of those profits, big businesses buy influence over government policy. In the US, they recently scored a major win. The Supreme Court's decision at the end of June to strike down what's known as the Chevron doctrine⁴ significantly reduces the scope for such regulators as the Environmental Protection Agency to make rules—tipping the scales in Jefferson's “trial of strength” further toward corporations.

Enormous size also means protection against competition. Warren Buffett, whose Berkshire Hathaway Inc. occupies the ninth spot in the ranking, talks about the importance of a “moat” to protect corporate castles from invaders. Moats appear to be getting wider: In 2000 some 27 of the companies on the top 50 list were new entrants. In 2023 that number was only 14.

The growing importance of the tech industry also changes the dynamic between business and the national interest. In 1995 tech companies contributed 8% of market cap for the top 50 firms. In 2023 that share was 51%. Part of the reason for that rapid rise is their single-minded pursuit of corporate interests, even when those are at odds with national priorities.

Examples aren't hard to find. Apple Inc. reportedly inked a secret \$275 billion deal with the Chinese government promising to play a role in developing the country's economy and technology. Back in the days when Facebook still hoped for China market access, Mark Zuckerberg asked President Xi to name

his unborn baby. Semiconductor firms complying with the letter but not the spirit of sanctions have forced US regulators into a game of whack-a-mole to prevent China from getting its hands on advanced AI chips.

The efforts of the US to block China's AI ambitions highlight another question. The rise of reasoning robots will certainly be good for real-world versions of *The Terminator's* Cyberdyne Systems, the fictional business that churns out cybernetic assassins. Will it be good for everybody else? The answer depends on whether AI is a complement to human workers, boosting their productivity, or a substitute, throwing white-collar workers into unemployment in the same way factory automation did to their blue-collar brethren.

The second industrial revolution, which brought innovations including Henry Ford's production line and Thomas Edison's lightbulb, boosted corporate profits and workers' wages at the same time. In an optimistic scenario, the AI revolution follows the same trajectory.

That outcome is far from guaranteed. As Massachusetts Institute of Technology economists Daron Acemoglu and Simon Johnson demonstrate in their 2023 book, *Power and Progress*, in the grand sweep of history, advances in technology are positive for prosperity. Yet in the span of years and decades over which lives are lived, the losers often outnumber the winners.

The first industrial revolution made factory owners rich, but it took decades for workers to share in the gains. As Acemoglu and Johnson document, the arrival of power looms at the start of the 19th century decimated employment among Britain's handloom weavers, whose real wages fell by more than half. The AI revolution might follow the same pattern. A study that the International Monetary Fund published in January found that about 30% of jobs in advanced economies may be in jeopardy.

The risk is we're all handloom weavers now. If that's the case, the stock boom for America's AI champions is—in part—a bet against the interests of a generation of American workers. **B**

1. “If the iron dice must roll, may God help us,” said German Chancellor Theobald von Bethmann-Hollweg in a 1914 speech.
2. *Forbes* magazine once described the most entrepreneurial of the Founding Fathers as the “Colonial amalgam of Warren Buffett, Steve Jobs, and Bill Gates.”
3. Wilson was more equivocal than the public memory suggests. What he told Congress was this: “For years I thought what was good for our country was good for General Motors, and vice versa.”
4. An administrative law principle established by a 1984 Supreme Court ruling that compelled federal courts to defer to a federal agency's interpretation of an ambiguous statute.

The alchemy of cult grocer Erewhon is not what you think, explains **Amanda Mull**

The rumors are true: Everyone who shops at Erewhon, the notorious mini-chain of luxury organic grocery stores in Los Angeles, is hot. Or at least it certainly looks that way when you enter the company's stores, propelled as you are directly into a scrum of young, beautiful Angelenos queued up to buy tubs of takeout, \$20 smoothies designed by Hailey Bieber or Kendall Jenner and tote bags emblazoned with the Erewhon logo. When I visited outposts at the Grove and Venice Beach earlier this year, everyone was with a friend, a dog or both. All were wearing little tank tops and big pants and having the kind of relaxed weekday afternoon that suggested many of them had the types of careers Hollywood bequeaths on the preternaturally beautiful: actor, DJ, TikTok, nepo baby.

Erewhon has only 10 shops, all situated in Los Angeles County's toniest neighborhoods, but following an infusion of investor cash in 2019, its specifier has fallen on the food business far beyond Southern California. The company caters to a clientele disproportionately flush with cultural influence. Phil

Lempert, a longtime grocery industry analyst, described owners Tony and Josephine Antoci—who bought the 58-year-old company in 2011—as newly minted “grocery royalty.” Muscling onto its shelves requires passing muster with Josephine, who casts a strict eye over every product's ingredient list and sourcing. Her approval or lack of it has become a make-or-break moment for up-and-coming food and wellness brands. “Erewhon has been made out to be a trendsetter, but we don't identify that way,” she told me in an email.

When I arrived at the trendiest grocery in America, I got to see firsthand what I can only describe as a smoothie holding pen, where patrons wait for drinks dispatched from almost comically enormous commercial blenders designed to make a half-dozen drinks at a time. But what I remember most vividly from my visits is a roast beef sandwich. Red meat with caramelized onions and creamy horseradish wasn't exactly what I'd expected to find in a store whose woo-woo eccentricities—things like kelp noodles and refrigerated cases full of glass jars of “medicinal” bone broth—have

already become the stuff of retail legend. Neither was much of what I ate from the store or saw on its shelves: heavily dressed chicken Caesar wraps, short rib burritos, macaroni and cheese, smash-burger sliders. The store's most famous prepared food, fried cauliflower doused in bright orange buffalo sauce and sold by the pound, is the kind of thing you'll also find on the menu at a California Pizza Kitchen or Buffalo Wild Wings.

But that's precisely the point. Don't let the sea moss gel and spirulina fool you: Erewhon isn't successful because it's weird—it isn't even all that weird. The company is successful because it understands just what young Americans seem to want from their grocery stores.

There are several reasons you are greeted by a morass of attractive people when you enter an Erewhon, but the most important one is probably that there isn't anywhere else for them to stand. Relative to a standard American grocery, the retailer's locations are tiny and tightly packed. At 10,000 to 15,000 square feet, a typical Erewhon is less than a tenth the size of the average Kroger. The company says it's averaging more than

\$2,000 in annual revenue per square foot; the grocery industry standard is about \$500. A big factor in that somewhat mind-boggling number is just how much floor space Erewhon dedicates to its prepared food cafes, which typically take up nearly a third of the square footage and account for all the models and influencers milling around. The longer you spend inside an Erewhon—or right outside an Erewhon, on one of its sun-dappled, plant-lined dining patios—the more it feels like a restaurant that also happens to sell groceries.

In this way, Erewhon is anything but an outlier in the grocery business. Instead, it's taken some of the things that once made Whole Foods Market a standard bearer for the industry's future—its hot bar and putative commitment to health—and pushed them further toward their logical extreme. Young Americans cook less often than previous generations and eat out more, and they've helped spur growth in the prepared foods business at many different regional grocery chains—ShopRite, Hy-Vee, HEB—not only those that cater to fashionable,

wealthy city dwellers. “We’re finding that people tend to be less interested in the pomp and circumstance of a traditional sit-down restaurant experience,” Josephine told me.

Food service is “one of the fastest-growing and most profitable segments for retailers,” according to a recent report by *Progressive Grocer*. The soaring cost of restaurant meals has pushed more buyers to peruse the deli section of their local grocer on nights when they don't feel like cooking. The margins here for grocers are great: They can use raw ingredients from their own inventory that are nearing their sell-by dates to make their prepared foods, preventing them from having to discount those items or write them off entirely. When you chop that fruit or fry those chickens, you can sell them at a premium. And when grocers aren't using up their own extras, their purchasing power will still get them better prices from distributors than what most chain restaurants can command.

Although Erewhon has been around for decades, it seems to have timed its cultural ascendance perfectly. Whole Foods, after being acquired by Amazon.com Inc. in 2017, has struggled to maintain its cachet for quality among the high-earning and the health-conscious. That's left a gap in the market for a wily competitor.

Erewhon isn't letting that opportunity pass by, capitalizing on all the attention by selling its branded tote bags and water bottles and a lineup of private-label drinks and snacks on its website. The company's investment in Los Angeles' most expensive neighborhoods has paid off, hooking the kinds of customers who set trends far beyond their own social circles. And many of those customers are especially influential online, where young people are always trawling for the next viral sandwich or snack. These are ideal conditions for selling expensive, organic versions of America's favorite foods. That you can't taste them yourself without being among all that beauty and youth in sunny Southern California just makes the nuggets of fried cauliflower look all the more golden. **B**



More CFOs Are Getting CEO Jobs.

Beth Kowitt on what's behind that trend

When copper miner Freeport-McMoRan Inc. instituted what one analyst described as an “extreme austerity approach” during the pandemic, Chief Financial Officer Kathleen Quirk helped slash capital expenses by almost 30%. Over at DuPont, CFO Lori Koch was tasked by the board with regaining the trust of investors and “restoring operational discipline.” As the top finance exec at Newell Brands Inc., the company behind Sharpie and Elmer’s glue, Christopher Peterson drastically scaled back product variety to lower costs.

In the past 18 months, they’ve also all ascended to the top job at their respective companies, part of a growing movement in corporate America to put the number crunchers in charge. According to executive search company Crist Kolder Associates, 8.4% of companies in either the S&P 500 or Fortune 500 promoted a onetime CFO to CEO in 2023—a record number that’s up from 5.8% in 2013.

Call it the revenge of the bean counters. Headhunters say that finance talent is in high demand across the board. Even when CFOs aren’t moving into the top job, their sway and stature are growing. Perhaps the highest-profile recent example is Alphabet Inc.’s Ruth Porat. When she joined the company as CFO in 2015, Googlers dubbed her “Ruthless Ruth” and complained that her mandate to bring discipline and focus to the freewheeling tech giant would kill its culture. In a sign of how much power she’s amassed since, the company last year promoted her to president and chief investment officer.

Part of what’s driving the ascendance of CFOs is their reputation as staid, risk-averse leaders at a time when the world is in turmoil. During periods of uncertainty, boards tend to default to a steady (some might even say boring) hand at the helm. Managing complex issues such as regulatory challenges, geopolitical tensions, market volatility and higher interest rates—and knowing how to adeptly talk to Wall Street about all of it—plays to a CFO’s strengths. “It’s absolutely indicative of the current feeling about the global economy,” says Ty Wiggins, a leadership adviser to CEOs.

But more than anything else, the CFO-turned-CEO movement is a symptom of the priorities prevailing in corporate America right now, many of them of the slashing-and-cutting and financial engineering variety. Companies have been buying back shares at record levels, with Apple Inc. in May announcing the largest share repurchase plan in history. Layoffs at the likes of Alphabet, Amazon.com and Microsoft have juiced record profit growth. The “year of efficiency” that Mark Zuckerberg called for at Meta Platforms Inc., marked by head count reductions and cost-cutting, has now taken hold across the entire business landscape.

It’s that very mindset, one focused on profit rather than growth, that historically held CFOs back from climbing further up the corporate ladder. But now that an emphasis on the bottom line is in fashion, so are CFOs. This change in sentiment was best captured by a pair of dueling *Financial Times* headlines published 14 years apart. “Why do so few CFOs become CEOs?” the paper asked in 2010. (Its answer: Their skill set makes them ill-suited for the role.) Then, in March 2024: “Why More CFOs Are Becoming CEOs.” (Their purview has expanded, and they are already effectively the No.2 inside the company.)

Some data suggest that letting the finance folks run the joint doesn’t always pay off big. Of the four most common paths to the top job, the CFO-turned-CEO is the least likely to outperform based on gains in shareholder value, according to a 2023 study by executive search company Spencer Stuart. The report found that over the past 20 years, only 8% of CFOs who advanced to the chief executive rank led their company to the top quartile of performance, defined as total shareholder return during the CEO’s tenure compared with the rest of the market. Executives who previously were divisional CEOs, chief operating officers or leapfroggers—those promoted from two or more levels down in the company—were all more likely to outperform. It follows then that CFOs who shine at the top tended to have had experience running a business line at some point in their career. ▶

Across corporate America, worshipping at the altar of efficiency has taken hold, and that can easily cross over into cutting corners, with disastrous consequences

◀ Human nature may be to blame for the lagging performance. People focus on and excel at the things they're most familiar with—and, no surprise, for finance executives that's profitability. "As CFO, they have to act as the disciplinarian to let the CEO lean into growth," says Claudius Hildebrand, a Spencer Stuart consultant who conducted the study. So when a CFO moves to the top job, "it's a huge mindset shift," he says. "You cannot save your way to prosperity. At some point you need to be careful to not cut too close to the bone."

CFOs-turned-CEOs adjust their approach over time, but at that point damage may already have been done: According to his research, Hildebrand says, companies led by former CFOs are at risk to produce almost \$1 billion less in revenue because of lower growth during those first years in the job.

Still, the study notes that "Data is not destiny." Plenty of CFOs go on to success running a company, and Hildebrand isn't saying that they shouldn't be hired for the top job. Instead, he cautions that CFOs-turned-CEOs—and the boards that select them—probably should be aware of the challenge of going into the job with what the study calls "financial conservatism."

"Those CFOs-turned-CEOs who are successful recognize this early and are able to pivot," Hildebrand says, "whereas those who do not adapt tend to run the risk of underperformance."

More boards seem to be getting that message, giving their finance chiefs more responsibility and rotating them through operational jobs, which better prepares them to potentially be the big boss. For example, Target Corp. promoted its CFO to chief operating officer earlier this year, and in 2023 Macy's Inc. expanded the responsibilities of its finance chief to include the role of COO.

The bigger risk to a company comes when the rise of the CFO reflects a board's desire to make cost-cutting a top priority. Across corporate America, worshipping at the altar of efficiency has taken hold, and that can easily cross over into cutting corners, with disastrous consequences.

There is no more apt case study than Boeing Co. "It's a classic example of what happens when cost-cutters take over a company," says Bill George, the onetime CEO of Medtronic who is now an executive fellow at Harvard Business School. "Boeing had four financially oriented CEOs running the company, and it's paying a tremendous price now."

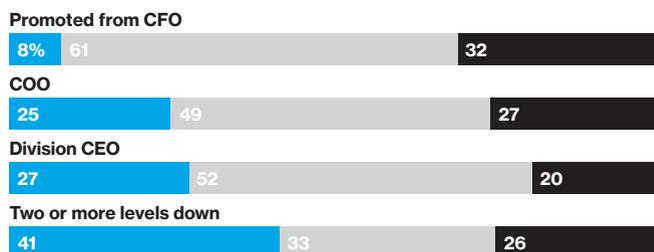
Boeing's transformation from a company ruled by engineers to one led by accountants began in the mid-1990s when Boeing acquired McDonnell Douglas and a succession of General Electric alumni ended up as CEO. All of them implemented much of the numbers-driven playbook they'd learned as disciples of Jack Welch: cost-cutting, outsourcing, layoffs and stock buybacks.

By the 2000s, Boeing was outsourcing not only much of the production of its planes but also some of its design.

A Mixed Showing for CFOs Who Take Charge

Company performance by CEO background

■ Top quartile ■ Middle quartiles ■ Bottom quartile



Shareholders were rewarded for what's been called a "capital light" manufacturing model: As *Fortune* has reported, between 2014 and 2020 the company spent almost three times as much on stock buybacks as it did on research and development for commercial airplanes. Critics say the consequences of the relentless focus on profitability over quality came into devastating focus in 2018 and 2019 when two 737 Max crashes killed 346 people. Since then, faulty manufacturing has continued to plague the company.

In a 2004 interview with the *Chicago Tribune*, then-Boeing CEO Harry Stonecipher said the quiet part out loud: "When people say I changed the culture of Boeing, that was the intent, so that it's run like a business rather than a great engineering firm. It is a great engineering firm, but people invest in a company because they want to make money."

That right there is the risk of what happens when you let the number crunchers take over the place. Suddenly a company can forget that its job is to make a quality product, not just a profit. **B**

■ DATA: SPENCER STUART

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Universal Basic Income

● By Sarah Holder

1 The Predicament

The idea is radical in its simplicity: Give people regular cash payments to help them meet basic needs, with no strings attached. It's a quick, albeit costly, way to fill gaps in the social safety net, and it's the premise behind universal basic income, more commonly known as UBI.

Since 2018, more than 150 pilot programs have launched across 35 US states, targeting specific populations such as new mothers or youth transitioning out of foster care. Over the span of months or years, groups are getting regular payments of about \$500 to \$1,000 a month, funded by public and philanthropic dollars, to do with as they wish.

Opponents of guaranteed income are becoming more vocal, saying such programs eat into funds that would be better used on food or housing aid, and even run afoul of state constitutions. Texas

Attorney General Ken Paxton sued Harris County in April to halt its pilot program, and at least nine states have proposed or passed legislation that would preempt localities from starting their own. Is there a way for polarized policymakers to find rare common ground?

2 The Case For

Unlike food stamps or housing vouchers, unconditional cash can just as easily be spent on gas and groceries as an emergency car repair. Although research shows recipients typically use the money for essentials, the flexibility is the point, advocates say. "Guaranteed income allows people to juggle multiple issues at the same time," says Mary Bogle, a principal research associate at the Washington, DC-based Urban Institute.

Studies have shown the effects of even short-term income boosts can be

profound, especially when delivered to parents. Getting cash aid early in life has been linked to better test scores and higher incomes as adults.

3 The Case Against

The most obvious case against a truly universal basic income is that it would be prohibitively expensive. Critics argue that to free up money for such a benefit, governments would have to cut other social spending. Others see even targeted programs as another form of welfare that discourages people from working. "Workforce participation shrinks and that's bad for communities, it's bad for small businesses, it's bad for the economy," says Haley Holik, a senior fellow at the Foundation for Government Accountability.

4 The Common Ground

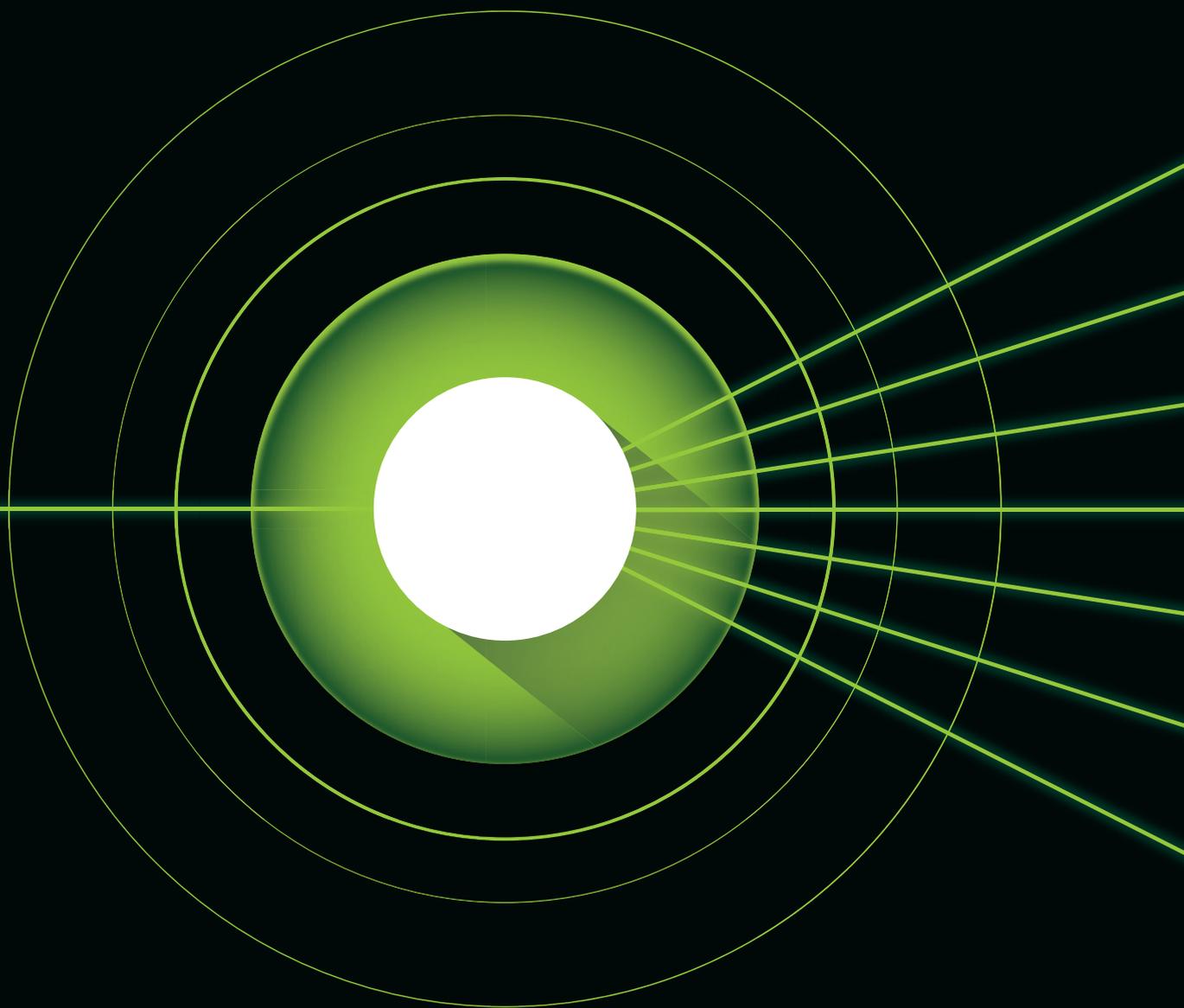
In the US, there's growing bipartisan consensus around one variant of basic income targeted at parents. A universal credit that benefits young children, who can't control their circumstances, has broad appeal, according to Josh McCabe, director of social policy at the Niskanen Center, a nonpartisan think tank.

During the pandemic, the existing federal child tax credit was temporarily expanded and paid out monthly for all but the wealthiest families. Congress now is debating a bill that would help more low-income families get a bigger credit. If passed, it could lift around 400,000 kids above the poverty line in the first year, estimates the Center on Budget and Policy Priorities.

States are meanwhile providing their own case studies. Fifteen of them—red, blue and purple—administer their own child tax credits, and most have no minimum income requirements. **B**



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The People's Market



■ ILLUSTRATION BY TIMO LENZEN

A few decades ago, it would have been extremely unusual to hear teenagers talking about trends in finance, and even a few years ago, trading stocks was a complicated and expensive proposition. Now, of course, your Robinhood app sits next to your banking app, and money moves at the touch of a finger. We spend time digging into the data, stories and unintended consequences of this sea change in investing—and learn about what the democratization of finance could do for philanthropy. For the stock market's new players, the numbers don't always go up.

Stock

How trading got cheap and easy for small investors—and why they still end up as losers

● **By Claire Ballentine**

Legions of retail investors flooded the stock market in 2021, eager to chase volatile “meme stocks” with strong social media followings and weak financials. This passion to own a piece of companies such as GameStop Corp. and AMC Entertainment Holdings Inc. seemed like a fever that was sure to break. Fueled by pandemic stimulus checks and pre-vaccine boredom, newbie traders had nothing better to do than funnel their cash into shares championed by internet investing gurus including Keith Gill and Ryan Cohen.

Flash-forward three years, and it’s abundantly clear: We’re living in a new age of finance. It’s never been easier to bet your money—anytime, anywhere—and meme-stock craziness is here to stay. A wave of technological advancements has coincided with new apps and platforms to create a thriving ecosystem where everyday people can trade stocks with the ease of swiping for dates on Tinder.

Young people can open a trading account in minutes. Members of Generation Z start investing when they’re 19, on average, according to a Charles Schwab Corp. survey released in June. That compares with 32 for Gen X and 35 for baby boomers. Schwab also found that almost 3 in 5 Americans today are investing in stocks. Federal Reserve data show this proportion represents the highest on record.

Retail investors have plenty of ways to play once-exotic and out-of-reach markets. Exchange-traded funds that invest in Bitcoin premiered this year, and a boom in zero-day options—a turbocharged version that allows traders to make

Games

rapid and risky bets on price moves—has taken the retail community by storm.

At the same time, sports betting has exploded, with Americans wagering more than \$220 billion in the past five years, according to the American Gaming Association. A company called Masterworks LLC even lets regular folk buy fractional shares in artwork. “Trading has become interchangeable with the same kind of online betting that we’re seeing for games and in the sports world,” says Peter Atwater, an economics professor at William & Mary. “It’s part of a gambling zeitgeist.”

The bull market makes trading seem easy and fun, but it may well end badly for investors. When the S&P 500 fell 19% in 2022, retail traders collectively lost \$350 billion, according to Vanda Research. The average retail portfolio was down 30%.

For the young, the risks are especially clear. Brains aren’t fully developed until people reach their mid-20s, and US Surgeon General Vivek Murthy recently posted an advisory about the effect of social media on children and adolescents, highlighting the risk of addiction. Online brokers share DNA with social media: Both are designed for interactivity and engagement. And their users overlap, with investors sharing tips on Reddit, X and TikTok.

Clifton Green, an Emory University finance professor, says that if today’s retail traders lose too much money, they might give up on investing for good, missing out on long-term gains that could be more safely achieved through diversification and index-tracking funds.

Despite all the fanfare over options and single-stock trading, if you just bought an S&P 500 index fund five years ago, reinvesting dividends, you’d have doubled your money after earning an average annual return of 15%. Research shows

that investors, both professional and amateur, are better off sticking with a diversified portfolio for the long term and that rapid trading tends to lead to painful losses.

Regulators are concerned that brokerages are gamifying trading in a way that lures people into betting more and more money. This year, Robinhood Markets Inc. agreed to pay a \$7.5 million fine to settle Massachusetts Secretary of State Securities Division allegations that the company's gamelike features took advantage of often young, inexperienced customers. (Robinhood, which said the claims didn't reflect current practices, denied wrongdoing.)

One feature that the state faulted—and the company eliminated: digital confetti that rains down on the screen when users complete their first stock trade. The US Securities and Exchange Commission and the Consumer Financial Protection Bureau are looking at such practices, too. A recent report from the CFPB noted similarities between financial services and gaming.

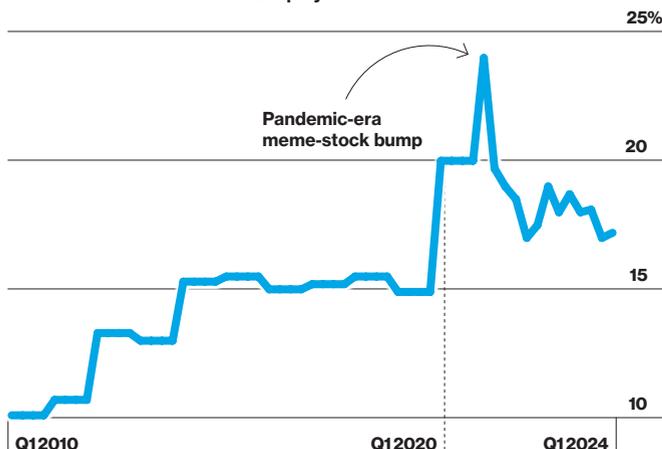
Julius Johnson, a 33-year-old who works in retail in San Antonio and trades on the side, started investing in 2020 after he saw someone post on X about the money they made. He's mostly interested in options on securities such as GameStop, DraftKings Inc. and the Invesco QQQ ETF, which tracks the Nasdaq-100 Index.

That first year, he lost \$2,000 in two weeks and almost gave up his hobby. Johnson would trade on his phone during breaks at work, and sometimes he'd sneak into the bathroom or sit in his car to check his options bets. "It's very addicting," he says, "probably just the user interface and how easy it is to trade." He eventually jumped back in after seeing the S&P 500 recover.

To understand the changes in stock trading, consider the process of buying equities a few decades ago. Say you heard your friends talking about a promising public company that was selling for \$50 a share. You would've had to call your stockbroker and customarily would've asked to buy a round lot of 100 shares for \$5,000. To put together a reasonably diversified portfolio of 20 companies that way, you'd need \$100,000.

Small Investors Stick Around

Retail traders as a share of US equity volume



Then there were the fees, which could add up to hundreds of dollars. When the US Securities Acts Amendments of 1975 ended fixed trade commissions, some brokerages took that as an opportunity to increase their fees. Others did the opposite, creating the discount brokerage business. Charles Schwab began charging just \$70 a trade, a steal at the time.

Thanks to better technology and competition, those fees kept decreasing, to a typical \$13 a trade in 2005, then \$5 by 2019, eventually giving way to the zero-fee era we're living in now.

In the early 2000s, brokers started letting investors purchase just a slice of a stock, using as little as a dollar or even a cent. Although fractional shares were introduced in the 1990s, high trading fees meant that it usually didn't make sense to invest such a small amount. The decline in costs has also made it easier for retail investors to buy and hold index funds.

Of course, nothing on Wall Street is truly free. Brokers today make money by sending their customers' buy and sell orders to computerized trading firms such as Citadel Securities LLC and Virtu Financial Corp., who pay to get transactions sent their way. Although this system helps with market liquidity, the SEC has concerns that retail investors may end up getting worse prices for their shares—in effect, paying hidden commissions.

Still, what used to be a multiday process requiring phone calls and paperwork can now be done in seconds, without an upfront commission. "Back 10 years ago, if you wanted to set up investments, the fees would eat up half of what you were putting aside," says Yelena Larkin, an associate professor of finance at York University in Toronto.

Larkin teaches an introductory finance course, a requirement for students at her university. Almost everyone in it has either a trading account or some knowledge of the stock market, she says. Trading fees aren't even on their radar; they've grown up investing in a world without them.

Even a decade ago, self-directed trading would need to take place on either a desktop or laptop computer. Now, after posting on X or Instagram, or watching TikTok videos, you can place a few trades on your brokerage account at Robinhood, Interactive Brokers, ETrade or Coinbase.

"You have to offer your clients access to mobile," says Joe Mazzola, Schwab's head trading and derivatives strategist. "When we look at activity on mobile versus on platform, the growth is exponential—mobile is a game changer."

Ben Allen, a 49-year-old who works in the music business in Atlanta, has been trading stocks on the side for 15 years and has watched fees shrink to nothing. He opened a Robinhood account a few years ago, mostly because he didn't want to have to call his broker to make a trade.

Although Allen has a portfolio of retirement funds managed by a professional, he likes to play around with a few thousand dollars invested in companies such as Apple Inc. and Nvidia Corp. "The world of brokerages used to be opaque," he says. "But now everyone understands, and it's like the cat's out of the bag." **B**

■ DATA: BLOOMBERG INTELLIGENCE ESTIMATES. FIGURES FOR 2010 TO 2020 ARE ANNUAL.

A User's Guide To Higher Interest Rates



The era of cheap money is long over, and things have turned out surprisingly fine. Here's how to make the best of the new reality

● **By Suzanne Woolley**

Now that everyone is playing the market, today's high interest rates are a subject of casual conversation, like talking about the weather. And like the weather, they've had unpredictable effects.

In a little more than two years, the US Federal Reserve has raised the federal funds rate, the benchmark that influences the cost of borrowing just about everywhere, from near zero to more than 5.25%. That's a big change on its own, but it also represents an almost generational shift. The last time this rate was above 5% was 2007, the same year the iPhone was introduced. No one under 35 has had to manage their finances with US rates this high in their adult life.

Some of the fallout has been predictable. Carrying a balance on a credit card is more painful nowadays, and would-be homebuyers are finding they have to settle for smaller houses or longer commutes—or renting—as mortgage costs soar. On the other hand, savers are collecting inflation-beating yields now. But there's also been a puzzling lack of reaction in areas where you'd normally expect a large, negative impact, such as the stock market and housing prices.

To think through what's behind those anomalies, as well as what higher rates mean for consumers and investors, *Bloomberg Businessweek* asked financial planners and market experts for their insight and advice.

How Did We Get Here? And How Long Do We Have to Stay?

The federal funds rate is what banks charge one another to lend money overnight, and the costs of other loans are built on top of that. The so-called prime rate, or the base rate for credit card and other consumer loans, is up to 8.5% from 3.25% at the end of 2021. In the same time frame, the average 30-year mortgage rate has risen to around 7% from about 3%.

Corporations, meanwhile, are paying about 5.3% to borrow when they issue investment-grade debt, up from 2.3%.

The Fed tweaks borrowing rates to strike a balance between growth and inflation. Starting in 2008 it was mostly in growth mode, keeping rates low to stimulate borrowing and spending in the wake of, first, the financial crisis, then the Covid-19 pandemic. That changed dramatically in 2022 after the economy reopened and the Fed found itself fighting the fastest spurt of inflation since the early 1980s. Inflation is now back down to 3.3%, in striking distance of the Fed's long-term 2% target.

This has led many analysts and traders to expect rates to start coming down soon, though Fed Chair Jerome Powell is looking for more evidence that inflation is cooling. Investors can expect at least one rate cut this year, according to Rob Williams, managing director for financial planning, retirement income and wealth management at Charles Schwab Corp.

It's a Good Time to Borrow Less and Lend More

Thanks in part to pandemic-era government programs that shored up household balance sheets and now historically low levels of unemployment, consumers have been resilient in the face of higher loan rates. But signs of strain are showing. The pace of credit card and auto loans moving into serious delinquency—meaning payments are overdue by 90 days or more—rose in the first three months of 2024, according to a report from the Federal Reserve Bank of New York. Credit card delinquencies are higher than in pre-pandemic days.

One kind of debt worth keeping an eye on is the short-term “buy now, pay later” borrowing offered through retailers and phone apps. These programs proliferated during the near-zero-rate era, offering easy terms as long as they were paid back on time. But costs can shoot up if you miss payments, and some borrowers seem to be struggling to juggle their obligations across multiple BNPL programs. An April survey for Bloomberg News by Harris Poll found that 43% of

those owing money to such services said they were behind on payments.

The flip side of this pain is how much more you can get just from stashing money in the bank. Many high-yield savings accounts offered online, as well as many certificates of deposit, pay 4% to 5%, with deposits guaranteed by the Federal Deposit Insurance Corp. Investors with idle money sitting in their brokerage accounts can get an easy bump just by moving money out of low-paying “sweep” accounts and into money-market funds paying more than 5%. Money markets aren't FDIC-insured, but they generally invest in low-risk, short-term assets.

Those willing to take a little more risk can consider longer-term bonds and bond funds. When interest rates were ultralow, investors were hesitant to put money into assets with such low yields and return potential. “Investors felt like, when choosing between



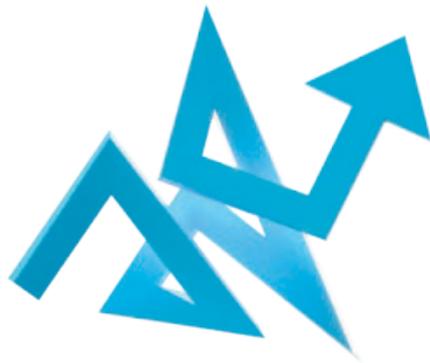
stocks and bonds, they had to invest in stocks,” says Noah Damsky, principal at Marina Wealth Advisors in Los Angeles. “Investors leaned so far from bonds that their portfolios were sometimes entirely stocks.”

In fact, many bond funds took painful losses in recent years, because the market value of existing bonds falls when interest rates rise. But now yields are strong, even after inflation, giving investors a cushion. “It's much easier to have a balanced portfolio with a substantial amount of fixed income,” Damsky says. “Those nearing retirement can return to balanced portfolios and sleep well ▶

◀ knowing that fixed income can deliver real returns while serving as a hedge against troubles in the stock market.”

Stocks Are a Little Weird Now

Hedging might seem counterintuitive, because the S&P 500 continues to reach new highs this year. That's not in keeping with the typical economic script for higher rates; normally one could expect increased borrowing costs to eat into corporate profits and slow economic growth. And the low-risk returns



that investors can make by buying bonds now ought to make them more skeptical of paying high prices for stocks with uncertain gains far in the future.

But investors have a very big vision of the future in their mind—and it's overriding quotidian concerns about rates. With artificial intelligence promising huge changes in the economy, technology stocks are on a tear. Even after a recent dip in price, semiconductor giant and AI darling Nvidia Corp. is responsible for more than 32% of the S&P 500's roughly 14% gain for the year as of June 28. The 10 most valuable companies on the S&P 500—most of them tech-related—make up a record 35% of the index.

This tech boom has been driven by impressive earnings but also by that dazzling story about AI. If confidence in that story wobbles, richly valued stocks are likely to as well. It's difficult to anticipate such turns, and trying to time the market is a notoriously losing strategy for most investors. But the concentration of gains is, if nothing else, a reason to check whether you're still as diversified as you want to be—in other kinds of

stocks and, of course, in bonds. Higher rates on fixed income also make rebalancing a portfolio grown fat on appreciated stocks more palatable.

“For an investor wanting to rebalance, sitting on a lot of gains from equities and on tech stocks in particular, there's no better time than the present to lock in risk-free returns on cash in excess of 5%,” says Greg McBride, chief financial analyst at Bankrate.com.

Housing Is Even Weirder

At today's average rate, the monthly payment on a new \$500,000 home loan is \$1,200 higher than on a mortgage taken out in 2021. You might think home prices would get cheaper to adjust to this affordability squeeze, but it hasn't happened. Homeowners sitting on 3% mortgages don't want to give up those rates, so they're reluctant to sell their houses, squeezing supply.

A New York Fed survey earlier this year found renters saying there's a 60% likelihood they'll never own a home—the highest reading since the survey started a decade ago. Renting is now cheaper than owning a typical home in all but one of 35 major metro areas in the US, according to data from real estate brokerage Zillow Group Inc. Data for April showed owners paying 35% of income on housing, versus 29% for renters.

There are still benefits to homeownership, the most important of which is protection from future rent increases (though not from property tax increases). And there's a decent chance you'll be able to refinance at a lower rate later. But even if higher rates aren't



enough to keep you from buying, it's wise to be more conservative on how much you spend. Anthony Syracuse, a wealth adviser and founder of Dynamic Financial Planning in Scottsdale, Arizona, tells clients to think about the potential long-term trade-off in their budgets if rates don't come down a lot. “If rates held, you'd pay as much in interest over 30 years as you did for the home,” he says. And though the price appreciation of the past few years has clients excited about potential returns, he says, “a lot of people don't consider the 20- to 30-year holding periods, and all of the maintenance, repair and remodeling expenses that dramatically bring down the annualized return.”

The tight housing market has some buyers looking for hacks to get a lower mortgage payment. One option getting more attention is a rare type of loan that allows a buyer to take over the existing loan of the seller, including its interest rate. But these so-called assumable mortgages can be tricky to arrange. For one thing, you'll need to be able to pay the seller enough in cash to replace the equity they've built up in the home. This may require a second mortgage on top of the one you'd be assuming.

Other options include adjustable-rate mortgages and loans that require only interest payments in the early years. Although these mortgages have lower costs upfront—and in theory can be refinanced later at a fixed rate—they also have risks. Rates might not come down, exposing you to higher payments later, and with interest-only loans you won't be building equity. (Many homeowners got in trouble with adjustable mortgages in the 2007-08 housing crash.) Keith Gumbinger, vice president at the mortgage and consumer loan information company HSH.com, says that such loans can offer greater flexibility, but lenders aren't pricing them very attractively right now. “There are at least some concerns that tight Fed policy may slow the economy,” he says. “And that could potentially lead to loan losses creeping higher in the coming years.” Take that as a yellow caution light. **B**

Where the Money Goes

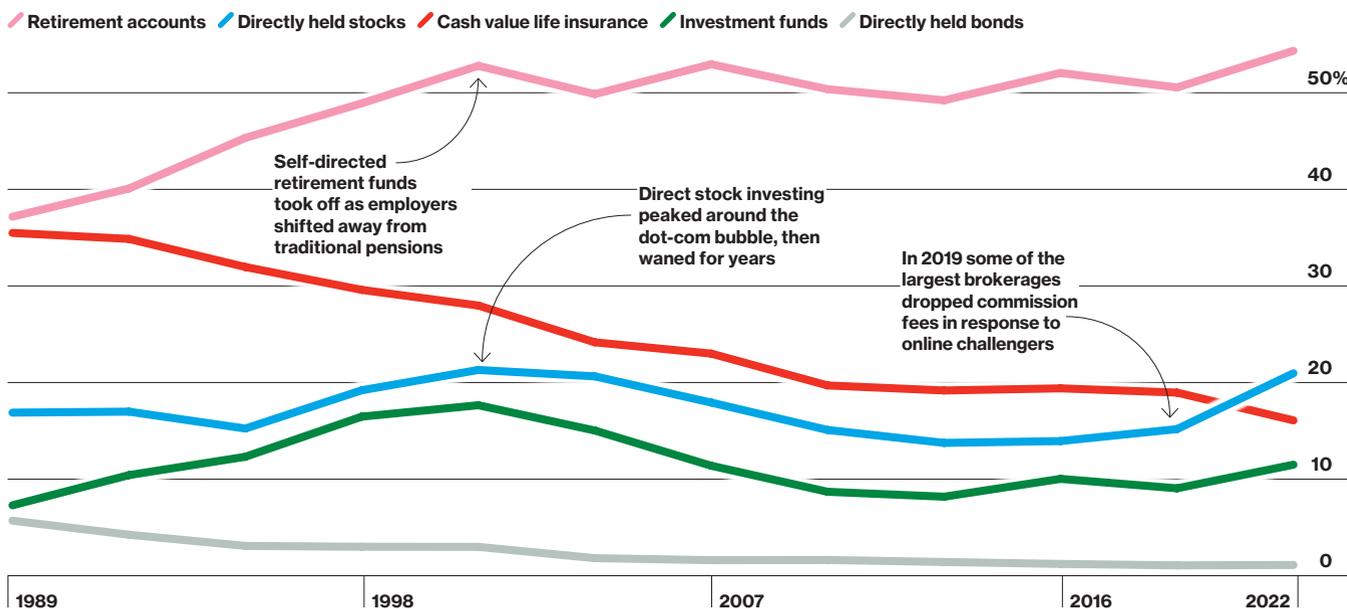
How investors learned to like stocks again

By Dorothy Gambrell

It's a tale of two trends: more (and younger) Americans buying stocks directly, and the giant that is retirement investing. Almost 60% of households had exposure to the stock market in 2022, the last time the Federal Reserve ran its triennial survey of Americans' finances. Many did so through funds and retirement accounts, but the share of Americans trading stock directly spiked to 21%, close to the record set in 2001.

US Households Invested in Selected Assets

Besides bank accounts, retirement accounts such as IRAs and workplace 401(k) plans are the most commonly held financial instrument. The median value in retirement funds is \$86,900, compared with just \$15,000 in directly held stocks.



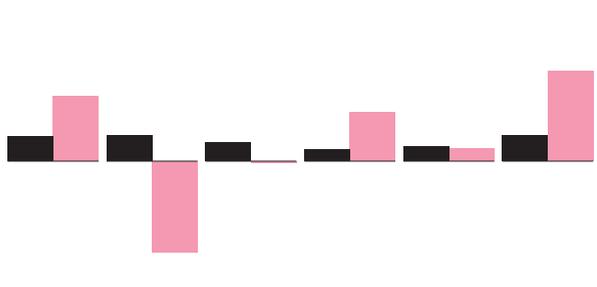
Change in Asset Ownership by Age, 2019-22

The share of Americans investing through retirement accounts grew in all age groups. Among younger investors, stock ownership became much more popular as trading got cheaper and easier—though typical account sizes got smaller.

RETIREMENT ACCOUNTS

■ Change in share of households holding the asset
 ■ Change in median value of holdings

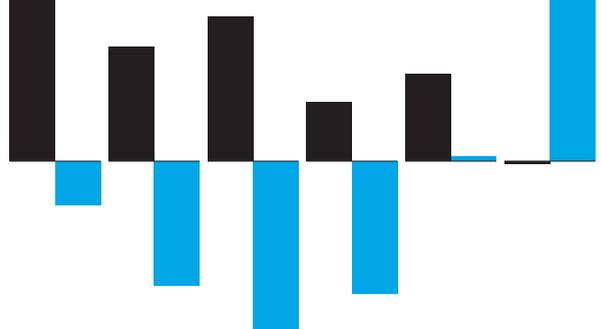
Under 35 35-44 45-54 55-64 65-74 75 and over



DIRECTLY HELD STOCKS

■ Change in share of households holding the asset
 ■ Change in median value of holdings

Under 35 35-44 45-54 55-64 65-74 75 and over



DATA: FEDERAL RESERVE SURVEY OF CONSUMER FINANCES. AGE OF HOUSEHOLD IS DETERMINED BY THE AGE OF THE REFERENCE PERSON, DEFINED BY THE FEDERAL RESERVE AS THE ADULT IN A SINGLE-ADULT HOUSEHOLD, THE MALE IN A MIXED-SEX COUPLE OR THE OLDER INDIVIDUAL IN A SAME-SEX COUPLE

The Rich Investor Club Is Getting Crowded

More households than ever qualify as accredited investors. Asset managers are thrilled, but democratization has downsides

● By Charlie Wells

Attention, individual investors: You may be eligible for a status upgrade.

Thanks to recent rising markets—paired with elevated inflation and some very vintage rules—the number of Americans who qualify as “accredited investors” has skyrocketed to an all-time high. Accreditation gives individuals access to riskier, less regulated assets. This includes private markets that have long been the domain of endowments, pension funds and other “smart money” types. It opens doors to the historically exclusive echelons of private equity, credit and real estate placements. But this expansion of access, with its tantalizing promise of greater returns, comes with a key question: Is it worth joining a club that would have you as a member?

Current rules for investing in private markets date back to 1982. They were intended to give a small subset of supposedly more sophisticated, demonstrably flusher investors access to private or limited offerings. Young, small firms need capital but

can be too risky for the average person to back. So the US Securities and Exchange Commission stipulated that, to be accredited, an individual would either need to make more than \$200,000 a year or have a net worth of more than \$1 million. Those thresholds gave the government confidence that even if an individual made a bad investment, they’d likely have the means to recover.

But the thresholds haven’t been updated since Ronald Reagan was president. Now roughly 1 of every 5 American households could be an accredited investor. In the early ’80s the figure was 1 of every 50. If the accredited investor thresholds were updated to reflect today’s dollars, the income requirement would jump to well over \$600,000 and the net worth to more than \$3 million. What’s more, some of the ostensible growth in net worth is linked to the boom in workplace retirement accounts that investors can’t readily access without a penalty.

Just as more Americans are finding themselves eligible to invest in private markets, private market opportunities are opening for them. It’s not a coincidence: The world’s largest alternative asset managers, which have lately seen their



sources of institutional funding dry up, are setting their sights on the individual investor.

“It’s very much a democratization,” says Or Skolnik, a partner in consulting firm Bain & Co.’s private equity and alternative investors practice. “It’s not yet a full, equal playing field between, say, the most sophisticated sovereign wealth fund and the individual investor. But we are on the path, and it’s gone much faster than folks have anticipated.”

The numbers explain the speed. According to research by Bain, individual investors hold some 54% of the \$300 trillion in global assets under management but represent just 16% of assets managed by so-called alternative funds, which include hedge funds and private equity. And investors who make it into the accredited club and points just beyond—those with assets between \$1 million and \$5 million—allocate only about 1% of their net worth to private equity and similar investments.

The asset-hungry industry sees an opening and is charging toward it. Blackstone, Apollo, KKR and other large asset managers are seeking high growth, but with institutional money less available, they want—need—money from wealthy investors. New products and platforms are popping up widely.

Blackstone Inc. arrived early, as far back as 2017, with the likes of the Blackstone Real Estate Income Trust, known as BREIT. The alternative manager has raised more than \$4 billion for the Blackstone Private Equity Strategies Fund, a new private equity fund for wealthy individuals. Competitors are circling, with KKR & Co. and Apollo Global Management Inc. among the biggest names. Many products so far require a financial adviser as an intermediary, and some have additional investment requirements, but a platform called Moonfare allows individual investors willing to allocate a minimum of \$75,000 to invest directly in alternative assets.

Advisers to the affluent describe something of a FOMO effect on clients at a time when startups are no longer so quick to go public.

“People playing on a golf course or going to cocktail parties in the ’90s would come to me and say, ‘Hey, what’s your favorite stock?’” says Robert Picard, head of alternative investments at wealth management firm Hightower Advisors. “Today what’s actually happening is, at those same cocktail parties, people are not talking necessarily about stocks. They’re talking about ‘Which fund are you investing in? Which private investments are you doing? What deals are you in? Are you in the latest SpaceX round?’”

Advisers get the excitement. The deal with private markets is generally that you swallow liquidity constraints and greater risk for potentially higher returns than those in the public markets. Still, in a space where reporting rules are more lax, it’s hard to assess both performance and composition. That helps explain why one of the biggest disses in the industry right now is to call a fund “breadcrumbs”: the leftovers the smart money didn’t want, packaged up for retail suckers. Fees for such investments are often very high compared with those for widely available investments such as exchange-traded funds.

“I hope advisers and clients are discerning, because I think some of these opportunities can be good,” says Noah Damsky, principal at Marina Wealth Advisors in Los Angeles. “But I think a lot of them, they can be a lot of breadcrumbs.”

There’s also the psychology to contend with. Private funds generally don’t report results with the same rapidity as stocks. “If you have a bad month, it stings for that full 30 days,” says John Bovard, owner of Incline Wealth Advisors in Cincinnati.

And liquidity limitations mean clients may invest their money today but not be able to access it for years, given that many private funds limit investors’ right of withdrawal to a small percentage of assets over time. This was illustrated recently when Blackstone’s BREIT limited withdrawals for months, after a rush of investors tried to take out their money amid a slumping real estate market. The fund is now meeting redemption demands.

This has led Bruce Colin, a wealth manager in Rancho Palos Verdes, California, to steer clear of private investments for some clients who might struggle with the mere idea of not being able to access their money for long periods of time. “If it’s going to play on their emotional or mental health, I just wouldn’t even do it,” he says. **B** — *With Ben Stupples*

■ ILLUSTRATION BY TIMO LENZEN



Democratizing



→ Engelhorn, in Davos, Switzerland, in January

Could “citizens’ assemblies” give ordinary people a voice in philanthropy or corporate decision-making?

● By Sophie Alexander

On the advice of 50 strangers, Austrian chemical heiress Marlene Engelhorn is giving away €25 million (\$27 million) of her inheritance to 77 organizations supporting affordable housing, closing tax loopholes for the rich and the fight against climate change.

What she organized, a citizens’ assembly, is an unusual approach to philanthropy—but it’s not a new one, and it’s not just confined to philanthropy. A process with roots that date back to ancient Greece, a citizens’ assembly is based on the idea that the more democratic way to make an important decision (as opposed to an elected assembly) is to engage

a randomly selected group of people who represent those who’d be affected by the decision, educate them on the issue and let them vote.

The modern iteration came about in 2004 in British Columbia, when the government brought together 161 people to make a decision about electoral reform. Since then the model has been replicated around the world, including in Ireland, where citizens’ assemblies have been used in recent years to make decisions on same-sex marriage and abortion. (Ireland ended up changing the laws in line with the assemblies’ recommendation to legalize both.) The nonprofit DemocracyNext has citizens’ assembly projects to democratize decision-making at museums in Germany and in public-private partnerships in central Oregon.

Big Money

Philanthropy, largely an American concept, has followed a relatively rigid format for most of its modern existence. Usually an uber-wealthy person will take a chunk of their fortune and stick it in a foundation, typically named after themselves, and from there dictate where and how it should be distributed. It's the power imbalance that made Engelhorn uncomfortable. "Philanthropy is only to be taken seriously when it considers its own abolition," she says.

She's not the only person rethinking large-scale giving. MacKenzie Scott, the ex-wife of Amazon.com Inc. billionaire Jeff Bezos, has become known for making fast-paced dispersals with relatively few strings attached, putting trust in organizations to decide where the money should go. And Melinda French Gates, who left the behemoth and bureaucratic Gates Foundation in June, is already experimenting with new ways of giving by ceding \$20 million to experts to directly distribute in their fields.

Engelhorn says in an interview that she was inspired by the 2020 book *Open Democracy: Reinventing Popular Rule for the Twenty-First Century*, by Hélène Landemore, a political scientist at Yale University. Landemore says she'd never seen anything like Engelhorn's Guter Rat, or "good council," as the assembly she started was named. After it was announced, Telos Group, an impact investing and venture philanthropy consultant in Europe, contacted Landemore to explore how it might use citizens' assemblies in its work.

Now, Landemore and researchers at Harvard University and the University of Chicago Booth School of Business are collaborating to rethink how the assemblies might be used for investors, too. The idea is that the current setup of shareholder meetings and boards of directors isn't doing a good job translating the desires of shareholders into corporate behavior. "We don't know how to give a voice to investors in the right way," Landemore says. "There's a demand on the part of investors that [companies] be less narrowly focused on profit, but it's not heard."

Harvard economist Oliver Hart and Chicago finance professor Luigi Zingales say there are many ways companies behave that may be in the best interest of their bottom lines,

but not for society or even most shareholders themselves. Take the lobbying of Exxon Mobil Corp. against climate change regulation: If investors were to succeed in persuading the company to ease off, "Exxon's share price might fall, and they would be a little less well off," Hart says. "But they would also be living in a better world."

The way Hart and Zingales see it, anyone who has a retirement account or an index fund with Vanguard Group Inc. or Fidelity Investments is a shareholder in these companies in a small way. But cumulatively, the Vanguards and Fidelities of the world are huge shareholders in most companies on the S&P 500. So how do they make sure their investors' preferences are being heard?

The professors have made a pitch to a retirement services company—they don't want to name it yet—to organize an investors' assembly. They proposed randomly selecting 150 people, each of whom would receive a packet of information about the issues to be discussed, plus several online educational seminars. After that period of information sharing, the people would get together for a weekend to split into groups led by facilitators and discuss the issues. Eventually, chosen representatives would create guidelines for the fund to follow. Zingales estimates a project like this would cost about \$1 million to do properly, but he says that's a drop in the bucket for a company with the resources of a Vanguard.

At the end of the day, all this effort has the goal of democratizing capitalism. "If I am T. Boone Pickens, and I own 5%, and I go to the board, the board pays attention," Zingales says, referring to the late oil billionaire. "If I am Vanguard, and I represent 25% of your stock, and my investors say that you should do X or Y, why should we be treated any differently than T. Boone Pickens?"

Of course, democratic processes don't guarantee any particularly ethical outcomes—look at any number of countries that vote in authoritarian regimes. There's also been a political backlash against fund companies considering environmental and social factors in recent years. But Engelhorn, the heiress who says she just parted with the bulk of her inheritance, thinks a new approach to decision-making is worth a shot. **B**

How Digital Money Really Works

An interview with Patrick McKenzie, who's built a following explaining the infrastructure of modern finance

● By Teresa Xie

If you have a burning question about how money works, Patrick McKenzie probably has the answer. The software engineer/blogger/vaccine database founder's widely read newsletter, *Bits About Money*, is dedicated to thinking about the often-misunderstood concepts at the intersection of tech and finance—or, as he puts it, “the modern financial infrastructure that the world sits atop of.”

McKenzie started his career as a “salaryman” in Japan, working 19-hour days before quitting to work for himself; now he advises payment processor Stripe Inc. in addition to software and writing work. His real passion, though, seems to be making sense of what happens when you tap “pay” on your phone. Our conversation with him has been edited for clarity and length.

What's the difference between a bank and a digital wallet on my phone?

In the mists of prehistory, there was essentially one place to hold money. It was in an account at a bank, and all of your ways to access the money were mediated by that bank. Life has become much more complicated, with a plethora of apps that present different things on your phone, but that to the user feel

like very similar experiences—tap, tap, tap, my money moves. But under the hood, there are complicated legal and technical substrates that are different from each other.

What's most misunderstood about financial transactions?

People broadly assume their money is sitting in a vault somewhere, and it's something they own, but their money is usually a debt by some other party in the economy to them. That confusion between money as an asset and money as a debt—and how money is sometimes simultaneously an asset and a debt—drives a lot of the confusion among nonspecialists about how the financial ecosystem works.

What are the consequences of people assuming their money is just sitting in a vault somewhere?

I think it informs a lot of discourse about the banking sector. People both in broader society and financial technology circles are critical of the banking sector, particularly after 2008. It's not that banks have never done any wrong, but if you assume they're simply supposed to be guardians that count up

the money going in and out of the vault, you would, one, assume they're getting paid exorbitantly for doing this, and, two, ask why we have to keep bailing them out. The answer is they're not simply vault guardians. They're doing a fairly complex form of alchemy to turn large portions of the economy into money—into this thing we can access at will, on our phones and by our cards.

Are there big differences between sports gambling sites like FanDuel and a stock trading app like Robinhood?

I think innovation in financial



PHOTOGRAPH BY TAYLOR EMERY GLASCOCK FOR BLOOMBERG BUSINESSWEEK; ILLUSTRATION BY BROWN BIRD DESIGN

The Business of a Popular Payment App

1 Money Moves Into Venmo

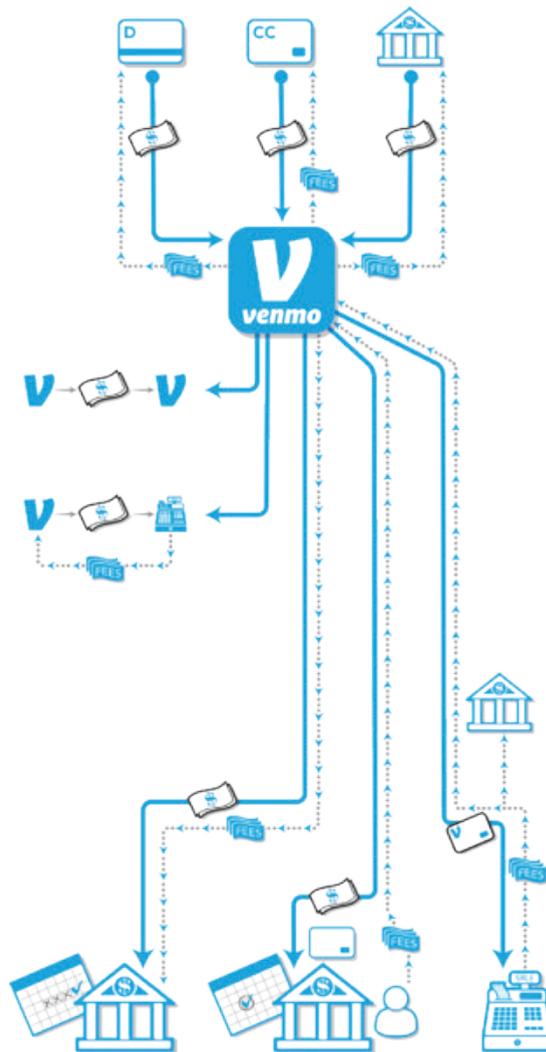
Venmo (part of PayPal Holdings Inc.) typically pays a fee when a consumer transfers money using a card or bank account.

2 Money Moves Within Venmo

When money moves between two Venmo users, it costs the company nothing—it's just an update to a ledger. Businesses that accept Venmo pay it a fee.

3 Money Moves Out of Venmo

Venmo pays a fee to transfer money to a user's bank. That's free for customers if they can wait as many as three days, but there's a fee if they want the cash instantly. If a business takes a Venmo-branded card, it pays a fee to Venmo and the bank issuing the card.



technology is largely pro-social. I think it was a true fact that many banks in the US, for a variety of structural and technical reasons, did not really invest in giving users beautiful, easy-to-use affordances for accessing their own money. And I think that has improved rapidly over the course of the past 10 years. However, not everything you can put a beautiful application and design on top of is actually in the customer's interests.

Robinhood is a gambling app that wears the clothes of a responsible financial institution. It was abundantly obvious from the way they used to talk

about the product. It was abundantly obvious from their advertising campaign. And it's abundantly obvious from reading their quarterly and annual reports and seeing how their bread is actually buttered—where, for example, a large portion of revenue is due to options trades, which retail consumers, and particularly the retail consumers Robinhood attracts, should not be making. [In a statement to Bloomberg, Robinhood Chief Brokerage Officer Steve Quirk said that any comparison between Robinhood and gambling apps is a “complete mischaracterization” and

that the app is designed to help users make informed investment decisions.] **When you buy something online, you have all these card and payment options in front of you when you check out. Why are there so many different ways to pay?**

That number is going to increase over time. For a very long time in the US, there were 2.5 logos. It was Visa, Mastercard and then maybe Amex. We're going to see more logos, because facilitating commerce is fundamentally a very valuable business to be in. And increasingly, over the last couple years, businesses that did not construe themselves to be truly in the financial industry have discovered that if you have a business which is well-loved by consumers, that facilitating their ability to make payments to you and others is just an excellent, excellent business to be in. Both because of the direct fee you can charge either to the consumer or someone else, and because the users who engage with you in payments are going to intensify their engagement with you.

Historically, only the largest companies in capitalism could afford to do this. Apple and Google, most famously, discovered that they have this wonderful piece of glass and plastic that people have in their hands every day for large portions of the day, and that if they put payments into that piece of glass and plastic, then that both causes them to have a direct revenue line associated with payments and causes the user to transact more of their economic life onto the surface the tech company controls.

So even if Apple and Google were able to charge zero for transactions, they would prefer those transactions to occur over the internet on devices they controlled, connected to their advertising ecosystems, versus having those transactions occur off the internet. That logic applies to the largest firms in capitalism. But because the scale you need to launch a new payment method and to get it accepted by various places has been decreasing over time, that on the margin brings more firms to this business. ③

What Trump means for business, the economy and the world order

**By Nancy Cook,
Joshua Green and
Mario Parker**

**Photograph by
Victor Llorente**



It's late June, and Donald Trump is plotting his next presidency in the gilded offseason isolation of the Mar-a-Lago Club. The adoring club members may have decamped to cooler climates, but Trump is still in a good mood.

Polls show a very tight race between him and President Joe Biden, but his fundraising is through the roof. It's also now clear his 34 felony convictions haven't upended the race. A big shock will come two days later, at the first presidential debate, and it will be Biden who's left reeling. Then a bigger one will arrive on July 13, when Trump narrowly dodges an assassin's bullet.

The Mar-a-Lago sitting room features a soaring red balloon tower dotted with giant gold ones reading "47," shorthand for the next president—a gift from a local admirer who affixed a card gushing over "the best commander in chief America has ever known." At Trump's insistence, a staffer fetches the hot new fashion item he enjoys showing guests: a red MAGA-style cap emblazoned with "Trump Was Right About Everything."

Outside Mar-a-Lago's gates, the rest of the world isn't so sure. There's worry about what another Trump presidency could portend. Wall Street firms from Goldman Sachs to Morgan Stanley to Barclays have begun warning clients to expect higher inflation as Trump's odds of recapturing the White House and imposing protectionist trade policies have risen. Giants of the American economy such as Apple, Nvidia and Qualcomm are grappling with how further confrontation with China could affect them and the chips everyone relies on. Democracies across Europe and Asia worry about Trump's isolationist impulses, his shaky commitment to Western alliances and his relationships with Chinese President Xi Jinping and Russian President Vladimir Putin. And while polls universally show that American voters favor Trump's stewardship of the economy over Biden's, it's unclear to many exactly what they'll get if they opt for another round with him.

He waves away such concerns. "Trumponomics," he says, equates to "low interest rates and taxes." It's "tremendous incentive to get things done and to bring business back to our country." Trump would drill more and regulate less. He'd shut the Southern border. He'd squeeze enemies and allies alike for better trade terms. He'd unleash the crypto industry and rein in reckless Big Tech companies. In short, he'd make the economy great again.

That's the sales pitch, anyway. The plain truth is that no one really knows what to expect. So *Bloomberg Businessweek* went to Mar-a-Lago in Palm Beach, Florida, to press Trump for answers.

In a wide-ranging interview on business and the global economy, he says that, if he wins, he'll allow Jerome Powell to serve out his term as chair of the Federal Reserve, which runs through May 2026. Trump wants to bring the corporate tax rate to as low as 15%, and he no longer plans to ban TikTok. He'd consider Jamie Dimon, chairman and chief executive officer of JPMorgan Chase & Co., to serve as secretary of the Department of the Treasury.

Trump is cool to the idea of protecting Taiwan from Chinese aggression and to US efforts to punish Putin for invading Ukraine. "I don't love sanctions," he says. He keeps circling

back to William McKinley, who he says raised enough revenue through tariffs during his turn-of-the-20th-century presidency to avoid instituting a federal income tax yet never got the appropriate credit.

And Trump (who has a proclivity to lie) insists he won't pardon himself if convicted of a federal crime in the three federal cases pending against him: "I wouldn't consider it." He may not have to—on July 15, a Trump-appointed federal judge dismissed charges that he mishandled classified documents. (The special counsel swiftly announced he would appeal the decision.)

The broad strokes of Trumponomics might not be different from what they were during his first term. What's new is the speed and efficiency with which he intends to enact them. He believes he understands the levers of power much more deeply now, including the importance of selecting the right people for the right jobs. "We had great people, but I had some people that I would not have chosen for a second time," he says. "Now, I know everybody. Now, I am truly experienced."

Trump views his economic message as his best route to trouncing the Democrats in November, with Republicans devoting the opening night of their presidential convention to the theme of "wealth." He's betting that his unorthodox agenda of tax cuts, more oil, less regulation, higher tariffs and fewer foreign financial commitments will appeal to enough swing state voters to hand him the election. It's also a gamble that voters will overlook the negative traits that characterized his first term in the White House: the personnel fights, the 180-degree policy shifts, the 6 a.m. social media pronouncements. And of course there's the matter of the attempted insurrection on Jan. 6, 2021.

Already, polling shows signs that Black and Hispanic men are shifting to the Republican Party as they tire of historically high prices for food, housing and gas. As many as 20% of Black men now back Trump, though some pundits think those numbers are overstated. Either way, Biden is struggling to sell key voters on his economic record, which includes a very low unemployment rate and rising wages. He's also facing down panic over his age. Trump could win in November, and many Democratic leaders are increasingly concerned he'll deliver Republican control of the House and Senate along with the White House.

In that case, he'd have unprecedented leverage to shape the US economy, the climate for global businesses and trade with allies. His first term demonstrated that he prefers to work one-on-one, which would give the CEOs and world leaders who have the best relationships with him an advantage while leaving his enemies falling short, and perhaps even fearful of what he'll do. If one thing stands out from *Businessweek's* interview with Trump, it's that he's fully aware of this power—and he has every intention of using it.

On the US Economy

Trump, in a dark suit and tie, holds court in the cool afternoon darkness of Mar-a-Lago's chintz-and-gold sitting room, keen as always to play the magnanimous host. He takes it upon himself to order a round of Cokes and Diet Cokes for his visitors, then gets down to explaining how he'd govern if reelected in November.

“Now, I know everybody. Now, I am truly experienced”

Business leaders prize stability and certainty. They didn't get much of either in Trump's first presidency. This time around, his campaign is more professionally run, but he hasn't produced a detailed economic policy agenda to reassure them. The vacuum has generated confusion among those who are planning for a second Trump term.

In late April, a few of Trump's informal policy advisers leaked to the *Wall Street Journal* an explosive draft proposal to severely curb the independence of the Federal Reserve. It was broadly inferred that Trump had endorsed the idea, which didn't seem like a stretch given his prior attacks on Powell. In fact, the Trump campaign insisted he'd endorsed neither the proposal nor the leak, and his top campaign brass were furious about it. But the episode was a consequence of Trump's still-unformed policy, which has left wonks from such think tanks as the Heritage Foundation battling to fill in the details and jockey for influence. Other conservative policy entrepreneurs have been pushing proposals to devalue the dollar or institute a flat tax.

At Mar-a-Lago, Trump makes it clear he's fed up with the unauthorized freelancing. “There's a lot of false information,” he complains. He's eager to set the record straight on several topics.

First, there's Powell. He told Fox News in February that he wouldn't reappoint the Fed chair; now he states unequivocally that he'll let Powell finish his term, which would last well into a second Trump administration.

“I would let him serve it out,” Trump says, “especially if I thought he was doing the right thing.”

Even so, Trump has thoughts on interest-rate policy, at least in the near term. The Fed, he warns, should abstain from cutting rates before the November election and giving the economy, and Biden, a boost. Wall Street fully expects two interest-rate cuts before the end of the year, including one, crucially, before the election. “It's something that they know they shouldn't be doing,” he says.

Next on his mind: inflation. Trump has been endlessly critical of Biden's stewardship of the economy. But he sees, in the anger generated by high prices and interest rates, an opportunity to woo voters who typically don't support Republicans, such as Black and Hispanic men. Trump says he'll bring down prices by opening up the US to more oil and gas drilling. “We have more liquid gold than anybody,” he says.

Third is immigration. He believes harsh restrictions are key to boosting domestic wages and employment. He characterizes immigration restrictions as “the biggest [factor] of all” in how he'd reshape the economy, with particular benefits for the minorities he's eager to win over. “The Black people are going to be decimated by the millions of people that are coming into the country,” he says. “They're already feeling it. Their

wages have gone way down. Their jobs are being taken by the migrants coming in illegally into the country.” (According to the US Bureau of Labor Statistics, the majority of employment gains since 2018 have been for naturalized US citizens and legal residents—not migrants.)

Trump's language turns apocalyptic. “The Black population in this country is going to die because of what's happened, what's going to happen to their jobs—their jobs, their housing, everything,” he continues. “I want to stop that.”

Drilling for oil aside, Trump hasn't detailed a plan for lowering prices. His personal conviction that the robust tariffs he's proposing will produce a US windfall isn't shared by mainstream economists, who warn that they'll spur further inflation and amount to a tax increase for US households. A report from the Peterson Institute for International Economics estimates that his tariff regime would impose an additional annual cost of \$1,700 for the average middle-income family. And Oxford Economics, a nonpartisan research group, estimates that Trump's combination of tariffs, immigration restrictions and extended tax cuts could also increase inflation and slow economic growth. The through line of these policies, says Bernard Yaros, lead US economist at Oxford Economics, is “an increase in inflation expectations.”

Then there's the budget deficit. Trump's desire to renew his landmark 2017 Tax Cuts and Jobs Act—estimated price tag: \$4.6 trillion—and to further reduce corporate taxes doesn't pencil out to a balanced budget in any way that he or his advisers have yet explained. Coupled with the upward pressure on interest rates economists expect from his protectionist policies, Trump's plans could exacerbate the country's growing debt burden.

In the end, however, Trump's other positions could be enough to sway business leaders to his side. Harold Hamm, a Trump donor and the executive chairman of oil giant Continental Resources Inc., writes in an email: “There seems to be outright hostility to free markets in the Biden Administration. As a result, capital is parked on the sidelines. Why? Because of regulatory uncertainty and in some cases downright regulatory hostility toward certain sectors.” Hamm cites the pause Biden put on liquefied natural gas projects in January as one example. “When Trump is re-elected,” he predicts, “that capital that was parked on the sidelines will be unleashed once again.”

On US Business Leaders

Corporate America is still adjusting to the likelihood of Trump's return. Privately, many CEOs aren't thrilled. “They can't stand him,” says Jeffrey Sonnenfeld, a Yale School of Management professor who runs a leadership institute for CEOs and speaks regularly with many top executives. Nevertheless, they recognize that a shotgun remarriage could be in the offing.

On June 13, Trump met privately in Washington with ►

◀ dozens of the country's most prominent chief executives, a group that included JPMorgan's Dimon, Tim Cook of Apple and Brian Moynihan of Bank of America. The occasion was a "fire-side chat" put on by the Business Roundtable, a nonpartisan lobbying group. The gathering brought Trump face-to-face with a number of corporate leaders with whom he's long had a vexed relationship. Many were leery of him from the outset of his presidency; some spoke out publicly after the Jan. 6 attacks on the US Capitol by his supporters. Cook, Dimon and Moynihan all condemned the violence, with Cook calling it "a sad and shameful chapter in our nation's history." Yet just weeks after a Manhattan jury convicted Trump of 34 felonies, everyone dutifully assembled to commune with him—an unmistakable sign of the shifting power dynamic.

Trump is highly attuned to his standing with America's corporate chieftains, and he vacillates between wanting their approval and hoping to bend them to his will. At Mar-a-Lago, when he's presented with the July issue of *Businessweek*, featuring LVMH Louis Vuitton Moët Hennessy SE CEO Bernard Arnault on the cover, he refers to Arnault, one of the world's richest men, as "an incredible guy, a friend of mine I think," and asks whether this relationship had come up. (It hadn't.)

Trump bristles when it's pointed out to him that no Fortune 100 CEO has publicly contributed to his campaign. (Since then, Elon Musk has pledged financial support.) And he's still smarting from CNBC's coverage of the Business Roundtable meeting, which featured quotes from an anonymous CEO who slammed Trump as "remarkably meandering" and "all over the map."

On the contrary, the meeting was "a lovefest," Trump insists. "I will tell you when I'm not loved, because I feel that better than anybody," he says. "CNBC called and apologized to me, because they found that we had a great meeting." (A CNBC spokesperson writes: "We did not apologize. We spoke to the former president about keeping the lines of communication open.")

Trump says he reminded the assembled executives that

in 2017 he slashed the corporate tax rate "from 39% to 21%" (actually from 35% to 21%) and vowed to push it lower still, to 20%. "They loved it, they were happy," he recalls. He adds that he wants to cut the rate even lower than that: "I would like to get it down to 15."

But Trump is also aware that whatever "love" the CEOs might have expressed was ultimately driven by self-interest: They can read election polls like everyone else. "Whoever's leading gets all the support they want," he says. "I could have the personality of a shrimp, and everybody would come."

This wasn't always the case. With Trump disgraced and seemingly finished in politics after his efforts to overturn the 2020 presidential election, the Republican business community was part of a coalition eager to anoint a new standard-bearer for the party. It began lavishing money and attention on a rising generation of business-friendly politicians, led by Florida Governor Ron DeSantis, former South Carolina Governor Nikki Haley and Virginia Governor Glenn Youngkin, who has also served as co-CEO of the investment firm Carlyle Group Inc. But in 2024, DeSantis' presidential campaign collapsed, Haley's petered out, and Youngkin's never took place. Business leaders were shocked and crestfallen as Trump cruised to the nomination.

"Everyone read this wrong," says Liam Donovan, a Republican business lobbyist. "There was a core assumption that Trump was finished. But DeSantis was never going to be the guy, nor was Haley. People saw an opportunity to turn the page, tried to make it happen, and it didn't happen. The base wanted Trump."

Trump famously carries grudges: At a conservative political conference last year, he pledged to deliver "retribution." But asked at Mar-a-Lago whether he'll go after CEOs he dislikes, he demurs. "I don't have [plans for] retribution against anyone," he says.

He does rekindle long-running feuds with Meta Platforms Inc. CEO Mark Zuckerberg and Amazon.com Inc. founder and *Washington Post* owner Jeff Bezos. Bezos, whose newspaper kept a running tally of false claims Trump made while president (it reached 30,573), draws particular ire. Trump says he has "done a great disservice to himself" and made "a lot of enemies" with his ownership of the *Post*.

For all his corporate critics and enemies, Trump doesn't lack support in the boardroom or on Wall Street. "The Trump economy was very good," says Scott Bessent, CEO of Key Square Capital Management LLC and a top Trump donor. "It worked for people at the top and at the bottom. The market was good. Real wages increased. It was a very good time."

Trump's Economics Team

The former president has put promises for higher tariffs, lower taxes and a sweeping crackdown on immigration at the center of his campaign. The behind-the-scenes brain trust advising him on those policies comes from Wall Street, academia and conservative think tanks including the Heritage Foundation, the America First Policy Institute, the Center for Renewing America and the Conservative Partnership Institute. Some of the advice is formal, some is informal, and some is conflicting.

Trump's campaign makes it clear that nothing is policy unless the candidate says so. Still, if he does return to the White House, at least some of the personnel and policies will follow him. Here's a snapshot of his economic whisperers:

Brooke Rollins



Rollins, based in Texas, is president and chief executive of the America First Policy Institute (AFPI),

which was set up to promote Trump's economic agenda—and has been described as Trumpworld's shadow government. Formerly Trump's director of the Domestic Policy Council.

Linda McMahon



Served under Trump as head of the Small Business Administration. She chairs the AFPI and has been among

those laying the groundwork for Trump's potential return to the White House. She was previously president and CEO of World Wrestling Entertainment Inc.

Robert Lighthizer



A former US trade representative under Trump, he'd likely play a central role in a new administration—possibly

as Treasury secretary. A noted China hawk, he has Trump's ear on trade and other economic matters. He lives in Florida near Mar-a-Lago.

Larry Kudlow



The former National Economic Council director. Kudlow continues to talk to Trump informally. He's

effusively praised Trump's 2017 corporate tax cut and recently interviewed him on stage before an audience of CEOs.

■ ROLLINS: DREW ANGERER/GETTY IMAGES; LIGHTHIZER: AL DRAGO/BLOOMBERG; MCMAHON: HASSETT; KUDLOW: JOE RAEDLE/GETTY IMAGES; BESSENT: STEFAN REYNOLDS/BLOOMBERG; VOUGHT: ELLIOTT NOUVLEAGE/BLOOMBERG; LAFFER: DANIEL BRENNER/BLOOMBERG VIA GETTY IMAGES

Other prominent CEOs who don't identify as Trump partisans have also been praising his presidency. "Be honest," Dimon said at the World Economic Forum in Davos, Switzerland, in January. "He was kind of right about NATO, kind of right about immigration. He grew the economy quite well. Tax reform worked. He was right about some of China. ... He wasn't wrong about some of these critical issues, and that's why they're voting for him."

Trump relishes the compliment. He's changed his view of the man he attacked on Truth Social last year as "Highly overrated Globalist Jamie Dimon" and now says he could envision Dimon, who's thought to be contemplating a political career, as his secretary of the Treasury. "He is somebody that I would consider," Trump says. (A spokesperson for Dimon declined to comment.)

For all his periodic wrath toward business leaders, Trump appears eager to have them serve in a second administration. North Dakota Governor Doug Burgum, a former tech CEO, made Trump's short list for vice president and is likely to land in his cabinet. Bessent is also a candidate for Treasury secretary. Trump is even embracing CEOs who, not long ago, were considered possible challengers. "Glenn Youngkin is prime time," he says in a post-interview aside. "I'd love to have him in my administration." And Trump's ultimate pick as running mate, JD Vance, was a venture capitalist for years.

Still, many chief executives feel trepidation about a Trump renaissance. Ken Chenault, the former chairman and CEO of American Express Co., says Trump's threats have had a chilling effect on corporate leaders. "People are staying on the sidelines," he says, "because they greatly fear that there will be retribution." Chenault raises another example of that happening during Trump's presidency: his opposition to the \$85 billion AT&T-Time Warner merger and concerns he was trying to force a sale of CNN over displeasure with its coverage of his administration.

Current CEOs, Chenault says, are terrified of winding up in Trump's crosshairs: "The fear is real."

On Foreign Policy

As president, Trump shattered the long-standing Republican orthodoxy of favoring free trade. He says he'll go further if reelected. At Mar-a-Lago he offers an impassioned defense of US tariffs—he's been studying McKinley, dubbing him "the Tariff King"—to make it clear he intends to ratchet up levies not just on China but on the European Union, too.

"McKinley made this country rich," Trump says. "He was the most underrated president." In Trump's reading of history, McKinley's successors squandered his legacy on costly

government programs such as the New Deal ("the whole thing with the parks and the dams") and unjustly poisoned an important tool for economic statecraft. "I can't believe how many people are negative on tariffs that are actually smart," Trump says. "Man, is it good for negotiation. I've had guys, I've had countries that were potentially extremely hostile coming to me and saying, 'Sir, please stop with the tariff stuff.'"

To the consternation of many business and consumer groups, Biden maintained Trump's tariffs on China, even increasing ones on steel, aluminum, semiconductors, electric vehicles, batteries and other goods. "This is going to add price inflation across the board, all in the name of 'tough guy' election-year politics," Yaël Ossowski, deputy director of the Consumer Choice Center, a nonpartisan advocacy group, said in May.

In Trumpworld, however, Biden's actions are seen as validation that Trump was right—and his Democratic critics were wrong—about the threat China poses to the US economy and security. Trump is eager to prescribe more of the same medicine, including to European allies. In addition to targeting China for new tariffs of anywhere from 60% to 100%, he says he'd impose a 10% across-the-board tariff on imports from other countries, citing a familiar litany of complaints about foreign countries not buying enough US goods.

"The 'European Union' sounds so lovely," Trump says. "We love Scotland and Germany. We love all these places. But once you get past that, they treat us violently." He mentions reluctance in Europe to import US automobiles and agricultural products as key drivers of the more than \$200 billion trade deficit, a statistic he considers a critical measure of economic fairness.

As with so much else, Trump views trade in personal terms. He speaks of it as though it were a private negotiation between himself and recalcitrant foreign leaders who understand full well that they're exploiting the US and therefore must be curbed. He's animated as he recounts a conversation with Angela Merkel, then Germany's chancellor. "Angela, how many Fords or how many Chevrolets are there in the middle of Munich right now?" he remembers asking.

He mimics Merkel's German accent in reply: "Oh, I do not believe many."

"How about none?" he says he shot back.

Satisfied that he's illustrated his point, Trump turns back to the *Businessweek* reporters. "They treat us very badly," he says. "But I was changing all of that and that culture." Return him to the White House, he suggests, and he'll finish the job.

Trump's transactional view of foreign policy and his desire ►

Kevin Hassett



Former chairman of the Council of Economic Advisers. Hassett's name comes up on shortlists to chair the Federal Reserve when Powell's term ends in 2026. Hassett and Trump speak often by phone.

Scott Bessent



Bessent, founder of Key Square Group LP, a hedge fund, is a prominent Trump fundraiser and in line for a top economic position. He's accused Treasury Secretary Janet Yellen of taking "control of monetary policy" through Treasury issuances.

Russ Vought



Policy director for the Republican National Committee, which has promised to end inflation, make the US the world's dominant energy producer and usher in "a new age of prosperity." Vought's biggest influence: proposals to fire thousands of career federal employees.

Arthur Laffer



Laffer is a Reagan-vintage champion of supply-side economics. Known for a famous dinner napkin doodle, "the Laffer curve," he was awarded the Presidential Medal of Freedom in 2019 by Trump. The former president gets a kick out of Laffer and speaks with him by phone.

◀ to “win” every deal could have ramifications around the globe—and even rupture US alliances. Asked about America’s commitment to defending Taiwan from China, which views the Asian democracy as a breakaway province, Trump makes it clear that, despite recent bipartisan support for Taiwan, he’s at best lukewarm about standing up to Chinese aggression. Part of his skepticism is grounded in economic resentment. “Taiwan took our chip business from us,” he says. “I mean, how stupid are we? They took all of our chip business. They’re immensely wealthy.” What he wants is for Taiwan to pay the US for protection. “I don’t think we’re any different from an insurance policy. Why? Why are we doing this?” he asks.

Another factor driving his skepticism is what he regards as the practical difficulty of defending a small island on the other side of the globe. “Taiwan is 9,500 miles away,” he says. “It’s 68 miles away from China.” Abandoning the commitment to Taiwan would represent a dramatic shift in US foreign policy—as significant as halting support for Ukraine. But Trump sounds ready to radically alter the terms of these relationships.

His views about Saudi Arabia, by contrast, are more amicable. He says he’s spoken to Crown Prince Mohammed bin Salman Al Saud within the past six months, though he declines to elaborate on the nature and frequency of their talks. Asked if he worries that increasing US oil and gas production would upset the Saudis, who wish to maintain their primacy in energy, Trump replies that he doesn’t think so, pointing once more to a personal relationship. “He likes me, I like him,” he says of the crown prince. “They’re always going to need protection ... they’re not naturally protected.” He adds: “I’ll always protect them.”

Trump blames Biden and former President Barack Obama for eroding US relations with Saudi Arabia, saying they pushed the country toward a key adversary. “They’re not with us anymore,” he says. “They’re with China. But they don’t want to be with China. They want to be with us.”

He has reasons beyond American foreign policy for favoring closer ties with the Saudis. Hundreds of millions of dollars are at stake for him. On July 1 the Trump Organization and DAR Global announced plans to build a Trump Tower and luxury hotel in Jeddah. An investment fund founded by his son-in-law Jared Kushner has also taken a \$2 billion investment from the Saudi government’s wealth fund.

Western allies, now familiar with Trump’s personal and mercurial approach to foreign policy, are taking extensive measures to prepare for his possible return to the White House. These include increasing defense spending, transferring control of military aid for Ukraine to NATO, racing to improve relationships with Trump’s advisers and affiliated think tanks, and reaching out to Republican governors and thought leaders to divine his intentions. At a NATO summit in Washington, Ukrainian President Volodymyr Zelenskyy urged allies to act quickly to help his country repel Russia’s invasion instead of waiting for the election results in November to decide what to do.

Dan Caldwell, a policy adviser at the right-leaning think tank Defense Priorities, says that “it’s actually in Europe’s interest to ‘America-proof’ their defense and to start operating on

the assumption that the United States has other, more urgent national security priorities, and domestic ones as well.”

On Silicon Valley

During his presidency and afterward, Trump frequently took aim at the US tech industry. For much of that time, Twitter (now X) was his platform of choice for venting displeasure with companies such as Facebook, Google and Twitter itself, pre-Elon Musk. In 2020 he signed an executive order reducing legal protections for social media platforms under Section 230 of the Communications Decency Act of 1996. And his government launched antitrust probes into Amazon, Apple, Facebook and Google—actions carried on and expanded under Biden.

Trump’s attacks on Big Tech have never been ironclad statements of policy or principle, exactly. Not unlike his tariff proposals, they’ve served at least as much as leverage plays—his staking out negotiating positions that companies and CEOs must respond to. The central complaint he and Republicans used to make was that tech companies were biased against conservatives—shadow-banning them, deplatforming them and (allegedly) suppressing right-leaning sources in search results. Today, Trump’s focus is on a more broadly appealing charge: that out-of-control tech companies are harming children—to the point, even, of causing a nationwide epidemic of suicides. “They have become too big, too powerful,” he argues. “They’re having a huge negative impact on, especially, young people.”

This position may stem from Trump’s understanding of how televised drama can shape public opinion. In February, during a Senate hearing of tech executives, Zuckerberg was effectively bullied into apologizing to families in the audience who said social media abuse had driven their children to suicide. It was an arresting moment, and Trump has harnessed the charge for his campaign. “I don’t want them destroying our youth,” he says of the social media companies. “You see what they’re doing—including, even, suicides.”

Moments later, however, he’s defending many of these same platforms as vital bulwarks against Chinese technological supremacy. Trump wants to personally dominate the US companies, but he doesn’t want foreign competitors replacing them. “I respect them greatly,” he insists of the companies he was just bashing. “If you go after them very violently, you can destroy them. I don’t want to destroy them.”

At Mar-a-Lago, the one exception to his claim to not want to harm US tech companies, and to privilege domestic ones over foreign ones, is TikTok. Discussing his recent embrace of the Chinese-owned social media platform, where he’s already quite popular, Trump mentions that banning it in the US would benefit a company and a CEO he has no desire to reward. “Now [that] I’m thinking about it, I’m for TikTok, because you need competition,” he says. “If you don’t have TikTok, you have Facebook and Instagram—and that’s, you know, that’s Zuckerberg.” It’s an outcome he won’t abide. He’s still stung by Facebook’s decision to bar him indefinitely in the wake of the Jan. 6 attacks. “All of a sudden,” Trump grouses, “I went from No. 1 to having nobody.”

His reversal on cryptocurrency has been marked by similar

“Taiwan took our chip business from us. I mean, how stupid are we?”

dynamics. Not long ago he criticized Bitcoin as a “scam” and a “disaster waiting to happen.” Now he says it and other cryptocurrencies should be “made in the USA.” He frames this about-face as a practical necessity. “If we don’t do it, China is going to figure it out, and China’s going to have it—or somebody else,” he says.

Not coincidentally, the crypto industry—spurned by the Democratic Party, brimming with cash and eager for friends in Washington—has now found its way to Trump. “Thanks largely to the actions of the Securities and Exchange Commission, the Biden administration has stumbled into becoming anti-crypto,” says Justin Slaughter, policy director at the crypto-focused investment firm Paradigm. “Given that about 20% of Democrats own crypto, per polling, and its ownership skews young and non-White, this was politically unwise.” Trump has moved to fill the void, declaring in a May speech that he would “stop Joe Biden’s crusade to crush crypto.” The following month he reaped the benefits, raising money from Bitcoin miners at a Mar-a-Lago fundraiser. Trump’s campaign then announced it would “build a crypto army,” and it now accepts crypto contributions.

Some in Silicon Valley have learned that the best way to get Trump to alter his position on something is to appeal to him directly. That was certainly the case for Tim Cook. In 2019, Apple Inc. looked set to be a victim of Trump’s trade war with China, with billions of dollars at stake, as the president announced 25% import tariffs. He then publicly rejected Apple’s request for an exclusion. “Apple will not be given Tariff waiver, or relief, for Mac Pro parts that are made in China,” he wrote on Twitter. “Make them in the USA, no Tariffs!”

At Mar-a-Lago, Trump speaks fondly of Cook and reveals how Apple’s CEO persuaded him to relent. He recalls Cook reaching out privately and asking, “Could I come in and see you?” Trump appreciated the gesture of respect from the head of what at the time was the world’s most valuable company. “That’s impressive,” Trump says. “I said, ‘Yeah, come in.’” Trump remembers that Cook was straightforward. “He said to me, ‘I need help, you have tariffs of 25% and 50% [on Apple products imported from China],’” he recalls. “He said, ‘It would really hurt our business. It would destroy our business, potentially.’” (An Apple spokesperson declined to comment.)

Trump wasn’t looking to do that—mainly, he wanted to demonstrate that he could bring manufacturing jobs back to the US, as he’d promised to do. In his telling, he prevailed upon Cook to expand domestic production. “I said, ‘I’m gonna do something for you guys,’” Trump recalls, “‘but you have to build in this country.’” Four months later, Apple announced it was beginning construction on a campus in Austin. The press release quoted Cook saying: “Building the Mac Pro, Apple’s

most powerful device ever, in Austin is both a point of pride and a testament to the enduring power of American ingenuity.” Cook then gifted Trump a \$5,999 Mac Pro, one of the first made at the Texas factory.

Had Trump forced Cook’s hand? Doubtful. Apple had originally announced a year earlier that it would invest \$1 billion in a new Austin campus, and Mac Pros had been assembled at existing Texas facilities since the Obama era. Nevertheless, the episode registered as a positive for Trump and established Cook at the opposite end of his personal CEO continuum from Zuckerberg. It also created a potential road map for how tech CEOs might navigate a second Trump term.

“I found him to be a very good businessman,” he says of Cook.

On the Uncertain Future

What Trump thinks about American businesses and the people who run them suddenly matters more than ever. So do his views on the Fed, the economy and every important issue around the globe. The shock of Biden’s faltering debate performance on June 27 supercharged doubts about the president’s cognitive health and plunged the Democratic Party into an existential crisis. It also gave Trump a measurable lead in many polls—and, along with narrowly surviving the assassination attempt, may have amplified his already formidable sense of political inviolability.

“The debate certainly had a big impact,” he says in a July 9 follow-up call, four days before the shooting. “A lot of the states are just starting now to come out, and it shows a very big swing.” Asked whether Biden should drop out of the race, he says, “That’s a decision he has to make. But I do think our country is in great danger whether he stays in or drops out.” On Vice President Kamala Harris, considered a likely alternative at the top of a Democratic ticket, Trump says, “I don’t think it would make much difference. I would define her in a very similar [way] that I define him.” With months to go before Election Day, there’s plenty of time for the dynamics of the race to change.

But even back at Mar-a-Lago, a couple of days before Biden’s debate stumble, Trump seemed to be riding this heightened sense of good fortune. When the resort’s longtime managing director dropped by during the conversation, Trump noted with pride that the club would increase its initiation fee from \$700,000 to \$1 million in October, with four new slots open—a sign, presumably, of the increased value of proximity to potentially the next commander-in-chief.

And at the conclusion of our interview, Trump, boastful to the very end, tried to send *Businessweek* off with that new MAGA hat (“Trump Was Right About Everything”). We politely declined. That’s ultimately for the voters to decide. **B**



Roblox's Predator Problem

The internet's biggest recreation zone for kids is fighting to keep pedophiles away, and it's not always winning

By Olivia Carville and Cecilia D'Anastasio

Illustrations by Elliot Gray

DoctorRofatnik, known to fans as “Doc,” looked almost mayoral in a tall white hat, a red tie and an American flag pin. A smirk was permanently plastered on his face as he roamed his domain on Roblox, the multibillion-dollar gaming platform geared toward children. His name referred to the villain of Sega’s *Sonic the Hedgehog*, but to thousands of players during the first summer of Covid-19, he was a hero.

Doc was the architect of the game *Sonic Eclipse Online*. Anyone can make a game inside Roblox’s digital sandbox, and his bootleg version of Sega’s hit franchise was a runaway success. It offered gamers a place where they could sprint across virtual half-pipes as the eponymous blue hedgehog alongside their friends, for free.

By September 2020 some 36 million people, more than half of them under 13, were on Roblox daily, making it the world’s biggest recreation zone for kids. *Sonic Eclipse* was a bustling cul-de-sac where children could buy virtual Robux currency with their weekly allowance, then use it to get costumes and morph into cooler characters. Doc claimed to be one of the highest-paid developers on Roblox, boasting about it to his community on the chat app Discord. There, thousands of fans who’d filtered over from *Sonic Eclipse* got to know him as Jadon Shedletsy, 28, “a Game Developer, Industry Visionary, and a bit braggadocious,” as he wrote in his bio. He was the California-based younger brother of Roblox legend John Shedletsy, the platform’s longtime creative director, or so he said. No one knew what Doc really looked like, but he told anyone who asked that he was buff, with blond hair and teal blue eyes. He said he drove around in flashy cars with a “hot Spanish girlfriend.”

Doc’s dark, edgy humor only made him more compelling to many kids. When he posted a joke about rape, one fan replied, “10/10.” When he called young girls who helped him develop *Sonic Eclipse* “sex slaves,” it became a running gag. He quipped about being “the old man with kids in his basement.” Fans sparred with one another to get on his good side—and on his payroll.

Some were also quick to defend his honor in September 2020, when a *Sonic Eclipse* player posted screenshots on Twitter of a private chat Doc had had with a preteen:

“You’re 12, I expect you to be a little slow on the upbringing, but soon I’ll corrupt you beyond your wildest dreams.”

“Words cannot explain what I want to do with you.”

“You’re the reason why I’m gonna end up behind bars 🤔.”

The person who posted the screenshots was one of a group of gamers who’d grown tired of the homophobic, racist and predatory tirades Doc shared on Discord and had started digging into the person behind them. When Roblox Corp. learned of the messages, it shut down Doc’s account. But by then he’d transferred ownership of *Sonic Eclipse*

to another gamer, a friend who kept it running in his stead. Doc claimed the controversy tripled his earnings. The bragging, and the efforts to expose him, continued until the spring of 2022. That’s when Doc disappeared from the internet.

Gamers speculated that he’d killed himself. Then, a few months later, a player sent an alert on Discord: “Doc finally got arrested.”

Posted below was an article from a New Jersey news site, with the headline: “FBI: Groomed-For-Sex Indiana Girl, 15, Rescued After Paterson Man Pays Uber To Bring Her To NJ.”

Roblox was launched in the early 2000s under the premise that games were the next frontier for education software. Kids could design multiplayer online enclaves using a set of building blocks and a simple coding language. Unlike other companies’ complex, graphics-intensive games, Roblox’s were the kind of thing kids might imagine during recess, like *Experience Gravity* or *Work at a Pizza Place*. The platform’s weird, whimsical ethos attracted thousands, then millions of kids, who moved through its worlds as Lego-like avatars with frozen smiles and beady eyes, spending Robux to spruce themselves up with virtual wigs, clothes, dragon tails or wings. Eager to access young eyeballs, big brands crafted their own games, such as *Gucci Town* and *Nikeland*. Developers received a 30% cut of any sales, and Roblox took the rest. Bookings last year, mostly from Robux, reached \$3.5 billion.

With 78 million daily active users today, Roblox has become social media for the youngest generation. Every second, according to Roblox, it processes more than 50,000 chat messages—*Hey loser, cute outfit, let’s be friends*—through its moderation protocols, a combination of artificial intelligence technology and human workers that the company says scans all user content, including audio and text. Roblox has about 3,000 moderators, significantly fewer than TikTok, which has three times the number of daily users but employs 40,000 moderators. (Roblox says the number of moderators isn’t an indicator of quality.)

Unlike other mass-market social media apps, which bar kids under 13 or shunt them into sanitized versions, Roblox was made for children. More than 40% of its users are pre-teens, and with that market come special hazards.

Since 2018, police in the US have arrested at least two dozen people accused of abducting or abusing victims they’d met or groomed using Roblox, according to data compiled by *Bloomberg Businessweek*. Some were already on sex offender registries or had been accused of abusing minors; there were also a sheriff’s deputy, a third-grade teacher and a nurse. In just the past 13 months there have been seven arrests, including those of a man in Florida accused of trying to kidnap a teen he played with on Roblox; a man charged with abducting an 11-year-old New Jersey girl he met on the platform; and a California man who allegedly abused a kid he, too, had met on



Roblox. These predators weren't just lurking outside the world's biggest virtual playground. They were hanging from the jungle gym, using Robux to lure kids into sending photographs or developing relationships with them that moved to other online platforms and, eventually, offline.

Roblox's chief safety officer, Matt Kaufman, calls safety and civility "foundational" to the company. He notes that the platform's moderation systems scan all chat and other digital content, bleeping out inappropriate words and blocking players from sending images. Those systems, which can intervene in under a minute, are even more restrictive for kids under 13, Kaufman says.

He rejects the idea that Roblox has a systemic problem with child endangerment and describes the issue as industrywide. "Tens of millions of people of all ages have a safe and positive experience on Roblox every single day," he says. He declined to comment on specific criminal cases.

Yet a number of people who've worked for Kaufman say Roblox is on its back foot in its battle against predators. In interviews with more than 20 current and former employees—including moderators, engineers and safety managers, all of whom requested anonymity because of confidentiality agreements or fear of retribution from the company—*Businessweek* repeatedly heard that while child safety might be the company's watchword, policing the platform and its 13 million games

integration of specific ideas, tools or features is a reflection of not caring or lack of prioritization is simply wrong," the spokesperson says.

Most of the safety workers interviewed by *Businessweek* say it's harder to pursue pedophiles at Roblox than at other online platforms, because every user is an anonymous collection of pixels. That's the thing about catering to children: You can't ask for real names, email addresses or phone numbers at sign-up. This protects the privacy of children—but also of predators.

Before Doc was wanted by the FBI, he was being hunted by a posse of vigilante gamers. They'd grown up playing Roblox, venting with one another about its poor moderation. They ridiculed it for having overly strict chat filters, which they said sometimes censored innocuous words yet didn't catch acronyms such as "erp" (for "erotic role play"), and for failing to detect avatars with absurdly large genitalia or simulating sex in digital toilet stalls. By 2020 many had lost faith that Roblox could prevent predatory behavior, so they began policing it themselves.

The leader of this pack was Ben Simon, now 27, who broadcasts about Roblox on YouTube under the pseudonym Ruben Sim from a bungalow in suburban Tucson. "Roblox

"You're 12...soon I'll corrupt you beyond your wildest dreams"

is a Sisyphean task. One moderator says her team receives hundreds of escalated reports involving child safety every day, far too many for her team to clear.

Policing will only get harder as the company strives to reach co-founder and Chief Executive Officer David Baszucki's goal of 1 billion daily users, more than 10 times the number today. Eight current and former trust and safety workers say user growth at Roblox takes priority over child safety. They describe calls for more resources going unanswered, resulting in a backlog of incident reports and the departure of one manager who left after promises for extra staff went unfulfilled. Others say that features they recommended to better protect kids, such as pop-up safety notices, were rejected and that safety settings, for example to ensure users aren't talking to strangers, were switched off by default. And while the company says it's increasingly relying on AI for moderation and those systems are improving all the time, some employees say the technology isn't yet able to detect subtle signs of grooming.

A Roblox spokesperson disputes the claims about resources and backlogs. The spokesperson says that safety team members are constantly sharing ideas about new tools, that the company factors in "various considerations" when deciding how to build them and that it has a "robust pipeline" of safety features in development. "Implying that a lack of immediate

spends so much time, effort and money convincing parents that their platform is safer than it actually is," he says, sitting in a gaming room smelling of marijuana and plastered with WikiLeaks and rock music posters.

Simon is a controversial figure. He has mocked Roblox employees for their physical appearance and sexual preferences and has hurled insults at Baszucki, who blocked him on X. Roblox permanently banned Simon when he was 17. Since then he's started new accounts, expanding his YouTube subscriber base to 1.2 million even as Roblox has shut him down on its platform at least 100 times. His first videos were cringey satires of its games. Now they have titles such as "Uncovering Roblox's Nastiest Community" and "Roblox's Worst Moderation Problem," and he makes money from the ads.

Some Roblox employees say they respect Simon's efforts; others write him off as a "drama channel"—a bad-faith actor who cares more about clicks than kids. But he says users desperate for accountability have sent him thousands of complaints, figuring they'll have better luck getting a creepy account shut down if he posts about it than if they file a report with Roblox.

In September 2020, Simon started receiving messages from the gamers who were seeking to bring Doc down. The ►



Simon, a vocal vigilante gamer banned by Roblox

◀ screenshots they sent were of conversations Doc had had with young girls who worked for him, including ones detailing fantasies about kidnapping and raping a 12-year-old. After Simon reposted the messages on Twitter, vigilantes flooded Doc's accounts, calling him a pedophile. Doc responded with a YouTube video defending himself. In his usual style—off-screen, with his voice electronically altered—he admitted the messages were real but said they were just jokes.

Simon packaged the allegations and admission into a seven-minute video and sent it to an employee on Roblox's

as she got older, Berner says, she realized “just how gross it was for an adult to be talking to me like this.”

Four days after being notified by Simon, Roblox closed Doc's account and reported it to the National Center for Missing & Exploited Children. In the meantime, Doc had transferred ownership of the game to his friend and created a new account. One gamer recalls him quoting Eminem after his return: “Guess who's back, back again. Shady's back, tell a friend.” Doc shared a screenshot on Twitter that October, after his ban, showing a \$15,097.35 payment from Roblox and scoffed at Simon: “Thanks for driving more money to my game, man! Jeez, you guys are really f---ing stupid by giving me all this publicity.” (Roblox says it continued to search for and ban any alternate accounts but left *Sonic Eclipse* running because the game itself didn't pose any safety concerns. It also says that DoctorRofatnik cashed out a total of \$41,000 in developer fees in the first eight months of 2020 but that it has no record of a payment to anyone for \$15,097.35 that year.)

Simon sent a message to Roblox railing against what he viewed as its weak response. “Roblox's bottom line depends on parents trusting the company with their kids' safety and that's not going to happen if this is the response to child predators,” he wrote. He says he didn't get a reply. He tried reporting Doc to the Tucson police, but all he could offer was an online alias.

Roblox finally responded to Simon, in a manner of speaking, in late 2021—by filing a \$1.6 million lawsuit against him. It alleged he was the leader of a “cult-like cybermob” harming the company's reputation. It also said he'd operated accounts with names such as “cockassassin,” tried to upload pictures of Adolf Hitler and used homophobic slurs inside Roblox games. (Simon says that his “cockassassin” account was created as a joke when he was 15, that he never tried to upload pictures of Hitler and that he probably used a few slurs while playing Roblox as a kid.)

With Simon sidelined, others took up his campaign. “If Roblox wasn't going to do anything, I had to find a way,” says Naru, a 22-year-old Japanese gamer who didn't want her real

“Roblox spends so much time, effort and money convincing parents that their platform is safer than it actually is”

developer relations team. He asked the company to shutter the DoctorRofatnik account and *Sonic Eclipse* itself. A number of other users say they also alerted Roblox about Doc's account, and so did the mother of the preteen he'd sent the messages to.

Katie Berner, who's now 18, says her mother sought advice from Simon before sending a report “explaining how creepy and dangerous it all was.” Berner had started playing Roblox when she was 6 and was working for Doc by the time she was 13. At first, she liked that he gave her so much attention. But

name shared publicly for fear of being doxed. She settled on a different approach, writing to the vice president for product development at Sega Sammy Holdings Inc., which owns the trademarks related to *Sonic the Hedgehog*, and tweeting at its press relations team. Their iconic hedgehog, she said, was being misappropriated by a pedophile on Roblox.

Sega subsequently filed a copyright infringement notice with Roblox, and at the end of 2021 the game was shut down. Sega didn't respond to requests for comment, but Roblox's takedown notice was shared by gamers online. The irony that *Sonic Eclipse*

had been brought down by the intellectual-property rights of a rival corporation, rather than child safety concerns, wasn't lost on the gamers.

Simon settled his lawsuit with Roblox about a month after the game went dark. Court documents show he agreed to pay Roblox \$150,000 without admitting wrongdoing, though he won't comment on the terms or whether he paid the company anything, citing a confidentiality agreement. Roblox also declined to comment about the case.

The same week Simon settled the suit, he got a tip from a fan. Five young sleuths from the US, the UK and Australia had discovered one of Doc's old Facebook pages. It contained a link to a dormant website, and when they'd looked up whom it was registered to, they'd found a name: Arnold Castillo of Paterson, New Jersey.

Simon called Tucson police with the new information, but the report went nowhere. A spokesperson for the force says that there wasn't enough evidence to launch a criminal investigation and that it was outside their jurisdiction. Simon says he hadn't known who else to call.

“Who's playing Roblox?” asks Kirra Pendergast, standing in front of 75 students sitting cross-legged on an auditorium floor at an elementary school in Lennox Head, Australia. About 60 hands shoot up.

“Who's ever been asked to be someone's boyfriend or girlfriend on Roblox?” This time a dozen hands go up, and there's lots of whispering.

“Who's been offered free Robux to do something inappropriate in the game?” Two hands rise slowly.

The session, captured in a video in May, is like many others conducted by Pendergast, founder and CEO of Safe on Social Media Pty Ltd., an organization with offices in four countries that advises schools and businesses about online safety.

“I started asking more specific things, like ‘Who's been offered free Robux to strip their avatar down to their undies?’ and heaps of kids put their hands up, giggling,” Pendergast says in an interview. Hundreds of kids have told her since the pandemic that they've been asked to shift messaging from Roblox to Snapchat or Discord, or have been dared to do what she calls “wildly inappropriate things,” such as sending naked photos in exchange for Robux.

“Parents are letting children play on Roblox thinking it's a cute little kids' game, with no idea what is really happening,” Pendergast says. “If I could wipe one app off the face of the Earth right now, it would be that one—it would be Roblox.”

Roblox's open chat function is a contentious subject among child safety experts. Other kid-focused online games, such as Nintendo's *Splatoon 3*, offer only preprogrammed dialogue options for talking with strangers. On Roblox an 8-year-old can, by default, post whatever they want in a game chat seen by every other player unless AI censors intervene. It's left to parents to activate child safety features such as restricting what categories of people their kids can talk to, or which games they can play. If parents don't, children can introduce themselves to

any stranger in a game, chat for hours and accept requests to converse in private messages.

“If a predator wants to target younger kids and talk with them to build trust and start the grooming process, Roblox is an easy way to do that,” says Ron Kerbs, CEO and founder of online child safety company Kidas. “Instead of going to the playground where everyone's a kid, you go to Roblox.”

Roblox is available for free on a wide range of devices, from iPhones to PlayStations to PCs. It takes less than a minute to create an account, enter a date of birth and join an all-ages-rated game. A *Businessweek* reporter signed up recently, identifying herself as 4 years old, and rezzed into the popular game *Brookhaven RP*. Her avatar appeared in a playground in a sterile, white city. The first message in a public chat with 21 other players was a user saying, “I'm 8.” The reporter replied, “I'm 4.”

“#####,” said a user, their message bleeped out. “leVe the game and lets chat,” said another. Within seconds, a friend request arrived and a private chat began.

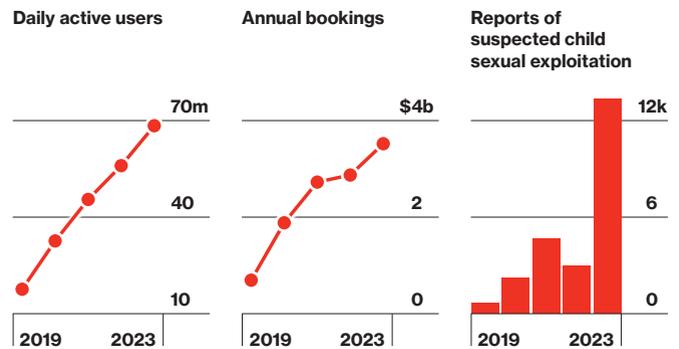
“U single” the stranger asked. The reporter reiterated that she was 4.

“Do u have 🧑🏻 chat,” the stranger asked, referring to Snapchat, which has a ghost logo. “Age is just a number 🙄,” they added.

On darknet forums, adults looking to groom children for abuse trade tips for developing relationships in Roblox chats—tactics such as misspelling certain words (“leVe” instead of “leave”) or using emoji to refer to apps where conversations

The High Price of Growth

As Roblox's business has expanded, it's reported more cases of suspected child sexual exploitation to the National Center for Missing & Exploited Children



can be unfiltered and photos and videos can be sent (the ghost for Snapchat, a disc for Discord). One forum user described successfully connecting with kids there: “I simply played the game or was active in the chat section and then hit it off.” Others offer Robux in exchange for pictures. “Sometimes it worked like a charm,” wrote another poster on the same forum.

References to Robux or Roblox gift cards—\$25 for 2,000 Robux, \$100 for 10,000—appear in several police reports obtained by *Businessweek*. In one case, Clinton McElroy, a ▶

◀ 48-year-old registered sex offender in Ellis, Kansas, met an 8-year-old girl on Roblox in 2020. He traded thousands of Robux for more than 20 explicit images and videos she'd shot of herself using her iPad. In one exchange, he wrote, "I can tell your not really into this." She responded, "Anything for Robux."

Roblox says the company has no tolerance for predatory behavior on the platform. But the word "grooming" didn't appear in its 2022 moderation guide, a copy of which was seen by *Businessweek*. And the company didn't have automated systems in place to proactively search for grooming behavior beyond basic text filters until that year, according to current and former employees. Several of them also say senior leaders at Roblox haven't looked at how its virtual currency is being used by predators, even though employees have raised the issue with managers.

A Roblox spokesperson says the company is building out its capability and is looking to hire a financial harms intelligence analyst. The spokesperson adds that consumer privacy laws prevent retailers from sharing information on customers who buy gift cards, making them hard to track.

Predators who do this have evaded detection. Shane Patrick Penczak, a 45-year-old from North Port, Florida, was charged with sexual crimes against children in January 2022. He told police that a 13-year-old boy he'd met on Roblox had shared his password so Penczak could "put gift cards on to his Roblox account," according to a transcript of his taped confession. In exchange he'd received hundreds of photos and videos of the boy showering and performing sexual acts. Penczak, who was sentenced to 13 years, said he'd regularly signed in to the boy's account to read his private messages and pay him—thousands of dollars' worth of Robux over three years.

In May 2022, four months after Penczak was arrested, a missing-person report was filed in Indiana. A 15-year-old girl had disappeared. Her favorite electronics, plus charger cables, clothing and a blanket, were gone from her bedroom. Her phone was off, and the last thing she'd posted on Instagram was a photo taken from the back seat of a car, captioned "Goodbye, Indiana."

Stacy Hinshaw, a detective who specializes in sex crimes, quickly realized this wasn't a typical teen runaway. The girl didn't have the financial means to travel, yet she'd clearly left the state. Someone had taken her.

Hinshaw got approval from a judge to access the teen's phone records. The last tower her cell had pinged was in Pittsburgh, 350 miles away. She asked the girl's family if she'd been talking to anyone online recently. Yes, her sister said—a man named Jacob Shedletsky, who was supposedly a popular game developer on Roblox. Suspect No. 1, Hinshaw thought.

The girl had met Shedletsky on Roblox that January, the sister said. She was an artist, and he'd bought one of the drawings she'd posted on Instagram. After calling her mother to ask for permission, Shedletsky paid \$45 through Cash App. Then, Amazon packages started showing up on the family's doorstep addressed to the teen, containing a teddy bear, a tablet drawing stand and a drawing glove. Occasionally orders from McDonald's or a Chinese restaurant would arrive via DoorDash.

"By the end of that interview, I thought she was with that man," Hinshaw recalls. "We just had to find him."



Hinshaw, an Indiana detective who specializes in sex crimes

She traced the gifts to the Amazon account of a second man, Nelson Betancur, with a Paterson address, giving her another potential suspect. Then she called the phone number the teen's mom had for Shedletsky. The man who answered confirmed the name and said he lived in California. He said that he knew the girl and had sent her gifts but that he didn't know anything about her whereabouts. Hinshaw recalls that he took a suspiciously long time to provide basic information such as his address and date of birth. When she asked the man why he'd sent the Amazon gifts from a different account, he said Betancur was a business associate.

A few days later, Meta Platforms Inc. returned the results of a court-ordered search warrant for the girl's Instagram messaging history, and a third name popped up: DoctorRofatnik. She'd sent him hundreds of messages. He said he was in love with her and told her "sex is a beautiful thing." When she said

PHOTOGRAPH BY JAY GOLDZ FOR BLOOMBERG BUSINESSWEEK

she thought she might be too young for intimacy, he replied, “You’re not.” On April 25 he wrote: “I want to see you really badly, the only way this is going to work is if you listen to me.”

With enough evidence in hand, Hinshaw called the Federal Bureau of Investigation and was put in touch with Len Rothermich, a special agent on the child abduction rapid response team in Indiana. Rothermich soon discovered that the girl had logged in to her Instagram account from a new IP address. He called the service provider’s emergency office, saying a teen’s life was at risk and he needed the account holder’s location. When he got it, he saw that the girl had logged in from the same address used to send the Amazon packages.

In the early evening of May 11, eight days after the girl had left Indiana, six unmarked cars carrying uniformed officers and FBI agents pulled onto a quiet residential street in Paterson. Within minutes they saw her rounding a corner, walking with a man. Officers descended on the pair, separating them. The girl was taken to a hospital; the man was put in handcuffs and searched. He was carrying three unused condoms. They asked him for his name. “Arnold Castillo,” he replied.

flirting with the teen. He’d been using the handle LastOutlawz, and their avatars were holding hands or embracing in matching T-shirts that read “Boyfriend” and “Girlfriend.” Rothermich got a search warrant compelling Roblox to turn over chat logs, IP addresses and login details for LastOutlawz. In the four months leading up to the arrest, Rothermich learned, Castillo and the girl had exchanged messages on Roblox about her intention to run away from home.



When executives at Roblox’s headquarters in San Mateo, California, heard what had happened, they formed a team to analyze what had gone wrong. The company says that it didn’t know who Castillo was before he was arrested, that it didn’t make payments to anyone with that name and that it has no records of accounts linked to him.

But executives knew they had to do something to better protect users. They rolled out a policy permitting Roblox to boot users who harass people on other platforms or offline. They also gave moderators better tools to identify new accounts started by banned users. Within a year the company

“If I could wipe one app off the face of the Earth right now, it would be that one”

Castillo—22, pale and dumpy, with a thinning brown tangle of hair—was taken to an FBI office, where he agreed to an interview without a lawyer. He admitted he’d adopted the aliases Jacob Shedletsy, Jadon Shedletsy and DoctorRofatnik to hide his identity. Castillo said that he’d used the Amazon account of an uncle in Florida to send gifts to the girl and that he’d cut a side deal with an Uber driver, paying \$1,000 to bring her from Indiana to New Jersey.

He was a successful game developer on Roblox, Castillo told the FBI. He had two dozen kids working for him, helping design characters and manage Robux payments for a game he’d created. He described the girl as a promising artist, unhappy living at home, and said he’d wanted to help her. Castillo admitted they’d had sex multiple times over the eight days she’d been missing.

Rothermich listened to the interview from Indiana. “I was trying to figure out how all this happened,” he recalls. “How this girl was willing to leave her home and go with this guy she doesn’t know, what was enticing about him.” He started searching Castillo’s alter egos online and was surprised to find not only that he was as popular as he’d said, but also that a year and a half earlier some teen gamers had sounded an alarm about him. “Seeing what those children did, as far as compiling all this and their ability to identify Mr. Castillo,” he says, “well, they might want to submit some applications to the FBI one day.”

A few weeks after the arrest, Rothermich found screenshots from Roblox games on Castillo’s phone, showing Castillo

had created some new roles, too, appointing two child safety investigators, a child exploitation moderation team and a chief safety officer reporting directly to the CEO.

With a stronger net in place and the pandemic pulling in millions of new users, Roblox began to catch more incidents. In 2023 it reported 13,316 instances of child exploitation to the National Center for Missing & Exploited Children, compared with 2,973 the previous year. The company says it responded last year to more than 1,300 requests for information from law enforcement, including subpoenas and search warrants, a jump of almost one-third from 2022. It didn’t say how many of those involved alleged predators.

Current and former Roblox employees say the company wants to get safety right. Beyond the moral reasons, there are business repercussions when it doesn’t: After a short seller published a blog post last year that aggregated arrests linked to Roblox, the company’s share price fell 8%. (Roblox says other factors may have caused the drop.) But there’s only so much moderators can do. Because Roblox users are mostly children, the company can’t ask them for any personal information beyond their age, and it can’t ask those under 13 for proof of that. The username tab of its sign-up form even advises: “Don’t use your real name.”

This anonymity shield makes it impossible to know if a child is pretending to be an adult to sidestep safety guardrails, or if an adult is pretending to be a child for more sinister reasons. And when no one is who they say they are, it’s harder to detect suspicious behavior. One safety moderator says it’s ►

◀ common for predators to operate dozens of Roblox accounts at the same time, pretending to be children of different ages.

Many safety advocates say Roblox has been able to avoid the spotlight on child safety issues because predators tend to shift sexual conversations with victims to other, less moderated spaces. These critics consider it an oversight, given that Roblox can act as a gateway to those other platforms and its users are particularly young and vulnerable, that the company wasn't called to a congressional hearing in January where the CEOs of social media platforms were questioned about online child exploitation. (Spokespersons for Discord, Snap Inc., TikTok and Meta say their platforms have features intended to keep children safe. Discord closed the *Sonic Eclipse* server after *Businessweek* reached out for comment.)

Roblox has also argued that federal laws protect it from accountability. In two lawsuits brought in the past year by California parents alleging the company deceived them about the safety of its platform, it cites Section 230 of the Communications Decency Act of 1996, which prevents internet platforms from being held liable for what third parties say or do on their sites. In one of these cases, filed in state court in San Diego, the lead plaintiff alleged that anonymous users were sending her 7-year-old son lewd messages via Roblox asking him to show his genitals or perform virtual sex. In the other, filed in federal court in San Francisco in February, plaintiffs say they would never have given their children thousands of dollars in Robux “had they known that the Roblox platform was founded on the exploitation of their children.” Roblox disputes the allegations and has moved to have both cases dismissed.

A growing chorus of safety advocates, parents, teachers, attorneys and lawmakers is trying to hold tech companies accountable for the harms their products have inflicted on children. In June, US Surgeon General Vivek Murthy called for warning labels on social media sites, like those that appear on alcohol and tobacco products. And some state and federal legislators have introduced laws seeking to dilute Section 230 or force tech companies to be more transparent about child safety.

With its liability shield under attack and with growth in mind, Roblox is making an effort to age up its user base. Gamers over 13 view it as a place for “little kids,” according to a 2022 internal research presentation seen by *Businessweek*. “We know Roblox becomes less cool as they grow up,” it said. One way to address that, the presentation read, would be to provide more “mature experiences.” Adults, in particular, carry less regulatory risk and control their own bank accounts. In the past year, Roblox has announced a suite of features for users 17 and up, including avatar video calling and games involving romantic themes and “heavy bloodshed.”

Safety workers say those who are pushing for growth want as few barriers to entry as possible. And every time the platform makes it easier for people to connect, they maintain, it becomes harder to police. “The minute those things were rolled out,” one former child safety team leader says of the new features for adults, “our whole team was like, ‘Dear God, no, please Roblox, don’t do this.’”

After all the bravado and masquerading, Castillo cut a pathetic figure at the federal courthouse in Indianapolis last August, when he pleaded guilty to transporting a minor across state lines to engage in sex. With that, the web of lies he’d created finally came unwoven.

No, he wasn’t the brother of Roblox legend John Shedletsky. No, he didn’t live in California or drive around in flashy cars with a hot Spanish girlfriend. No, he wasn’t buff with blond hair and blue-green eyes. Reality wasn’t as kind.

Born in New Jersey, the son of Spanish-speaking immigrants, Castillo had been pulled out of school in seventh grade by a controlling mother, his attorney said. Despite his lack of education, he’d found he had a knack with computers and could “make good money” designing video games. But Castillo had mental health issues and “zero social confidence,” and he barely left the apartment he shared above a garage with his mother, the two of them sleeping in the same bed. He may have been king of an online fiefdom, but he had no real friends.

Federal prosecutor Tiffany Preston then laid out what investigators believed had happened during the eight-day ordeal. Shortly after the driver dropped off the girl in New Jersey, Castillo took her to a “teeny, tiny” room he’d rented in the house adjacent to his garage apartment and sexually assaulted her, Preston said.

There were no blankets or furniture, only a dirty twin mattress on the floor. The girl was dependent on him for food and money. When she complained about being lonely, Castillo bought her a plushie doll. He also bought her hair dye to change her appearance. Preston called it “every parent’s worst nightmare.”

The victim wasn’t present in court, but her sister was. In a statement she read to the judge, she said the girl had been suffering from depression and anxiety since being rescued—“she almost doesn’t want to come out of her room.” She’d lost trust in everyone and refused to go to school. “These scars will remain with her forever.” The family declined requests for an interview.

Castillo’s sentence should be severe, Preston argued, to send a message about a bigger social problem. “It’s gained

Roblox has announced new features for users 17 and up, including games involving romantic themes and “heavy bloodshed”



some attention because it is the poster child for how badly things can go wrong when criminals can use supposed kid-safe applications to talk to children,” she said. Like millions of kids, Preston explained, this teenager loved to play games on Roblox, and that’s how Castillo had found and groomed her. “Predators like the defendant know that children are on these social media applications. They know they’re on Roblox. And they are exploiting them every day,” Preston said.

The judge sentenced Castillo to 15 years. “We protect kids,” he said, “because they can’t protect themselves.”

On a Friday morning in June, Castillo was escorted into a clammy visiting room at the Otisville Federal Correctional Institution in upstate New York. He offered a coy smile and a limp handshake. “Hello,” he said in a buttery voice that was nothing like the robotic tone he’d disguised it with online. Now 24, he was wearing a dark brown jumpsuit over a stocky frame, nowhere near the 6-foot-1 he’d once regularly claimed. His dark eyes peered out from behind rectangular glasses. Thin brown hair curled into wisps at the nape of his neck.

“Not what you were expecting?” he asked. His looks were still a mystery to most people. His mug shot had been sealed by the FBI, and all the selfies he’d shared with fans were AI-generated renditions of Jadon Shedletsky, the alter ego behind DoctorRofatnik.

Across three hours, Castillo spoke mostly about his personal history, continually drawing the conversation back to his unconventional childhood. He said he’d built his Shedletsky identity on a “mountain of lies,” starting when he was 12. “Everything I couldn’t be was superimposed onto him,” Castillo said. “I very much played a character—and that character is long dead now.”

He’d had two years in prison to think about his crimes, and he said he was sorry for the pain he’d caused the victim and her family. He said he didn’t view himself to have preyed on her, even though he knew his actions were now considered “a textbook case of online predatory behavior.”

Castillo did have a few things to say about Roblox and why it might appeal to predators. Accessibility, for one. “It’s very easy to make an account,” he said. “It’s very easy to play a game” and “very easy for an adult to talk to a young person.” It was also easy to meet kids on the platform and shift them to less moderated spaces, he said. Roblox needed to tighten its chat restrictions. He recalled simply using the word “cord” instead of “Discord” to evade the censors.

But it had been a long time since he’d used Roblox, and he figured he probably never would again. “I think that chapter in my life is done,” he said. If he serves his full sentence, he’ll be close to 40 by the time he’s released from prison, and he’s had no work experience beyond developing games on Roblox. That morning he’d started his first real job: cleaning the showers in his cell block. **B**

**GREAT
HANDLING,
PLUSH
INTERIOR,
ZERO
ELON**

**RIVIAN IS A
HIT WITH PEOPLE
WILLING TO
DROP \$70,000-
PLUS ON AN
ANTI-TESLA.**

**QUESTION IS, CAN
THIS STARTUP
MAKE ANY MONEY?**

**BY ED LUDLOW
AND MAX CHAFKIN
PHOTOGRAPHS
BY EVAN JENKINS**



Rivian CEO RJ Scaringe

LIKE A LOT OF PEOPLE,

Chris Hilbert has complicated feelings about his Tesla Model S. Hilbert, who is 44 and lives outside Indianapolis, loves his car's instant torque and neck-snapping acceleration, but there are other aspects of Tesla ownership he finds less appealing. For instance, he doesn't credit the company's claims that his car is a few software updates away from being able to operate autonomously, and he wouldn't particularly care about such a capability, even if it existed. "I like to drive my vehicles," he says. He's also put off by the rabid fandom culture that's come to surround everything related to Tesla Inc. and its chief executive officer, Elon Musk.

Recently, when Hilbert complained on social media that his car's "Full Self-Driving" system seemed to consistently fail to stop for school buses, he was greeted with a mixture of denial ("Fake news as usual") and ridicule ("You suck"). "The big problem is, there's Tesla and there's TSLA," Hilbert says, referring to the two species of Tesla fan. The first group cares about the cars and is basically like Hilbert. The second is mostly interested in pumping up the stock ticker and attacking anyone who isn't doing the same. "The stockholders are the toxic bit of it," he says.

Hilbert, who works at a financial-services company, is a lot more enthusiastic when talking about his family's other car, a Rivian R1S. Last year he and his wife bought the three-row SUV, which starts at around \$76,000, by trading in their old Tesla Model X, a luxury crossover vehicle that seats six and features the distinctive "falcon wing" doors resembling those of a Bugatti Type 64 or a DeLorean. The R1S had a seventh seat, making it big enough for his five kids. (He considered a plug-in hybrid minivan, the Chrysler Pacifica, but couldn't face the idea

of actually having to fill up a gas tank.)

Hilbert didn't necessarily expect to be blown away by his new Rivian—he'd bought it essentially as a child hauler—but he's been pleasantly surprised. The electric truck lacks fancy doors, the horn can't make a fart sound, and it doesn't promise to one day transform itself into a "robotaxi." But it can go from zero to 60 in three seconds, it handles surprisingly well for its size and it never, ever needs gas. Hilbert didn't initially love the Rivian's look. Its oval headlights make its front end resemble, depending on whom you ask, the Canadian characters on *South Park*, or the goofy robot in the Walt Disney Co.'s *Big Hero 6*, or a Dyson fan. But the unmistakable design has grown on him. Rivians "are just fun," Hilbert says. "They're the kind of big, boxy vehicles that Americans like." Reviewers have generally agreed. *Car and Driver* described the Rivian R1T as "one hell of a little truck," and the YouTube-famous reviewer Marques Brownlee suggested the R1S was "the best SUV ever."

Today, Hilbert is one of the unofficial leaders of a small but passionate community of Rivian enthusiasts, constantly posting about the brand on social media. Many of these Rivian stans are ambivalent Tesla owners, put out by either Musk's trolling social media persona or his politics, or some combination of the two. "I bought this before we knew Elon was crazy," an increasingly common Tesla bumper sticker reads.

Unlike the aspiring meme lords who back Musk, Rivian fans tend to be earnest, maybe even a little boring. They trade tips about the best off-road tires and lust over accessories such as the \$2,800 rooftop tent the company offers as an add-on. They have little to say about the "woke mind virus" or any of Musk's other politically

charged obsessions, but they can get extremely exercised by topics such as the question of whether there should be a Rivian version of the hand signal that Jeep owners greet each other with on the road. (Should you flick the headlights when you see a Rivian driver? Or maybe flash a "hang loose" gesture? The Rivian community has thoughts!) "It's really positive," says Hilbert, a regular waver. "That's what Tesla was, but it feels like it isn't that anymore."

You might assume this kind of quiet enthusiasm would be rewarded by investors in Rivian Automotive Inc., especially amid Musk's seemingly indefatigable effort to alienate the upper-middle-class suburbanites who were once his customer base (and are also Rivian's). But you'd be wrong. Even as Musk's social media antics have seemed to undermine his own company at almost every turn—amplifying antisemitism and posting wild conspiracy theories, while overseeing a nearly 40% drop in his company's stock price since November 2021—Rivian has done even worse, at least by the judgment of the stock market. Since reaching a high in the days after its initial public offering that same month, the company's market value has fallen by more than 90%. Rivian has conducted layoffs every year for the last three, most recently parting ways with 10% of its staff in February.

At the company's headquarters in Irvine, California, the sense of whiplash has been intense. Founder and CEO RJ Scaringe was briefly a Wall Street darling, the architect of the biggest American IPO since Facebook and "Elon's New Nemesis," as a *Forbes* cover line described him. Lately he's been more likely to be compared to the CEOs of other flailing Tesla wannabes, such as Lucid Group Inc. (which has been able to continue operating thanks to the largesse of Saudi Arabia's Public Investment Fund) and Fisker Inc. (which recently declared bankruptcy). In February, Musk paid Scaringe a backhanded compliment—"Their product design is not bad," he said—but only after predicting Rivian would go bankrupt.

Scaringe has also fielded complaints from politicians who suggested he was squandering taxpayer funds, from union leaders who charged that the company

has underpaid its staff and from analysts who pointed out that until very recently, Rivian's market value was roughly equivalent to the amount of cash it had on hand. The dire implication of the last point: The stock market was assigning a value of zero to the actual car company.

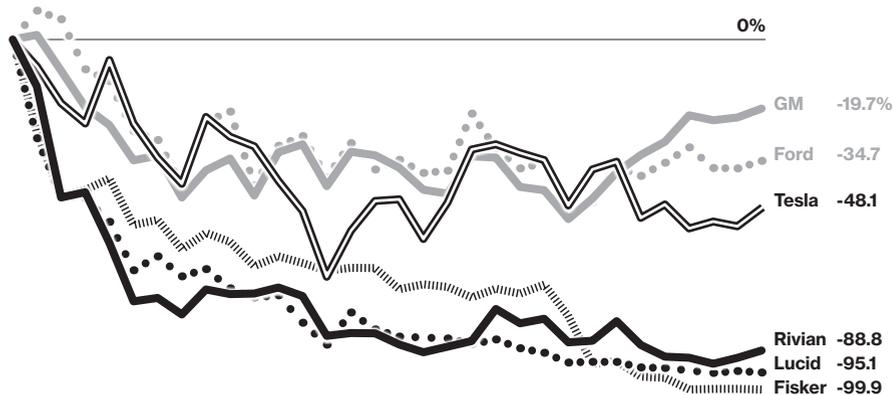
Scaringe winces at the suggestion that his company might not survive but says he finds the criticism understandable. "What makes that hard is if you look at our burn rate per quarter and assume it stays the same, you're going to run out of cash," says Scaringe, who has the physique of a compulsive exerciser and the cautious consultantspeak vocabulary of someone who's spent the previous decade raising money. "And of course that assumes we make no progress." In fact, as he explains while sitting in a conference room just off the company's design studio in Irvine, he's been engaged in a struggle to keep the company above water—dramatic cost cutting, frantic product development and sensitive negotiations with federal and state officials.

The turnaround effort culminated in late June, when Rivian announced a deal with Volkswagen Group, which will license Rivian's hardware designs and software while providing the startup with as much as \$5 billion. The money gives Rivian the cash to transform the kind of low-key loyalty that Hilbert feels into a mass-market phenomenon, while convincing anyone turned off by Musk that electric cars are indeed the future.

Rivian is "doing things better than Tesla in a lot of ways," says Mike Ramsey, who covers the car industry for the research company Gartner Inc. "But Tesla benefited from the fact that they had the market to themselves for years." Whereas Tesla was able to target early adopters, Rivian is courting a customer base that has so far remained reluctant to make the kinds of compromises that owning an electric vehicle requires—including higher prices, limited range and the need to spend 45 minutes in a Panera parking lot while your car charges. To win over these skeptics, Rivian will need to make a much cheaper car and to bring it to market at a time when General Motors Co., Hyundai Motor Co. and other big automakers

ELECTRIC SLIDE

Change in share price from November 2021 through June 2024



are trying to pull off the same trick. As Ramsey puts it, "They just don't have much wiggle room to screw up."

The Rivian factory in central Illinois

seems to bloom, almost miraculously, from a landscape of soybean fields and wind turbines. The 3.3-million-square-foot plant, in the town of Normal, was originally built by Mitsubishi Motors Corp., in the late 1980s. It closed in 2015, after the Japanese carmaker's US division had struggled for more than a decade, and sat vacant for the next two years, as state and local officials tried to find another carmaker to take it over.

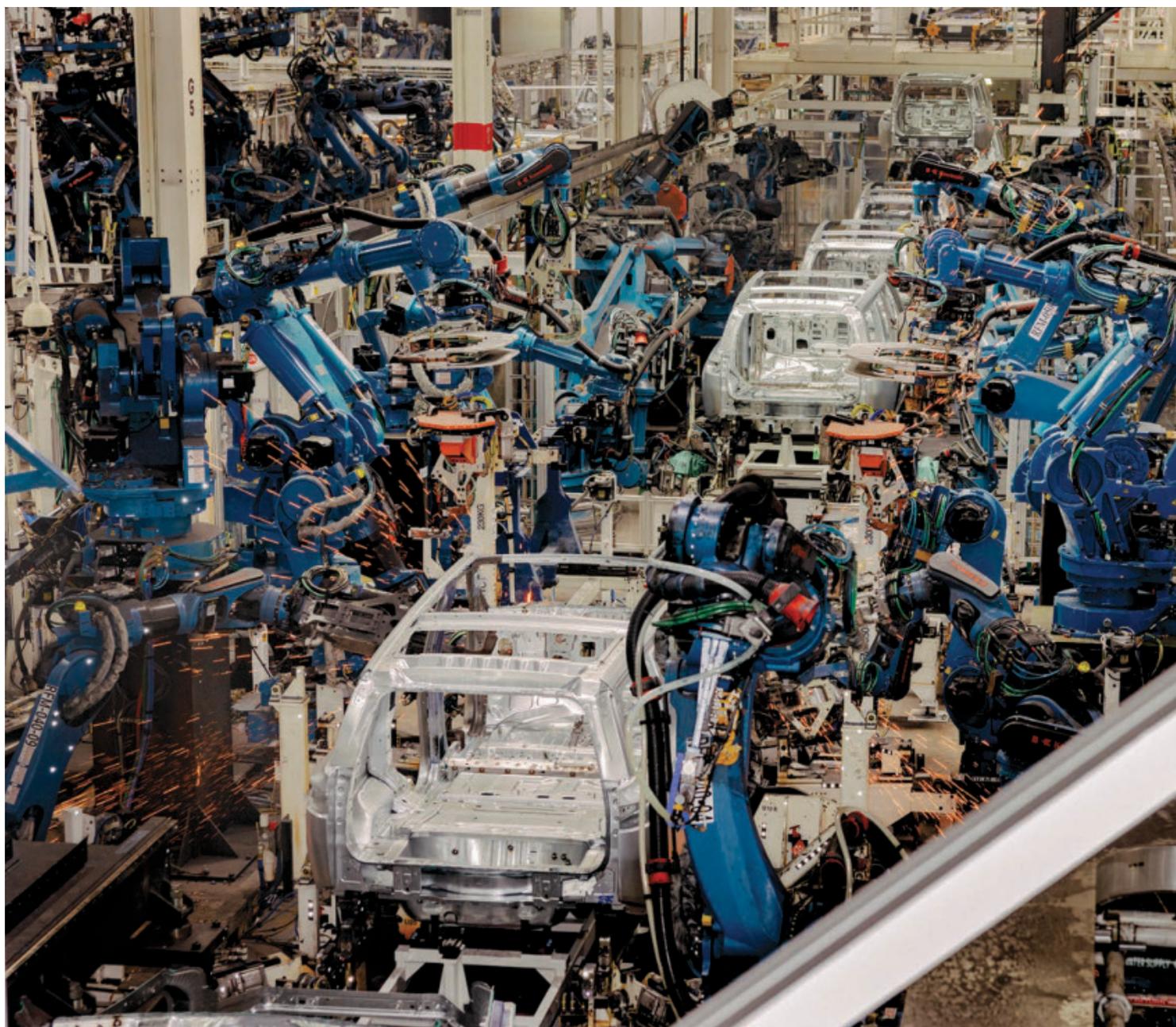
By that point, Scaringe had worked his way through a series of failed business plans and mostly unsuccessful pitches. He'd gotten the idea of starting an EV company a decade earlier while earning a doctorate in mechanical engineering at the Massachusetts Institute of Technology and started Rivian in 2009. One of his earliest investors was a Saudi conglomerate best known for operating Toyota dealerships. (The CEO had gone to MIT and was introduced to Scaringe by a mutual friend.) The startup struggled for years. "I was talking with suppliers, and they were laughing me out of the room," Scaringe recalls. "Like, 'You think people are going to want an electric SUV. What if it gets wet?' And I'd have to explain that an electric vehicle can get wet."

Things started to change in 2017, when Scaringe bought the Mitsubishi plant, which came with five enormous Komatsu stamping presses. Rivian got the property

for a song—\$16 million. The next year, Scaringe unveiled a prototype electric pickup at the Los Angeles Auto Show, earning some favorable press coverage, partly because of that distinctive front end but also because Rihanna, who was dating the son of the Saudi car dealer, showed up for the launch.

Scaringe got another break around the same time: To create a video for the event, he hired a production company that in turn hired Jeff Bezos' girlfriend, Lauren Sánchez, to shoot aerial photography. Several months after the LA event, Amazon.com Inc. led a \$700 million investment in Rivian. Later that year, Amazon became the company's first major customer, agreeing to purchase 100,000 electric delivery vans. The retailer would join several more investment rounds over the next two years that would eventually total more than \$10 billion in capital.

Rivian's trucks didn't start rolling off the line until 2021, a year later than Scaringe had planned. Even so, the timing looked ideal. Spiking gas prices and Covid-era travel patterns were making electric cars seem more attractive than they had been in years, and a supply chain crunch had made traditional cars temporarily more expensive and harder to come by. At a time when Toyota Camrys were selling for \$40,000 or more and interest rates were close to zero, the idea of dropping \$70,000 on an oversize EV didn't seem entirely crazy. Moreover, Rivian had already taken 50,000 preorders from prospective owners, on top of the Amazon deal. ▶



◀ “Can’t wait to get these into the hands of our customers,” Scaringe tweeted that September, posting a photo of himself driving the first Rivian pickup off the factory line. Two months later he rang the Nasdaq bell from a podium set up at the end of the assembly line in Normal, and for a brief period, Rivian was worth more than \$150 billion, making it the second-largest US automaker by market value.

In retrospect, the moment coincided with what now looks like the very top of a pandemic bubble. Rivian’s stock price started falling almost as soon as trading

began and dropped by more than 80% during 2022 alone. Semiconductors, which go into EV motors and many other crucial parts, were in short supply, causing Rivian to dramatically slow down its production plans. A plant Rivian had touted as being capable of making 150,000 trucks a year made only 24,000 trucks in 2022.

Turning a profit based on sales that low would’ve been challenging, if not impossible, because car companies almost always lose money until their factories are close to reaching full production capacity. But Scaringe had arguably made things

even harder for himself. Convinced that a successful EV would need to seem far superior to a gas alternative, he spared no expense in the design, insisting on a heavy-duty frame that initially had to be welded together by hand. He incorporated high-end features such as a complex variable suspension system as well as dozens of smaller flourishes—a custom-designed flashlight nested inside the driver-side door and a Bluetooth speaker that slid out of the center console.

Not only did Rivian make the car too complicated, but it also overpaid for



The Rivian R1S assembly line in Normal, Illinois

almost everything in it. “We had to pay a massive risk premium,” is how Scaringe puts it, euphemistically. “A vast majority of our bill of materials was negotiated in 2018 and 2019, when our leverage was really weak. We hadn’t launched. The brand wasn’t known.” The result of all this was epic losses: In 2022, Rivian lost \$6.8 billion—on top of the \$5.7 billion the company had lost the two prior years.

There were other signs of upheaval, including a 2021 lawsuit that was

eventually settled in which a former vice president alleged that Rivian’s chief growth officer, Jiten Behl, excluded her from meetings and fired her after she complained about the company’s “toxic ‘bro culture.’” In 2022 a dozen employees filed complaints with the Occupational Safety and Health Administration accusing the company of safety violations at the plant, and, more recently, the National Labor Relations Board investigated allegations of anti-union tactics. The company denies wrongdoing and says it worked with OSHA to resolve the safety complaints. Scaringe has also reshuffled his executive ranks, parting ways with Behl last year and replacing the company’s chief product development officer, Nick Kalayjian, with himself. Kalayjian says that he gave up the job for personal reasons and that he and Scaringe worked together on the transition. Behl declined to comment.

There were signs of progress. Rivian produced 57,000 vehicles in 2023, and the R1S sold better in the US than other expensive EVs, such as the Tesla Model X, according to Kelley Blue Book data. Scaringe says that if, several years ago, he’d been told “we will end up with the bestselling EV in its price category, I’d be like, that’s a home run.”

Unfortunately, that category isn’t as big as Scaringe anticipated, as rising interest rates have made high-end EVs much more expensive for consumers. As Scaringe puts it, “the number of people that are buying the vehicle over \$70,000 is constrained.” The result was Rivian was paying for far more manufacturing capacity than it was able to use while still incurring huge losses. As *MotorTrend* put it, the company was losing a Honda Civic’s worth of cash for every R1 it sold.

Worse, Scaringe was already on the hook to build a second, even larger factory, outside Atlanta. The deal was struck during the heady days after the IPO and called for Rivian to spend \$5 billion more to build a smaller SUV, the R2, which was supposed to come out in 2026 and cost around \$50,000. Georgia promised to kick in \$1.5 billion, as long as Rivian employed at least 6,000 workers by 2030.

But the company no longer had the cash for any of this. According to people

familiar with the matter, Scaringe tried to get the federal government to cover some of the cost of the new factory through loans and grants made available by the passage of the Inflation Reduction Act. But a point of contention, according to these people, was Rivian’s relationship with the United Auto Workers. US Department of Energy officials suggested that Rivian would have to take a friendlier position to the union if it expected federal funds. Scaringe has resisted unionization efforts so far and has said that he favors a “direct relationship” with employees. The negotiation is ongoing. Rivian and the Department of Energy declined to discuss loan applications.

As Scaringe began planning for 2024, he desperately needed a car—really, cars—that large numbers of consumers would buy. To him that also meant cars that were obviously different from the most popular EV, Tesla’s Model Y. “A lot of companies have looked at the success of that product and said, ‘Let’s create our own version,’” he says, referring to a collection of Tesla-like crossovers including the Ford Mustang Mach-E, the Kia EV6 and the Hyundai Ioniq 5. “The seating configuration is the same,” he says. “The storage is almost the same. The look and feel are very similar.” Rivian would make outdoorsy-ish cars true to its brand. More important, they wouldn’t look or feel anything like a Tesla.

When Elon Musk began opening up his company’s first showrooms in 2008, he modeled them after Apple Stores. Tesla Stores were spare, modern spaces, often inside or near suburban shopping malls. Fifteen years later, the approach seems efficient, if dated—perhaps reflecting Musk’s ambivalence about having to sell his cars at all. In 2019 he announced that he would close all the company’s stores and sell his cars exclusively on the web. He changed his mind two weeks later, keeping most of the stores open.

By contrast, Rivian’s approach to retail reflects Scaringe’s own proclivities—contemporary styling with try-hard spendiness. Rivian’s stores (or “spaces,” as the company calls them) are mostly located in hip neighborhoods, sometimes in historic buildings, with details that ►

◀ seem ripped straight from a Patagonia designer's mood board. They feature exposed brick, lightly stained plywood, maps and coffee table books—all meant to evoke the brand's promise to take its owners on an adventure into the wild or at least on a camping trip with the kids.

The most spectacular of these new stores is located in an almost 90-year-old movie palace in Laguna Beach, just down the California coast from the company's headquarters. Rivian bought the decrepit South Coast Theater in 2021, spending about \$10 million on the purchase and then undertaking an extensive renovation. The marquee was repaired, the art deco ceiling restored and new murals commissioned to replace ones that had been destroyed. The theater reopened in December 2023 as a store and "community creative hub," offering screenings of indie films and, of course, test drives.

A few months later, in March, Scaringe appeared at the theater before an audience that included employees, customers, reporters and social media influencers who'd been summoned to the unveiling of the R2's design. Wearing his usual look of a neatly pressed rancher's shirt and jeans and speaking with his usual robotic precision, Scaringe briefly recapped the company's history—the R1 ("our handshake with the world"), the retail strategy ("a chance for us to physically manifest our brand in a very unique way"), the charging stations ("our Rivian Adventure Network"). Then he turned to the future. "We're here to talk about how all this brings us to our next set of products," he said, "and how

do we make Rivian more accessible to a lot more people."

A wall slid open, and the company's design chief, Jeff Hammoud, drove out in the new car. The R2 looks like a smaller version of the R1S, with the same distinctive front end and boxy shape. It has a 300-mile range and will include a collection of sensors that Scaringe said will eventually allow the car to operate autonomously on highways. Scaringe rattled off the features and then added something unexpected: Rivian had a second new car to announce. "I am really, really excited to talk about R2's sibling, which we call R3," Scaringe said. It would rely on the same base design but would cost less.

As a hatchback crossover rolled out, the crowd of fanboys and employees entered into a frenzied state that felt at once rehearsed and rapturous. Several people yelled out, "What?" and someone else shouted, "Oh my God!" Scaringe smiled. "So you didn't expect that 'one more thing' here," he said, making a slightly clumsy reference to Steve Jobs' famous line. "It was shocking," says Hilbert, who was watching from the balcony. "With R2, they were saying, 'Here's what we're going to do.' With R3, they're saying, 'Here's what we want to do.'"

The R3 doesn't really exist outside Scaringe's imagination—there was no timeline for production, no performance specs and no price. But the prototype did deflect attention from what probably should have been the bigger surprise. Just before the event ended, and almost as an aside, Scaringe mentioned that the R2 would be built not in Georgia, as

planned for years, but in Illinois. This, he said, would allow Rivian to start making the cars six months ahead of schedule, in the first half of 2026. He noted that the company still intended to open a factory in Georgia but didn't offer any specifics about when or how he'd pay for it.

Only a handful of Rivian employees, along with the governors of Georgia and Illinois, had known about the change in plans. Scaringe says the call to Illinois' J.B. Pritzker was an easy one, helping Rivian land an incentive package worth \$827 million for a factory expansion in Normal. But he concedes that the news went over less well in Georgia. The state's governor, Brian Kemp, later called the delay "disappointing" but said he expected Rivian to finish the factory by 2030, as planned. Scaringe says the company's relationship with Kemp is good and frames the shift as a painful but necessary one to "save us a couple of billion dollars" while bringing a cheaper model to market more quickly. "That doesn't in any way whatsoever reduce our excitement for long-term scaling to come," he says.

Analysts mostly share Scaringe's long-term optimism about electric cars. Despite dour headlines, the category is still growing quickly worldwide, driven largely by Chinese companies such as BYD Co. and its \$10,000 Seagull sedan. The picture in the US has been muddier. Sales were flat during the first quarter of 2024, but that slowdown was led mostly by Tesla, which accounts for a huge portion of domestic sales, and may say more about Musk's failings than it does about the future of sustainable transportation.

For years, Musk had teased the possibility of a so-called Model 2, an electric car that would compete with the Toyota Corolla and other affordable sedans. More recently, he's focused on promoting the Cybertruck, a pricey, futuristic pickup with limited appeal beyond the divorced dad demographic. Earlier this year, amid reports of the Model 2's demise, Musk announced that his company would prioritize the development of autonomous-driving technology over new models and that Tesla should no longer be thought of as a car company at all.

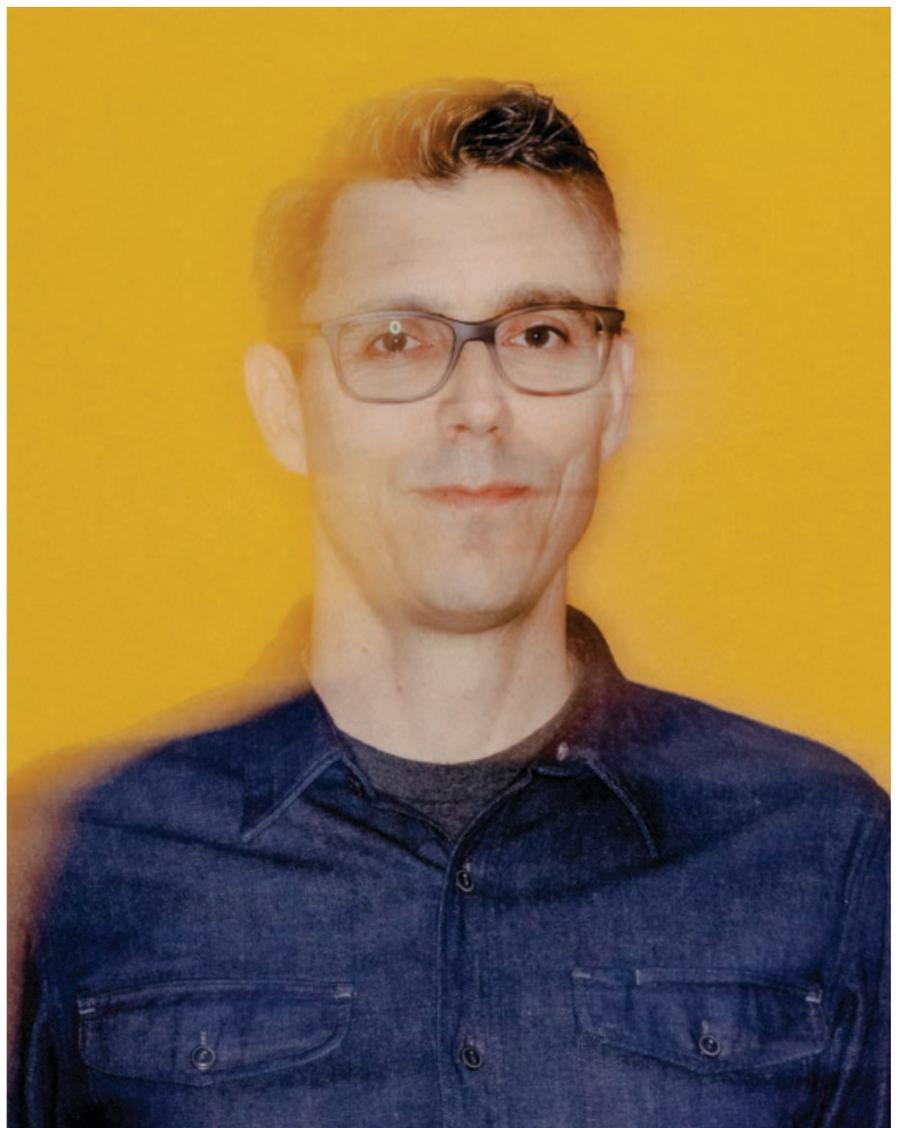
"YOU THINK PEOPLE ARE GOING TO WANT AN ELECTRIC SUV. WHAT IF IT GETS WET?"

That may pay off in the long run for Musk, but the failure of Tesla or anyone else to sell a cheap EV has limited their adoption in the US. Tesla's "sales have declined, and a lot of it is because they don't have any new products," says Stephanie Valdez Streaty, an analyst with Cox Automotive Inc. Valdez Streaty, whose employer invested in Rivian before the IPO, says the central question for Scaringe's company is, "Do they have a product that's going to have a wider audience?"

Last August, Scaringe met with Oliver Blume, CEO of Volkswagen AG, at the company's Porsche Experience Center, a museum and test track in Atlanta. The subject of the meeting was software. Blume's predecessor, Herbert Diess, had been forced out as EV sales stagnated and customer complaints proliferated. Now, Blume was trying to figure out how to turn things around, and he seemed to have his eye on Rivian. When Scaringe asked a group of Volkswagen executives if they'd driven his company's trucks, they responded that VW had a garage full of Rivians.

Scaringe talked up his company's approach, which involved designing its own electronic control units, or ECUs. These are the little computers that control various systems in a car, including the transmission and the power doors. Historically, many components in a gas-powered car essentially come with their own ECUs, which means more than 50 computers in a car, each custom-designed by a different parts supplier. Following Tesla's example, Rivian had resisted this option, designing its own computers and software. In the past, Scaringe says, "if you're buying seats, your seats come with an ECU." Rivian's approach is different. "I want seats, but I want them to be dumb," he says. "I want two wires to come out of the back, and I'm gonna bring my own computer."

This hadn't been easy. The first version of the R1 had 17 ECUs, still a fairly large number and one that had helped contribute to the high costs in 2021 and 2022. But Scaringe's team was working on an update to reduce that number to seven starting



in 2024. The result would be a less buggy design that would require far less wiring and cost thousands of dollars less to manufacture.

Initially, Scaringe says, he thought that maybe Rivian would be able to sell its hardware designs and software to Volkswagen, creating a modest secondary revenue stream. But Blume made clear he was open to something bigger, and over the next few months, the two began negotiating a joint venture that called for Volkswagen to essentially give up on its own software efforts and use what Scaringe had built.

In late June, Volkswagen announced it would invest up to \$5 billion in Rivian over several years. Rivian's stock price soared as much as 50% the next day. If the deal

Scaringe founded Rivian after getting a Ph.D. in mechanical engineering at MIT

works as intended, it'll make VW a major Rivian shareholder and will allow Scaringe to open the Georgia plant. A person familiar with the agreement says there could be more money in the future. The joint venture plans to eventually license its technology to other automakers besides VW.

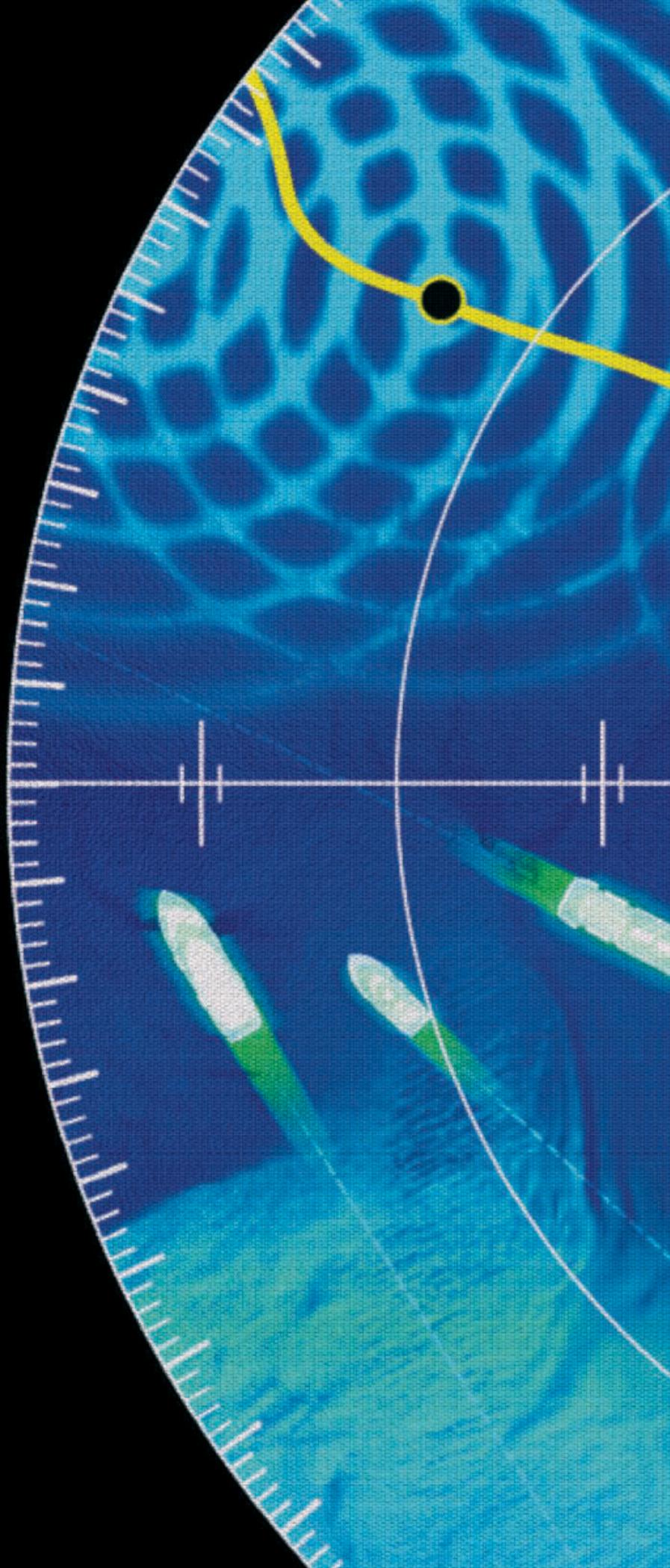
Scaringe declines to elaborate much on the deal, but he's bubbling with a sense of possibility. "Far and away my favorite set of calls that happened the day after the announcement were with the major semiconductor suppliers," he says. "They suddenly saw us as a massive customer." Needless to say, nobody asked whether an EV could get wet. **B**

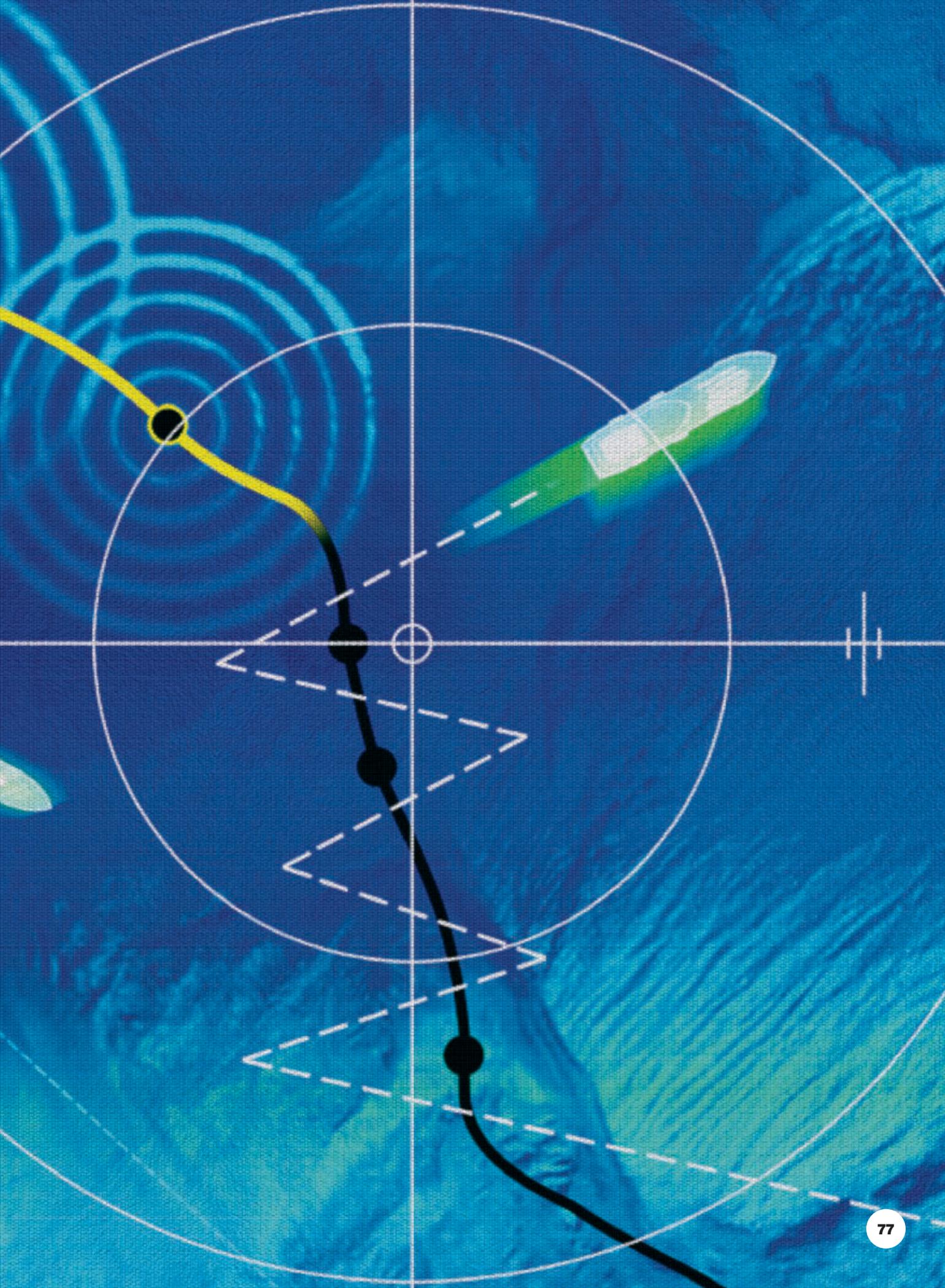
WHAT WAS THE SAAMI FISHING FOR?

A Russian fishing
boat is implicated
in an attack on a
data cable beneath
the Norwegian Sea

By Jordan Robertson
and Drake Bennett

Illustration by
Irene Suosalo





Norway has always relied on the sea. Fish long dominated the country's diet, and in the 19th century the bloody harvest from Norwegian whalers provided much of the world's lamp oil. Then came the discovery of an even more lucrative source of energy in the depths: massive petroleum and natural gas deposits in Norway's sovereign waters, which turned it into the world's most progressive petrostate. All of this has left the country with a great interest in understanding what happens off its famously wrinkled coast.

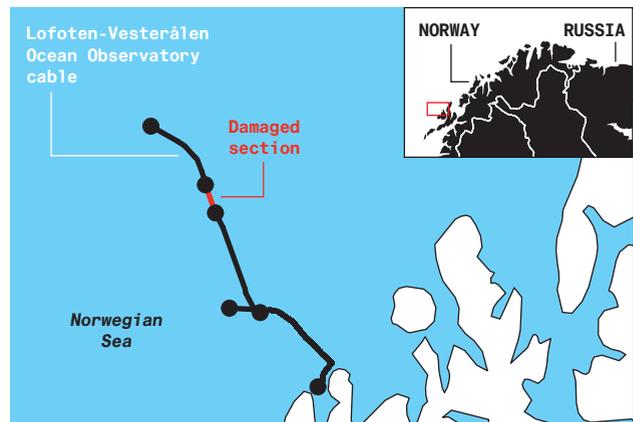
That's why the Norwegian Institute of Marine Research exists. Headquartered in the city of Bergen on Norway's southwestern coast, the government institute's 1,100 employees monitor the health of the country's salmon and cod stocks, measure the environmental impact of deep-sea drilling platforms and offshore wind farms, and chart how climate change is altering the northern oceans. One of its acoustic engineers, Guosong Zhang, works out of an office cluttered with cables and devices and computers of various vintages, or on one of the institute's eight ships, spending weeks at a time at sea.

Born in Norway and educated in China, Zhang is brusquely matter-of-fact in a way that feels true to both cultures—in conversation, he doesn't fill

silences. Much of his work involves a set of five powerful microphones strung along a 31-mile cable on the floor of the Norwegian Sea called the Lofoten-Vesterålen Ocean Observatory. Known as LoVe to the researchers who run and maintain it, it's mostly a scientific tool, but it's also used by Norway's military, which removes sensitive information before releasing the rest to the public. The government is vague about how it uses the data but acknowledges it could serve to identify specific ships in the area, whether those of Norway's own military, its NATO allies or its adversaries. That also makes it an unorthodox part of the surveillance apparatus monitoring the increasingly provocative activities of Norway's neighbor to the east, Russia.

The cable that carries the data from the microphones back to shore is a capillary in a global circulatory system. Hundreds of underwater communications cables circle the planet. Fiber optics jacketed in steel and plastic to protect against breakage and corrosion, they're often

A CONNECTION INTERRUPTED



barely an inch in diameter. They trace coastlines, traverse oceans and carry 99% of the world's international data. They are at once vital and vulnerable.

In April 2021, Zhang was just back from Easter break when he noticed the LoVe observatory had gone quiet. It wasn't unusual for the cable to have problems—the isolated northern region where it leaves the shore often has power outages. But when Zhang rebooted the computers remotely, there still wasn't any data coming in. When he contacted technicians from the IT company that had installed the equipment, they didn't have any luck either.

That meant the problem probably lay out at sea. Zhang hired engineering firms to do various tests of the cable's electrical and optical systems; they eventually zeroed in on a segment some 17 miles offshore. It was just past one of the cable's relay units, which serve to amplify the light pulses carrying information, ensuring the signal doesn't die. Finding out more would mean getting access to the equipment itself, an expensive and time-consuming process requiring specialized ships and trained operators of submersible drones—both in short supply in the Arctic from the spring through early fall, when oil and gas companies take advantage of the sea ice thaw to repair their equipment, and when the institute's own research vessels are booked for fish population surveys and other expeditions. So Zhang's investigation stalled.

Finally, five months after the outage, Equinor ASA, Norway's state-owned petroleum company and a partner on

"Sound is critical for the survival of everything that inhabits the ocean," Pedersen says



PEDERSEN: ANDREA GLESTVANG/BLOOMBERG; CABLE: TROMS POLICE DISTRICT ■ DATA: LOFOTEN-VESTERÅLEN OCEAN OBSERVATORY

the observatory, informed the institute it would sponsor a mission to examine the cable. The company offered Zhang and his colleagues the use of the *Havila Subsea*, a 321-foot-long support vessel Equinor had chartered for an unrelated job.

On Sept. 10, the researchers gathered around a computer in Bergen, watching a live video feed from one of the drones—a boxy 8,000-pound robot measuring 6 feet by 6 feet by 10 feet with a pair of hermit-crab-like arms. As it descended, the glare of its lights caught krill jackknifing past its camera lens. The observatory’s yellow data cable soon emerged out of the blue-green haze, then the relay unit: a van-size metal cage, also yellow, protecting the equipment inside. At the approach of the submersible, fish that were sheltering inside the cage drifted lazily out.

Then the drone circled the cage, and Zhang had trouble believing what he saw. The output side should have been identical to the unit’s input side—the same machinery, the same cable extending north toward the next relay unit. But there was none of that. The equipment on that side had been ripped out, and the 12-ton section of cable attached to it was missing.

“It had been there for three years, and suddenly it’s gone,” he recalls. The cable hadn’t malfunctioned; it had disappeared. Someone, or something, had taken it.

“**T**here’s this conception that the ocean is quiet,” says Geir Pedersen, a physicist and the manager of the LoVe observatory. He points out that Jacques Cousteau called his pioneering 1956 undersea documentary *The Silent World*. But the ocean is actually noisy. “When you start to look into it,” Pedersen says, “you see that everything makes sound, and sound is critical for the survival of everything that inhabits the ocean.” It’s also critical to how we’re coming to understand that world. “One of the things about the ocean is that light doesn’t travel far underwater,” he says. “Using cameras, you’re not able to see very much around you. But listening, or sending out pulses of sound, then you’re able to truly see what happens underwater.” A growing, disruptive share of that noise comes from human activity.

The five microphones of the LoVe observatory are spaced along a curve that extends northwest on the seafloor from a tiny fishing village in far northwestern Norway called Hovden. Because sound waves can travel hundreds or thousands of miles underwater, these sensitive mics—hydrophones, technically—can detect sounds in the middle of the Atlantic Ocean. In his office in Bergen, Pedersen plays samples of the cacophony LoVe has captured: the reedy glissandos of humpback whales; a tanker ship propeller’s thrum; the hoarse, rhythmic roar of seismic air guns used to detect oil and gas deposits under the seabed. From up toward the polar ice cap, the hydrophones record the steady drumbeat of icebergs crumbling into the water as they melt.

Usually, when an undersea cable is damaged, it’s an accident or an act of nature. A ship drops anchor in the wrong place; an undersea earthquake wrenches apart a cable. Fishing trawlers dragging bottom nets are often to blame. In February 2024, internet traffic in Africa slowed when Houthi rebels in Yemen hit a cargo ship with rockets, causing it to drag its anchor across three cables as it sank.

Sometimes, though, the cables themselves are targets. In the early 1970s the US Navy and intelligence agencies successfully attached a giant recording device to an undersea Soviet cable in the Sea of Okhotsk—divers had to descend every month to change the tapes. And more recently, cables and other pieces of undersea infrastructure have been damaged in the waters along NATO’s rim.

The modern world turns out to rely greatly on unprotected bits of equipment in remote places. “We are talking about thousands and thousands of kilometers of infrastructure between Europe and the United States and Asia,” says Katarzyna Zysk, a professor of international relations and contemporary history at the Norwegian Institute for Defence Studies in Oslo. “This is a network that is extremely hard to surveil, to monitor and to protect. This is infrastructure that is highly vulnerable to sabotage.”

Completed in 2018 at a cost of \$10 million, the LoVe observatory’s cable enters the ocean beneath a beach 600 miles north of Bergen in the Norwegian archipelago of Lofoten. It’s a wild, stirring landscape of rock pinnacles and fjords. In the fishing villages dotting the coast, colorful houses alternate with wooden racks called *hjell*, where cod cure in the open air. The LoVe’s local caretakers, brothers Jan-Tore and Wilhelm Enoksen, are shark fishermen who live, with fewer than a dozen others, in nearby Hovden. During a recent visit, Jan-Tore, 58, showed *Bloomberg Businessweek* a red wooden hut above the beach. Inside, a rack of computer servers and several desktop PCs process the data from the cable’s sensors. The

The cable was cleanly cut, most likely by a power saw



caretaking job consists mainly of turning the power back on after winter storms, Jan-Tore says. He and his brother, who’s a year younger, have never seen anyone suspicious, but if anyone did try to break in, they’re prepared: “We’d shoot them,” he deadpans, “with harpoons.”

From shore, the cable runs across a shallow coastal shelf before dropping into the Norwegian Sea’s depths. There the Gulf Stream, intermingling with frigid, nutrient-rich currents from the Arctic, creates a rich spawning ground and a favored migration route for fish and whales. Nestled in their own protective cages, the hydrophones placed along the way are roughly the dimensions of a handheld mic. The sounds they pick up are augmented by other tools: echo sounders that ping off passing fish, profilers to gauge wave height, sensors that measure acidity, clarity and carbon dioxide ►

◀ levels. All that information is sent back to shore, becoming the basis for a steady stream of research papers.

Other sounds picked up by the hydrophones garner less public discussion. Norway and Russia share both a land border and the rich fishing waters of the Barents Sea. In recent years, Norwegian officials have charged Russia with using its submarine fleet—one of the world’s largest—to surveil and threaten critical NATO subsea infrastructure. Last year the Norwegian military released videos showing Russian nuclear attack subs patrolling off Norway’s coast and following the routes of undersea gas pipelines and telecommunications cables.

The Norwegian Defence Research Establishment (the Forsvarets forskningsinstitutt, or FFI), which serves as the chief adviser to the Ministry of Defence and the Norwegian Armed Forces on defense-related science and technology research, was involved in the LoVe project from its earliest days, Pedersen says. And while he says he doesn’t know how the military uses the information it scrubs from the LoVe feed, he notes that all ships have unique acoustic signatures that can be used to identify and track them. Sea mines can even be programmed to detonate when vessels bearing specific acoustic signatures pass by.

In a statement, the FFI confirmed its involvement with the observatory, while emphasizing that its efforts focus not on detecting Russian vessels, but on obscuring the movements and acoustic signatures of its own military vessels and those of NATO allies. The FFI scrubs any such incriminating information before the LoVe data is made available to the public. “If there has been an exercise with Norwegian or allied ships nearby, we also do not publish data from the period the vessels have been there,” the institute specifies on its website.

In the fall of 2021, after determining that LoVe had lost a segment of cable, Zhang confronted the next question: Where was it? At that point he still thought that whatever happened had likely been inadvertent. A fishing trawler’s net is often framed by weighty metal “doors” that keep it open as it drags through the water. If one of those had snagged the cable by accident and pulled it out of place, the crew might not even have noticed. Nonetheless, if Zhang could identify the ship and trace its path, he might have an idea of where to look for the missing equipment.

To do that, he contacted the Norwegian Coastal Administration and requested the automatic identification system (AIS) data of all ships that had been above that stretch of cable when it

went dark on April 3, 2021. (International law requires fishing vessels and other large ships to have transponders constantly transmitting their speed, location and other information.) Zhang imported those AIS results into a software program that let him create interactive maps charting each ship’s course on the morning of the incident.

The maps showed about a dozen ships. Most of them had spent that April 3 tracing long arcs through a fishing ground a little to the southwest of the two relay units bracketing the missing segment. But one ship, a 197-foot-long, Russian-flagged trawler called the *Saami*, had behaved differently. Traveling at about 10 knots, it had passed back and forth over the LoVe cable at least four times. “I saw this boat, only this one boat, cross the cable at this time,” Zhang says. “I locked my

Hovden, the remote fishing village where the cable leaves the shore



■ BENJAMIN FREDRIKSEN/NIK

suspicion on this one boat.” Once he’d narrowed his parameters to the span of time when the cable disappeared, the paths of the other ships dropped away on his computer screen, leaving just the tight scribble traced by the *Saami*. At the precise moment the cable went dead, the ship was right above it.

In late November, Zhang got a chance to trace the *Saami*’s route in person. With the Arctic winter beginning and oil and gas work slowing, he was able to book a drone operator and time on one of the institute’s own vessels, the *G.O. Sars*. He and his colleagues took the ship out from Tromsø, a city of 78,000 inside the Arctic Circle, and headed for the map coordinates marked by the *Saami*’s AIS track from months before.

The team on the *G.O. Sars* was prepared for a long search. Once they arrived

at the first set of coordinates and deployed the ship’s drone, however, it came upon the missing cable almost immediately, six miles from its original location. Watching over the shoulder of the operator, Zhang saw the yellow line emerge out of the drab seafloor just 18 minutes after the craft dropped into the water. At the cable segment’s end was the ripped-out equipment from the relay unit.

The following day, the ship’s crew deployed the drone again to recover the cable. In a feat of robotic dexterity, the operator used the remote-controlled arms to knot a large chain around the cable, attaching it to a powerful pulley that slowly hoisted it and winched it into a large drum on the *G.O. Sars*.

Police officers joined Zhang a week after the recovery at a storage facility the institute uses in Bergen. It was the first time he was taking a close look at the end where the cable had been separated from the relay unit, and he noticed something significant. If the cable had been torn apart or cut by a trawl door, the break would have been jagged and uneven. But instead it had been sliced through cleanly, with some kind of power saw. That was hard to square with the idea of an accident.

At this point the police officially took over the investigation. Sissel Rogne, then the marine institute’s managing director, also alerted Norway’s domestic intelligence and security agency. In an interview with the Norwegian business magazine *DN Magasinet*, the publication that originally broke the news of the cable cut, she emphasized the implications for Norway’s military and intelligence agencies: “We are not concerned with submarines. But they are concerned about it.”

In the end, and to Rogne’s disappointment, the incident was treated as a criminal case, not a national security matter. It fell under the jurisdiction of the Troms Police District, which covers a huge, sparsely populated swath of northern Norway and the waters stretching north into the Arctic. A local police prosecutor named Ronny Jørgensen got the assignment. He’s based in Tromsø, and most of his caseload is taken up with incidents of suspected overfishing. He knew little about undersea cables, except that they were marked on nautical maps so fishermen could avoid them. “Normally you would want to stay clear of any object that can keep you from fishing,” he points out dryly.

Zhang’s findings were Jørgensen’s jumping-off point. Vessels such as the *Saami* are required to supply crew lists to the Norwegian authorities when operating in the nation’s waters or docking at its ports. Using that database, Jørgensen flagged all the crew members who’d been on the *Saami* while it lingered over the LoVe cable. Police investigators managed to interview several of the seamen when their work brought them back to Norwegian waters over the next few weeks. All were Russian, and all gave the same response: They hadn’t seen or heard anything to suggest the ship had hit the cable.

Given that the *Saami* had been the only ship in the cable’s vicinity when it was damaged, Jørgensen was skeptical. The most generous interpretation he could see was that its net had gotten tangled in the cable, and cutting it had been the only way to free them. He believed the crew members weren’t being completely candid. “The fishermen would definitely remember if a catch had included a marine cable,” he says. But because they were Russians, and because Jørgensen didn’t have a crime to charge them with, there was little he could do beyond having them questioned.

Jørgensen did order tests on the severed cable, which confirmed it had been cut by a power tool. “The people that cut this cable,” he says, “they wanted this cable to be cut.”



◀ And there his investigation, like Zhang's, ran into a wall. Soon thereafter, however, he got another, similar case. Around 5 a.m. on Friday, Jan. 7, 2022, a 900-mile communications cable running from the Norwegian mainland to the far northern island of Svalbard stopped working. It was one of two cables servicing the Svalbard Satellite Station, the world's largest ground station for collecting data from polar-orbiting satellites, including meteorological and other imagery that has dual civilian and intelligence uses for American and European government agencies. The technicians from Space Norway, the company that operates the cables, determined later that water had somehow gotten into one of the cables, causing an electrical short, and the power had gone out.

The incident could have been an accident. However, when the cables had been laid in 2004, Space Norway had taken the precaution of burying them beneath the seafloor in shallow areas where there was a risk of damage by fishing trawlers. Cutting the cables, in other words, meant first digging through 6 feet of protective mud. On Jan. 30, 2022, three weeks after the outage, when an underwater drone went down to investigate the damage, the cameras revealed deep trenches through the seafloor above the cables. Jørgensen says the gashes could have been dug by the steel doors of a fishing net. Finding the exact coordinates of the cable and digging down to the cables themselves, as someone had in this case, would take many passes—sustained activity that suggested intent.

Journalists with the Norwegian Broadcasting Corp. later determined that a Russian-flagged fishing trawler, the *Melkart-5*, had crossed the cable's path 130 times around the time it was damaged. One expert, speaking in a documentary film jointly produced by a group of Nordic public broadcasters, described the ship's pattern of movement as "completely illogical." Murman SeaFood Co., the Russian company that owns and operates the *Melkart-5*, said the captain and crew were interviewed twice by Norwegian authorities and released without charges. The ship was trawling in a permitted fishing zone

when the cable was damaged, and its movements that day were "totally normal," says Andrei Roman, a legal and economic aide to the company's director. "We have nothing to do with this. Our ship didn't violate any laws."

According to Nils Andreas Stensønes, a vice admiral who heads the Norwegian Intelligence Service and formerly was chief of the Royal Norwegian Navy, Russia has long prioritized underwater operations. Even during the Soviet Union's fall, as its military was atrophying and its funding collapsing, Moscow never stopped investing in submarine warfare and developing techniques to map and potentially sabotage adversaries' subsea critical infrastructure. One of the main vehicles for this work, Stensønes says, is a secretive agency called the Main Directorate of Deep-Sea Research, known by its Russian acronym, GUGI.

Norway has seen all of this up close. Unlike land borders, maritime ones tend to be porous: Fishing trawlers and other ships travel relatively freely between Norwegian and Russian waters. That provides opportunities for information gathering. "We know that Russia is using civilian vessels for covert intelligence operations," Stensønes says. "We're also monitoring ships related to Russia that have undersea capabilities to see if they're being used for reconnaissance or more malign activities."

Enoksen, one of the cable's caretakers



Those fears have only grown since Russia invaded Ukraine in 2022. In November of that year, journalists with the Danish Broadcasting Corp. used a speedboat to approach the *Admiral Vladimirsky*, a Russian research vessel that had been lurking in the waters of Denmark

and patrolling around wind farms off the coasts of the UK and Scandinavia with its transponders off. The journalists had tracked the vessel by listening in on radio communications relaying its location back to a naval base in Russia. In footage that aired in April 2023, they come alongside the *Admiral Vladimirsky* and notice it has abnormally large antennae and other communications equipment incongruous for a civilian boat. Then a man in a balaclava and tactical vest holding a military-style rifle appears on deck. After a few tense moments, the journalists return to shore.

The past two years have seen other suspicious cable outages. In October 2023, two telecommunications cables in the Baltic Sea were damaged, along with a gas pipeline in what authorities from the affected countries said was potential sabotage. In that case, a Hong Kong-flagged ship called the *Newnew Polar Bear*—which was accompanied by a Russian icebreaker and had only stopped at Russian ports since sailing from China a month earlier—dragged its anchor hundreds of miles along the seafloor en route to Saint Petersburg. Investigators in Estonia, Finland and Sweden suspect that strange act wasn't accidental. Finland's National Bureau of Investigation released pictures of the damage, and Risto Lohi, chief of homicide and other serious crime investigations, said in a statement to *Businessweek* that the case is being investigated as "aggravated criminal mischief."

The statement also read: "The investigation is still ongoing and final conclusions about what was behind these incidents—technical failure, negligence or poor seamanship, or a deliberate act—can be made only after all necessary investigative measures have been finalized and this will still take some time." *Businessweek* was not able to reach the owner of the *Newnew Polar Bear* for comment. (The best-known instances of suspected undersea sabotage, of course, were the September 2022 damage to the Nord Stream 1 and Nord Stream 2 natural gas pipelines, which have spawned a dizzying variety of conflicting theories but remain unsolved.)

To Zysk, the researcher at the Norwegian Institute for Defence Studies,

the slicing of the marine institute's cable and the damage to the Svalbard cable bear the hallmarks of Russian intelligence operations. She hypothesizes they could have been relatively simple—and deniable—ways to try and weaken parts of Norway and NATO's intelligence-gathering infrastructure, while also potentially serving as training exercises for Russian operatives specializing in sabotage of subsea infrastructure. Or they could simply have been a way for Moscow to demonstrate to officials in Oslo that their underwater infrastructure—from data cables and power lines to petroleum drilling platforms and pipelines—is vulnerable. That type of behind-the-scenes signaling and posturing is common for spy services, which do things like openly trail suspected spies to send a message that they're being watched, she says. Both incidents involved cables with specific significance to the Norwegian military, rather than transcontinental ones that might provoke a more forceful NATO response. In Zysk's description, that's a sign of calibrated provocation.

The "extremely unlikely and unconventional" behavior of Russian-flagged ships in both cases, she says, combined with "our knowledge about Russia using civilian trawlers for intelligence operations," make the incidents highly suggestive. "The probability that this was intentional damage is very high."

Nonetheless, the evidence remains incomplete and circumstantial. For his part, Sergei Tsyganov, the *Saami's* owner, denies that his ship was involved in cutting the cable. According to him, Norwegian police boarded the *Saami* and spent 12 hours questioning the captain and crew but made no arrests, and his ships still enter Norwegian waters and dock at Norwegian ports. "We're not guilty of anything; we didn't do anything illegal," he says. (Jørgensen says the interviews with the *Saami's* crew took about an hour.)

In June 2023, Space Norway, the company that operates the Svalbard cables, was finally able to send a ship

out on a mission to recover and replace the damaged section, a year and a half after the short occurred. (They'd found a workaround to get the cable operating only a couple of weeks later.) Photos released by police show the damaged cable's protective outer coating stripped off like a snake's molted skin, and rods of coiled metal armoring twisted and bent apart, revealing the fiber optics within.

In October 2022, Jørgensen closed the LoVe case, declaring it officially unsolved.

Zhang (right), who identified the outage and, later, its potential cause



He did the same with the Svalbard case the following March. "The investigation has stopped," he says. Either one could be reopened if new evidence is found, but he thinks that's unlikely. Stensønes, the head of Norway's intelligence service, declined to comment about the cases or about the findings of any parallel investigations conducted by his agency or others in the Norwegian government. Russia's Ministry of Foreign Affairs did not respond to messages seeking comment for this article.

Rogne, the former head of the Institute of Marine Research—she now has a different role there—remains unsatisfied with the investigation into the LoVe incident. She told *Businessweek* the institute's parent agency in the Norwegian government should have sued the owner of the *Saami* and its insurance provider to pay to repair the cable. By not pressing the matter, she

says, officials are conveying that they don't want to antagonize Russia.

"It's an issue for the ministry and the security services to take on, and they haven't," she says. "It is not a closed case for us—the cable is not there, it's not functioning."

In a statement, the Ministry of Trade, Industry and Fisheries said it didn't pursue a claim against the *Saami's* owner because the police investigation failed to determine who was responsible. At

the same time, it did approve 57.8 million Norwegian kroner (\$5.4 million) for LoVe repairs.

Zhang and his colleagues have decided not to use the money to replace the damaged section of their cable, however. Instead they're planning to circumvent it, replacing the silenced listening posts beyond that section with battery-powered modules with wireless transmitters. Much will be lost: The wireless modules will be able to transmit only a fraction of the data the fiber optics once carried from those depths. Most of the information will have to be collected physically, by sending ships out to haul the devices up from the seafloor and connect them to a computer to manually download the information. But at least there will no longer be a cable to cut. **B** — *With Henry Meyer*

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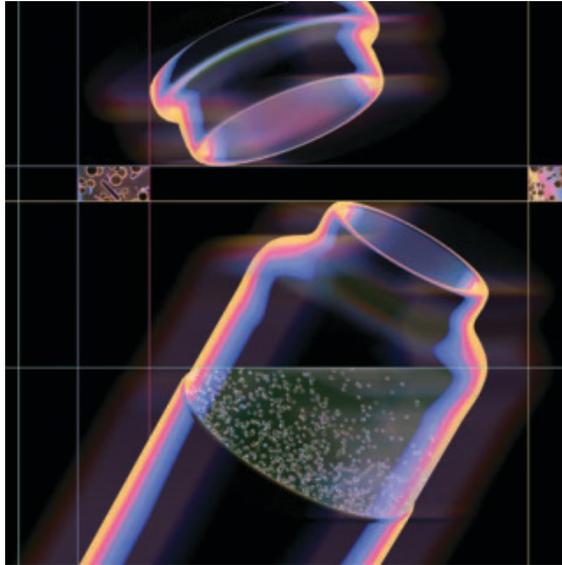
A host of startups promises to slow the aging process, at a price. But is “healthspan” more than just a money grab?

By Mark Ellwood
Illustrations by Khyati Trehan

It starts with a dark green box shipped full of testing supplies. Inside are vials to spit and breathe into and a monitor to wear for several days before your appointment. The leaflet told me to bring them all to a consulting room on a tree-lined street in Central London. It's close to the private medical hub of Harley Street, and the company's name, Viavi, is discreetly noted above a shiny brass buzzer. Appointments can last two workdays depending on the procedures. These might include a maximum oxygen consumption (VO₂ max) test, which grades your fitness level by cycling to fatigue on a bike while wearing sensors and a mask. Or you might have a brain scan, with a grandmotherly doctor (definitely out of place in the high-tech surroundings) putting sensors in your hair.

The process is capped with an extended session with the company's founder, Dr. Sabine Donnai, a crisp Belgian who whizzes through a series of questions (“Do you drink tap water? What oil do you cook with? Do you floss?”) and conducts a physical. She taps a tuning fork around your calves and feet; she says vibrations are better at detecting early multiple sclerosis than a reflex test.

She'll review your test results at a follow-up appointment. Those vials of spit that you hawked up at intervals throughout the day a couple of weeks prior will reveal whether cortisol—the body's stress marker—spikes or remains stable. Another vial had gone for a DNA test to scan for 30 genes among the 23,000 in the body and flag



ones that indicate a propensity for colon cancer and other maladies. An MRI, performed at a nearby clinic, checks for everything including cystic lesions and vascular aneurysms.

All of this goes into a holistic lifestyle intervention-slash-prescription. Donnai explains the premise of her clinic simply: “Just like you would have a wealth manager, we manage somebody's health.”

Viavi opened in 2009, an early pioneer in a sphere that many upstart rivals are crowding to enter now: the high-end healthspan business. “Life span is the number of years your heart is beating,” says Peter Bowes, host of the *Live Long and Master Aging* podcast. Healthspan, on the other hand, “is when everything is wonderful, and there's no disease.”

This term, where the duration of life is in sync with good health, was first coined in the late 1980s. Recently, biohackers have made headlines with outré efforts in the area. Centimillionaire tech entrepreneur Bryan Johnson claimed that—thanks to blood transfusions and an all-consuming regimen of supplements, exercise and treatments—he needs to celebrate a birthday only every 19 months.

Celebs, of course, are getting in on it. In August 2023, Kim Kardashian posted about getting an on-demand MRI from Penuvo Inc. (see sidebar): “It has really saved some of my friends' lives and I just wanted to share,” she wrote on Instagram, noting it wasn't a sponsored post. She was promptly scolded online for promoting needless medical treatment and programs not accessible to most.

As those in developed nations can expect to live longer—average Americans live into their late 70s, per Centers for Disease Control and Prevention data, 20 years or so longer than a century ago—today's health obsessives aren't concerned with mere longevity, but the quality of it. Gyms have morphed into lifestyle centers, with physical therapists and nutritionists working in tandem with personal trainers, charging tens of thousands of dollars per year for the privilege. There are gene-based workout regimens, too, all inspired by an elusive, seductive premise: finding a science-supported fountain of youth.

Not everyone feels so feel-good about all this pricey prescription. “I feel like I'm the wellness Lorax,” says Rina Raphael, a journalist who writes the *Well to Do* newsletter. “I'm always saying, ‘This is not going to work.’ So much of this is just an exercise in psychology, making people feel better about what they're doing.” If these services work, she argues, it's because they reaffirm established habits. Wealthy acolytes are already able and willing to take care of their health. It's the willpower placebo effect; even putting a supplement into your basket at the supermarket, Raphael notes, has been shown to give a boost to the system. “Here's a news flash: You don't need any of this. Everyone knows exactly what they need to do for their

A LONGEVITY LEXICON

“Optimize” is just one of the buzzwords commonplace in this culture. Here are other terms and techniques advocates often use.

METFORMIN

Another would-be wonder drug originally aimed at treating Type 2 diabetes. Some say it affects oxidation in the body, protecting against aging in the process.

health. Eat a balanced diet, get some movement in, try to decrease your stress. It's not rocket science."

Healthspan evangelists do, however, talk a lot about science. And "optimization." Fiftysomething healthspan expert Peter Attia, M.D., offered a way to mimic his age-defying vigor in a worldwide bestseller last year, *Outlive: The Science & Art of Longevity*. He says Medicine 2.0, as he calls it, wrongly prioritizes treating disease. Better to move to Medicine 3.0, he argues, and prioritize preventive interventions. Others in the field agree. "I find it useful to think of aging as a medical condition that is treatable," says Harvard University professor David Sinclair, co-author of *Lifespan: Why We Age—and Why We Don't Have To*. Or, as Viavi's Donnai puts it, "Getting older is not an option, but aging is."

It would require a huge pivot to adjust medical priorities in this way: Only 3.5% of money spent stateside in the health-care system is earmarked for prevention, per the Health Care Cost Institute. But clinically and economically, there are incentives to increase that dramatically. And the world's wealthiest are leading the way.

Donnai's clinic is one of the most in-depth healthspan operations. Its core membership costs £22,000 (\$28,000) for the first year and about £17,000 a year thereafter. The fee includes inductions, health investigations, strategic goals and ongoing support with a health manager. Formerly the medical director of Nuffield Health, one of the UK's top health-care providers, Donnai also did stints studying acupuncture in Sri Lanka and Indigenous medicine in Australia.

The vast majority of her clients aren't looking for their healthspan efforts to overtake their life, Bryan Johnson-style. (If you took just the exercise advice in Attia's *Outlive*, it would be a commitment of more than eight hours a week.) The never-die-hards who prioritize healthspan above all else make up about 10% of her sign-ups, Donnai says. About half are in good health and simply looking to remain so.

The feedback from Viavi's battery of tests is delivered,

RAPAMYCIN

The FDA approved this drug for organ transplant recipients, but anti-aging advocates cite studies suggesting it can bolster the cardiovascular and immune systems in healthy individuals.

EPIGENETIC REPROGRAMMING

One theory posits that every cell effectively contains a backup copy of its biological software. This is the "information theory of aging," says David Sinclair, "and the hottest topic in the field right now." As cells age, they lose the ability to use the right software at the right time. Old cells can be reset, though: One injection, tested on primates, restored damaged vision. Advocates claim it could reverse aging in any given cell.

traffic-light-style, marked red, amber or green. Red-flagged areas should lead to intervention, as they highlight a biomarker with high likelihood of affecting your health—a positive test for HPV, for example, is now known as causal not only in cervical cancer but in many oral cancers, too. Amber-tagged feedback means that ideally you should take action, but it's not a top priority. Perhaps you have a high level of ApoB, a protein known to affect vascular health—but no other genetic or physical contributing risk factors. All green results are within normal levels. Some interventions can rapidly improve biomarkers, Donnai says. Changes in cholesterol can show up within six weeks; a hormonal change might take four months. Tests are regularly readministered, and lifestyle protocols are tweaked based on their impact.

Jeff Halevy hopes his 25,000-square-foot facility in New York will appeal to the same people primed to sign up for Viavi's services. Although not a doctor, the onetime fitness expert for *Today* is a serial entrepreneur in the wellness space: Continuum, which opened this spring, is his latest. In their first 30 days, members undergo testing, including blood panels, a functional movement screen, VO₂ max testing and a DEXA scan, which grades the strength and thickness of bones using a special X-ray. (Compare that with your annual physical!) They also receive an Oura Ring health tracker. Continuum's team will analyze all this data to design a fitness and nutrition regimen.

The two-story Continuum space was formerly a DavidBartonGym and, later, a Peloton studio; now, Halevy proudly shows off the flotation tank in a sensory-deprivation cupboard, artfully surrounded by plants, and a pair of ice baths. "We would never call this a gym," he says. "We're not something else you're trying to cram into your day. It is a destination." His membership is capped at 250 at the New York location. Outposts in Miami

and Los Angeles are nearing confirmation. Each member pays a \$10,000 induction fee, then \$10,000 per month for unlimited access to physiotherapists, massages and those plunge baths, as well as "performance coaches," known elsewhere as personal trainers.

Why has there been such a rush of companies into the healthspan space? Harvard professor Sinclair points to the pandemic: "People looked in the mirror and saw their own mortality—for many, it was for the first time—and they had a lot of time on their hands to think about it then, too."

But the field isn't exactly new; it's an iteration of concierge medicine, which, as most healthspan companies do, emphasizes an ongoing relationship that integrates medical care into daily life. Most patients in the US can expect an average of only 17.4 minutes with their doctor at any in-person appointment, per data from the National Institutes of Health, but wealthier Americans can time-warp back to the days of house calls and lifelong family physicians. In fact, 1 in 5 wealthy people pay extra for direct access to their doctor, according to a 2020 poll conducted jointly by NPR, the Robert Wood Johnson Foundation and the Harvard T.H. Chan School of Public Health. It's estimated there are more than 12,000 such concierge-style physicians in the US.

Hadi Halazun, a doctor in New York with the \$40,000-a-year concierge company Private Medical, says he had one patient, a superfit sixtysomething triathlete, who was sick while overseas on business (diarrhea, then shoulder pains). He texted Halazun to ask if he should be concerned and ended up in the office for an electrocardiogram, which looked fine. "But something was off. He didn't look like the same guy I knew, even though there was nothing glaring on the results," Halazun says. "It was a gut feeling. I tend to get very close to my patients." Sure

DNA ADDUCTS

When a toxin or other environmental chemical attaches to your DNA, it becomes an adduct, which can be a starting point for cancer. Some healthspan experts say we can remove them with techniques such as intermittent whole-body hypothermia.

enough, a CT scan revealed what he calls a "whopping" pericarditis, or heart inflammation. It might well have been triggered ►

◀ by the virus that caused his diarrhea. Instantly, Halazun put the man on a three-month treatment protocol.

Brad Inman has perhaps the most intriguing theory as to why people are rushing to such services. The real estate media entrepreneur has begun to organize introductory healthspan conferences with ticket prices at \$99. The first was in West Palm Beach, Florida, this spring, with two more coming in California in August. Inman points to America's evolution into a more secular society. "As more and more people don't think they're going somewhere after they die, they think, 'Oh, shit. I'm not going to heaven,'" he says. "This is it, so I want to live as long and well as I can."

I don't know about heaven, but my test results from Donnai were reassuring: There was nothing urgently nasty in there. Although I'm only a few pounds heavier overall than I should be, my body fat percentage is depressingly high—about double the ideal for my age—which ricochets through my readings. My VO₂ max score, for example, is average, but it will instantly improve if I can reduce my body fat. Along with a modified exercise regimen, that could lift my score 10 points, reducing what Donnai calls "all cause mortality" risk (basically, my chances of dying from anything besides being hit by a bus) in the next decade by 50%. My strength is that of a 70-year-old (I'm 51), and I'm deeply right-favoring; I shudder at the photo of my scrawny left calf compared with my right. If I don't even that out, it will strain joints.

At least I'm HPV-free, and my brain's in great health, though it seems as if I may have had a bang on my right side that I don't recall, which has scrambled some brain waves there. A few sessions with a neurofeedback machine can fix that.

Mostly, I need to work much harder at the gym. I already knew that, of course. Maybe now I'll do something about it.

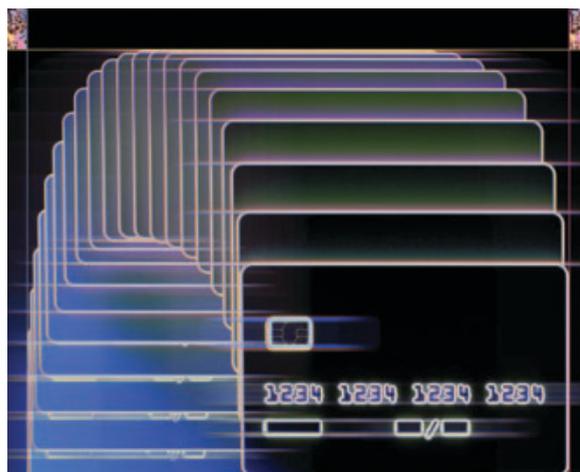
SENOLYTICS

This class of drugs has one purpose: culling cells that are no longer working. Theorists say allowing younger, functional cells to replace them may slow or reverse aging.

NAD BOOSTING

Nicotinamide adenine dinucleotide, or NAD, is a molecule known to support cellular function, including keeping DNA from degrading over time. Adherents support supplementing NAD levels, which naturally decline as we get older. Low levels are associated with accelerated aging.

The Price of Healthspan



Whether you prefer a gentle on-ramp into the world of self-optimization or medical-level intervention programs, there are options for most wallets.

● INDEX HEALTH

\$299 per month

This service, emphasizing diet and nutrition, begins with a telehealth consultation with a doctor, followed by blood testing and another virtual appointment to discuss results. Doctors champion various supplements and, with a nutritionist, offer ongoing coaching.

● PRENUVO

From \$999 to \$2,499

This is the starriest upstart, with backers such as Cindy Crawford and Silicon Valley darling Anne Wojcicki, and it's where Kim Kardashian paid for her own scan. The six-year-old company offers MRIs on demand at its nine locations. Results are delivered in two weeks via a consultation call. Every patient receives a referral pack, offering

friends \$200 off a whole-body scan for themselves.

● ALTER

\$2,995, plus \$40 monthly

Touted as a fitness program that's personalized to your genes, Alter has health coaches who use your DNA and various biometric data to customize an exercise and nutrition program. Daily workouts and other recommendations, which adjust based on sleep and stress levels that are tracked with a wearable, arrive on a 55-pound interactive mirror.

● PREAMBLE

\$6,500 per year

Jesse Greer, a former US Army physician and flight surgeon in Arizona, created Preamble, which combines health assessment and in-person clinical care. His new Co-Pilot program includes blood work, a metabolic fitness assessment, DEXA scans and glucose monitoring to devise a plan focused on improving five areas: metabolism,

inflammation, hormones, cholesterol and key organ function. Steered by a 90-minute doctor-led review, it results in a concrete action plan focusing on nutrition, exercise and supplements.

● PREVENTICUM

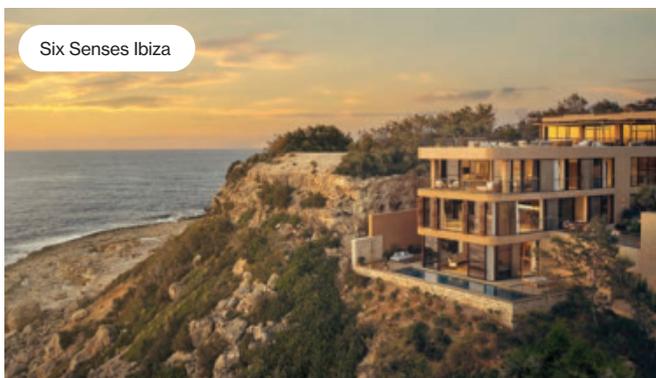
From £10,500 for an Optimal Assessment

This London clinic offers a daylong program including blood work, MRIs and tests such as an oxygen-sensitive cardiac MRI, which gauges coronary vascular function in just three minutes, and BrainKey, which calculates brain age and recommends lifestyle changes. Regulars return annually for comparative tests, and Preventicum will recommend interim testing at home.

● EQX OPTIMIZE

Around \$40,000 per year
Equinox entered the game in May, in partnership with Mark Hyman's lab test startup Function Health. (Hyman is a polarizing figure in wellness because of his vaccine views.) A battery of tests looks at biomarkers like triglycerides, which affect heart health; cortisol, which plays a role in aging; and leptin, which affects fat metabolism. It also provides fitness testing, such as VO₂ max. A concierge designs a health program with a team including a sleep coach. It's offered in New York and Texas.

Six Senses Ibiza



Can a Vacation Extend Your Life?

At first glance, the crowd at Six Senses Ibiza looks typical of the revelers known to frequent Spain's legendary party island. Women in sparkly bikinis and macramé cover-ups dance with tanned, toned men as DJs spin poolside. But they've come for a different kind of cocktail.

Inside RoseBar, the resort's on-site longevity club, doctors, nurses and nutritionists carefully administer everything from gut-scouring apple cider vinegar and cayenne shots to pills of magnesium to promote sleep. I was prescribed a \$750 IV drip of NAD+, a coenzyme that plays a vital role in DNA repair. "Boosting" on it, says a statuesque staffer with dewy skin, is like drinking from the fountain of youth.

A vacation that promises to reverse aging isn't novel. In the 1970s, the late Swiss doctor Henri Chenot opened a retreat that claimed to recharge mitochondria through an 850-calories-per-day vegan diet and detoxifying treatments. Today, devotees flock to the brand's luxe flagship Chenot Palace Weggis, on Lake Lucerne, for the strict seven-day protocol (starting at \$5,900).

THE NEW LONGEVITY BREAKS

SIX SENSES (SPAIN)

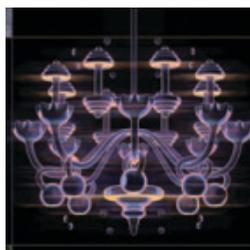


One-, three- and seven-day packages can be tacked on to a stay, to include as many as five hours a day of treatments, therapies and medical-team time. The "Morning After" IV drip with electrolytes and amino acids is designed to undo a late night of partying. A week's program in one of the resort's 137 rooms can help shift your lifestyle through diagnostics and nutrition counseling.

Ocean-facing rooms from \$1,286 per night; one-day longevity program from \$504

■ COURTESY SIX SENSES

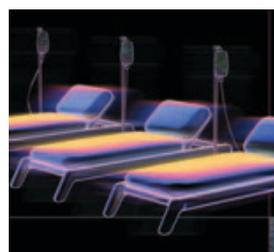
PALAZZO FIUGGI WELLNESS MEDICAL RETREAT (ITALY)



This grand palace's Murano chandeliers and original frescoed walls can now be enjoyed in a 65,000-square-foot medi-spa that opened in late 2021. But in addition to its indoor charms, the retreat has added hiking to the sleep

monitoring and CT scan machines of its tried-and-true longevity program, hoping guests continue to get their steps back home. Three-hour treks in the surrounding Apennine Mountains pass waterfalls and ancient monasteries, then conclude with yoga, saltwater therapy pools and nutrient-dense, low-calorie meals from Heinz Beck, chef of Rome's only three-Michelin-starred restaurant, La Pergola. *From \$8,800*

CANYON RANCH (MASSACHUSETTS; TUCSON)



The popular wellness brand introduced its Longevity Life program in November at two of its four hotels. The two-night-minimum plan combines diagnostics with personalized

health coaching and covers basics including heart and lung assessments as well as strategies to improve diet and rest. Extend to three nights, and you'll undergo a sleep screening for further nutritional hacks. Book the full week, and you'll have your glucose monitored and receive mental health counseling, plus have more time to sample free daily classes, such as desert drumming in Tucson and pickleball in the Berkshires. *Two- to seven-night programs from \$1,700 per night*

The recent fixation on biohacking has been fueled by research showing that certain science-driven interventions such as photobiomodulation (a NASA-pioneered light therapy), combined with simple lifestyle changes in diet and sleep, can slow and even reverse cellular aging.

Wellness retreats from Mexico to Italy have taken note, adding spaces equipped with messenger-RNA-based molecular tests that identify undesirable gene activity (such as oxidative stress) and sci-fi-like hyperbaric oxygen chambers that are supposed to stimulate cell repair by saturating the lungs with O₂. The tests help identify preventive health habits that fit with your genetic code; the oxygen undoes recent damage that has you operating below baseline.

At RwooseBar, diodes connected to a metal surface measure the flow of electricity through my palm, leading a clinician to say that my parasympathetic response—my ability to calm down—is low. A lifestyle coach sees my pulse-oximeter readings and says that, despite my propensity for yoga, I'm not good at breathing deeply. She prescribes some exercises and three sessions in a hyperbaric chamber; days later my tests improve.

But can a vacation really lower your biological age? "Engaging in expensive treatments for a three- to seven-day experience can provide some short-term benefits to one's health, but those benefits do not last a lifetime," says Emmaline Rasmussen, lead dietitian at the Center for Health and Wellbeing at Four Seasons Hotel Westlake Village in California. "Learning how to integrate realistic changes into your lifestyle will provide far greater long-term success."

"The nurturing environment of a retreat can be an ideal place to learn," agrees BJ Fogg, a behavior researcher at Stanford University. And for some, one week may be enough to kick-start new habits, especially when paired with scientific feedback.

Did I learn to relax because machines told me to? Or because screen-free time at a pool is therapy unto itself? I'll never know. But weeks later, when I was traveling and flight delays threatened to take years off my life, I closed my eyes and let RoseBar's breathing exercise do its thing. —*Jen Murphy*

TOP CHEFS DECLARE:

THE BEST PASTA IN NEW YORK CITY

By Kate Krader
Illustration by Tomi Um



The dog days of summer conjure daydreams of ice cream, picnics, barbecues...and heaping plates of hearty pasta?

“I used to think I needed to make the pastas lighter in summer,” says Andrew Carmellini, who serves notable noodles at New York’s Locanda Verde, Café Carmellini and Bar Primi. But in the hottest months, he says, “we’d still sell so much carbonara and Bolognese, customers freaked out when I tried to change it.”

Now he makes them year-round.

New York is a pasta town, after all,

dating to the mass arrival of Italian immigrants in the 1800s. And as with other city staples, namely pizza, bagels and burgers, there are a lot of strong opinions. Especially about where to find the best.

So we polled a few experts—the country’s top chefs—to tell us what they love. Alongside cult favorites like Don Angie, there are newer options such as Torrisi, where co-owner Rich Torrisi serves cavatelli with an allspice- and chile-packed ragu inspired by the Jamaican beef patty

snacks he used to get from food trucks outside his school. At Raf’s nearby, chef Mary Attea channels southern Italy for spaghetti heaped with bottarga, the intense, salty dried tuna roe. At Daphne’s in Brooklyn, chef Jamie Tao makes his ragu with fatty, luscious beef cheek that wedges itself in the nooks of spiral gemelli.

Here are some highlights to enjoy this summer—and spring, fall and winter.

Visit bloomberg.com/nycpasta for the full list of 18 dishes.

PASTA TO-DO LIST



● Rigatoni Carbonara
Bar Primi, East Village

Occupying a corner on the rowdy Bowery is the two-story Bar Primi, where outdoor tables get packed in warm weather. Carmellini's menu is a crowd-pleasing roundup of Italian antipasti and secondi favorites, but for Mitsunobu Nagae, owner and executive chef of L'Abeille, there's only one order: rigatoni carbonara with guanciale (cured pork jowl), pecorino and egg yolk. "It's a classic for a reason! Just a few ingredients, and done right, it's the perfect blend of flavors," Nagae says. "I've yet to taste a better carbonara in the city."



● Spaghetti With Tuna Bottarga and Calabrian Chilies
Raf's, NoHo

"The spaghetti with tuna bottarga is my idea of perfection on a plate," says Amanda Cohen, chef-owner of Dirt Candy. The Sicilian-inspired dish comes from Mary Attea, who with her partners has transformed the original Parisi Bakery space, where the brick ovens produced delectable Italian loaves, into a cozy hangout with a long Mediterranean menu. Here, the salted dried roe melts into the pasta strands and imbues them with the taste of the sea.

● Gemelli With Beef Cheek Ragu
Daphne's, Brooklyn

This recently opened hot spot updates the city's ubiquitous red sauce classics with options like grilled pork collar with garlic chives, as well as green tomato vodka sauce-topped salsify. The effect is cozy and fun and "really delicious," says Erik Ramirez, chef-owner of Llama Inn. He highlights Jamie Tao's gemelli with beef cheek ragu because "it was the right amount of rich and hearty and gave off Bolognese vibes. I also liked that it didn't have a lot of butter in it."



● Pici all'Arrabbiata
Lodi, Midtown

Amid the throngs of tourists packing Rockefeller Center, this stylish aperitivo bar is a peaceful oasis with an all-day menu from Ignacio Mattos. The plump, piquant tomato-sauced pici is tossed with chunks of salty guanciale and is the obsession of Kwame Onwuachi, chef-owner of Tatiana. "I have been craving it every day since the moment I had it," he says. "It's so simplistic and incredibly nuanced at the same time. Layered with flavor from the guanciale, tomato and chiles, it perfectly complements the thick pasta."

● Cavatelli With Jamaican Beef Ragu
Torrisi, SoHo

Like its sister restaurant Carbone, Torrisi is a perennially packed power dining spot. But the superb menu extends beyond an Italian-American highlight reel to include shell-shaped cavatelli in a meaty sauce punctuated with sweet and hot Caribbean flavors. Among its fans is Jean-Georges Vongerichten, whose restaurant empire includes the Tin Building food hall and the ABC Kitchens. "It's the most pleasantly surprising dish, packing spice and punch, and it's also comforting just as

pasta should be," he says. "It's become one of my favorite restaurants. I go back time and time again just for this pasta."



● Buffalo Milk Caramelle
Don Angie, West Village

Simone Tong, executive chef of Zoé Tong in Austin, says her favorite New York pasta right now is Don Angie's candy-styled buffalo milk caramelle that, with its twisted ends, conjures a wrapped confection. It's filled with creamy ricotta and strewn in a sweet-sharp citrus sauce. The two-tone look comes from ribbons of black sesame pasta. "Black sesame, candied kumquat—all my favorite flavor profiles," she raves, "and the shape makes my inner-child smile so big!"



● Uovo Raviolo di Nino Bergese
Rezdôra, Flatiron

To get to Stefano Secchi's terrific little restaurant, walk down an unremarkable Flatiron side street and descend a few steps into a sliver of a space where his artful pastas have captivated notable New York cooks. Le Bernardin's Eric Ripert declares the uovo raviolo di Nino Bergese—in which one giant round is stuffed with herbed ricotta and an egg yolk that flows all over just as its dome is cut—his favorite. "It's very original, difficult to execute, but most importantly, delicious."



It's Not Too Late to Be a Hat Person

By Antonina Jedrzejczak
Photograph by Sarah Anne Ward
Set design by Ryan Schaefer





8

1 BOTTEGA VENETA

The brand's signature Intrecciato weave makes a cheeky appearance in this lambskin bucket hat. It's also available in green, blue and bright red, but the deep brown here will transition effortlessly into fall.

\$1,500

2 CLARE V.

A classic throwback in royal blue cotton made with a Velcro closure, this visor celebrating *le weekend* is one we'll be wearing from Monday to Friday, too.

\$50



9

3 JW BENNETT

Sarah Kjørstad makes her hats in Jackson Hole, Wyoming, adding custom beading and stitch work to each piece by hand. The Lakeside style, woven from Guatemalan palm straw, has a 4-inch brim and uses a vintage bandanna for a hatband.

\$245

4 AYR

With its hickory stripe, the cotton Bucky riffs on the classic pattern of a train engineer's cap. Just toss it in your weekender for your next outdoor adventure.

\$45

5 CASABLANCA PARIS

Pastels are cool again in the zigzag layers of this crochet creation. The open-weave cotton design has a soft, extra-floppy feel.

€365 (\$391)



10

6 EUGENIA KIM

With a 3-inch visor made of camel-colored horsehair, the Kayla is a fashion statement disguised as sun shield. It also twists into a tight spiral for easy storage.

\$225

7 RUSLAN BAGINSKIY

The Ukrainian milliner, who's done bespoke headwear for the Princess of Wales and Beyoncé, isn't shy with his designs. This peaked cap comes in a range of custom fabric, monogram and color combinations.

\$300

8 WORTH & WORTH

Can't decide on just one material? A handwoven take on the Panama hat combines a crown made of straw with a 3.5-inch brim in beaver felt, both dipped and washed in indigo for a standout effect.

\$1,600

9 STEPHEN JONES

The creations of British designer Stephen Jones have found themselves on the heads of the world's top celebrities and royals—and have even been shown in museums. The aptly named straw Illusion hat is a modern, whimsical nod to safari toppers with a mesh overlay.

\$525

10 PRADA

The elongated proportions and geometric pattern cutouts of this Prada bucket are balanced out by the natural yarn, woven to create a raffia effect. Just keep sunscreen handy to avoid triangular tan lines.

\$1,100



SCREENTIME INSIGHTS

LORD OF THE RATINGS

By Hannah Miller

Illustrations by Brandon Celi

You could be forgiven for wondering if the characters in *The Big Bang Theory* universe have been on television since the dawn of time. The show, from old-school comedic mastermind Chuck Lorre, centered around a group of nerdy, socially awkward scientists and premiered on CBS in 2007. According to Nielsen ratings, it was the No. 1 comedy for nine years.

The series concluded in 2019, but the network already had a replacement. The prequel, *Young Sheldon*, which follows the childhood of *Big Bang Theory* protagonist Sheldon Cooper, began airing in 2017 and ran for 141 episodes. It's been the No. 1 comedy on TV since *Big Bang* ended. The last episode in May drew a colossal-for-2024 11.7 million viewers. (At its 2011-12 peak, *Two and a Half Men*, another Lorre hit, averaged 15 million a week.)

This fall, yet another spinoff arrives in the form of *Georgie & Mandy's First Marriage*. It's billed as a heartwarming comedy that follows the ups and downs of Sheldon's older brother

(Georgie) and his wife as they raise a daughter and grapple with a 12-year age difference. The plot thickens as Georgie rises to success selling tires in Texas.

For CBS's fall premieres across categories, you'll see the network sticking to what it knows best: familiar characters recycled from other series and formulaic storylines. In September, *NCIS: Origins* will be the fifth offshoot of the *NCIS* franchise, joining spinoffs in Los Angeles, New Orleans, Hawaii and Sydney. This time, the action series about Naval Criminal Investigative Service agents explores the early career of the original show's protagonist, Leroy Jethro Gibbs. (Baby boomer Mark Harmon is now embodied by hunky millennial Austin Stowell.)

There's also a *Matlock* reboot starring Kathy Bates. Another new show, *Watson*, takes its inspiration from Sherlock Holmes and stars Morris Chestnut as Holmes' famous partner—only this time, Holmes is dead, and Watson solves medical mysteries.

That's a lot of known quantities. "We recognize how much

our audience loves and invests in the characters on air, and that gives us a direction to move towards,” says Amy Reisenbach, president of CBS Entertainment.

The fall slate comes at a tricky time for Paramount Global, the parent company of CBS and other networks such as MTV. Chief Executive Officer Bob Bakish stepped down in April and was replaced by the “Office of the CEO,” a trio of executives that includes CBS President George Cheeks. In July, controlling shareholder Shari Redstone accepted a proposal to sell her family’s interest in Paramount to David Ellison, son of Oracle Corp. co-founder Larry Ellison.

Paramount has been working to trim \$500 million in costs and bolster its struggling Paramount+ streaming service, which trails Amazon Prime Video, Disney+ and Max in number of subscribers—not to mention Netflix, which serves almost 270 million customers, more than triple the count of Paramount+.

The yearslong success of CBS, however, has provided some rare reliability. The network aired 13 of the top 20 broadcast series in 2023. And for the last 16 seasons, it has been the most-watched network in the US. *Tracker*, which is going into its second season, was the top-rated nonsports show on television, averaging 11.6 million viewers per episode. Starring Justin Hartley as survivalist Colter Shaw, who uses his tracking skills to solve mysteries, it premiered after the 2024 Super Bowl and scored 18.4 million viewers, according to Nielsen.

This means a lot for Paramount. Broadcast and cable TV delivered \$5.2 billion in revenue in the first quarter of 2024, 68% of the company’s total. “The corporate office may not be very stable right now, but the programming of CBS—you know what to expect,” says media consultant Brad Adgate, who’s spent more than 35 years in the industry at companies including Turner Broadcasting and Comcast Spotlight.

Shows such as *Tracker* rely on tried-and-true plot structures to placate the network’s remaining audience following continued cord-cutting, according to Adgate. Nielsen found in May that streaming accounted for a record 39% of TV viewership, while cable made up 28%.

But in a surprise twist, shows like *NCIS* and *Big Bang Theory* are also being embraced on streaming by those very same young people who’ve cut their cords. *Young Sheldon* reruns air on TBS and Nick at Nite, following the old TV model—first on broadcast, then syndication on cable. But previous seasons are also on Netflix and Max. Audiences watched 6 billion minutes of *Young Sheldon* in May, according to Nielsen, half of it on streaming and half on traditional TV.

This is a big shift that’s happened in the past couple of years, where media companies have folded their gamble on streaming platform exclusivity and started licensing to everyone through deals that have not only brought in cash but also broadened viewership. “It was interesting and gratifying that *Young Sheldon*, when it went to streaming, especially when it went to Netflix, kind of found this whole new audience,” says Steve Holland, a writer on that show who’s moved on to developing *Georgie & Mandy*.

Spinoffs like these allow networks to save money while

By James Tarmy



● FILM
SING SING

Director Greg Kwedar’s pulled-from-life film, which is set in the high-security New York prison, showcases the power of theater as a poignant form of artistic expression. A superb Colman Domingo stars alongside a mix of professional and formerly incarcerated actors. *Aug. 2*



● NONFICTION
PARADISE BRONX:
THE LIFE AND TIMES
OF NEW YORK'S
GREATEST BOROUGH

Funny, sweeping and written with evident affection, *New Yorker* contributor Ian Frazier’s magnum opus

takes us through the history of the Bronx, from a contested battlefield in the American Revolution, to its halcyon days as a 20th century haven for middle-class upward mobility, to the inherent racism in city planning that led to the borough’s near-destruction in the 1970s. *Aug. 20*



● EVENTS
LOCARNO FILM
FESTIVAL

You’ve heard of Sundance and Cannes, but another film festival beloved by aficionados is slightly off the radar, at least to American audiences. Set in the lovely Swiss lakeside town, just across the Italian border, the star-studded fest is one of the best places to see international independent films well before they make it to theaters. The nightly outdoor screenings for 8,000 people in the town’s Piazza Grande are a major draw. *Aug. 7 to 17*



● TELEVISION
BAD MONKEY

Based on Carl Hiaasen’s novel and from an executive producer behind *Ted Lasso*, this comedic series on Apple TV+ stars Vince Vaughn as a former Miami police officer turned health inspector who stumbles into a vast criminal realm. *Aug. 14*



● BROADWAY
OH, MARY!

Simultaneously idiotic and brilliant, comedian Cole Escola’s play imagines an alcoholic Mary Todd Lincoln lurching through the final weeks of her husband’s life. Escola also stars in the title role. It’s now on Broadway for a limited engagement. *Through Sept. 15*

boosting audience numbers across all shows within a franchise, according to Brandon Katz, senior entertainment industry strategist at research firm Parrot Analytics Ltd. “Viewers will consume that spinoff and then go back to the original, so you have pingponging audience interest,” Katz says.

Like *The Big Bang Theory*, *Georgie & Mandy* will be filmed in front of a live audience using multiple cameras, a format that *Young Sheldon* didn’t follow. It’s a setup unfamiliar to some Gen Zers who grew up with single-camera shows on streaming, but like its predecessors, *Georgie & Mandy*’s humor is designed to appeal to multiple generations.

Viewers can expect some fresh creativity, too: With *Young Sheldon*, the writers had to stick with facts that were already established in *The Big Bang Theory*, such as the untimely death of Sheldon’s father. Georgie and Mandy’s relationship wasn’t explored much on *The Big Bang Theory*, giving writers some more freedom. What we do know is that they both lied about their ages during a romance on *Young Sheldon* that resulted in an unplanned pregnancy while Georgie was still a teenager.

But the rest? Well, it’s still unwritten. “We can kind of tell any story,” Holland says, “and it can go in almost any direction.” **B**

GO HERE NOW

Rome in August. Seriously

By Jen Murphy

Photograph by Federica Valabrega

The Spanish Steps right after sunrise



I arrived at Hotel de la Ville, an 18th century palazzo perched above the Piazza di Spagna, on the cusp of golden hour, caught in the flow of locals and visitors angling toward the city's trattorias and wine bars for their daily aperitivo. The cool, drizzly March weather made a spritz at the hotel's lively second-floor Julep Herbal & Vermouth Bar tempting. But I had other plans: The Spanish Steps were less than 100 feet away, and I imagined that at this food- and drink-centric time of day, the famous travertine staircase would be devoid of sightseers.

How naive.

I'd planned my visit to the Italian capital for what I thought was the offseason, at the tail end of winter. But the sea of

tourists that spilled down the 135 steps below made me wonder if Taylor Swift had decided to kick off the European leg of her Eras Tour early—and in Rome.

The reality is there's no longer an offseason here. The Eternal City is eternally full of tourists. It welcomed a record 35 million visitors last year, and 2024 is forecast to be another banner year. So one must be creative in planning a visit and rethink old strategies. For example, in a complete inversion of what travelers have long held true, it turns out August is the Goldilocks month. That's when things in the city are just right, says Fulvio De Bonis, co-founder of Imago Artis Travel. A born-and-bred Roman, he's been conducting insider tours of the capital's blockbuster

sites and hidden gems since 2007.

Discerning travelers write off summer because of the crowds, but August is the one month in high season that feels quiet, De Bonis says over lunch at La Fiaschetta, a tiny trattoria in the Campo de' Fiori neighborhood. The throngs thin, the sun shines, and the rooftop bars stay open. School is back in session in some parts of the US, and, though people fear the broiling heat, the weather is in fact not quite as brutal as in June and July, he says. (He also cites November, January and February as good times to visit.)

Maria Strati, longtime general manager at J.K. Place Roma—one of the city's most sophisticated hotels—concur about August. Ferragosto, an old Roman holiday,

WHERE TO STAY

The new standard for luxury in Rome is the **Bulgari Hotel**, right off the Piazza Augusto Imperatore. There's a 60-foot pool inspired by the ancient Baths of Caracalla, and the 114 rooms have mosaic marble floors and custom fabrics from historic Venetian brand Rubelli. Michelin darling Niko Romito runs all six restaurants (from \$1,750). **Six Senses** has earned buzz for its social club vibe and extensive wellness offerings. The brand's first urban resort has a scene-y rooftop bar, health-minded restaurant and massive two-floor spa (from \$1,080). Want to feel like royalty? Palazzo Borghese is still inhabited by the heirs of its namesake family. But the east wing has been annexed as **Palazzo Shedir**, where four butler-serviced suites let guests try on their opulent lifestyle (from \$850).

falls on Aug. 15, and many Italians use it as an excuse to make a monthlong escape to the coast. Some restaurants close for the week, but the city doesn't shut down like it used to, she says, especially in the historic center.

Anytime you go, though, you'll need to strategize. New outposts of the Mandarin Oriental, Rosewood and Four Seasons are coming, contributing to a rise in hotel prices. The nightly average rate for a luxury room rose to \$715 in 2023, from \$434 in 2018, according to data from CoStar; this year is already trending higher. Yet August provides a respite: Rates at luxury hotels last summer were 24% lower, down to \$635 from an average of \$834 in July.

All these visitors mean more restaurant-goers. Requests made months in advance—at any hour—at a classic institution such as Roscioli, the revered family-run bakery and salumeria, may end up on a waitlist. (Even for a table for one.)

Plus, more Romans are enjoying Rome, De Bonis says. Some are taking advantage of free entry to museums as part of the city's First Sunday initiative. New five-star hotels are embracing locals as well, he tells me. "Soho House gives us a social club, and the terrace of the Bulgari is my go-to spot to have a meeting and cocktails at sunset."

There's no sign the city will slow, not with 2025 a Jubilee year for the Vatican—filled with religious festivals and events

WHERE TO EAT

You could follow food writer Katie Parla to the outer neighborhoods for the restaurants Romans are raving about—or explore the city on her culinary tour. (Book six to nine months in advance.) Reservations anywhere are perpetually a challenge, but she can help you craft a custom itinerary with hard-to-score tables.

Prioritize these hot-right-now spots close to major sites: Near Campo de' Fiori, the year-old **Cesare al Pellegrino**—an offshoot of beloved trattoria Cesare al Casaletto—is devoted to Roman comfort foods, such as pan-fried meatballs, and natural wine. At the W Hotel near the Trevi Fountain, acclaimed Sicilian chef Ciccio Sultano runs Mediterranean-inspired **Giano**, which does an excellent spaghetti vongole. Save room for the sensational

desserts, like a prickly pear cannolo. **Da Etta**, steps from the madness of Trastevere, serves an all-day menu of perfect Roman classics: deep-fried salt cod with artichokes and puntarelle paired with wines from the 2,000-bottle cellar. **Orma**, near the Galleria Borghese, is where you'll find ambitious tasting menus by veteran chef Roy Caceres. His more casual *bistrot* next door serves lunch signatures such as the 65C carbonara egg, soft-cooked and floating in Parmigiano-Reggiano foam, served with a side of puffed pasta and guanciale.

For DIY types, there's the *New Roman Times*, a newsletter by American writer Laura Itzkowitz. It offers discerning insights on everything from life-changing gelato shops to great beach towns worthy of a day trip.

that have warranted \$1.4 billion in infrastructure investment. With all that in mind, here are some tactics to help you navigate Rome's attractions and discover its latest charms.

SWAP SUNSET FOR SUNRISE

One trick is simply to beat the early birds. During the magic hour after sunrise one morning in March, I found the Spanish Steps were empty except for a half-dozen doves and a lone jogger—though this time of day is quickly becoming popular with influencers. The social media set is unlikely, however, to join a 6 a.m. tour of the Vatican that lets you follow the *clavigero* (key keeper) as he turns on the lights and opens the doors throughout the museum. Another option is to join seasoned marathoner and art historian Isabella Calidonna, chief executive officer of ArcheoRunning, on her fascinating guided tour/workouts.

SPLURGE ON AN INSIDER

Experts such as De Bonis can unlock the city's main sights and recommend local treasures you'd never find on the web—private experiences for four people can cost more than \$15,000.

For a Colosseum visit, he paired me with archaeologist Chiara Morciano, who walked me past the lines to the site's recently opened third tier. Only eight visitors are allowed at a time; tickets are



A lounge at Palazzo Shedir

released 30 days in advance and sell out in a few hours. The experience is like being in a VIP box at the Super Bowl, surveying the Colosseum's arena, which is far more mobbed than any halftime show. And yet, Morciano one-upped all that by leading me down a narrow alley nearby and into a small church open only by appointment. Inside, she instructed me to sit and close my eyes. When I reopened them, a floor-to-ceiling wooden door had been unbolted to reveal a sweeping view of the Forum. It was a seat worthy of a Roman ruler.

EXPLORE BEYOND THE CITY CENTER

Even if you're a first-timer, Elisa Valeria Bove, CEO of private tour company Roma Experience, recommends venturing a few miles out of the city. Strolling the Appian Way, one of the world's oldest byways, dotted with royal villas and mausoleums, is like "walking through ancient Rome," she says. That applies to food, too. Rome-based food writer Katie Parla pointed me toward less central spots, such as Trecca in Ostiense, Mazzo in Centocelle and Santo Palato in San Giovanni. (All are open for most of August.) I needed to book at least a week in advance, but my dinners were well worth the Uber ride. **B**



BOURBON + RYE

AN AMERICAN BLEND

By Brad Japhe

Illustration by Ian Grandjean

Whiskey makers in the British Isles tend to view blending as an art; there's a reason Johnnie Walker has kept on walking for more than 200 years. But in the US, blended whiskey is synonymous with flavorless, super-high-proof filler known as grain neutral alcohol. Popular American blended whiskeys such as Seagram's 7 Crown and Kentucky Gentleman legally can be loaded with as much as 80% of it, which is why they're often derided as "whiskey-flavored

vodka." But a few US makers are starting to reclaim integrity in American blends by mixing straight bourbon and straight rye—that is, spirits made from at least 51% corn and 51% rye, respectively, that have been aged at least two years in new charred barrels, absent any sort of Everclear-like filler altogether.

The thing is, when they're combined, you can't call them "rye" or "bourbon" anymore, and premium distillers have traditionally preferred to avoid the

"blended" label lest they look cheap and turn off connoisseurs.

Dan Callaway, vice president for product development at Bardstown Bourbon Co. in Kentucky, is banking on innovation—and beautiful flavor—to make the case for bourbon-rye mashups. Distilling the spirits separately and then blending them optimizes the way each grain interacts with oak during maturation. Rye, for instance, strikes a balance between grain and barrel earlier than corn. "The flavor turns magical at six years," Callaway says, "an awesome relationship between herbal and wood notes." So if you blend a 10-year-old straight bourbon with, say, a 6-year-old straight rye, you can tap into the sweet spot of both grains in a more dynamic and meaningful way than multiple barrels of bourbon with a high-rye mash bill.

Michter's Distillery has been casting a halo on the whole endeavor with its Celebration sour mash. Each expression marries barrels of bourbon and rye aged from at least 10 years to 30-plus years, an exceedingly long time for an American whiskey—and an exceedingly expensive effort. You'd be hard-pressed to find a bottle under \$18,000 now on the secondary market, up from \$7,500 at suggested retail.

Andrea Wilson, master of maturation for the Kentucky distiller, says the goal is to draw out a "unique panorama of flavor" that's greater than the sum of its parts.

Celebration, typically bottled at around 110 proof, indeed brandishes the best of both worlds: burnt sugar and candied fruit from well-aged bourbon running tangential to the earthy and herbal elements of spry rye.

Collectors, take note: The three-year wait between releases ends November 2025. Meanwhile, here are more readily attainable bottles earning praise today.

HIGH WEST BOURYE

The Park City, Utah, distiller was the first to explicitly market the concept when it trademarked "Bourye" in 2009. Its most recent expression (\$125) remains highly sought-after and utilizes four separate mash bills to deliver a layered matrix of butterscotch, biscotti, cigar box and spicy chai.

BARDSTOWN BOURBON AMRUT COLLABORATIVE SERIES

This \$160 bottle released in June combines straight bourbons with a rye finished in former single malt barrels from India. The separate notes of herbal tea, brown sugar and cocoa nibs make a compelling testimony to the value of innovative blending.

THE BEVERLY RESERVE

Blends have become an entry point for upstarts looking to make an immediate splash: Beverly high rye's first 50-50 recipe (\$60) hauled home a gold at the San Francisco World Spirits Competition. This newer 60-40 blend (\$80) in favor of bourbon begets a 116-proof sipper, rich with ripened berries and pecan pie.

BARRELL CRAFT SPIRITS PRIVATE RELEASE DSX3

This Louisville nondistilling producer holds that blending allows for jolly experimentation. This cask-strength case in point (\$100), finished in a former Pedro Ximenez sherry barrel, paints the palate in bold brushstrokes of nutmeg-dusted peach cobbler.

WILD TURKEY MASTER'S KEEP UNFORGOTTEN

Wild Turkey's first bourbon-rye duet, Forgiven—claimed to be a "tasty mistake"—was such a hit, it intentionally repeated the effort with a 13-year-old bourbon mixed with 8- and 9-year-old rye. Rich in body yet dry and peppery, it now commands about \$400 a bottle.

WATCH CLUB

THE QUIET ROLEX



Collectors have long coveted Rolex's tool watches—rugged Cosmograph Daytona chronographs and Submariners you can read deep underwater. So it was a curious move last year when the brand introduced the Perpetual 1908, a simple 39mm dress watch.

Offered in 18-karat white or yellow gold with a black or white face, it merely told the time. The case rim was delicately fluted, not like the glittery crenellated bezel on some Oyster Perpetuals. And instead of a brawny link bracelet? A subdued alligator strap. Could this line become Rolex canon? Many people want a watch to be subtle, but no one wants it to go unnoticed.

Signs point to yes: A luxe platinum \$30,900 version, with a rare transparent caseback, arrived in spring with an arresting ice blue dial. Its guilloché motif evokes ripples of rain curving across the surface of a pond. This felt like the start of a fresh tradition, in a sturdy metal to last generations. Beautiful? Yes. Daring? No. But Rolex didn't get where it is by breaking tradition. It's at its finest when it merely bends it. —Chris Rovzar

CEO DIET

How Six Bosses Stay Fit

JOHN ECKBERT, FIVE GUYS



"I'm a bit of a gym rat. When I was in high school I ran cross-country and played basketball, and

I've kept up a lot of that. I'm in the gym or running every day, pretty much. I live in Hammersmith by the bridge [in London]. My workout of choice is to run the Thames path. The question for me is not distance, it's how many bridges can you cross? I've topped out at five so far. I'm pushing for six."

MATT BRITTIN, PRESIDENT, EMEA, GOOGLE

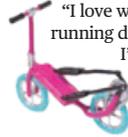


"I've never been much good at ball sports or running but loved rowing the moment I tried it. [Brittin rowed for the UK in the 1988 Olympics in Seoul.]

To move a boat fast, you have to be fit and strong, technically capable and, most of all, you

have to move in symphony with the other rowers and the boat. I love to compete to this day, and the lessons from the sport on focus, collaboration and getting the best from each other have been really helpful in my working life, too."

JULIE MACKLOWE, THE MACKLOWE



"I love waking up and running during the week. I'm a total cardio junkie—cycling, hiking, running.

When I have a little extra time in the morning, I ride my ElliptiGO in Central Park. It's the craziest thing you'll see on wheels."

NOAH GLASS, OLO



"My work is built on health and the discipline of routine. I run and lift weights three times a week, and that's when

I listen to quarterly earnings calls and audiobooks on 2x speed.

I also meditate every morning and track my sleep, recovery and strain using the Whoop strap."

ATISH DAVDA, EQUITYZEN



"Every morning, I spend 2 to 20 minutes meditating to help get centered. Then I get a workout in.

Doesn't matter if I have 10 minutes or over an hour, anything that breaks a sweat."

CHRISTINE SCHINDLER, PATHSPOT



"I spend a lot of time on the road meeting with our restaurant and manufacturing customers and jumping between our offices. With

such a packed schedule, I have to be creative and efficient with my workouts. I like to get outside and walk to meetings whenever possible, or join a phone-based exercise class."

IT'S "LIKE CHEATING"

Golf's Weird Secret Weapon

By Michael Croley
Photograph by Joyce Lee

The Mezz.1 putter from LAB Golf isn't a thing of beauty—it looks like a trapezoid in the midst of an identity crisis. But don't be fooled. This ugly duckling, released in 2022, is responsible for one of the most innovative changes in the game since metal drivers.

The simplest of all golf strokes, the putt, is also the most confounding. You're just tapping the ball so it rolls at the right speed along the right path, but it's so nerve-racking that even seasoned professionals can crack.

The key, as any club pro will tell you, is for the face of the putter to be square—perpendicular to the diameter of the ball—when it makes contact, because the subtlest shift in your wrists can push the ball off its intended line. For years, manufacturers have tried different methods to remedy this. But Oregon-based LAB seems to have cracked the code, finding the optimal place to locate the shaft by measuring players and then drilling a series of customized weights into the head so the club resists involuntary wrist-twisting. Its odd shape comes from accommodating the screws used to fine-tune the balance. The result ensures you



hit the ball with a square face, down your target line, every time.

Nick Sherburne, executive vice president for operations at nationwide fitter Club Champion, says what LAB has done is simple but impressive nonetheless. LAB putters are already his No. 1 sellers, eclipsing traditional brands such as Odyssey, TaylorMade and Titleist. "To have a company come out and take over our putter market share is pretty wild," he says.

At this year's US Open Championship, LAB putters could be spotted in the bags of former Masters champions Adam Scott and Phil Mickelson. Same with former US Open champ Lucas Glover, who resurrected his career last year in part because of improvements in his short game with a LAB putter.

Using the \$550 Mezz.1 is a little like putting with a brick. The brand's clubs can weigh up to 530 grams, well above the 300g range of most putters. "It feels a bit like cheating," says Paul Cope, owner of Granville Golf and outside Columbus, Ohio, and a *Golf Digest* Top 100 Clubfitter. "LAB takes all the human error out of putting." Even if it looks like a mistake. **B**

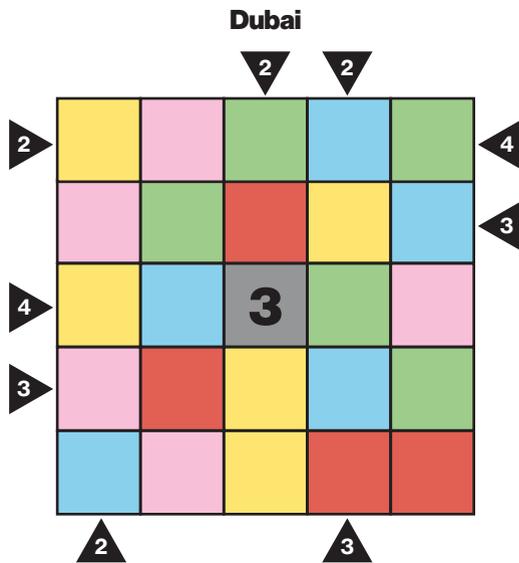
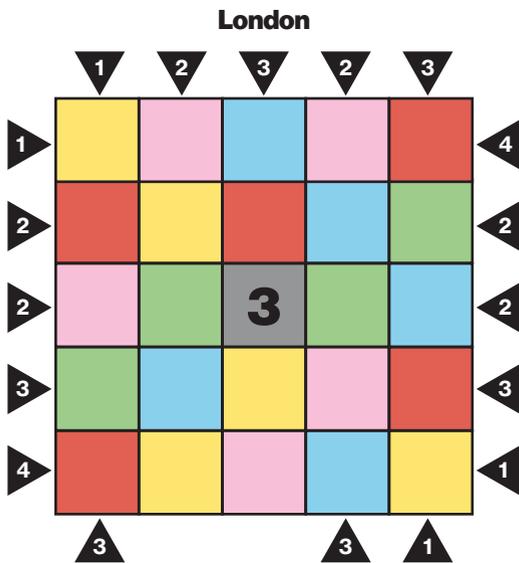
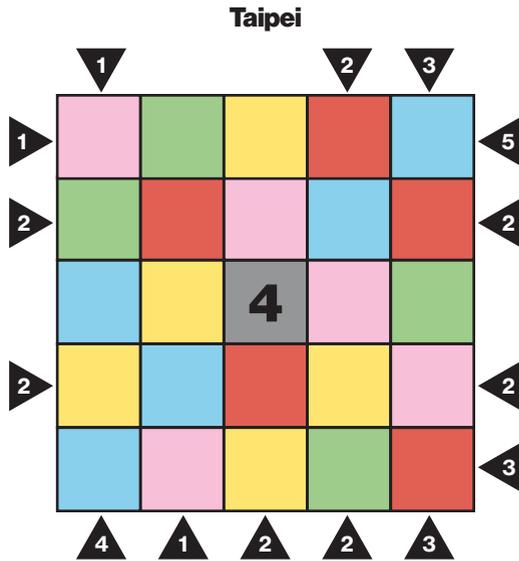
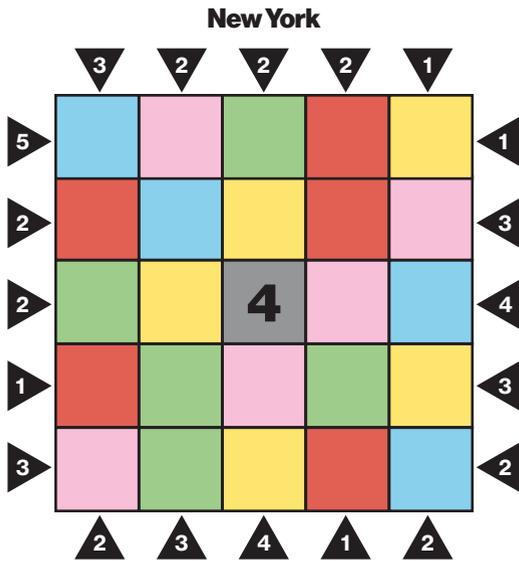
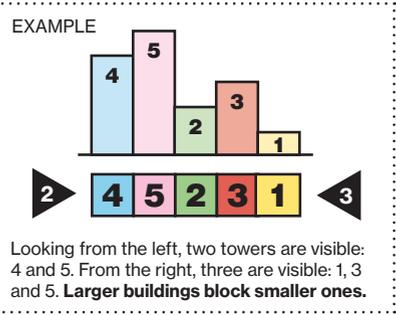
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Tower Heist

● By Kid Beyond

The plans for the world's most advanced AI chip—the GrayCo4—have been stolen! To safeguard the superchip's design, GrayCo divided the plans into four parts, each stashed at a regional headquarters. But thieves zip-lined onto each city's GrayCo Tower—seen in the center of each grid below—from a taller building nearby. Which of GrayCo's rivals pulled off the caper: **RedCor**, **BlueQ**, **GreenNV**, **GoldOrb** or **PinkThink**?

To find out, solve the puzzles below by **putting the numbers 1 to 5 in each row and column, exactly once**. Each number is the height of a tower, with 5 being tallest. The pointers (▶) show how many buildings can be seen from that viewpoint.



In each puzzle, one company's buildings are all **lower** than GrayCo Tower. That clears the company of suspicion. When you've solved the grids, **the one remaining company is the culprit**. We'll reveal the answer in the *Businessweek* edition of Apple News+ and in our newsletter, *Businessweek Daily*, on August 16!

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