Bloomberg Businessweek

November 6, 2023 ● EUROPE EDITION

● Foxconn's US-made-EV push 36
● Five breakout economies 52
● The fight for generic drugs 56







A World of Risk



The New Economy Issue

Navigating an era complicated by war, geopolitics, climate change, economic uncertainty and more 34



A Bloomberg Publication


Glenfiddich
GRAND
CRU
THE GLENFIDDICH DISTILLERY, DUFFTOWN, BANFFSHIRE, SCOTLAND
HAND BUILT BY WILLIAM GRANT & FAMILY
SINGLE MALT SCOTCH WHISKY
CUVÉE CASK FINISH
AGED 23 YEARS
750ml
PRODUCT OF SCOTLAND

GIFT THE SPECTACULAR



Glenfiddich®

SINGLE MALT SCOTCH WHISKY

Skillfully crafted, Enjoy responsibly. Glenfiddich Single Malt Scotch Whisky, 40% Alc./Vol. ©2023 Imported by William Grant & Sons. New York, NY.

Context

shows you how
the business affects
the money affects
the markets affects
the planet affects
the politics affects
the community affects
the person.

And it
changes everything.

Bloomberg.com/context

B



◀ Joseph Kamau's Nairobi clinic treats drug, alcohol and gambling addictions

NEW ECONOMY

34 'Less Hope and a Lot More Fear'
Chaos on so many fronts, and no economic model is going to solve it

36 From the Company That Made Your iPhone...
Now Foxconn wants to build EVs. And it wants to build them in Ohio

42 The Unraveling of Ecuador
Lost freedoms, soaring crime, a drug crisis—what happened?

46 Young, African and Addicted to Gambling
It's seen as a way out of poverty. More often, it just increases personal debt

52 Relinking the Supply Chain
Vietnam, Poland, Mexico, Morocco and Indonesia have become key players

56 Expensive Drugs, Difficult Choices
High prices for patent-protected medicines hamper Brazil's HIV response

PHOTOGRAPH BY SARAH WAISA FOR BLOOMBERG BUSINESSWEEK

■ IN BRIEF	6	Middle East update ● A UAW win ● Meloni's mixup
■ OPINION	7	Is this the moment for sensible gun laws to take root?
■ AGENDA	7	US-China trade ● UK growth ● National Book Awards
■ REMARKS	8	Crypto's rise and (incomplete) fall, and its enduring risks
1 BUSINESS	12	Gene-editing therapy may finally be on the way
	14	Corporate jets aren't going much of anywhere
2 TECHNOLOGY	16	Freight darling Flexport hasn't been delivering confidence
	18	The Mideast war trips Europe's biggest tech conference
3 FINANCE	20	If you don't already own a house, maybe you never will
	23	▼ Why hedge fund investors are hungry for Treasuries
4 ECONOMICS	26	Expect plenty of global fallout from next year's elections
	28	The war is battering Israel's economy
■ LAST THING	60	*The Businessweek Show* weighs in on ambition



■ COVER TRAIL

How the cover gets made

❶ "This week is our annual New Economy Issue."

"Fantastic! I can't wait to see what's new with the world economy. Last year we talked about headwinds. This year I assume it's smooth sailing?"

"We're sort of looking at more of a hurricane, metaphorically speaking. You do read the news, right?"

"I took a wellness break from screens—I sort of hit rock bottom after that Screentime issue…"

"I think that was wise, but at this point you've got some catching up to do. There's a new war, increasing geopolitical tensions, economic uncertainty and of course the growing drumbeat of climate change."

"Wow. Well, with the clarity I have now, I think I can probably put all that on one magazine cover."

"Perfect, and I've got just the line …"



Cover: Gaza: Mohammed Dahmen/AP Photo. Malawi: Photograph by Sarah Waiswa for Bloomberg Businessweek. Ohio: Photograph by Ross Mantle for Bloomberg Businessweek. Ecuador: Marccelo Suquilanda/AP Photo. Ukraine: Sebastian Gollnow/AP Photo

FINANCE: PHOTOGRAPH BY MAX HEMPHILL FOR BLOOMBERG BUSINESSWEEK

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

A Bloomberg Publication

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

DELL Technologies



Welcome to Now

Delivering innovation to any environment. Including yours.

Dell Technologies and Intel are supporting scientists as they tackle one of the biggest challenges in conservation—protecting the coral reef. We are also helping small businesses everywhere manage their challenges, big and small. With the power to collect critical data, reduce IT complexities and keep systems secure, technology is helping businesses protect many environments. See what we can do for yours.

Explore more at
Dell.com/WelcomeToNow



intel

Intel® Innovation Built-in

● The United Auto Workers reached tentative deals with Ford, GM and Stellantis that include a

25%

hourly wage increase over four-plus years, with an 11% bump in the first year, the biggest jump its members have seen this century. Even before those agreements, US union members had already won 6.6% raises on average in 2023.

● War in the Middle East

► Israel struck the Jabaliya refugee camp in northern Gaza on Oct. 31 and Nov. 1, killing and wounding hundreds, according to the Health Ministry in the Hamas-run territory. Israel, alleging that Hamas used Jabaliya as a training center, said it had targeted militants.

► About 80 severely wounded people and more than 300 foreigners were allowed to leave Gaza on Nov. 1 through the Rafah crossing into Egypt.

► The humanitarian crisis in Gaza is worsening, with Egypt blaming Israel for obstructing aid trucks. Authorities in Gaza say the death toll there since the war erupted on Oct. 7—when Hamas killed 1,400 people in southern Israel—has passed 8,500.



● Afghan children near Azakhel, Pakistan, waiting to be sent to the border on Oct. 31. Pakistan is cracking down on the estimated 2 million Afghan refugees in the country, including thousands awaiting relocation to the US under a special program.

● The US has halted the export of American guns for 90 days.

The Commerce Department instituted the pause while it reviews its support for the SHOT Show, the country's biggest gun trade exposition. The move comes a week after a *Bloomberg Businessweek* report on the ways US weapons sales may be fueling the skyrocketing crime rates of Brazil, Guatemala and other countries. About 40 nations, including Israel and Ukraine, are exempt from the freeze.

● The Federal Reserve's Open Market Committee on Nov. 1 voted unanimously to leave its benchmark rate unchanged for a second straight meeting, in a target range of

5.25%-5.5%

Chairman Jerome Powell said at his press conference that the central bank is not thinking about or talking about rate cuts.

● Morgan Stanley picks Pick.

Ted Pick, who's been at Morgan for more than three decades, will take over as CEO at yearend. He succeeds James Gorman, who's transformed the bank over the past 13 years, increasing its market value from about $40 billion to more than $70 billion. Pick is credited with reviving the trading business after a perilous stretch in the 2008 financial crisis, when some on Wall Street wondered if Morgan would survive.

● Zillow and other real estate stocks plunged on Oct. 31 after a Missouri jury found the National Association of Realtors and other industry players guilty of colluding to maintain high brokerage commissions. (The defendants say they plan to appeal.) Zillow, which wasn't named in the suit, saw its shares drop

6.9%

to $38.15 by the day's end.



● "We're near the moment in which everybody understands that we need a way out."



Italian Prime Minister Giorgia Meloni, thinking she was speaking to an African politician, told Russian crank-calling comedians Vovan and Lexus in September she saw a "lot of fatigue" over Russia's war in Ukraine. "The problem is to find a way out," she went on, "which can be acceptable for both without destroying the international law."

● The average US household is spending over

$700

a month on child care, 32% higher than 2019, according to Bank of America Institute. There are also fewer dual-income households: The national average dropped to 1.34 incomes per household from 1.39 in 2019, indicating that some workers—usually women—have dropped out of the labor market to care for their kids.

● Dominion Energy got permission to build the US's largest offshore wind venture.

Dominion's 2.6-gigawatt wind farm, about 23 nautical miles off Virginia Beach, is set to include as many as 176 turbines. The company says construction could begin in the second quarter of 2024; some foundations have already been delivered.

PAKISTAN: FAYAZ AZIZ/REUTERS. ZILLOW: ALAMY. MELONI: SIMONA GRANATI/CORBIS/GETTY IMAGES

Don't Let the Gun Lobby Win This Time

● By Michael R. Bloomberg

Another mass shooting. Another group of innocents slaughtered. Another public gathering place terrorized. Another community devastated. And another occasion for the gun lobby to say: Oh, well, move along, nothing to see here.

Not this time. We can't let it happen again. We can't let the gun lobby get away with it. Not when your community—your bowling alley, your bar, your house of worship, your movie theater, your supermarket, your shopping mall, your workplace and, yes, your child's school—could be next. Unless we take action to adopt smart and commonsense gun laws, the question isn't whether another massacre will occur—only how soon. And sadly, we know the answer: Very soon.

In 2023 alone, there have been more than 565 incidents in which someone shot four or more people—that's almost two mass shootings a day. The US is the only country in the world where this happens. We are not the only country with mentally ill people, of course, just the only country that makes it easy for nearly anyone, no matter how dangerous, to buy guns, including guns that were designed to be used by soldiers.

There is no reason any civilian needs to carry a military-grade rifle. It's not a hunting weapon. It's a weapon designed to kill as many people as quickly as possible. The continued sale of these weapons, as well as high-capacity magazines, not only places all Americans at risk but also endangers our police officers, including those who must track down and apprehend people who have shown no compunction about mass killings.

The definition of insanity, it's often said, is doing the same thing over and over and expecting a different result. That's what the gun lobby wants us to keep doing—offering "thoughts and prayers" but doing nothing. But there are some encouraging signs that more people are refusing to go along.

Faced with the enormity of the catastrophe, Jared Golden, the Democratic congressman who represents most of rural Maine, has reversed his opposition to a ban on assault weapons. In announcing his change of heart, Golden, a Marine Corps veteran who knows the deadly capacity of these weapons firsthand, used words the public rarely hears from elected officials: "The time has now come for me to take responsibility for this failure," he said to his great credit, asking Maine's residents "for forgiveness and support." Senator Susan Collins, too, has begun to reevaluate her positions. Collins was among the Republicans who helped kill an assault-weapons ban in 2013, after the massacre at Sandy Hook Elementary School. She now says that she supports a ban on high-capacity magazines.

Golden can also help bring along Maine's state lawmakers and its Democratic governor, Janet Mills. Mills has previously failed to lend her support to red-flag laws that are designed to prevent the kind of tragedy the state has just suffered: stopping a person with a history of mental illness from being able to buy and possess guns. She has also opposed stronger background checks and limits on magazines. Her support now is crucial to reviving and passing such laws.

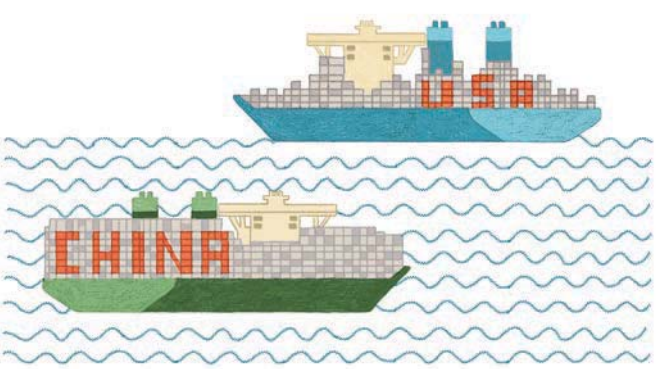
It's not just in Maine where the politics of gun safety are changing. Last year, after nearly three decades of inaction, 15 Republican senators joined Democrats to pass the Bipartisan Safer Communities Act following mass shootings in Buffalo and Uvalde, Texas. And this year, Vermont, which like Maine has a strong tradition of gun ownership, adopted new gun safety policies under a Republican governor.

In the days and weeks ahead, it's crucial for all of us to make our voices heard and demand that elected officials who have opposed sensible gun regulations follow Representative Golden in reversing course. The gun lobby wants the massacre in Maine to pass from the news quickly. We can't let them win—not when so many innocent people are dying, so many families are grieving and so many Americans are facing danger in their own communities.

The moment is now. Speak out. Get involved. And when politicians offer only thoughts and prayers, counter with deeds and votes. It's the only way out of this insanity. Ⓑ *For more commentary, go to bloomberg.com/opinion*

ILLUSTRATION BY RACHEL LEVIT RUIZ

■ AGENDA



▶ How's That Trade War Going?

China reports its October trade balance on Nov. 6; the US reports its September trade balance on Nov. 7. Despite its sluggish economy and continuing US import tariffs, China said its surplus with America widened slightly in September.

▶ The UK publishes its quarter-over-quarter and year-over-year GDP growth on Nov. 10. Britain has been a post-pandemic laggard, barely recording any growth for the past year.

▶ America's political prognosticators will be watching the off-year elections in New Jersey, Virginia and a few other states on Nov. 7 for signs of the electorate's mood in advance of 2024.

▶ The National Book Awards are given out on Nov. 15. The fiction finalists: Nana Kwame Adjei-Brenyah, Aaliyah Bilal, Paul Harding, Hanna Pylväinen and Justin Torres.



Trustless

● Sam Bankman-Fried's trial is a reminder of how crypto hype enticed ordinary people and sophisticated investors into the void

● By Pat Regnier

PHOTO ILLUSTRATION BY 731; PHOTO: FAITH AKTAS/GETTY IMAGES

The fraud trial of Sam Bankman-Fried has often felt like a flashback from the distant past. Was there really ever a time when people thought his FTX crypto exchange was a real business, when the awkward 31-year-old who took the stand to testify to his own cluelessness was a billionaire market mogul, respectfully consulted for his take not only on cryptocurrencies but also on US market regulation, philanthropy and even the future of the human species in the face of intelligent robots?

The collapse of FTX was so spectacular and era-ending that it's easy to assume we're done with this episode. Maybe the crypto boom that died alongside FTX was a freak fad, and everyone's learned their lesson about what happens when you buy made-up tokens that link to monkey JPEGs. Or when you look to Tom Brady for investment ideas. Nobody buys a pet rock twice.

But it would be a mistake to consider this a one-off. As October's surge showed, Bitcoin and other big tokens still have runs when prices fly sharply—and enticingly—upward. All the digital coins in the world, once valued by the market at more than $3 trillion, are still priced at over $1 trillion. That represents either a lot of believers who still see something there, or a lot of wealth stuck in an illiquid, opaque market that's still waiting to be burned away. More important, the crypto debacle is a warning about faster, bigger and more viral technology-enabled frauds to come.

A new documentary by Bloomberg Originals, *RUIN: Money, Ego and Deception at FTX*, captures the head-spinning frenzy around crypto. In early 2019 there was no such thing as an FTX exchange. By 2021 it was naming arenas after itself, and by 2022 it had become a force in politics and pop culture. Then by that autumn it was gone, along with much of its customers' money. How did this happen so quickly?

Once invented, the basic idea of crypto was relatively easy and cheap to iterate and build on. Starting from the original Bitcoin in 2009, there were by some counts thousands of digital tokens by 2022. The quicksilver technology slipped through the arms of regulators and lawmakers—some of whom weren't trying all that hard—and then busted through investors' psychological defenses. "The technical innovation of crypto is to spam the regulators," says David Gerard, author of *Attack of the 50 Foot Blockchain* and a prescient early critic of crypto. The regulatory system could hardly keep up, and that put normal people and even some supposedly sophisticated investors in a disorienting position, Gerard says. "People in well-regulated markets don't really appreciate what it means for something to be unregulated."

Everybody knew that crypto wasn't regulated like, say, the US stock market or a bank. But it's hard for people to feel in their bones how risky unregulated finance can be, because so much about regulated finance can be taken for granted. As Matt Levine put it in *Bloomberg Businessweek*'s "The Crypto Story" last year, crypto "quietly free-rides on people's deep reservoir of trust."

A stodgy compliance officer or Vanguard-investing "normies" might not approve of buying an obscure crypto coin or trading on some overseas digital exchange, but maybe that's the kind of risk worth taking for a shot at higher returns. At a time when bond yields had been paltry for years and home prices had gotten so high that many young people felt priced out, there was a hunger for investments that seemed to be producing life-changing returns, at least for those who got in early. Crypto also came wrapped in a story that it might just be the future of money—with the dark implication that those who didn't get in now would be fenced out of the 21st century economy. Have fun staying poor, the boosters told the doubters.

But maybe that obscure crypto coin was worse than just a bit unregulated. Maybe it was being manipulated in an elaborate pump-and-dump scheme on an exchange that was going to disappear with your money. Or maybe the crypto bank that promised to pay you 18% when regular banks were paying 0.018% was hurtling toward insolvency. In an unregulated financial market, almost anything can happen. Doing business in such a market is a step into a void.

At FTX, the pit was more than $8 billion deep—that's the gap between what its customers thought they had on the exchange and what it could pay when it collapsed. Bankman-Fried in his testimony characterized this as a huge but unintentional error on his part—he claimed not to be paying much attention to key financial matters. The company didn't have a chief risk officer, one of his defense lawyers noted, to prevent him from screwing up.

Two top FTX executives and Caroline Ellison, the head of his trading firm Alameda Research, have already pleaded guilty to fraud and have helped prosecutors paint a picture of a company that wasn't just taking big risks but tapping its customers' money to fund investments, political and charitable donations, real estate, loans to insiders and more.

It was a substantially fake business—the money people thought they saw on their phones and computer screens was somewhere else, being used in ways they couldn't have guessed. But online, FTX's exchange looked as substantial as the app of any bank or brokerage. The trial has even revealed one small but telling example of the gap between financial reality and the digital facade FTX created. The exchange had advertised the balance of an insurance fund that was supposed to be a backup to ensure liquidity in the event of a market panic. It turns out this balance was just the output of a random number generator.

Crypto partisans will note, correctly, that regulated banks and brokers are not always trustworthy. Predatory loans, the 2008 financial crisis and a regular flow of money laundering scandals involving global banks are all testament to this. The beauty of blockchain-based assets is that you don't have to trust anyone—in theory, you should be able to look at the code and see what's happening with your assets. It's supposed to be a "trustless" system.

But the digital-asset boosters overstate how much trust you need to have in a regulated financial company. Everybody knows you can't have complete faith in a banker or broker—that's why over time we've built up a system not of ▶

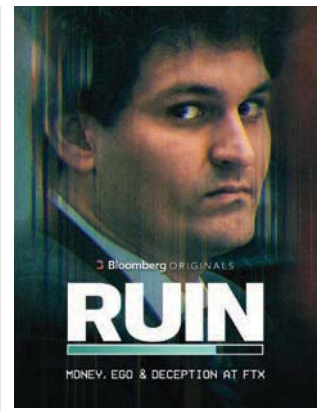
◀ trustlessness, but of partial trust that's spread around. If you hand money to, say, an online stockbroker, the broker is a separate business from the exchange where the stock is traded, which is separate from the clearinghouse that makes sure trades are settled properly. There are checks and balances, along with watchdogs. The crypto industry has generally resisted these speed bumps. "One of their talking points is that they are so different, they are so innovative, that they basically need bespoke regulation," says Christy Goldsmith Romero, a commissioner of the Commodity Futures Trading Commission, in the film *RUIN*. "Why would we stray from what we know works?" Bankman-Fried, just before FTX imploded, was a familiar face on Capitol Hill pushing for rule changes to cut out intermediaries from certain kinds of trading. If the timing had been different, he might have succeeded.

FTX and Alameda weren't very trustless—their combined operation was actually a black box that operated off of any blockchain. (The balance sheet was private and, according to Ellison's testimony, Alameda at one point had at least seven of them, showing different numbers depending on who was asking.) But even when all data is there for anyone to see, investors have to understand it.

Consider the case of the Terra and Luna coins, a linked set of tokens that together were once worth $60 billion before suddenly cratering. Their unraveling triggered a downward spiral in crypto markets that ultimately revealed FTX's insolvency. Two Massachusetts Institute of Technology scholars and another from the London School of Economics have studied the crash closely. They write that Terra and Luna had features—including the chance for Terra holders to earn unrealistically high interest rates—that pumped up demand and prices but made the system fragile and likely to tumble toward zero the moment investors got nervous. As it did. But the researchers add that "unlike in a classical Ponzi," the key facts about the coins were "recorded on the Terra blockchain and, in principle, observable by all investors."

The blockchain wasn't enough to safeguard investors: The Terra/Luna system was complicated, wrapped in new, unfamiliar cryptospeak and relentlessly hyped by its creator Do Kwon on social media. (Kwon has been charged by the US Securities and Exchange Commission and the Department of Justice with fraud, which he's denied.) And these coins were among the countless new investments that suddenly burst onto the market, each one presenting its own puzzle: How exactly is this supposed to work? And why does it keep going up?

If there's to be a grand unified theory of financial bubbles, it has to take into account pure cognitive overload. Something new enters the system and changes the rules before investors have a chance to figure it out, adjust their habits and fortify their skepticism. The mortgage bubble of the 2000s showed how partial, distributed trust could be short-circuited. People had a rough sense of how home loans worked and felt safe in assuming a bank wouldn't offer them one they couldn't pay; investors got used to assuming that



◀ Watch *RUIN: Money, Ego and Deception at FTX* at bloomberg.com/originals

bonds backed by mortgages were safe. Most people were slow to realize that financial incentives for Wall Street had changed, that the loans were being packaged and resold in a way that made risky mortgages look safe and that rating agencies were asleep at the switch.

A few years later, crypto came along and flooded investors' attention with novel investment ideas and the allure of fast gains. It took advantage of the fact that it looked, on the surface, a lot like the stock market and even banks that people were used to, but it had few of the guardrails. It might be a while before crypto is an easy pitch to ordinary investors again, although the industry is palpably excited about the prospect of regulatory approval for a spot Bitcoin exchange-traded fund that could pull in new buyers. But forget crypto: There's a new technology that could help speed up everything. In an interview with *Bloomberg Businessweek* this summer, SEC Chair Gary Gensler warned that artificial intelligence could bring us "the crisis of 2032 or 2028 or whatever." Tech is making it faster and cheaper for companies to learn would-be customers' preferences, tailor sales pitches to them and build enterprises that essentially run themselves. There's an enormous potential for investment mishaps and mischief there.

The mental race to keep up with robo fraudsters is going to be exhausting, and there's no easy fix for that. People in a position of trust—executives, investment fiduciaries, regulators, the press—can only learn from the recent crypto experience and commit to doing their jobs. Consumers' and investors' best hope may be to recognize that, as the author Gerard says, "magic never happens, especially with money."

Even speculative investments usually have a link to real economics—some way they can ultimately produce real cash you can put in your pocket other than by selling them. Crypto largely doesn't do that. Pitches for it often depend on narratives of "flywheel" effects where a rising token price pulls more people in and then, poof, there's an economic transformation where digital tokens—not dollars or euros or yen—are the real money. That type of exciting story is also a warning that you might be the proverbial sucker at the table. "The value of crypto assets is driven entirely by demand because there is no productive capacity behind them, and so founders and early investors can profit only if they can find new investors to sell to," Hilary Allen, a professor at American University's Washington College of Law, has written.

In a time of constant novelty and devastating chaos, keeping your money a little boring might be the brightest idea of all. Ⓑ

BLOOMBERG ORIGINALS


BARCLAYS
Corporate and Investment Bank
Powering sustainable growth.
From vertical farming to green hydrogen, innovation is powering a more sustainable future. Leverage our ESG insights, perspectives and solutions to help you stay ahead of the trends driving the future of sustainable growth.
Start Powering Possible with insights on the latest sustainability trends.
FANUC Robot CRX-25iA
©2023 Barclays

Is This Miracle Cure Worth the Risk?

● The FDA will soon decide if Crispr's Nobel Prize-winning gene-editing technique is safe for use on real patients

Over the ages, scientists have devised medicines to successfully treat thousands of illnesses, but eliminating rare and deadly maladies altogether is a Holy Grail. Treatments for inherited conditions such as sickle cell disease have offered mere stopgaps that still leave patients to live sickly, pain-filled lives. The gene-editing technology Crispr, whose researchers were awarded the 2020 Nobel Prize in chemistry, could change that. It's been heralded for its potential not only to treat such diseases, but also to cure them by changing a person's genetic code.

Now, for the first time, a therapy that harnesses Crispr's power is poised to make its way to market. That is, if it can clear one last hurdle: regulators.

The US Food and Drug Administration is considering a Crispr treatment that could offer a cure for the blood disorder sickle cell disease, a condition that affects some 100,000 Americans, most of whom are Black. In late October, FDA staff raised concerns about some of the safety data submitted by two companies seeking approval for the therapy, dubbed exa-cel. A panel of FDA medical advisers convened on Oct. 31 to ask questions about the treatment. By early December, regulators will decide whether to give it a stamp of approval.

It's a major test for a technology that, since its discovery more than a decade ago, has been expected to bring about a revolution in medicine. Crispr's innovation is the ability to cut and paste DNA with far more ease and precision than ever before—necessary, for example, to address the mutation to a single letter of genetic code that causes sickle cell disease. Instead of treating the disease, Crispr essentially rewrites the code for what's causing the malady. But regulators have viewed it with caution, worried about the risks of making permanent changes to the body's instruction manual. Advocates also say they fear the one-time sickle cell disease treatment, which is expected to cost at least $1 million, will be far too expensive for many patients.

Two companies, Vertex Pharmaceuticals Inc. and Crispr Therapeutics AG, are seeking approval to edit the genes of people with sickle cell disease so that they make a different form of hemoglobin, the molecule that carries oxygen throughout the body. Sickle cell disease is caused by a mutation of just one of the 3 billion letters that make up a person's DNA. That mutation causes red blood cells to bend in a crescent shape instead of a round one, making it harder for essential oxygen to reach tissues and organs. The companies want to extract

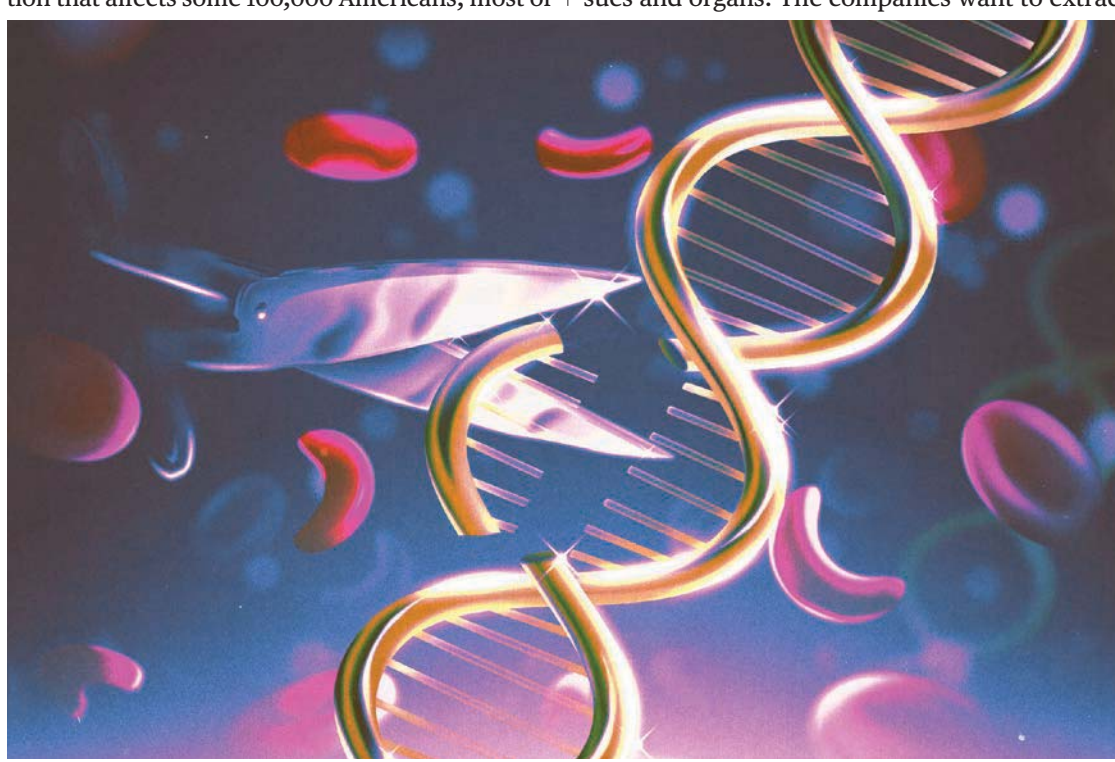


ILLUSTRATION BY NICO H. BRAUSCH; OLAGHERE: PHOTOGRAPH BY LYNSEY WEATHERSPOON FOR BLOOMBERG BUSINESSWEEK. DOUDNA: CHELSEA LAUREN/GETTY IMAGES. CHARPENTIER: ODD ANDERSEN/BLOOMBERG BUSINESSWEEK

Edited by James E. Ellis



◀ Sickle cell trial patient Olaghere says the gene treatment has been "life-changing"

blood stem cells and edit them in a lab, then return them to patients' bodies.

The results so far have been promising. A clinical trial conducted by the companies found that more than 90% of sickle cell disease patients were free of pain crises for at least 12 months. Hank Greely, a law professor at Stanford University who wrote a book on the science and ethics of Crispr, called the study's results "tremendous."

But researchers have studied patients treated with Crispr for only a few years, and no one knows what will happen to them over their lifetimes. "That will be an ongoing question for any clinical application of genome editing: What are the long-term effects, and are they truly predictable?" says Jennifer Doudna, a Crispr pioneer, biochemist at University of California at Berkeley and founder of the Innovative Genomics Institute. "If they are, that bodes well for opening up the pipeline to other diseases in the future."

There are other potential safety concerns. Crispr is more precise than previous gene-editing technologies, but it's not perfect. The wrong gene could accidentally be edited. Researchers started studying its use in blood disorders in part because it's less risky. They can remove blood stem cells and edit them in a lab "ex vivo," or outside the body, making sure they hit their target before returning them. But for Crispr to reach its full potential and cure other diseases that affect the brain, heart, lungs and other organs, researchers will need to safely edit genes "in vivo," inside the body, through an injection or a pill.

"You can't take lungs outside the body and make edits and put them back," Greely says. "That's going to be trickier."

In 2012, Doudna and her research partner, Emmanuelle Charpentier, published work on Crispr that eight years later won them the Nobel Prize in chemistry. Both went on to start biotech companies that aim to use Crispr to treat different diseases. Charpentier co-founded Crispr Therapeutics, one of the two companies applying for FDA approval. The two researchers are part of a group that's been in a legal battle with another group of researchers—which includes another Crispr pioneer, Feng Zhang—over who owns the potentially lucrative patent for the gene-editing technology. Zhang also co-founded gene-editing companies, including Editas Medicine and Beam Therapeutics.

Today, companies are only looking to do what's called somatic cell gene therapy—editing cells that affect a living person but don't affect eggs or sperm that could pass changes on to future generations. The idea of changing DNA that affects future generations, called germline editing, has raised moral and ethical questions because it could lead to people not just curing diseases but making their descendants smarter or taller or faster. In 2018 a Chinese scientist was widely condemned after revealing that he'd used the technology to edit human embryos that became twin girls.

For decades, sickle cell disease didn't get as much attention or funding as diseases that mostly affected White people, like cystic fibrosis, largely because the medical community has historically overlooked Black people. Recently, biotech companies have started to develop new treatments for the blood disorder. But for now, the only approved cure is a bone marrow transplant from a matched sibling, which is hard to find.

Before participating in the clinical trial, Jimi Olaghere, 38, said his life with sickle cell disease was "pretty bleak." He was always tired. He has suffered from heart attacks, organ damage and bouts of pneumonia. He moved his family from New Jersey to the South because the cold winters made his blood cells thicker, exacerbating his pain.

"For most of my adult life, I never really had control," says Olaghere, who lives in the Atlanta metro area. "The disease really dominates every facet of your life."

After receiving the Crispr treatment in September 2020, Olaghere wakes up energized. He says he can now "be the father that I wanted to be." And he's pain-free. "This therapy has allowed me to choose my own destiny," he says.

For Vertex, getting approval from regulators would help it move beyond its core business of cystic fibrosis treatments. The biotech company initially expects to treat some 20,000 patients with severe sickle cell disease. But the rollout will be slow because the treatment process takes several months. Vertex would split the profits with its partner, Crispr Therapeutics. Goldman Sachs analysts estimate the gene-editing treatment for sickle cell disease will generate peak global sales of $3.9 billion between the two companies.

Stifel analyst Paul Matteis says investors are more focused on Vertex's trials on a non-opioid ▶



● Charpentier



● Doudna

◀ drug for acute pain, and there's debate on Wall Street about how many sickle cell disease patients will choose to get the gene-editing treatment, in part because of the harsh cancer drugs they must take beforehand. "The expectation is it will be pretty niche at first," Matteis says.

Unlike many FDA expert panel hearings, there was no vote at the end of the seven-hour hearing on Oct. 31 on whether to recommend that the agency approve the treatment. But some panelists said the benefits of the therapy appeared to outweigh the risks. "We want to be careful to not let the perfect be the enemy of the good," said Scot Wolfe, a professor in the department of molecular, cell and cancer biology at UMass Chan Medical School.

FDA approval would also be good news for other gene-editing companies that hope to hit the market someday. They include Intellia Therapeutics Inc., which is studying a gene-editing treatment for a rare swelling disorder, and Verve Therapeutics Inc., which wants to target cholesterol-raising genes and prevent heart attacks.

The effects of an FDA blessing would reverberate far beyond Wall Street. It could usher in a new chapter in health care, bringing hope to patients who are desperate for cures to debilitating diseases. "It would signal a paradigm shift for how we think about medicine," says Samarth Kulkarni, chief executive officer of Crispr Therapeutics. "We'd be going from chronic pills or injections to a one-time procedure or therapy that can be potentially curative for life."

Even if a Crispr drug were to make it to market, it's not clear how many people would be able to afford it. Vertex and Crispr Therapeutics haven't said how much they plan to charge. But in August, a nonprofit research group, the Institute for Clinical and Economic Review, said they might charge up to $2 million for a single patient. Gene therapy treatments for other diseases can cost more than $3 million.

Industry executives say such steep prices are justified because the treatments can cure or dramatically reduce the damage from rare diseases that can sometimes cost millions of dollars to treat over a patient's lifetime. The companies say they are in talks with insurers and are optimistic that the treatment will get covered. Others aren't so sure. Many people with sickle cell disease are on Medicaid. And many live in Southern states that haven't expanded their Medicaid programs, raising doubts that the high-cost therapy will be covered. "It seems so inaccessible to the average person with sickle cell disease," says Melissa Creary, an assistant professor of health management and policy at the University of Michigan who has done research on the blood disorder for over 20 years.

Olaghere, the clinical trial participant, says having his genes edited wasn't easy. Before the procedure, he drove four hours every three weeks to a hospital to get blood transfusions. More than once, he sat next to a machine that collected his blood cells for eight hours a day. He went through chemotherapy to get his body ready for the infusion of edited cells, causing him to lose his hair and develop painful mouth sores. The process took about a year.

But it was worth it, Olaghere says. "I looked at it as an investment in my future," he says. "It's been quite life-changing." —*Gerry Smith*

THE BOTTOM LINE Scientists have developed treatments for thousands of diseases. Now gene editing could allow them to cure inherited illnesses such as sickle cell, if regulators approve.

● Estimated peak global sales of a new gene-editing treatment for sickle cell disease

$3.9b

Why Fewer Executives Are Taking the Company Plane

● Climate criticism and a desire to stay under activists' radar are helping to reduce the use of businesses' in-house jets

As pandemic worries have faded, the travel business has come soaring back, with airline traffic more than doubling since its Covid-era trough and waiting times for deliveries of new commercial airplanes stretching through the end of this decade because of robust demand. But there's one travel segment stuck in a holding pattern: corporate-owned jets.

Even though the number of flights operated by the broader private aviation industry—which also includes charter, fractional and individually owned aircraft managed by third-party service companies—is almost 19% higher than in 2019, the last full pre-pandemic year, companies' in-house flight departments are flying about the same as they did four years ago. That's according to data from WingX, a provider of market data and analysis on the private aviation industry. The reasons abound in an era of pilot shortages, climate critics and a growing number of online jet sleuths who are tracking—and publicizing—the luxe flying at 30,000 feet of both company executives and the rich.

All this doesn't mean C-suite executives will stop or even reduce flying privately, however. The time savings, the increased security and the confidence to

DATA: WINGX. MANAGED AIRCRAFT ARE CARED FOR BY PROVIDERS AND CAN BE LEASED BY OTHERS. BRANDED CHARTERS INCLUDE PLANES BOOKED THROUGH PREPAID JET CARDS

speak about business without strangers overhearing in-flight conversations remain catalysts for corporate aviation demand. And many companies restrict their top executives from flying on commercial jets.

Instead, some companies–including Allstate, Campbell Soup and LyondellBasell–are paying fractional operators to ferry around their execs. Those outfits allow individuals or companies to buy a portion of a plane, in as little as 1/16th increments, in exchange for a predetermined number of flying hours under a contract that usually lasts five years.

Fractional flying was the big winner during the pandemic, when more company execs and wealthy flyers feared being too close to fellow travelers–even in premium cabins of commercial airliners–and faced difficulties finding charter jets as demand spiked. Flights from fractional operators, dominated by Berkshire Hathaway Inc.'s NetJets and closely held Flexjet, have increased 41% from 2019 levels.

"We're getting growth up from new entrants and people who were previously in charter, and we're getting growth down from the corporate flight department," says Kenn Ricci, chairman of Flexjet, which operates about 270 aircraft.

In a world where corporate jets are tracked for clues about potential business deals and climate activists are becoming more strident about the propriety of emissions-spewing executive flying, some companies may reconsider direct ownership of business aircraft or the purchase of an additional third-party service for privacy, says Ricci, whose company still has a waiting list for customers who want to purchase a share of a plane.

"We have a lot of Fortune 500 companies that have shares with us and have their own flight department, so they're not mutually exclusive," Ricci says. "When they want to do something anonymous, they have a vehicle to do it."

Worsening shortages of pilots and spare parts are also pushing businesses and wealthy plane owners to consider fractional deals. Doug Gollan, who founded Private Jet Card Comparisons, a subscription guide with information on different flying programs, says many of his clients are frustrated with long wait times for aircraft maintenance or spots in certification courses that their pilots need to keep up to date; those hurdles can prevent their own planes from flying when needed. "All of a sudden, it became too much of a hassle for some people," he says. "Flyers began to say, 'Let NetJets, let Flexjet have the hassle of making sure I get a plane. I just want to call and get an aircraft,'" he says.

The pandemic also helped erase some of the previous stigma of flying privately, which had been fueled by the public outrage over episodes such as when chief executive officers of ailing automakers flew their corporate jets to Washington to plead with Congress to approve an industry bailout during the Great Recession. The National Business Aviation Association countered with a publicity campaign called "No Plane, No Gain" to push back on the criticism and highlight private travel as time-saving.



▲ A private jet spray-painted by climate activists on the German resort island of Sylt

Now the NBAA is weighing in against environmental activists, who interrupted an industry gathering in Geneva in May and even spray-painted a private aircraft on the North Sea resort island of Sylt. The association announced a new campaign in October called "Climbing. Fast," which highlights the industry's push for more sustainable aviation fuel and its goals of net-zero carbon emissions by 2050.

The campaign comes as more companies feel the heat over plane usage. At PepsiCo's annual meeting in May, an activist shareholder accused the company of "corporate hypocrisy and double standard" for spending more than most businesses on private air travel while touting its environmental programs. Although private aviation burns much less fuel than the commercial airline industry, the emissions per passenger are much higher for business jets.

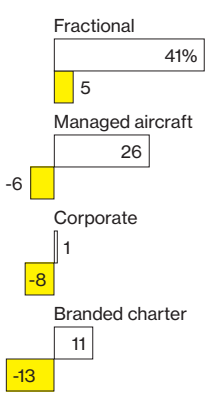
In some cases, shareholder and governance activists have called out the perquisite of using the corporate jet for private travel. Last year, for example, a shareholder sued Skechers USA Inc. CEO Robert Greenberg and his two sons, who are company executives, on claims they racked up millions of dollars of costs from flying the corporate jets to vacations spots including Fiji and Bora Bora. A company spokesperson didn't respond to a request for comment.

Fractionals offer corporate executives cover from that kind of criticism because it's impossible to know who's flying on a Flexjet aircraft, Ricci says. He also says his company uses all the scarcely available sustainable aviation fuel it can find and has an opt-out choice for its customers to purchase carbon offsets.

"We're always going to be the bad guy. We're just a poster child for the environment [criticism]," Ricci says. "So the only thing we can do is to do the best we can." —*Thomas Black*

THE BOTTOM LINE More businesses are buying fractional shares of planes managed by private operators, which can ease operations and make it harder for activists to track execs' travel.

▼ The change in the number of private flights, by type, the first nine months of each year



The Hardest Holiday Season



● The entire shipping industry is struggling, but startup Flexport has its own issues

Christine Douheret, whose business sells food storage containers and other kitchen products online, recently got a call from a customer whose package never showed up. Douheret wasn't sure what had gone wrong. She'd received no notice about a problem from Flexport Inc., the company that she contracts to handle home delivery. After a full day's effort, she got an explanation: The job had been outsourced to DoorDash Inc., which canceled it for reasons that were unclear.

Missing packages are a part of any e-commerce operation. What was most bothersome about this situation to Douheret was that Flexport's software didn't even tell her that her order had been canceled. Technology is supposed to be a strong point for the company, which has raised $2.35 billion since its 2013 founding from investors like Founders Fund and DST Global. With the holiday rush looming, Douheret has to stick with Flexport until yearend—but that could be the end of the line for her. "If we don't see major improvements by January, I'll be looking for another company," she says.

Edited by Joshua Brustein

ILLUSTRATION BY YANN BASTARD. DATA: COMPILED BY BLOOMBERG

Far larger customers, including Sonos Inc. and Western Digital Corp., have already cut back their relationships. Two people familiar with its dealings with Sonos say that company scaled back because of "poor performance." Flexport has also paid contractual penalties to manufacturer Bosch, according to two people familiar with the situation, though one of them added that Flexport is now "in good standing." All of the people requested anonymity because they weren't authorized to speak publicly.

Sonos declined to comment, and Western Digital didn't respond to requests for comment. Bosch and Flexport declined to discuss specific accounts, citing contractual agreements. In an emailed statement, a Flexport spokesperson wrote that "we caution that the information provided by background sources in this regard is misleading or untrue." The company acknowledges that it's facing economic headwinds but attributes them primarily to broader difficulties in the shipping industry.

The holiday season is a big test for everyone in shipping, but the challenge for San Francisco-based Flexport this year is existential. Its revenue has plunged recently, and the company is no longer turning a profit. Its valuation once hit $8 billion, but it was as low as $1.4 billion in September, according to research firm CB Insights. "The next six months will be vital to see how they come out of this," says Steve Ferreira, chief executive officer of Ocean Audit Inc., a firm that tracks the industry.

The startup's troubles spilled into public view in September when Flexport's CEO, a prominent former Amazon.com Inc. executive named Dave Clark, suddenly announced his departure on X, formerly known as Twitter, after just a year on the job. On social media, Ryan Petersen, Flexport's 43-year-old founder, followed up by attacking Clark for overspending on new hires. Petersen, who returned as CEO, also canceled dozens of job offers.

Soon after leaving, Clark badmouthed Flexport from the stage during a panel at an industry conference in Phoenix that Petersen also attended, saying he had extended his "reputational halo to a group that in my opinion didn't deserve it." Since Clark's departure, a half-dozen other executives—including Flexport's president, chief financial officer and head of human resources—have also left.

Petersen began planning further cost reductions, including layoffs. Flexport descended into chaos in early October when an employee posted an image of their pay stub to an online forum and asked if they should be worried that the pay date was a week earlier than it should have been. Other Flexport workers noticed a similar quirk, setting off speculation that anyone showing the early pay date was about to get bad news. That turned out to be exactly the case. Flexport first cut off employee access to pay information, then rushed out an announcement that it was cutting 20% of staff.

The messy layoffs and sniping with Clark have done serious damage to Petersen's reputation. "It's really hurt our brand," says one recently departed employee, who asked to remain anonymous for fear of endangering future job prospects. "We are being taken out of consideration because of him," the person says. "It looks like we lack stability."

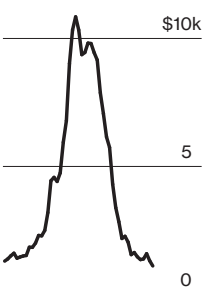
Petersen says he aims to increase revenue by 35%, and the first step is reconnecting with customers. "I never believed tech could solve all the problems in logistics," he says. "In business-to-business, you have to have a team of professionals spending time with customers from morning to sundown."

Flexport's core business, a function known as freight forwarding where companies arrange agreements between shipping companies and customers, is a low-margin function that's come under increased strain. Freight forwarders benefited from the pandemic-induced surge in shipping prices, because they're often paid as a percentage of those costs. Flexport was profitable and growing fast as recently as 2021. Now rates have fallen 80%, and demand is expected to stay soft for years.

Other logistics companies have also been hitting the wall. In May, e-commerce company Shopify Inc. announced it was giving up its own logistics arm after billions of dollars in investment. Flexe Inc., a billion-dollar startup sometimes referred to as the Airbnb of warehousing, announced in September it was cutting 131 jobs, a substantial portion of its staff. Convoy Inc., the so-called Uber of trucking, which was once valued at $3.8 billion, shut down suddenly in October after failing to find a buyer.

Flexport's ambitions were always bigger than freight forwarding. Its long-term plan was to upsell freight customers on more profitable services like loans and cargo insurance while expanding into other lines. Flush with venture capital, Flexport spent more like a tech startup chasing rapid growth than a logistics company. It signed leases for dozens of offices, often in expensive cities, as it rushed to hire engineers. Early in 2022, it struck a long-term charter deal with Atlas Air Inc. designed to boost its airfreight capacity, which allowed it to plaster its name on a Boeing 747-400 freighter. When Shopify wanted to unload its own logistics arm, Flexport bought most of the operations, betting it could use them to advance its own ambitions into the business of dropping boxes off at customers' doors. On Nov. 1 the company told its staff it was also buying Convoy's technology ▶

▼ Global shipping container cost



◀ and retaining "a small group" of its employees.

These types of investments now represent fixed costs at a time when Flexport wants to curb expenses so it can avoid trying to raise more venture capital in a difficult fundraising environment. Petersen has been soliciting sublets for its office space on X, saying the company has an "insane" amount of extra space and is offering to give its customers' children tours of its air cargo operations.

Flexport's skeptics have always wondered whether it was really offering a substantially different product or just a slicker-looking one. Jeremiah Pomerleau says he evaluated the business along with its competitors while heading logistics at camera company GoPro Inc., then again when he worked at gaming company Corsair Gaming Inc., where he still is. He calls Flexport's user interface "stunning" and "a pleasure" to navigate. But he stayed away because he found his existing software programs, as cumbersome as they were, proved more reliable when it came to core tasks such as keeping track of data. "I don't need all these fancy systems," Pomerleau says. "The tech stuff doesn't matter to me."

Petersen also won over many fans in the past decade and is working to rebuild trust. According to Flexport, he's personally met with 100 customers to assuage any concerns and is on track to meet the company's top 200 customers by the end of November. Bernie Thompson, founder and CTO of electronics maker Plugable Technologies, uses Flexport for international freight, financial services and home delivery. He says he was freaked out at the signs of distress until he spent an hour on the phone with Petersen. "Our biggest worry was, are they going to turn off any of these programs?" he says. "They assured us the answer is no."

Petersen's ambition is to get deeply integrated into more of its customers' operations. For Flexport, that would mean higher profit margins and more data. "A lot of it is just about data and having great data to make better decisions in your supply chain," he says. He says he hopes to have the company back in the black by 2025, at which point he'd consider an initial public offering.

Founders Fund, which Petersen joined as a venture investor earlier this year, still offers him strong support. But Eric Munson, founder of Flexport investor Adit Ventures, worries that it "missed its window" during the pandemic when business was strong and investors were hungry for tech IPOs. "We thought they should have gone public in 2021," he says. —*Lizette Chapman and Spencer Soper*

THE BOTTOM LINE The shipping startup Flexport seemed to be sailing toward a lucrative IPO, but a series of setbacks now have it struggling just to stay afloat.

The War in Israel Upends Web Summit

● The founder of Europe's biggest tech conference has a history of controversies and online squabbles

Paddy Cosgrave didn't seem bothered when people first began to pull out of Web Summit, the renowned technology conference that he ran, because of his social media posts about the conflict in Gaza. In fact, the Irish businessman doubled down on his stance that Israel was committing "war crimes" in Gaza. "I will not relent," he wrote online.

Eventually, he did. After more investors and companies canceled their participation, Cosgrave issued an apology, then, eight days after his first social media posts, announced his resignation as chief executive officer of Web Summit.

The conference named a new CEO—Katherine Maher, former head of the foundation that runs Wikipedia—and is still slated to start on Nov. 13 in Lisbon, drawing tens of thousands of attendees. But given the high-profile corporate sponsors and speakers who've backed out, there are serious questions about how much damage Cosgrave did to Europe's largest tech event. "I don't know how it recovers to its former glory," says Bobby Healy, CEO and founder of the drone company Manna, who's known Cosgrave for years.

Web Summit is known mostly as one of the regular stops for the TED Talks circuit, a good excuse to visit Portugal for networking and rah-rah tech boosterism. The recent scandal came as a surprise to casual observers, even after years in which ostensibly nonpolitical entities have been dragged into controversies over current events.

That Cosgrave would end up at the center of this is no surprise for anyone who's followed him closely. Well known in Ireland for taking inflammatory left-wing positions and not backing down, he's engaged in a series of public spats with co-workers, politicians, journalists and fellow technologists. "Reads a lot of Chomsky," Healy says.

Cosgrave formed Web Summit and its parent company, Manders Terrace, in 2009 in Dublin with David Kelly and Daire Hickey. The partnership has since devolved into a litany of lawsuits over profit-sharing, investment vehicles and earnings from their numerous events. According to the *Irish Times*, Cosgrave has also faced at least



● Cosgrave

▼ Timeline of Web Summit's controversy

▶ Oct. 13
Cosgrave begins tweeting about the Israel-Hamas war

▷ Oct. 15
VCs from Israel, London and the US begin dropping out

▶ Oct. 17
Cosgrave issues an apology

▷ Oct. 19
Intel and Siemens withdraw

▷ Oct. 20
Meta, Google, Stripe and Amazon withdraw

▶ Oct. 21
Cosgrave resigns

FROM LEFT: CHLOE ELLINGSON/BLOOMBERG, GETTY IMAGES; DATA: COMPILED BY BLOOMBERG

two defamation lawsuits since 2022. He's denied wrongdoing. He didn't respond to requests for comment.

Controversy has spilled over into Web Summit, too. In 2017, a year after Brexit, Cosgrave invited Nigel Farage, the movement's chief instigator, to speak. Marine Le Pen was invited, then uninvited, the following year. In 2022, Web Summit had to rescind an invitation for speakers from Grayzone, a firebrand political website, after a backlash over its criticism of the Ukrainian government.

Several people offended by Cosgrave's recent posts on X about Israel pointed to his backing of Irish political news site the *Ditch*. On Oct. 13 the site posted an article calling Israel a "racist, supremacist, apartheid state." Cosgrave's "Twitter brain got the best of him," says a person who knows him, who requested anonymity to avoid retaliation.

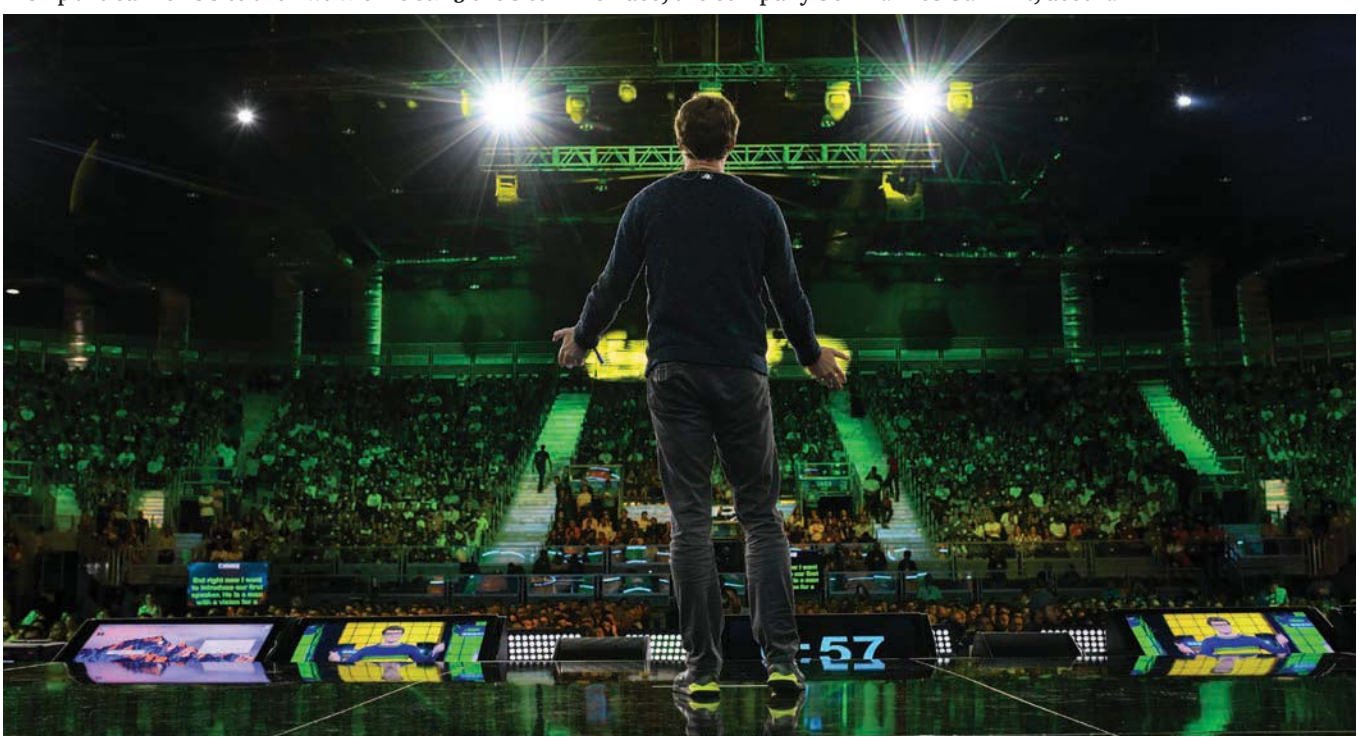
After some notable investors pulled out of the conference, a document began circulating among venture capitalists urging people to pressure more speakers to cancel. Amazon, Google, Intel, Meta and several other companies pulled out before Cosgrave resigned, and IBM and TikTok pulled from the event even after he did. Since his resignation on Oct. 21, Cosgrave has continued to try to persuade people to attend Web Summit, according to screenshots viewed by *Bloomberg Businessweek*.

A representative for Web Summit says more than 800 investors and 300 corporate "partners" plan to attend in November, including some companies that publicly withdrew. The representative wouldn't name these companies, and the large tech companies who've withdrawn haven't indicated they'd reversed those decisions.

Since Cosgrave remains the majority shareholder, his stepping down as CEO was "pure optics," says Gil Dibner, a partner with Angular Ventures, based in London and Tel Aviv, one of the first investors to cancel. A Web Summit spokesperson disputed this characterization, noting Maher's stature and saying she "has made clear her intention in conjunction with the new board to move the company forward and to focus on our mission."

As of 2022, Cosgrave held 81% of Manders Terrace, the company behind Web Summit, according to court filings. Kelly and Hickey, who own the remaining shares, wrote to the company's board after Cosgrave resigned calling for him to sell all his shares, citing what they allege is ongoing reputational damage. They declined to comment through representatives.

Cosgrave hasn't posted on X since Oct. 17. During the debacle, he did appear on the private Instagram account of his wife, fashion designer Faye Dinsmore. In the photo, which was viewed by *Bloomberg Businessweek*, he posed on a haystack with pigs and a dog. "Isn't it great," the post read, "now he has the farming to fall back on." *—Mark Bergen and Jennifer Duggan, with Joao Lima and Olivia Solon*



▲ Cosgrave at Web Summit Rio in 2023

THE BOTTOM LINE Paddy Cosgrave resigned as Web Summit's CEO after his comments criticizing Israel led to a wave of cancellations from investors and company representatives.

No Room for First-Time Buyers



● The US housing market has become an impossible mess. Blame the "lock-in effect"

● Kelsey Drotning and Neil Wagner

PHOTOGRAPH BY KYNA UWAEME FOR BLOOMBERG BUSINESSWEEK

Edited by David Rocks

It sometimes feels as if the US housing market is in a never-ending affordability crisis, with prices continually rising and inventory shrinking. The reasons have ranged from anemic construction to student loan debt to investors buying up starter homes. But even as the pandemic pushed values up faster than ever, cheap mortgages kept buyers in the game. Now a whole new affordability crisis is beginning. And this time, there's no obvious way out.

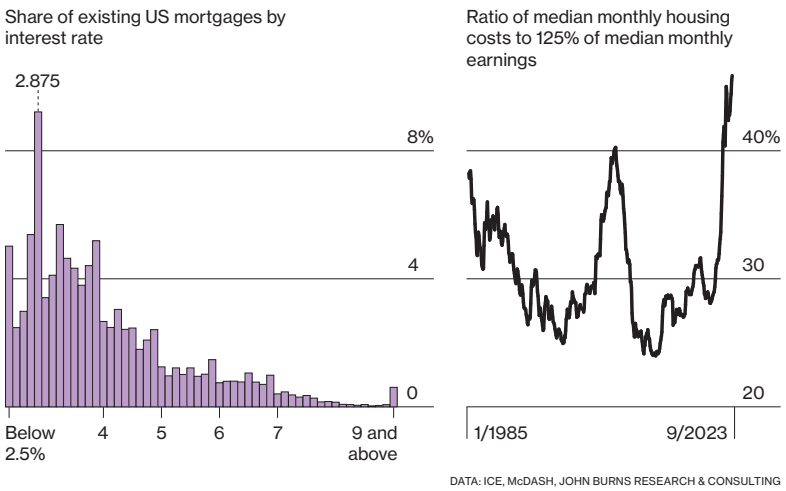
The Federal Reserve bank's aggressive tightening since last year has driven interest rates on 30-year mortgages close to 8%, the highest point in almost a quarter century, adding some $1,100 to the monthly payment on a $400,000 loan. That might be manageable if higher rates led to lower prices. But the impact on supply is even more drastic because of the so-called lock-in effect: Homeowners are unwilling to let go of cheap mortgages they got when rates were scraping bottom. This has resulted in the least affordable housing market since the 1980s, with sales approaching record lows.

A stubbornly strong economy threatens to keep mortgages expensive for years. Modestly cheaper loans would only unlock pent-up demand, sending prices even higher. The kind of economic collapse that might bring rates down faster would also make buying harder. And homebuilders are grappling with limited supplies of labor, land and materials. "It's like we fired all the bullets we have on housing affordability, and it's going to take a long, long time to build our way out of it," says Glenn Kelman, chief executive officer at brokerage Redfin Corp. "It's going to strain the social fabric of America that the younger generation isn't able to buy a home anytime soon."

Neil Wagner and Kelsey Drotning, both 31-year-old government employees, are among those losing hope. In May they signed a contract for a 1,600-square-foot row house in Washington, figuring it was big enough for working from home now and expanding their family later. But the seller delayed closing, interest rates surged, and the couple could no longer afford the house. They've stopped seriously looking and are instead using their savings to pay off student loans. "We don't see an end in sight with interest rates," Wagner says.

University of California at Berkeley economist John Quigley in the 1980s identified the lock-in effect, which he said was preventing Americans from selling their homes. Mortgage rates had spiked from 9% in 1978 to 18% in 1981, leaving millions of households with older mortgages paying what amounted to below-market rates. Buying a new home meant a more expensive loan, adding substantial costs—a powerful disincentive to moving.

Locked In…and Locked Out



DATA: ICE, McDASH, JOHN BURNS RESEARCH & CONSULTING

As interest rates fell, Quigley's work was largely forgotten—until Covid-19 hit. The US housing market shut down briefly in 2020, along with the rest of the economy, before a combination of stimulus payments and plunging borrowing costs set off a boom unlike anything seen in a generation. The average rate on a 30-year mortgage fell to a record low of 2.65% in January 2021. Existing home sales reached an annual pace of 6 million for the first time in 14 years. Work-from-anywhere policies had house hunters lining up for viewings far from the coastal areas that had been most popular before the pandemic.

The Federal Reserve's tightening campaign quickly cooled demand. It cooled supply even more, though, because of Quigley's lock-in effect. These days, most existing mortgages are below 4%, roughly half the cost of a new 30-year loan. The large spread is likely to reduce the rate at which homeowners move by more than a quarter over the next decade, according to estimates from Julia Fonseca of the University of Illinois and Lu Liu of the University of Pennsylvania.

The trend will mostly affect would-be buyers of their first homes, who will miss out on a key opportunity to use government-supported mortgages to build wealth. But economists point to other issues: The lock-in effect threatens to prevent younger owners from moving to larger homes and expanding their families while causing empty nesters to put off downsizing. And decreased mobility makes for a less efficient labor market, as workers will be less likely to move for new jobs if they don't want to give up their old mortgages. "The worst ▶

"It's like we fired all the bullets we have on housing affordability"

◀ of both worlds is when people are forced into holding patterns," says Nick Buttrick, a psychology professor at the University of Wisconsin at Madison, whose research has shown that lower residential mobility can dim a person's outlook on life. "They sort of fester in place."

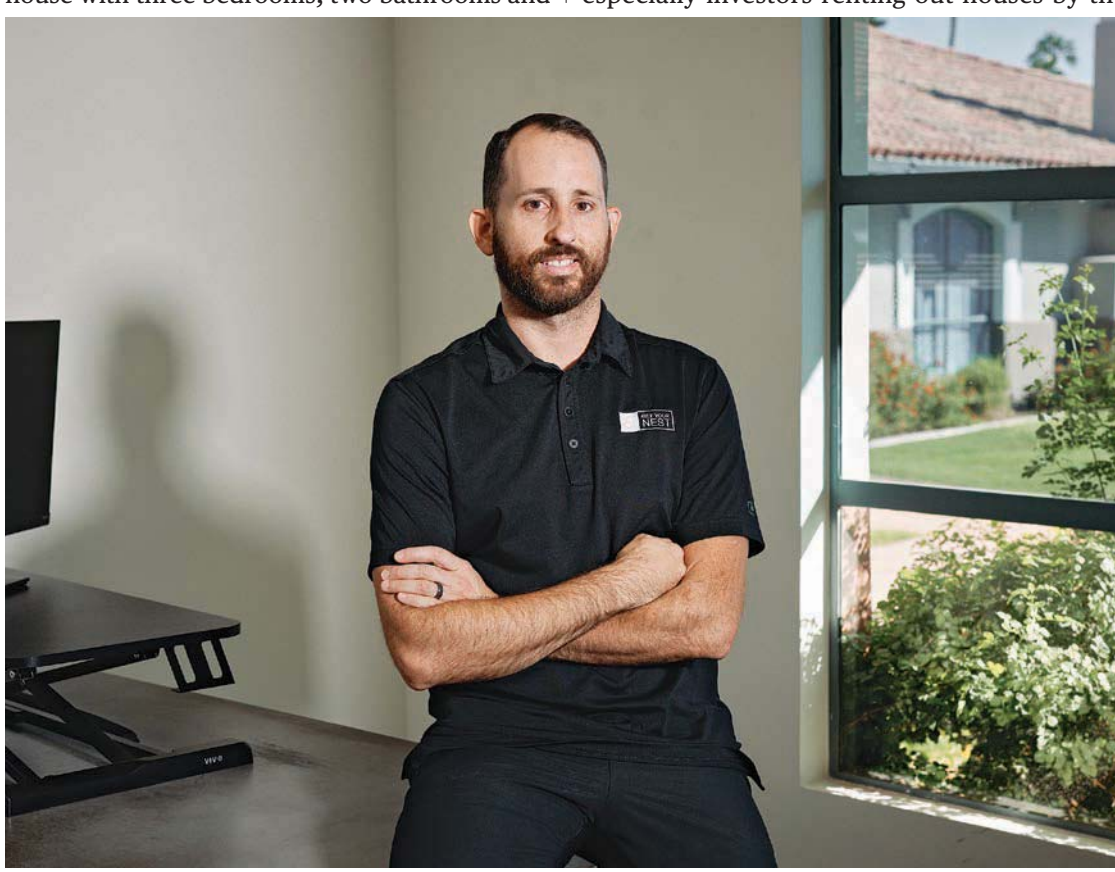
Nancy Hamel started selling real estate in the western Massachusetts college town of Amherst in 1994. Back then, a young professor could easily find a place to live, with more than 100 houses available at any given time. Now, the market is "cuckoo," she says, with about 15 single-family homes for sale in a town of almost 40,000 people. "It's making it difficult for our new faculty to purchase," she says. "I just turned 70. People my age have not wanted to go."

Eugene Quackenbush, co-founder of Phoenix-area brokerage Get Your Nest, is walking clients through strategies for existing properties, such as asking sellers to subsidize interest rates for a few years to make monthly payments more manageable. Buyers are also searching for homes financed with assumable mortgages, which let sellers hand over the loan at the cheaper rate. Another tactic is simply lowering expectations—choosing a townhome or settling for a farther-flung area. "If you are still wanting the standalone single-family house with three bedrooms, two bathrooms and a two-car garage, you're having to go way past the suburbs," Quackenbush says.

Lower sales are terrible for the country's 1.6 million real estate agents, who received a fresh blow on Oct. 31 when a Missouri jury found the National Association of Realtors guilty of colluding to keep commissions high. (The trade group says it plans an appeal.) But tight inventory has been a boon to homebuilders such as Lennar Corp. and DR Horton Inc., which have ramped up production. They've wooed customers by aggressively cutting prices and offering below-market mortgage rates. New homes now account for a third of available inventory, versus the typical 10%, according to consulting firm Zonda.

Policy solutions to solve the affordability crunch have so far focused on making things easier for purchasers. The Biden administration has implemented measures such as reducing mortgage insurance fees and providing down-payment assistance to foster homeownership for minorities and first-time buyers sidelined by rising costs. But that only makes the central challenge of dwindling inventory worse by fueling more competition.

An alternative approach would be to provide government incentives for owners to sell, especially investors renting out houses by the



◀ Quackenbush

PHOTOGRAPH BY MATT MARTIAN WILLIAMS FOR BLOOMBERG BUSINESSWEEK. DATA: JPMORGAN, FEDERAL RESERVE

month or as nightly Airbnbs, according to Ralph McLaughlin, chief economist for Haus, a coinvestment platform for homebuyers. This could be achieved by increasing taxes on rental income or opening up a temporary window for capital-gains-tax exemptions that might include full forgiveness on sales to first-time homebuyers. "We just need to break the cycle, and this could potentially do that," McLaughlin says.

Prognostications of the road back to pre-Covid normalcy vary dramatically. Lawrence Yun, chief economist at the National Association of Realtors, predicts the Fed will conquer inflation by the end of the year and that the mortgage market will price in future cuts before they happen. Lower rates will entice sellers, Yun says, unleashing a spurt of activity in the fourth quarter. "Sellers will realize that super-low mortgage rates aren't coming back," says Yun. "They're going to say, I need to move on with my life."

Many economists are less optimistic than Yun. The Mortgage Bankers Association is predicting a mild recession leading to lower interest rates and a recovery in transactions in 2025. And Moody's chief economist Mark Zandi says a normal, healthy market won't happen until 2028. "The single-family housing market is in a deep freeze," he says. "It will only thaw out painfully slowly." —*Patrick Clark and Prashant Gopal*

THE BOTTOM LINE New mortgages are approaching 8%, about double the average for existing loans. That's putting a deep freeze on sales as many owners decide to stay right where they are.

Hedge Funds L♥VE Treasuries

● Growing volatility in the once-sleepy market is catnip for fast-money investors

Vineer Bhansali doesn't sleep much nowadays. Nor is he getting in as many of the long-distance runs that he loves. But he's having the time of his life.

Bhansali is the founder of LongTail Alpha LLC, a hedge fund in Newport Beach, California, and he's newly obsessed with what was once among the sleepiest corners of finance: Treasury bonds. With volatility exploding in the long-placid market, he's ordered his fund to shift away from other strategies and boost its focus on Treasuries. LongTail now buys and sells bonds constantly, he says, making four times as many trades as it did a year ago.

A self-confessed adrenaline junkie, Bhansali wakes up every two hours at night to check prices after being glued to his screens all day. "You have to be on it, because things are happening all the time," he says. "This is probably one of the best times to get in the bond market in 20 years."

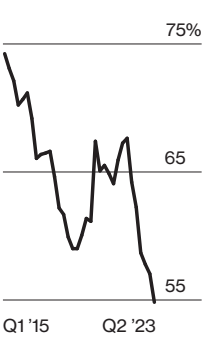
For much of the past two decades, most US government debt was sequestered in the vaults of the Federal Reserve, foreign central banks and commercial lenders that used it as a kind of cash reserve. At the peak of the easy-money era, the Fed vacuumed up $100 billion a month in Treasuries and mortgage securities, blindly buying and holding to maturity whatever was offered, regardless of returns. Trading was quiet. Yields were pinned day after day at rock-bottom levels. Hedge funds, attracted by riskier investments that offered the promise of greater profits, mostly stayed away.

That's been brought to an end by the post-pandemic surge in inflation. Now the Fed is letting the debt roll off its balance sheet, and commercial lenders are outright selling their holdings. While that increases the fragility of the overall economy—risking even higher rates for consumer loans—it has made US government debt catnip for speculators such as Bhansali. These fast-money traders are much more price-sensitive and quicker to dump bonds at the slightest provocation: rising oil prices, an offhand remark by a Fed official, a change in the unemployment rate.

Hedge fund manager Bill Ackman made a very public bet against Treasuries over the past few months and moved the market when he closed it out on Oct. 23 over concerns about US growth prospects. And investor Stan Druckenmiller has taken what he calls a "massive" position in two-year notes to hedge against a souring economy—though he's still bearish on longer-term bonds.

Unlike their less active predecessors, the new buyers are likely to push yields ever higher to finance Washington's swelling deficit, taking the market on a bumpier ride to get there. The result ▶

▼ Share of marketable Treasury debt held by the Fed, foreign investors and commercial banks



◀ is a spike in Treasury yields—the benchmark used to set borrowing costs for consumers and companies—giving investors a chance to make (or lose) lots of money. "Bond volatility can and will provide tactical opportunities in the short run," says Kathryn Kaminski, chief research strategist at Boston investment firm AlphaSimplex, who credits a bet against Treasuries for much of a gain of nearly 36% at one of the firm's funds last year.

Price moves are dramatic and unpredictable, with the yield on 10-year US government debt on Oct. 23 surpassing 5% for the first time since 2007. Yields on 30-year Treasuries have been swinging by an average of about 13 basis points a day as, for instance, investors rush to buy to hedge the risk of escalating conflict in the Middle East or unexpectedly strong US economic data spurs a run for the exits. While 13 basis points—0.13%—may not sound like much, it's more than three times the daily average of the past decade. Noting the increased activity of hedge funds in the market, the Treasury Department on Nov. 1 tempered the pace of its planned increase in long-term borrowing.

The new buyers—whether you consider them a sign of healthy markets or call them vigilantes, as they were dubbed in the 1990s, the last time hedge funds got this charged about US government debt—are probably here to stay. Hedge funds have tripled their holdings of Treasuries to a record $2.3 trillion in the past year, Fed data show. New funds are being rolled out at the fastest level in more than a year, according to analytics firm Hedge Fund Research, and strategies designed to exploit price dislocations in bond markets are among the most plentiful. That's leading to a hiring binge in the field, says Christian Hauff, chief executive officer at Quantitative Brokers, which sells trading programs to big-money investors. "They're looking for more talent," he says. "We have seen the movement of traders and portfolio managers from asset managers and banks to these hedge funds."

Hedge funds have also been building positions in basis trades, a risky investment that's attracting scrutiny from researchers at the Fed and regulators such as the Bank for International Settlements. The strategy typically involves borrowing large sums of money to exploit small price differences. It can be perilous, because investors are exposed to sudden market moves and sharp jumps in funding costs. Hedge funds have amassed some $600 billion of net short positions in Treasuries—bets that prices will go down—according to the BIS, increasing the danger to the economy. "The buildup of the basis trade now is too much for regulators to overlook," says Stanford University finance professor Darrell Duffie.



The Fed, meanwhile, has been offloading as much as $60 billion in Treasuries a month. Also exiting are foreign banks that face prohibitively steep hedging costs and US commercial lenders compensating for flight by depositors. That's brought the ownership of long-term holders, including foreign banks, below 55%—the lowest in more than two decades—versus 75% in 2014, according to JPMorgan Chase & Co. The Fed now has about $4.9 trillion in Treasuries, down from a 2022 peak of $5.8 trillion resulting from years of purchases following the 2008 financial crisis. "The infrastructure and the liquidity of the Treasury market is absolutely more fragile than it's been in the past," says Jay Barry, co-head of US rates strategy at JPMorgan.

That effort to revive the economy was great for struggling consumers, chief financial officers and politicians eager to borrow and spend ever greater sums of money. But it helped trigger inflation unlike any the US has seen in decades. The new, more volatile era that the hedge fund crowd has ushered in stands to bring discipline to spendthrift ways in Washington and beyond—though that's, of course, not the intent of the fast-money types. They're just seeking big profits. —*Denitsa Tsekova and Liz Capo McCormick*

THE BOTTOM LINE Hedge funds have tripled their holdings of Treasuries in the past year to $2.3 trillion as the Fed and commercial lenders head for the exit.

▼ Bloomberg US Treasury Index

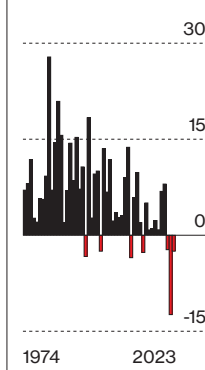


ILLUSTRATION BY TIAGO MAJUELOS. DATA: BLOOMBERG



Visit idaireland.com

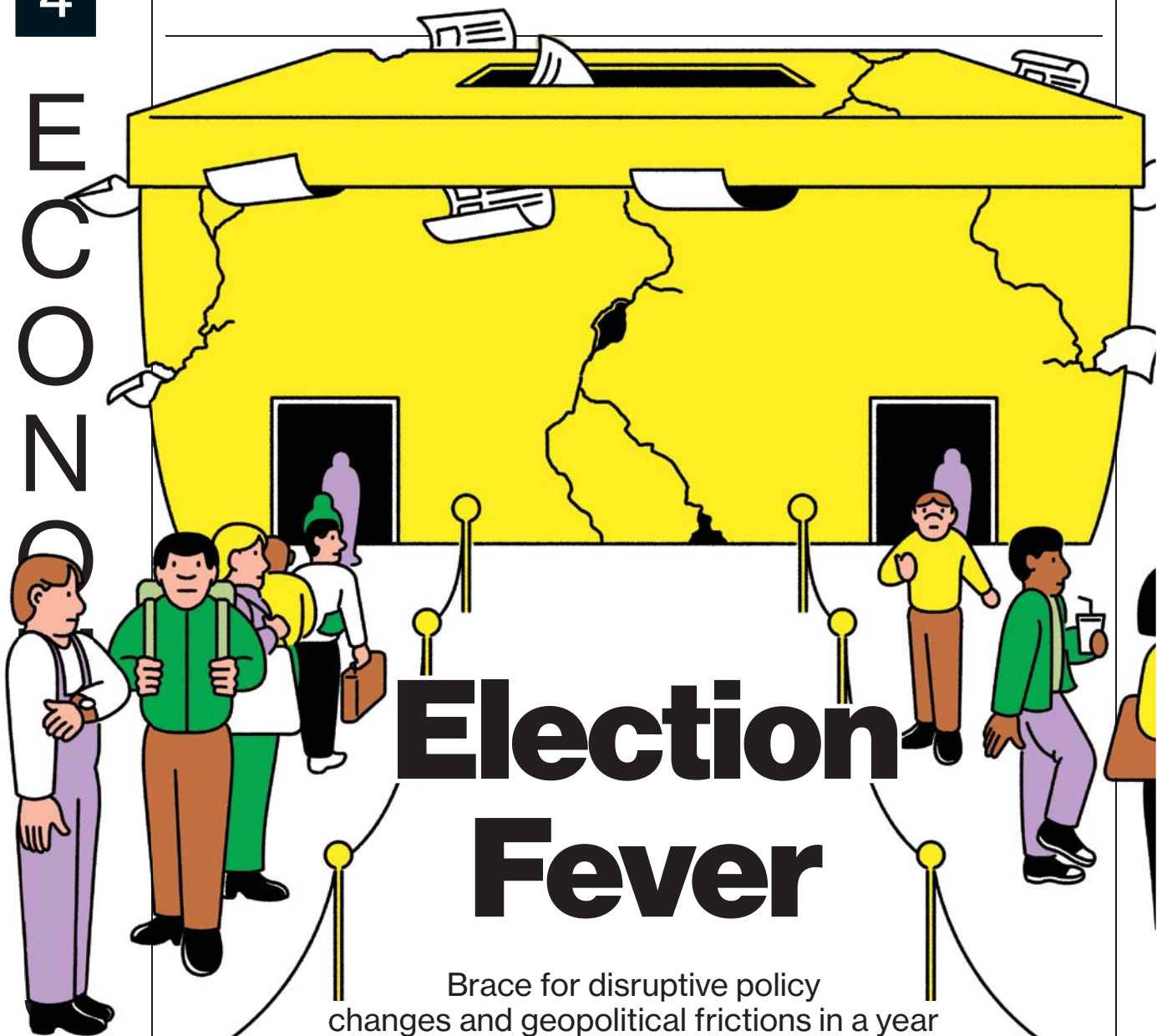
Connecting your business with extraordinary opportunity

We partner with the world's most innovative and visionary companies. Providing hands-on support as you establish and grow, backed by Ireland's winning mix of people, place and business philosophy.

See why leading tech, finance and MedTech firms choose Ireland as their European base.

IDA Ireland

Invest in extraordinary



Election Fever

Brace for disruptive policy changes and geopolitical frictions in a year when 40 countries will hold votes

The world economy is lumbering from one shock to another as two brutal wars, stubborn inflation and high borrowing costs pockmark the post-pandemic recovery. The next source of turbulence in the polycrisis era: a packed 2024 election calendar.

Starting with Taiwan in January and running through the US presidential election in November, the year will bring 40 national elections—a busy lineup even in calmer political times. Bloomberg Economics calculates that voters in countries representing 41% of the world's population and 42% of its gross domestic product have a chance to elect new leaders next year.

With two wars raging, tensions between the US and China escalating and political polarization worsening before critical elections, the potential for disruption in 2024 is huge. Money managers and corporate planners, beware: This will not be the year to keep investment plans on autopilot.

It's "a very consequential year," says Stanford University political scientist Amy Zegart, who previously advised the US government on national security. "The more uncertainty there is about

Edited by Cristina Lindblad

anything–the rules of the game, interest rates, how markets are likely to move, government regulation, policy–the more difficult it is from a business perspective."

The threats help explain why Paul Singer, Elliott Investment Management's founder, long known for his consistently bearish views, says global conditions are much more perilous than those the markets are pricing in. "The world is now completely dependent on the good sense of leaders to avoid an Armageddon," the billionaire investor said at a conference panel on Oct. 19. "It's hard to avoid the conclusion that investors aren't nearly as worried as they should be."

Jennifer Welch, chief geo-economics analyst with Bloomberg Economics, says the world faces perhaps its most tumultuous year in a generation from a geopolitical standpoint. In addition to those strains, governments and companies are engaged in a global competition to lock down supplies of raw materials needed to transition to cleaner energy and protect local industries.

"Upcoming elections will up the ante for ruling parties to score geopolitical wins," Welch says. "In the US, for example, taking a tough stance on China is likely to be seen as a vote-winning strategy by both major parties. This, and the possibility the election will usher in new policies, will create a period of increased uncertainty for other governments and multinationals."



Countries heading to the polls in 2024 run the gamut of size and influence: They include resource-rich nations such as Indonesia and Venezuela, reshoring darling Mexico, politically unstable South Sudan and geopolitical hot spots Taiwan and Pakistan. Tunisia, where the Arab Spring was born in 2011, may hold a presidential election around October. And some of the US's traditional European allies, including Austria, Belgium and the UK, face leadership races.

Consider a few potential outcomes:

Taiwan's presidential election could set the tone for US-China relations for years to come, with tensions likely to escalate further if current Vice President Lai Ching-te wins as forecast.

Indonesia votes in February, with Prabowo Subianto, a former Suharto-era lieutenant general once denied a visa by the US for alleged human-rights abuses, in the lead. In June he proposed a peace plan for Ukraine that would leave occupying Russian forces in place.

For the first time since the end of apartheid in the early 1990s, South Africa's ruling African National Congress faces the prospect of losing its overall majority, forcing it to govern the country in a coalition with other parties.

A surprise loss for Indian Prime Minister Narendra Modi, who's been in office since 2014, could risk spooking investors in a nation the US and its allies are counting on to become a counterweight to China's economic and military might.

In the US, former President Donald Trump is leading in key swing states, recent Bloomberg News polling shows, bringing fresh uncertainty over the future of American policy on China, Russia, NATO, trade and more.

In any election, a lot will depend on how much divergence there is among various party platforms on sensitive areas such as national security, trade and immigration. Broad consensus on these topics can lessen any political risk, says Sarah Bauerle Danzman, an expert on the political economy of international investment and finance at Indiana University.

In addition to the risk of policy discontinuity, investors need to stay on the lookout for changes in leadership that rekindle old enmities or result in new frictions between countries. "We are seeing a greater use of violence as previously frozen conflicts are unfrozen," Bauerle Danzman says. "That is where most of the biggest political risk is being generated."

Such upheaval is already having an impact on the corporate world, with companies feeling pressured to speak out on the Israel-Hamas war and having to navigate ongoing US-Chinese tensions. Some investors are cautious about Taiwan's star chipmaker, Taiwan Semiconductor Manufacturing Co., because the Chinese government has made no secret of its ambitions to one day reunite the island with the Chinese mainland.

Of course, elections can bring swings in either direction. Poland in October voted out a populist government that clashed repeatedly with the European Union, setting the nation on a course correction in relation to the broader region. The upset casts doubt on predictions that far-right parties will secure a decisive majority in June elections for the European Parliament–an outcome that could imperil continued assistance ▶

The Math on Election Season 2024

	Total*	Global share
Countries	40	21%
Population	3.2 billion	41
GDP	$44.2 trillion	42

*FIGURES EXCLUDE ELECTIONS FOR THE EUROPEAN PARLIAMENT.
DATA: BLOOMBERG ECONOMICS, BASED ON INTERNATIONAL MONETARY FUND FORECASTS


● Lai


● Modi


● Putin


● Starmer


● Trump


● Subianto

LAI: THE YOMIURI SHIMBUN/AP PHOTO. MODI: GRAEME SLOAN/SIPA USA/AP PHOTO. PUTIN: GAVRIIL GRIGOROV/SPUTNIK/AP PHOTO. STARMER: ANTHONY DEVLIN/BLOOMBERG. TRUMP: RONDA CHURCHILL/BLOOMBERG. SUBIANTO: WILLY KURNIAWAN/REUTERS. ILLUSTRATION BY JACK TAYLOR

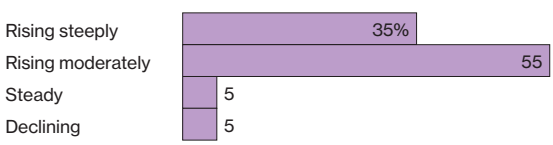
◀ to Ukraine and cause further backsliding on climate goals.

Still, the potential for change is real, along with the likelihood that some leaders resentful of Western hegemony will win reelection and toughen those stances. US President Joe Biden has warned that the world is "facing an inflection point in history."

In Russia, voters are scheduled to go to the polls in March, and though President Vladimir Putin isn't likely to face serious opposition, the world will be watching for signs that the electorate is becoming restive over the high casualties in the war with Ukraine. Also, this year's rebellion by Wagner mercenaries is a reminder that an autocrat's most dangerous rivals often lurk within the ranks of those who've styled themselves as allies.

Eyes on Washington

Investors' take on the directional trend of US political risk*



*BASED ON A 2023 SURVEY OF 22 INSTITUTIONAL INVESTORS WITH ALMOST $10 TRILLION IN ASSETS. DATA: STATES UNITED DEMOCRACY CENTER, BROOKINGS INSTITUTION

In the UK, all polls point to the opposition Labour Party led by Keir Starmer defeating Rishi Sunak's Conservatives in elections expected next autumn. But Starmer will need to secure a big enough majority to tackle Britain's deep-rooted economic problems.

How all these votes play out will dictate trends in trade, security and financial markets for years to come. "Elections matter in ways that they didn't before," says Christopher Smart, a former senior economic policy official at the US Department of the Treasury and the White House, and now managing partner of the Arbroath Group. Changes of government don't necessarily trigger immediate policy shocks, but they can cause countries to veer into different paths, he says.

A survey of investors in charge of almost $10 trillion worth of assets found that more than 90% believe threats to US democracy are rising, and fewer than 30% are confident that public companies are ready to manage that risk, according to a survey conducted by the States United Democracy Center in partnership with the Brookings Institution. —*Enda Curran and Alan Crawford, with Souhail Karam*

THE BOTTOM LINE Money managers and company executives may be underpricing the political risk from a bumper crop of elections taking place in 2024.

Israel's Wartime Economy

● From banking to agriculture, activity has crashed

The war against Hamas is convulsing Israeli businesses of all kinds, whether small restaurants, high-tech companies or a major gas field run by Chevron Corp. Many are comparing the resulting shutdowns, which are hammering the $520 billion economy, to those of the Covid-19 pandemic, with schools, offices and building sites sitting vacant or opening for only a few hours a day.

Israel mobilized a record 350,000 reservists for its ground offensive in Gaza, draining roughly 8% of the country's workforce. The combination of the military call-ups and government-mandated security precautions has triggered a sudden crash in activity across all sectors, including agriculture and information technology. Only 12% of Israeli manufacturers were at full-scale production after two weeks of war, a survey found. Most cited staff shortages as their biggest problem.

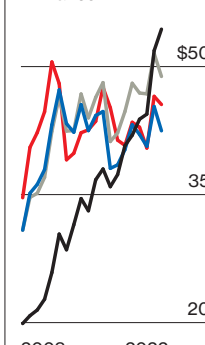
"Entire industries and their offshoots cannot work," says Roee Cohen, president of the Israel Federation of Small Business Organizations. "Most employers have already decided to place staff on unpaid leave, affecting hundreds of thousands of workers."

Israel declared war on Hamas—designated a terrorist organization by the US and the European Union—after it rampaged through southern communities on Oct. 7, killing about 1,400 people. According to Palestinian officials, more than 8,500 have died as a result of retaliatory airstrikes and a ground invasion into Gaza, the Mediterranean enclave that Hamas rules.

For Israel, the financial toll has already been severe. Its stocks are among the world's worst performers since the fighting erupted. The main index in Tel Aviv is down 13% in dollar terms, equivalent to $20 billion. The shekel has slumped to its weakest level since 2012—despite the central bank announcing an unprecedented $45 billion package to defend it—and is heading for its worst yearly performance this century.

The impact on Gaza's economy, much of which is informal, is more difficult to quantify. Israeli bombs have crippled infrastructure in parts of ▶

▼ GDP per capita
Israel
Germany
UK
France



DATA: INTERNATIONAL MONETARY FUND

ADVERTISEMENT

Taking a Stand for Diversity on Wall Street

WELLS FARGO



Samuel A. Ramirez Jr.
CEO
Ramirez Asset Management

Samuel A. Ramirez
Founder & CEO
Ramirez & Co.

When Sam Ramirez started his investment bank in 1971, Wall Street was an old boys club. A friend even suggested he might lose some business with "Ramirez" in the firm name. Today, Ramirez & Co. is the oldest Hispanic-owned investment bank and ranks among the top 15 investment banks in municipal bonds. Wells Fargo hired it as a joint book runner on its own sustainability bonds, says Randall Lacayo, Head of Diverse Segments, Capital Markets for Wells Fargo Corporate & Investment Banking.

bloomberg.com/forgingwhatsnext

©2023 Wells Fargo & Company.

Corporate & Investment Banking









◀ Clockwise from top left: Tel Aviv, Sderot, Tel Aviv and Jerusalem

◀ Gaza, and power and fuel supplies have been cut. The 18,500 Gaza residents who had been allowed to work in Israel have lost their livelihoods.

The geographical reach and duration of the conflict will determine the extent of its long-term economic impact. Prime Minister Benjamin Netanyahu warned of a "long and difficult" military campaign in a television address on Oct. 27, the day Israel started its widely expected incursion into Gaza.

JPMorgan Chase & Co. predicts the Israeli economy will contract 11% this quarter on an annualized basis. Israel's recent conflicts—including one in 2006 with Lebanon-based Hezbollah and another with Hamas in 2014 that lasted about seven weeks and included a ground assault on Gaza—"barely affected activity," JPMorgan analysts said on Oct. 27. But "the current war has had a much larger impact on domestic security and confidence."

Bloomberg Economics estimates Israel's gross domestic product will shrink by 7.8% on an annualized basis in the current quarter. "The conflict has created labor shortages, soured consumer sentiment and restricted movement," say Ziad Daoud and Alex Isakov of Bloomberg Economics. "If the contraction persists through the end of the year, it will mark the Israeli economy's worst quarterly performance since at least 1995, excluding Covid."

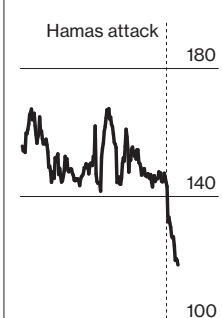
The Finance Ministry has pegged the fiscal cost of the war at 30 billion shekels ($7.5 billion) so far. Officials have warned that the fiscal deficit may more than double this year and the next compared with previous forecasts. S&P Global Ratings, Moody's Investors Service and Fitch Ratings have all issued warnings about the outlook for the country's debt, bringing it closer to its first downgrade.

Israel has restricted work and limited indoor gatherings to 50 people in much of the country. And when skirmishes started with Hezbollah, another Iran-backed militant group, on Israel's northern border, many villages and towns in the area were evacuated. Between there and the communities around Gaza to the south, more than 120,000 Israelis have been forced to leave their homes.

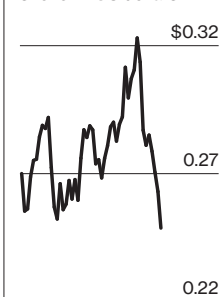
Spending by households has collapsed, dealing a major shock to a consumer sector that accounts for about half of GDP. In the days after the war broke out, private consumption fell by almost a third relative to an average week in 2023, according to the Shva payments-system clearinghouse. Expenditures on items such as leisure and entertainment plunged as much as 70%. By one measure, the drop in credit card purchases was worse than what Israel experienced at the height of the pandemic in 2020, according to Tel Aviv-based Bank Leumi.

Israel entered its worst armed conflict in 50 years with an economy that in recent decades has been turbocharged by technology exports and

▼ Tel Aviv Stock Exchange 35 Index



▼ Price of 1 Israeli shekel in US dollars



TEL AVIV: ODED BALILTY/AP PHOTO. SDEROT: MARTIN DIVISEK/EPA-EFE/SHUTTERSTOCK. TEL AVIV: JACK GUEZ/AFP/GETTY IMAGES. JERUSALEM: JONATHAN ALPEYRIE/BLOOMBERG. DATA: COMPILED BY BLOOMBERG

offshore natural gas finds. GDP per capita rose to almost $55,000 in 2022, overtaking countries such as France, Germany and the UK.

The wealth transformed the government's finances and led to years and years of current-account surpluses. That result allowed the central bank to amass about $200 billion in reserves, a roughly sevenfold increase since 2008.

Some of the shine began to fade this year when plans by Netanyahu's coalition government—the most right-wing in Israel's history—to weaken the power of the judiciary triggered mass protests and deterred foreign investment.

Now, as war planning and security dominate the government's agenda, pressure for economic relief is building. Finance Minister Bezalel Smotrich has pledged a bigger stimulus than that given during the pandemic. When lawmakers and business owners criticized his initial proposal of 4.5 billion shekels for October as too meager, he came back with a plan that calls for 8 billion shekelst a month in support through the end of November.

The central bank downgraded its outlook for the economy on Oct. 23, but it still forecasts growth in excess of 2% this year and next—assuming the conflict is contained. "The Israeli economy is in a good state and has proven high sustainability," says Asher Blass, a former chief economist at the Bank of Israel.

A snapshot of the housing sector offers a more alarming glimpse of what may be coming. Even as some construction sites reopen, many workers are missing. The industry is heavily reliant on 80,000 Palestinians living in the West Bank, which has been under a security lockdown since mid-September and where unrest has grown since Israel's airstrikes and almost total blockade on Gaza began.

Because interest rates have risen since early last year, builders' finances were already stretched. Many companies may find it becomes even harder to meet their obligations. It's a worrying prospect for banks: The construction industry accounts for roughly half of their commercial loans.

A halt in construction and real estate, which contribute 6% of Israel's tax revenue, will stunt government income and could spark a renewed price surge in a housing market that's been among the most expensive in Europe and the Middle East in recent years.

As the economy shifts to a war footing, employee departures are also upending technology companies. About 15% of Israel's tech workforce has been called up for reserve duty, says Avi Hasson, chief executive officer of Startup Nation Central, a nonprofit group that tracks the industry. Those numbers are even higher at startups, which tend to employ younger workers, he says.

Lior Wayn, CEO of Mica, an artificial intelligence company specializing in mammography analysis, says he's trying to keep operations as normal as possible to help several employees who were affected by the attacks. "Two cousins of one of our employees were kidnapped to Gaza," he says. "Another employee has been on reserve duty for nearly three weeks. My co-founder is in Cyprus, because they don't have a proper bomb shelter at home."

Among 500 high-tech companies surveyed in late October, almost half reported a cancellation or delay of an investment agreement. More than 70% of the respondents, which included locally owned and multinational businesses, said significant projects are being postponed or scrapped.

Even as companies say they're learning to adapt, the plight of many suggests the crisis will leave long-lasting scars across Israel's economy. This reality is dawning on Yiftah Dekel, CEO of Gvaram Industries, a producer of office supplies established in 1979. Dekel, who's at a kibbutz 10 kilometers (6.2 miles) north of Gaza, says fewer than a quarter of his 65 employees come to work. The area has become isolated, and orders for his products are drying up.

"We have been through endless attacks and military operations, but this is unlike anything else," Dekel says. "The most acute question is whether the region near Gaza has a future at all." —*Galit Altstein, with Marissa Newman and Kerim Karakaya*

THE BOTTOM LINE The mobilization of 350,000 reservists has idled businesses, including many in the tech industry—the lifeblood of Israel's economy.

LEGAL NOTICE
U.S. POSTAL SERVICE STATEMENT OF OWNERSHIP, MANAGEMENT, AND CIRCULATION
(Act of August 12, 1970: Section 3685, Title 39, United States Code)

1 Title of publication: BLOOMBERG BUSINESSWEEK.
2 Publication No.: 080-900.
3 Date of filing: October 27, 2023.
4 Issue Frequency: Published weekly except for one week in January, February, March, April, June, July, August, September, October & November.
5 No. of Issues Published Annually: 42.
6 Annual Subscription Price: Domestic $99.00
7 Complete Mailing Address of Known Office of Publication: 731 Lexington Avenue, New York, NY 10022. Contact Person: Daniel Murphy. Telephone: 212-318-2000.
8 Complete Mailing Address of Headquarters or General Business Office of Publisher: 731 Lexington Avenue, New York, NY 10022.
9 Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor: Publisher: Bloomberg L.P., 731 Lexington Ave., New York, NY 10022; Editor: Joel Weber, 731 Lexington Ave., New York, NY 10022; Managing Editor: Kristin Powers, 731 Lexington Ave., New York, NY 10022.
10 The owner is Bloomberg L.P., 731 Lexington Ave., New York, NY 10022.
11 Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities: None.
12 Not applicable.
13 Publication Title: BLOOMBERG BUSINESSWEEK.
14 Issue Date for Circulation Data Below: September 4, 2023

15 Extent and Nature of Circulation:	Average No. Copies Each Issue	No. Copies of Single Issue
A Total No. Copies (Net Press Run)	198,209	168,701
B Paid Circulation (By Mail and Outside the Mail)		
1 Mailed Outside-County Paid Subscriptions Stated on PS Form 3541 (Include paid distribution above nominal rate, advertiser's proof copies, and exchange copies)	93,068	72,134
2 Mailed In-County Paid Subscriptions Stated on PS Form 3541 (Include paid distribution above nominal rate, advertiser's proof copies, and exchange copies)	0	0
3 Paid Distribution Outside the Mails Including Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Paid Distribution Outside USPS®	54,826	49,482
4 Paid Distribution by Other Classes of Mail Through the USPS (e.g., First-Class Mail®)	0	0
C Total Paid and/or Requested Circulation (Sum of 15B)(1), (2), (3), and (4)	147,893	121,616
D Free or Nominal Rate Distribution (By Mail and Outside the Mail)		
1 Free or Nominal Rate Outside-County Copies included on PS Form 3541	44,799	42,924
2 Free or Nominal Rate In-County Copies Included on PS Form 3541	0	0
3 Free or Nominal Rate Copies Mailed at Other Classes Through the USPS (e.g., First-Class Mail)	1	1
4 Free or Nominal Rate Distribution Outside the Mail (Carriers or other means)	2,903	2,730
E Total Free or Nominal Rate Distribution (Sum of 15D (1)(2) (3) and (4)	47,704	45,655
F Total Distribution (Sum of 15C and 15E)	195,597	167,271
G Copies Not Distributed	3,522	1,430
H Total (Sum of 15F and G)	199,119	168,701
I Percent Paid (15c divided by 15f times 100)	75.6%	72.7%
16 Electronic Copy Circulation:		
A Paid Electronic Copies	48,259	75,636
B Total Paid Print Copies (Line 15c) + Paid Electronic Copies (Line 16a)	196,152	197,252
C Total Print Distribution (Line 15f) + Paid Electronic Copies (Line 16a)	243,856	242,907
D Percent Paid (Both Print & Electronic Copies) (16b divided by 16c x 100)	80.4%	81.2%

17 Publication of Statement of Ownership: Publication required. Will be printed in the November 6, 2023 issue of this publication.
18 Signature and Title of Editor, Publisher, Business Manager or Owner
Joel Weber, Editor 10/27/2023
I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).

Bloomberg New Economy Forum

From November 8 – 10, leaders from around the world will gather with one common goal – to address the most pressing issues facing the global economy and chart a course for a brighter future.

Bloomberg New Economy thanks our trusted 2023 partners for their commitment to shaping a more inclusive and sustainable global economy.

Watch the livestream at
BloombergNewEconomy.com



Thank you to our partners.

FOUNDING PARTNERS

BAYER

Envision
Net Zero Tech Partner

HOLCIM

HSBC

HYUNDAI

TATA

HOST PARTNER

SG
SINGAPORE

PRESENTING PARTNERS

B.GRIMM
SINCE 1878

pwc

standard chartered

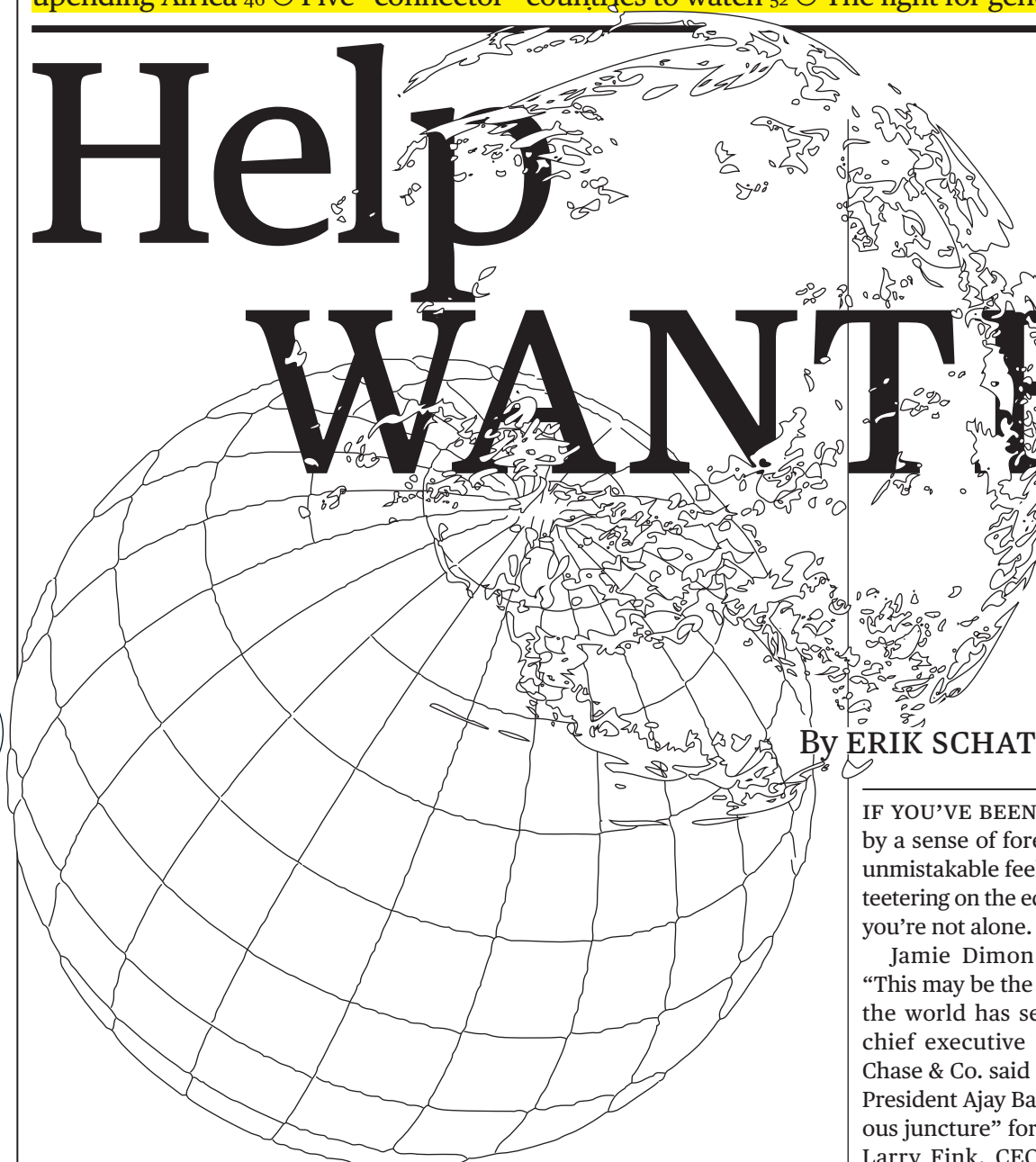
SPOTLIGHT ECONOMY PARTNER

IDA Ireland



○ Foxconn wants to build EVs 36 ○ Ecuador descends into chaos 42 ○ Online gambling is upending Africa 46 ○ Five "connector" countries to watch 52 ○ The fight for generic drugs 56

Help WANTED



From Wall Street to the World Bank, one risk towers above all

By ERIK SCHATZKER

IF YOU'VE BEEN TROUBLED LATELY by a sense of foreboding, a vague but unmistakable feeling that the planet is teetering on the edge of some precipice, you're not alone.

Jamie Dimon is there with you. "This may be the most dangerous time the world has seen in decades," the chief executive officer of JPMorgan Chase & Co. said recently. World Bank President Ajay Banga calls it a "dangerous juncture" for the global economy. Larry Fink, CEO of BlackRock Inc., envisions a future of "less hope and a lot more fear." What alarms them, and increasingly leaders everywhere in business, finance and government, can be summed up with a single word: geopolitics.

Gone is the relative stability of what historians term the Pax Americana, the 75 years of US economic, military and cultural dominance that followed World War II. In its place is a multipolar and inherently fragile competition for power

and influence over trade, technology and territory. This new age represents, in the words of German Chancellor Olaf Scholz, a *Zeitenwende*—an "epochal tectonic shift," in which fascism, authoritarianism and imperialism are newly ascendant and globalization is receding.

Mark Wiseman, chair of Alberta's C$160 billion ($115 billion) pension plan, says the world is facing "a new paradigm with incalculable outcomes." There are not only conflicts in Ukraine and the Middle East, but also civil wars, insurgencies and coups d'etat in dozens of countries in Africa, Asia and Latin America, as well as the growing frequency and rising cost of climate disasters, mass migrations of millions of refugees and the looming threat of more pandemics. Add to that sticky inflation, the terrifying potential of artificial intelligence, an ebbing faith in Western democracy and political paralysis in Washington, plus the real possibility of a battle for control of Taiwan. "This is by far the most difficult and complex investing environment I've seen in 30 years—way more complicated than the global financial crisis," Wiseman says.

Yet even as war rages on in Eastern Europe, tensions flare in the Indo-Pacific region and Israeli tanks pummel Hamas holdouts, much of the debate in financial circles remains stuck in an endless, anachronistic loop of speculation over inflation and monetary policy. Maybe that's because we take comfort in predictability. An economist can forecast with reasonable accuracy how much a 25-basis-point hike in interest rates will affect everything from job growth to factory output. A financial analyst can, with a few clicks on a spreadsheet, calculate to the penny how much Ford Motor Co.'s labor agreement with the United Auto Workers will dent earnings per share. In both cases, the range of outcomes is narrow.

What makes geopolitical risk so vexing is that it defies modeling. The variables are a Rumsfeldian mix of known knowns, such as China's frustration with US curbs on the export of advanced semiconductor technology; known unknowns, such as where and when the Russian military may use tactical nuclear weapons in Ukraine; and, worst of all, unknown unknowns. Here, the cone of possibilities is infinitely wide. It's not that Federal Reserve decisions don't matter, but who'll really care about the price of money if suddenly we find ourselves in World War III?

CEOs everywhere are beginning to confront the new reality. On his latest conference call with shareholders, Air France-KLM's Ben Smith spoke of "heightened vigilance, strict cost controls and greater operational efficiencies in order to protect our margin" in light of "acute geopolitical tensions." Accor, Baker Hughes, Intel, Mastercard, Japan Tobacco, Porsche and Whirlpool are among the companies to cite geopolitics as a factor weighing on their third-quarter performance or clouding their confidence in the future. For a few others, such as defense contractor Northrop Grumman Corp., global instability is good business. "We're seeing it in signals of demand," CEO Kathy Warden says.

No wonder there's such a premium on expertise in international relations. Richard Haass, the former US diplomat who led New York's Council on Foreign Relations for 20 years, joined investment bank Centerview Partners LLC in September as a senior counselor to help clients with, according to co-founder Blair Effron, "geopolitical risks and opportunities." In September, Goldman Sachs Group formed the Goldman Sachs Global Institute to advise on the "intersection of geopolitics, technology and global markets." When the mostly satirical *Daily Show* needed someone to explain why Hamas attacked Israel, it turned to the most vocal and prolific talking head for political risk, Eurasia Group president Ian Bremmer.

But as Bremmer showed in that appearance, explanations after the fact—no matter how logical and convincing—do little but satisfy the human craving for understanding. Does it make sense in retrospect that Hamas wanted to derail the Saudi-Israeli peace initiative? Sure. Does it seem obvious now that the months of quiet in Gaza successfully lulled Israel into a false sense of security? Of course. Nevertheless, the attack was a total surprise. No one saw it coming.

What will the next shock be? Who knows.

Not since the turn of the 20th century has global power been so diffuse. In addition to the US, China, the European Union and Russia, Brazil, India, North Korea, Pakistan, Turkey and the Persian Gulf states of Saudi Arabia, the United Arab Emirates and Qatar all wield meaningful control over some combination of military, economic, cyber, energy and environmentally critical resources. Soon, artificial intelligence and quantum computing will redefine the balance again.

The world has, of course, survived plenty of crises and calamities—moments of peak hostility during the Cold War, the AIDS epidemic, the rise of Islamic terrorism, the great financial crisis and the Covid-19 pandemic, to name just a few. "What's different now is we're dealing with some version of all of them at the same time," Wiseman says.

So how long can prosperity and instability coexist? In a KPMG survey, CEOs ranked "geopolitics and political uncertainty" the No. 1 risk to economic growth over the next three years, rocketing up from seventh in 2022 and surpassing everything from disruptive technology to supply-chain vulnerabilities. Yet the same group of 1,325 corporate chiefs also responded that they're growing more confident about the prospects for the global economy, not less.

Some investors are starting to short stocks, buy Treasury bonds and concentrate assets in dollars. They may do well. But the history of financial markets is replete with tales of fortunes blown hedging for disasters that never came. If there's a lesson, it's to avoid complacency.

As Banga, the World Bank president, says: "Risks tend to move around. I'd be very careful about fixating on one and ignoring the others." Ⓑ



Foxconn's EV DR

Can the company that makes most of the world's iPhones pivot to building electric cars in Ohio?

By REED STEVENSON Photographs



△ Inside Foxconn's factory in Lordstown

IVE

by ROSS MANTLE

IN WHAT WAS ONCE A HUMMING General Motors Co. plant in northeastern Ohio, hundreds of yellow robot arms stand idle in a darkened assembly hall. Semis no longer deliver steel, parts and paint to the loading docks. The huge parking lots, where finished cars once waited to be picked up and carried onto Interstate 80 just across the street and then on to dealerships, are empty. After half a century assembling Chevrolet Impalas, Cavaliers and Cruzes, GM shuttered the Lordstown complex just outside Youngstown, near the Pennsylvania border, as part of a cost-cutting effort in 2019. It initially sold the facility to Lordstown Motors Corp., a startup that struggled for a few years to build electric trucks before filing for Chapter 11 in June.

Yet, despite GM's exit and Lordstown's bankruptcy, the factory remains alive, if on life support, thanks to a radically different owner: Hon Hai Precision Industry Co., better known as Foxconn, the giant electronics producer based in Taiwan. Each morning, Taiwanese staffers show up for work with a few hundred former GM employees, many of them wearing T-shirts and baseball caps with Foxconn's logo. They spend their time getting rid of obsolete equipment, taking inventory and testing machines that once stamped door panels and welded chassis parts. After that, they might prepare displays and demos for customers or evaluate whether the conveyor belts and chemical baths need to be upgraded. At the end of the day, some of the American workers drive over to Ross' Eatery & Pub on Tod Avenue. Over Coney Island hot dogs and Yuengling beer, they reminisce about old times and ask each other what the future holds: Will Foxconn stick around? Will there be any work at the plant in a few years? If we build it, will they come?

Foxconn may be the single most important manufacturer in the world. There's an excellent chance you're reading this article on a Foxconn-made

▽ A worker in Lordstown



device: The company builds roughly two out of every three iPhones, along with the Google Pixel and Amazon.com Inc.'s Kindle. The Nintendo Switch? Foxconn. Ring doorbells? Foxconn. The list goes on, including Cisco switches, Dell laptops and Sony PlayStations.

Churning out these devices, mainly in China, has allowed Foxconn to build an enormous business, with $222 billion in revenue last year. But the market for many types of electronics, and particularly smartphones, is maturing, with only sluggish growth in sales. Meanwhile, a China-based business model is not without risk. According to state media, the mainland government is currently examining Foxconn's tax compliance and land-use policies, an unsubtle reminder of its vulnerability as a Taiwanese company.

For a manufacturer of Foxconn's heft, there aren't many diversification opportunities that can move the financial needle. One of them is cars. At Lordstown and other sites around the world, Foxconn is now setting up automotive production lines, part of a plan to transform itself into a manufacturer of electric vehicles. Its pitch to legacy car companies, as well as any startup or tech player eager to get a piece of the ▶

◀ EV revolution, is the same promise it once made to Apple Inc.: Come to us, and we'll supply, design or assemble any part of your car, or the whole thing, faster and cheaper than you can. This is not an entirely unique idea. Magna Steyr of Austria and Finland's Valmet Automotive Oyj, longtime builders of cars for Mercedes-Benz, BMW and others, are making a similar offer. But so far, outsourced models are a rounding error in global EV sales, which totaled $388 billion in 2022.

Foxconn's argument is that handing off manufacturing could solve a number of the problems that have bedeviled the transition to EVs, at least for every automaker not named Tesla Inc. The industry is littered with examples of startups that made bold claims about their products but underestimated the cost and complexity of setting up factories. In addition to Lordstown Motors, electric bus maker Proterra Inc. filed for Chapter 11 in August, while more successful new entrants, such as Rivian Automotive Inc., have fallen well short of production targets.

Older automakers, for their part, are struggling with rising costs. Ford Motor Co. loses money on every electric F-150 Lightning pickup it sells, and—before suspending its 2023 guidance in late October—had warned that its EV unit was on track for a $4.5 billion annual loss. In September and October, the United Auto Workers staged unprecedented simultaneous strikes against GM, Ford and Chrysler parent Stellantis NV, pushing for pay increases of as much as 40%. In response, executives argue that every dollar more in labor costs makes their electrification plans harder to achieve.

Foxconn is entering uncertain territory. In the broadest sense, building EVs and smartphones involves similar skills—both contain a battery and a lot of chips. The scale is different, however: While an iPhone contains hundreds of individual components, an EV has more like 10,000 to 15,000. So is the political context. To reduce shipping costs and avoid tariffs, Foxconn has said it plans to build EVs close to where they're sold. But its experience manufacturing in the US is minimal.

Its previous American showpiece, a Wisconsin plant for flat-panel monitors that was touted by then-President Donald Trump as the beginning of an industrial renaissance, never reached anything close to its promised size. And trying to import the culture of Foxconn's factories in China—where the company was accused in the past of treating workers so poorly that some died by suicide—could set it up for conflict with the same unions now tormenting the Big Three US automakers.

To make money from cars, Foxconn and its chief executive officer, Young Liu, will have to win the confidence of people like Lex Hoefsloot, the co-founder and CEO of Dutch startup Lightyear Technologies BV. Hoefsloot is making production plans for the Lightyear 2, a five-passenger crossover partly powered by solar panels on its roof that the company intends to sell for less than €40,000 ($42,200). While Hoefsloot has yet to settle on a partner, outsourced manufacturing is "especially interesting for new brands," he says. "Cost is very important, and time to market is critical. Essentially, you're looking for a one-stop shop."



△ Liu in Taiwan

WITH APPROXIMATELY 1.2 MILLION staff, Foxconn is the third-largest private employer in the world, behind only Walmart Inc. and Amazon. Hundreds of thousands work in Shenzhen on just one site, a city-within-a-city with dozens of factories, dorms, a hospital, banks and restaurants. By producing multiple products in a given facility and also making many of the internal components, Foxconn can manufacture them cheaper and faster and implement the knowledge across a variety of devices. If one customer's orders dry up, it can divert the parts elsewhere, creating a deep supply chain that smaller manufacturers struggle to match.

All of this is the brainchild of Terry Gou, who founded Foxconn in 1974 in Tucheng, an unloved Taipei suburb whose name translates as "dirt town." The son of a policeman who fled the mainland during the Chinese civil war, Gou started out making plastic knobs for TV sets, staked by a $7,500 loan from his mother. (It's unclear how his company got its English name: While the "-conn" referred to its early products, which included connectors and cables, executives can't recall where the "Fox" came from.)

After winning an order to supply joysticks to video-game pioneer Atari, Gou

PHOTOGRAPH BY AN RONG XU FOR BLOOMBERG BUSINESSWEEK



△ Foxconn's cafeteria at lunchtime

spent almost a year pitching customers across the US. Soon, Foxconn was supplying the external cases for Compaq and Dell computers; next, the motherboards and other components inside. From there, Foxconn rode each wave of new tech, from laptops and early cellphones to webcams.

The process tended to be the same. At first, the company whose logo was on a device assembled it in-house. But as each class of electronics became more common, prices came down and margins shrank. One by one, major consumer technology brands got out of manufacturing, judging that Foxconn could do it more efficiently. By the time Steve Jobs introduced the iPhone in 2007, Apple had decided it wasn't even going to try to build the device on its own. Foxconn made it from the start, later joined by another Taiwanese company, Pegatron Corp.

Gou recruited Liu the same year. A Taiwanese entrepreneur with a master's degree in computer engineering from the University of Southern California, Liu had previously founded a motherboard manufacturer—later acquired by Foxconn—as well as a chip-design shop. He was rapidly promoted and in 2016 took over the semiconductor business, a position that put him in line to be Gou's heir. His rise coincided with a challenge to Foxconn's strategy. With politicians in the US and Europe questioning the wisdom of outsourcing so much manufacturing to China, the company looked exposed. That was particularly true in Washington, where Trump was entering the White House. Why, the thinking went, should the iPhone—the most successful consumer product in American history—be manufactured by a rival superpower?

Making iPhones in the higher-cost US was never going to work, unless Apple was willing to massively increase prices. Gou thought he had a solution that would satisfy Trump. In late 2016 he revealed plans for a major investment in US manufacturing. Trump suggested focusing on the swing state of Wisconsin. The planned facility in Mount Pleasant, about halfway between Milwaukee and Chicago, qualified for $4.5 billion in state tax incentives—the largest-ever subsidy to a foreign company in the US—with 13,000 jobs promised in return.

But most of those jobs never materialized, and in 2019 Gou resigned to seek the Taiwanese presidency. (He abandoned that bid and is now running in the 2024 vote, though he lags far behind the front-runners in opinion polls.) Liu was left to sort things out; he decided to keep Mount Pleasant running by setting up an assembly line for servers. In an interview with *Bloomberg Businessweek*, Liu says the plant, which employs roughly 1,000 workers, will ultimately become part of Foxconn's EV supply chain. More broadly, he says, Foxconn is now better able to navigate local conditions, thanks to its experience operating factories in 24 countries. "We know how to deal with the local labor process, we know how to deal with the government," he says.

With Lordstown, and Foxconn's broader push into the automotive sector, Liu is looking to put the Wisconsin embarrassment behind him and secure a leading position in what could be a lucrative industry. Asked why he would take on the challenge of building cars, Liu answers that the logic is simple: Foxconn needs bigger markets to keep growing, and carmakers need a company like Foxconn to make their vehicles as costs rise. "If you just do it by yourself, it's going to be very difficult to compete," he says. According to analysts at Goldman Sachs Group Inc., the EV outsourcing market could be worth $36 billion by 2025, before ballooning to $144 billion in 2030. Even for Foxconn, that's real money.

THE LOCATION FOXCONN CHOSE FOR its American EV line is a relic not only of the heroic age of automotive manufacturing but also of another failed Trump-era industrial policy. GM built the Lordstown complex in 1966 to produce compact cars, eventually assembling more than 16 million vehicles there. Those operations provided an economic anchor for the surrounding Mahoning Valley, which had suffered badly with the collapse of the steel industry in the 1970s. But after GM went bankrupt during the global financial crisis, and then tried to regain its financial footing, the closure of Lordstown—and the firing of its 1,600 remaining workers—looked likely.

The Rust Belt towns of northeastern Ohio were an obvious target for Trump's insurgent presidential campaign. In 2016 he comfortably won Trumbull County, which includes Lordstown—the first Republican to do so since Richard Nixon. He later visited Youngstown, where he promised to bring back factory jobs. "Don't move," he told residents. "Don't sell your house."

When GM ended production at Lordstown anyway, Steve Burns, a software and telecommunications entrepreneur from the Cincinnati area, stepped in with a proposal to take over the plant and build electric trucks there. His new company, Lordstown Motors, became a darling of the Trump administration. Mike Pence, then vice president, visited in 2020; three months later, Burns was invited to bring one of his early-model pickups to the White House. But in March 2021, less than a year after he took Lordstown Motors public through a $675 million special-acquisition company deal, short-seller Hindenburg Research LLC accused Burns of touting a "largely fictitious" order book "as a prop to raise capital and confer legitimacy." Investigations by the Department of Justice and the Securities and Exchange Commission followed. Burns denied ▶

◀ the allegations at the time; he didn't respond to requests for comment.

Burns resigned as Lordstown Motors' CEO in June 2021. The new management began negotiations for a $230 million deal that would see Foxconn take over its factory and absorb its workers while injecting $50 million into the startup. According to Rick Rajaie, a GM and Magna veteran who represented Foxconn in the negotiations, a key plank of the deal was separating the fortunes of Lordstown Motors from those of the Lordstown complex, in which Foxconn saw considerable potential. Initially, some locals were skeptical. "From Day 1 when we came here, we realized that there were a lot of broken promises that happened in the valley," Rajaie says.

After the deal was concluded in the spring of 2022, Rajaie and colleagues got to work turning the plant into a Foxconn facility. They began refurbishing more than 500 Fanuc Corp. robot arms inherited from GM and took stock of the laser-welding machine, stamping rigs and equipment needed to move vehicles along assembly lines. They spent $700,000 to fix up the 159-foot water tower, which now bears the Foxconn logo. And they renamed the factory "Foxconn Ohio," an attempt to disassociate it from Lordstown Motors, which has since sued Foxconn for holding back on further investments in the company. (Foxconn says it's maintained a "positive attitude" in dealing with Lordstown Motors and calls the action "baseless"; the smaller company's current CEO, Edward Hightower, says the "parties involved must remain committed to be successful." He declined to comment on the DOJ and SEC probes.)

Some of the GM equipment can be repurposed to build EVs right away. Other infrastructure will need upgrades. For example, Foxconn is planning to modify the paint shop so workers can add more sound-deadening material to a vehicle chassis. That's because electric motors are quieter, making road noise more noticeable. The 400-plus staff on site aren't unionized, though that could change; last year the UAW overwhelmingly won a vote to organize workers at Ultium Cells LLC, a nearby battery plant that supplies GM.

Foxconn says that, with some expansion, it can build 500,000 vehicles a year in Ohio, bearing the badges of as-yet-unidentified car brands. (To put that number into context, Tesla made about 1.4 million cars in 2022.) According to Rajaie, about 10 potential customers have entered negotiations on manufacturing there, with half at an advanced stage. Danish entrepreneur Henrik Fisker, who's been working to build a new EV company since his first went bankrupt in 2013, is one of the few to have made his interest public. He's been in talks with Foxconn to build the Pear, a small crossover with a drawer-style front trunk; it's supposed to go on sale in 2025.

Some Foxconn-manufactured cars may employ an architecture called MIH, for Mobility in Harmony—an in-house platform that allows clients to design vehicles from preselected components. Foxconn has long employed a similar plug-and-play strategy for electronics; it has the added benefit of reducing the number of parts that need to be made or brought in. Eventually, they might be able to talk to each other without the cables and connectors that thread through cars today. Foxconn's R&D department is working on an initiative to run EV components wirelessly, eliminating wiring harnesses that can add more than 100 pounds of weight.

Building a car is still far more challenging than constructing a phone, says Yuqian Ding, the head of China auto research at HSBC Qianhai Securities Ltd., not least because of the importance of quality control. "If something goes wrong with a phone, you can just reboot it, but you can't reboot a car going at 100 miles per hour," she says.

Foxconn's grandest auto ambitions won't come to fruition for some time. Today, it's making exactly one product in Lordstown: the MK-V, an $89,000 autonomous, electric farm vehicle sold by Monarch Tractor. Monarch, based in Livermore, California, evaluated 16 manufacturers before choosing the plant last year. Co-founder and President Mark Schwager, who previously worked on ramping up production of the Model S at Tesla, says the Foxconn-Lordstown combination offered "experience building vehicles at scale, experience with startups" as well as a "hungry workforce" eager to get back into the game.

While it's not glamorous, the MK-V has obvious appeal. One person can operate several at a time, a boon to farmers struggling with labor shortages. Since crop fields don't generally contain other traffic or pedestrians, autonomy is a less fraught concept than on city streets. A swappable battery means it can run all day without stopping to charge.

In Lordstown, Foxconn workers hand-assemble the MK-V's battery packs, each of which provides 14 hours of juice. After that they join up the steel frame, wheels and pneumatic systems. But Foxconn doesn't construct the roof, which is packed with sensors and camera arrays that enable autonomous operations. Instead, Monarch does that in California and ships the roof units to Ohio for final assembly. It's a hint of how Foxconn might make EVs for other companies—but no more than a hint. So far, Monarch's production is measured in the dozens.

IN TAIWAN, LIU WORKS OUT OF A drab five-story building about 10 miles from central Taipei that serves as Foxconn's headquarters. There's a small, noisy factory on the ground floor, where green stamping machines uncoil narrow rolls of copper tape and then punch out connectors for chips and cables. At lunchtime the aroma of braised pork belly and other Taiwanese dishes being served in the cafeteria mingles with the hot smell of lubricating oil.

In his corner office on the top floor, Liu dials into one of his regular meetings during a recent visit by *Businessweek*. It's an 8:30 a.m. conference call devoted to health and safety issues that could affect Foxconn's factories. Arrayed in front of

Liu are a range of devices from his most important customer: a MacBook, an iPhone and two iPads, one of which he uses to keep open a separate call with his assistants, asking them to note topics for followup. First, managers from factories in China, Mexico and elsewhere recount steps they've taken to improve safety, documented with before-and-after photos. Then comes a discussion on fire prevention, with reports on the causes of recent blazes at a competitor's factory in India and a warehouse storing golf balls in Taiwan. "We have to learn from others," Liu says.

Liu is 67, with thick hair and an easy smile that belies a competitive streak. He usually gets to the office just after 6 a.m.; when someone beats him there, he's been known to come in earlier the next day. He was a pitcher on his college baseball team and likes to extend both arms to show that his throwing arm is noticeably longer, a legacy of years of curveballs.

In his telling, running Foxconn is a constant struggle to keep up with developments in technology, and then making sure the company can manufacture the necessary hardware. In his office he keeps books on the coding language Python, artificial intelligence platform ChatGPT and various AI journals. He reserves two days of his week—Wednesdays and Thursdays—for planning future endeavors and meeting with Foxconn's R&D teams, and he might spend a Saturday morning in a study session with an expert on quantum computing. "I urge all my managers to learn the technology that they'll be in charge of," Liu says. "They're able to comprehend and make better decisions that way."

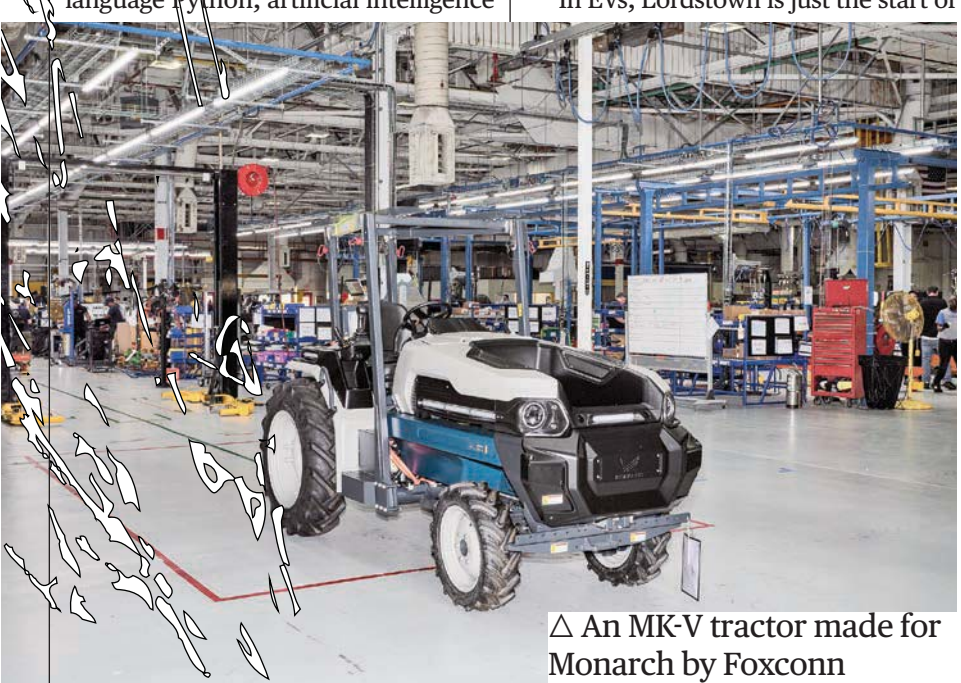
Foxconn's business plan is designed to take advantage of emerging technologies while diversifying away from smartphones. (Analysts estimate that Apple accounts for about half of Foxconn's total revenue from electronics parts and assembly.) Liu calls the strategy "3+3." The first digit represents the industries he believes Foxconn needs to conquer next: health-care devices, robotics and EVs. The second is for the underlying tech: AI, semiconductors and telecommunications. Building market share in any of those areas would require major capital investment. Targeting all of them at the same time will take a truly enormous outlay, though with almost $40 billion in cash on hand at the end of June, Foxconn is in a better position than most.

In EVs, Lordstown is just the start of a push to build out a global automotive footprint. Foxconn broke ground on an EV plant in Thailand last year, with a targeted annual output of 150,000 vehicles. It's planning others in India and potentially Saudi Arabia, with investment from the country's sovereign wealth fund. Liu says a facility in Europe will follow. Ultimately, those factories might make much of their profit from producing parts rather than finished vehicles, says Chang-Tai Hsieh, a professor of economics at the University of Chicago Booth School of Business who's studied Foxconn. "I suspect that they would be pretty happy if it turns out that their business of actually making cars for other customers ends up being mainly supplying components," Hsieh says.

Behind all these plans is an unspoken possibility: that reducing dependence on the iPhone may not mean reducing dependence on Apple. Under CEO Tim Cook, Apple has been working on a project to build an autonomous EV for about 10 years. Bloomberg News has reported that the effort could deliver a car by the end of this decade. With its long experience making products for the world's most valuable company—initially alongside the secrecy-obsessed Jobs—Foxconn staff know better than to comment on the topic. Mention a potential Apple car to Liu or any of his colleagues, and you can count on a very short discussion.

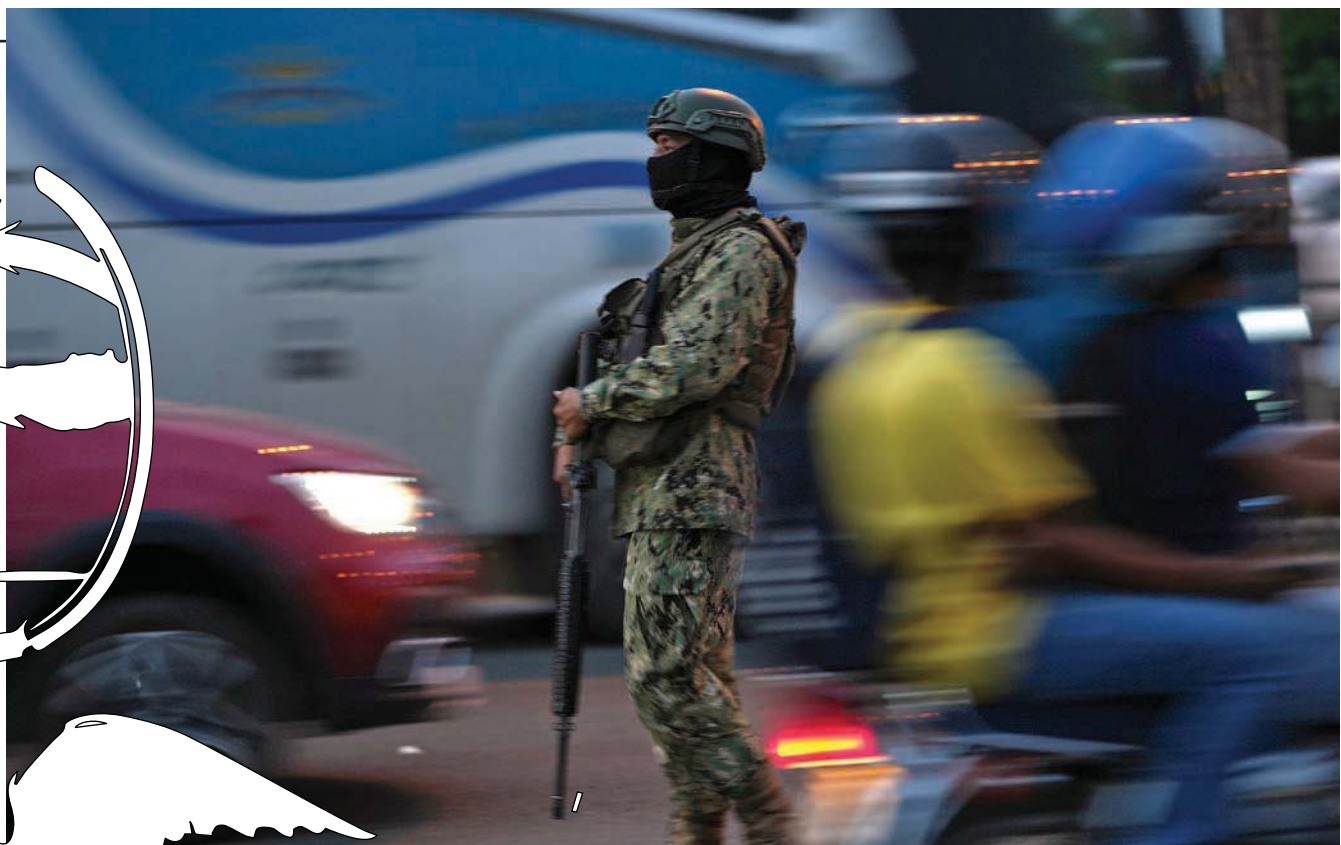
There are still some big "ifs." Apple might never bring its car to market or might choose a different manufacturing partner. (Reports trickled out in 2021 that it was in discussions with Hyundai Motor Co., which unwisely confirmed the rumors. A couple of weeks later it reversed itself and said there were no such talks.) But if Foxconn builds an automotive arm that can successfully manufacture EVs at scale, it's hard to think of a more obvious partner for the iCar, or whatever it ends up being called. "The entry barrier for this industry is high," Liu says. "Not many of my competitors are able to go into that." B

—With Mark Gurman



△ An MK-V tractor made for Monarch by Foxconn

Ecuador's Hostile



In just a few years, the Andes' most stable country has become anything but. What happened?

ONE EVENING THIS AUGUST, FERNANDO VILLAVICENCIO, a prominent candidate for the presidency of Ecuador, had just finished a campaign rally at a school in northern Quito. The longtime journalist and trade unionist was running under the banner of a centrist conservative party, though much of his rhetoric hewed to outsider populism. The country's political leaders were too corrupt to govern effectively, he said, and a shake-up was needed if its people were to break free of organized crime. "For years, rivers of money have flown to the pockets of white-collared criminals," he

DOLORES OCHOA/AP PHOTO

TAKEOVER

By MATTHEW BREMNER

△ A soldier patrols a bridge that connects the increasingly dangerous cities of Durán and Guayaquil

told the hundreds of people in attendance. He'd been in the middle of the presidential pack for a while, but one recent poll now had him in second place.

As he stepped outside the school, a team of tall, beefy security staff in blue puffer jackets scanned the throngs of press and supporters, as did a group of police officers. Supporters hollered and shoved around Villavicencio as he walked to his silver SUV. Just as the vehicle's door closed, however, 12 gunshots pierced the din. As the crowd scattered, the security staff and police found that Villavicencio had been shot several times, including in the head. (The car wasn't bulletproof.) He was rushed to a nearby clinic, where he was pronounced dead.

President Guillermo Lasso, Ecuador's embattled incumbent, announced three days of mourning. He also declared a 60-day state of emergency and deployed Ecuador's armed forces throughout the country, saying they might be needed to keep the peace. Within hours of the assassination, the authorities arrested six suspects, followed by additional arrests weeks later. Although they offered little evidence, police said the suspects were Colombian hit men with links to gangs.

For many of Ecuador's citizens, this was proof enough that the state had become powerless against organized crime. From 2016 to 2022, rival gangs more than quadrupled the national homicide rate, turning the country of about 18 million people from one of the safest places in the region to one of the deadliest places on Earth. In the first seven months of this year, Ecuador's violent deaths totaled 3,568—a 72% increase from the same stretch of 2022. Meanwhile, the cocaine trade has taken center stage. Seizures of the drug in Ecuador have more than doubled in the past few years. Shortly after Villavicencio was assassinated, authorities in Spain announced the seizure of roughly 10 tons of cocaine from an Ecuadorian banana shipment, a record bust. Guayaquil, the country's main port, has begun to resemble a front line in the global drug war.

Mafias based in Colombia, Mexico and even Albania are now widely understood to control much of Ecuador's territory. The shift has made it harder to earn an honest living there. The official unemployment rate has remained low, but Ecuador's per capita gross domestic product has shrunk 5% in the past four years. "You used to be able to drive around the country, no problem," says Angel Quintana, a taxi driver in Quito. "Now you have to plan ahead and tell people when you're going and how long you expect to be." A driver in Guayaquil, who spoke on the condition of anonymity out of fear for his safety, says that whenever he wants to visit his mother, he has to seek permission from the gang that now runs the neighborhood where he grew up.

This is the creeping loss of freedom that Villavicencio promised to roll back. He called Ecuador a "narco state" and said he would do whatever it took to chase violent criminals out of the streets. In interviews before his assassination, the candidate told supporters he was brushing off death threats he received. "You come from a brave people, and I am brave like you," he said during a speech in July. "Let the drug lords come. Let the hit men come. The time for threats is over." He claimed to have been threatened by Los Choneros, a powerful group of drug traffickers who have ties to Mexico's Sinaloa cartel and whose leader is incarcerated in Guayaquil.

Several rival gangs were blamed for his death in posts on social media, but Quito Police Commander Victor Herrera said in an interview in late September with *Bloomberg Businessweek* that it was too early to say definitively who ordered the hit. "We're still trying to figure out the logistics of the crime before we move on to who actually carried it out," said Herrera, who couldn't be reached closer to publication for an update on the case.

Yet for the rest of Ecuador, the conclusions of a formal inquiry may be beside the point. The country's stability and fortunes have fallen so far, so fast, that it can be difficult to understand how it all happened, let alone what to do next.

ALTHOUGH ECUADOR HAS EXPERIENCED PERIODS OF volatility in the not-so-distant past—it ousted three presidents in the late 1990s and early 2000s—these shifts in power were peaceful. There were no powerful groups of violent guerrillas, like the ones in Colombia and Peru, and little transnational organized crime. And while other countries in the region struggled to cope with the fallout from 2008's global financial meltdown, Ecuador, a major regional oil producer, enjoyed relative comfort as energy prices boomed. State oil revenue enabled then-President Rafael Correa, who held office from 2007 to 2017, to dramatically improve the country's infrastructure and splurge on its health care and education. (He also borrowed money from China.) From 2007 through 2016, Ecuador's public spending as a share of its GDP doubled, to 8.6%. In that time, the share of the populace living in poverty fell by an estimated 42%.

But Correa's administration may have taken Ecuador's ▶

◀ peace for granted. The country sits between Earth's No. 1 and No. 2 producers of cocaine, Colombia and Peru. It owed its security partly to the government's willingness to act as a regional home base for American foreign policy interests, including as an international staging ground for the US Drug Enforcement Administration. For years a base in the city of Manta was the only official US military outpost in South America. Americans helped surveil Ecuador's vast coastline, train local law enforcement and deter interference from other foreign powers.

Correa's administration cut ties with the US and its surveillance apparatus. Toward the end of his tenure, a landmark peace deal in Colombia disbanded the Revolutionary Armed Forces of Colombia, or FARC, the powerful guerrilla army that had run on coke money for decades. Mexican cartels soon took FARC's place in the market, aligning themselves with the smaller Colombian militant factions that chose not to disband. To this end, the cartels began moving more guns and muscle to the Ecuadorian border.

The price of crude oil also fell by roughly half around this time, making things much worse for Ecuador. Soon, Correa's successor, President Lenín Moreno, was cutting back significantly on public funding, including for police, courts and health care, and the pandemic exacerbated the country's growing austerity. (Today, only about 1 in 3 Ecuadorians has a steady job.) In swept local gangs backed by the foreign drug cartels, says Pablo Ramírez, Ecuador's national director of anti-drug investigations.

Authorities say Mexican cartels and the Albanian mob buy Colombian cocaine, send it to Ecuador, then rely on local gangs to get it through Ecuador's ports and on to the US and Europe, where a kilo can be worth $40,000 to $60,000. European drug control agencies say cocaine sales are growing. This has helped make Ecuador's gangs more motivated and violent, especially along the Colombian border and in port cities such as Guayaquil.

To some degree, the logistics have been made easier by the country's years of strong investment in roads and other infrastructure, as well as by its decision decades ago to adopt the US dollar as its national currency. Use of the dollar makes it relatively easy to hide foreign money in Ecuador, and it makes the country's economy more dependent on an influx of dollars. But there's also just so damn much money at stake, Ramírez says: "Organized crime can pay a policeman in one day what he might earn in 30 years."



△ Correa (left) and Moreno in 2017

Even two years ago, Ramírez says, all of Ecuador recorded fewer than 1,000 murders a year, and he didn't see much need for personal security. In September, during an interview at Quito's training center for police dogs, heavily armed guards in bulging Kevlar circled outside the conference room. Ramírez said he'd received a death threat a few

▽ Villavicencio at a rally in Quito right before his assassination



months before, in a letter warning him to stop trying to find and fire police officers on the cartels' payrolls. In the envelope was a piece of rotten meat.

Around the time Ramírez was throwing away the threatening protein, President Lasso, who was facing an impeachment trial on charges including embezzlement, dissolved the parliament and called for a new presidential election. Soon, Villavicencio was campaigning full time.

DURÁN, A CITY OF ABOUT 295,000 JUST EAST OF Guayaquil, is now a place where drugs and gangs rule. It recorded 177 murders in the first half of this year. In May, Mayor Luis Chonillo was almost assassinated on the day of his inauguration, his car sprayed with bullets. "I ran some 400 meters to the house of local women who stepped outside to see what the commotion was," he says. "I hid there."

Chonillo says he's frustrated with the lack of urban planning that's left houses next door to factories, and the gaps in the social safety net that have made gangs seem to be the best option available to many young people. During a trip through the city in a police car, it's easy to see what he means. The largesse of the Correa era clearly missed Durán in most of the ways that count. On the edge of town is a flatland of dusty streets flecked with litter, the air a muggy stew of dust, car exhaust and the smell of stagnant water. The roads are full of potholes as big as craters, and a typical house is a corrugated iron roof atop a mess of recycled bricks or shoots of sugar cane strung together. On street corners, children huddle together, handing out small baggies of drugs to emaciated men and women.

Closer to the city center, in a small, quiet square surrounded by angular one- and two-story houses, a group of locals offer taxi services on motorbikes. The drivers have had trouble lately, because their walkie-talkies and vests

VILLAVICENCIO: KAREN TORO/REUTERS. CORREA: JOSE JACOME/EFE/ZUMA PRESS. NOBOA: MAURICIO TORRES/EFE/ZUMA PRESS. PRISON: ECUADOR NATIONAL POLICE/XINHUA/ZUMA PRESS

are similar to those some local gangs use. They've received threats, they say, and have to be extra careful. According to police, most small businesses in Durán have to pay protection money, often referred to as *vacunas* (vaccines), to one gang or another, lest their houses or shops burn down.

"The reality of the place is harsh," says Jorge Hadathy, the district police chief. "In Durán, a generation of boys between 14 and 24 years old is lost." Hadathy says the gangs have provided many young people with the order and stability they haven't been able to get elsewhere.

Ecuador's efforts to impose its own order on gang members haven't much helped, says Fernando Bastida, a lawyer with Ecuador's Permanent Committee on Human Rights. The gangs also rule the prison system, he says, so locking people up amounts to a recruiting drive for "Crime University." Interviews with prison system officials—who spoke on the condition of anonymity to protect their jobs—supported this assessment. There have been reports of guns hidden inside prison walls, rampant drug use and explosives delivered to inmates by drones. In September an imprisoned Los Choneros boss recorded, produced and released a ballad presenting himself as a Robin Hood figure.

One woman whose son served time for aggravated robbery in one of Guayaquil's main prisons—and who spoke on condition of anonymity for fear of reprisal—says the gangs inside completely control a brutal brand of capitalism. Inmates can rent phones from the gang, for example, at a rate of $25 for two hours a week, plus $45 in unspecified taxes. When inmates can't pay up, she says, they're beaten or their families are threatened. Two years ago, she says, her son, who refused to join a gang, was killed in a prison riot. When she arrived at the prison by bus that evening, she says, "there were hordes of screaming women outside," pleading with unsympathetic authorities for help as they heard gunshots inside. She says one told her, "Let them kill each other."



▽ A Guayaquil prison after a riot that killed at least 100 inmates in 2021



△ Noboa

More than an hour later, she managed to connect with another inmate via cellphone. He agreed to search her son's cell. Soon, he relayed a grim photo. "That's when I saw my son in a pool of blood," she says. He'd been shot in the head. Around him, there were many bodies cut open, mutilated and dismembered.

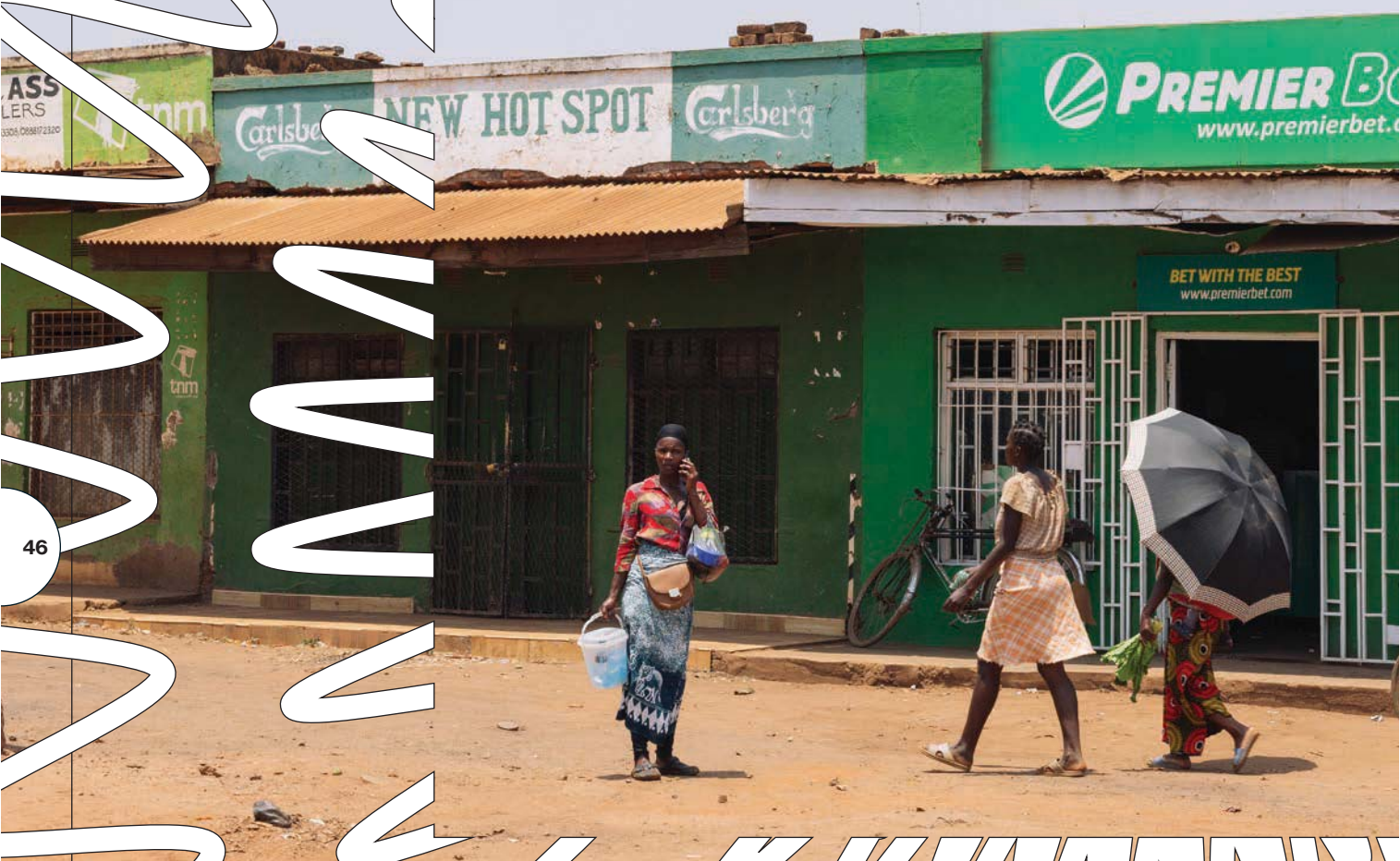
IN OCTOBER THE ECUADORIAN GOVERNMENT RELEASED news of another prison massacre. Seven of the 12 men implicated in the murder of Fernando Villavicencio had been found hanged in prison, 6 of them in Guayaquil. The news came less than a week before Election Day and less than two weeks after the US offered $5 million for information leading to the capture of the "masterminds behind the assassination." (In a reversal from the Correa era, Ecuador had asked the FBI for help.) In the wake of those killings, 52% of voters elected Daniel Noboa, a legislator and the heir to a banana fortune, whose father was a frequent presidential also-ran. He's vowed to give Ecuador's streets back to its people through force.

During the early stages of Noboa's campaign, his platform highlighted the importance of jobs and education as solutions to organized crime, emphasizing that socioeconomic development is crucial to reducing violence. He proposed judicial reforms centered on rehabilitation and civic values. Later, though, his pitch shifted toward stricter security measures, introducing a plan to centralize state intelligence in a new agency that works with the US and other countries. He's said he'll increase the military presence at borders and ports. "Hope will start working," he said in his victory speech. He's also endorsed more bizarre alternatives to the status quo, such as armored prison barges that he's said would hold several hundred inmates.

Noboa, 35, will be Ecuador's youngest president. He's also finishing out what was left of Lasso's term, ending in May 2025. "There isn't much clarity about how he's going to implement his plans," says Renato Rivera, a coordinator at a Quito nonprofit that researches organized crime in Ecuador. A heavy-handed approach might well blow back on Ecuador's people, he says, noting escalations in Mexico's cartel violence over the past two decades. Noboa's office didn't respond to a request for comment in time for publication.

In the meantime, Rivera says, Ecuador's gangs are starting to get involved in production as well as distribution. There's evidence, he says, of plantations popping up on Ecuador's side of the Colombian border. It will take more than police raids and border patrols to change things on the ground, he says: As long as organized crime is making a better offer, it will keep winning. Ⓑ

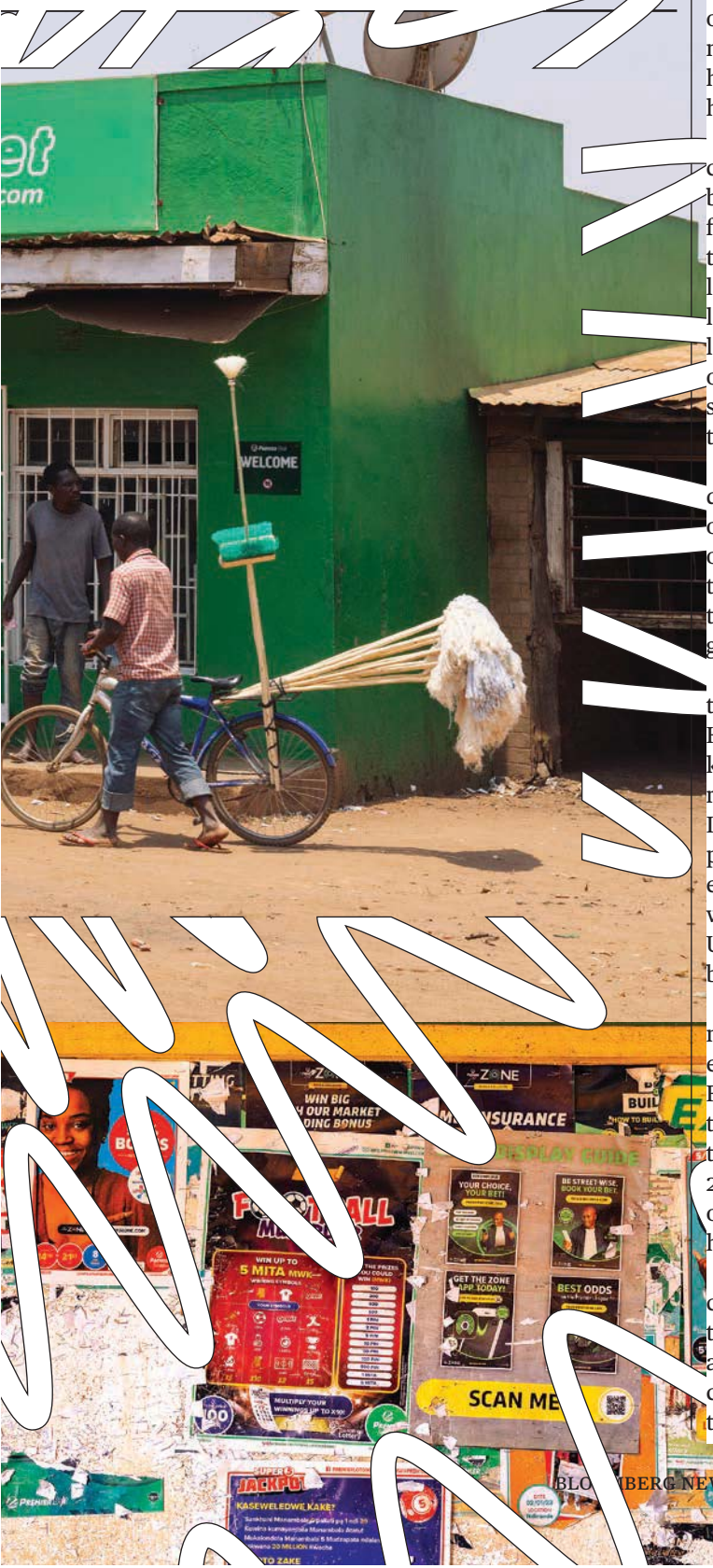
Addicted to R



Millions of young Africans with limited job prospects are driving an online gambling boom

By WILLEM MARX Photographs by SARAH WAISWA

ISK



SLOUCHED AGAINST A WALL IN THE MORNING gloom, his purple hoodie pulled low over his eyes to hide his face, Brave Luhanga is desperate for a win. For a second consecutive day, he's at a local betting shop, wagering the equivalent of 65¢ earned selling snacks to classmates on soccer games played more than 5,000 miles away from the mud tracks and tarpaulin storefronts of Area 25, his neighborhood in Lilongwe, the capital of Malawi. "I bet on five games," he says. "But I don't know the teams."

Luhanga has visited the shop—a cinder block shack with a corrugated metal roof, containing little more than a wooden betting counter, fading posters and a TV—almost every week for more than a year, sometimes bringing his own cash, sometimes with money borrowed from his mother. After calculating for a few seconds, he ruefully acknowledges that his losses outweigh his winnings. He's 15, three years under the legal betting age, but he's usually accompanied by a 14-year-old friend—taller and a bit older-looking—who can often bet if someone at the shop says Luhanga is too young. "Sometimes they throw me out," he says. "I just give the money to others."

The shop is part of the PremierBet chain, which has hundreds of outlets in Malawi, where the World Bank says 90% of the population earns less than $4 a day. PremierBet is one of dozens of international companies operating across Africa that have seized the opportunity presented by loose regulation, the rapid expansion of mobile internet, and a vast and growing population of young people with few job prospects.

Legal gambling revenue across Africa has almost tripled in the past decade, to $7.3 billion, according to research house H2 Gambling Capital. Although the continent's betting market is only about half as big as Germany's, gambling represents a growing—and worrisome—share of many economies. In Rwanda, for instance, it equals 0.59% of gross domestic product—about double the level in Germany. "When the government has this alternative way of generating revenue, they will just readily go for it," says Tunde Adebisi, a researcher at Ulster University in Northern Ireland who studies youth gambling. "It's easy money for them."

For most of the past century, gambling in Africa was primarily a European phenomenon, spreading with colonizers who introduced card games, horse racing and casinos. Following the independence movements of the mid-20th century, some newly established governments seeking to bolster their state budgets introduced lotteries. But until the early 2000s, games of chance were largely inaccessible to most of the population, with the bulk of gambling relegated to a handful of casinos in larger cities and tourist areas.

A surging interest in sports, particularly European soccer, has driven the current gambling boom. In communities where TVs are still a rare luxury, betting companies advertise heavily to bring in customers and keep them coming back. PremierBet, which has locations in 20 countries across the region, has hired former Chelsea striker ▶

◀ Didier Drogba—a native of Ivory Coast—as a pitchman. Rival 1xBet has a deal with Afrobeats star Davido, who fronts a soccer recruitment reality show that draws on players across Africa. Kenya's SportPesa has sponsored the European soccer teams Everton F.C. and Torino F.C., as well as the Racing Point Formula One squad.

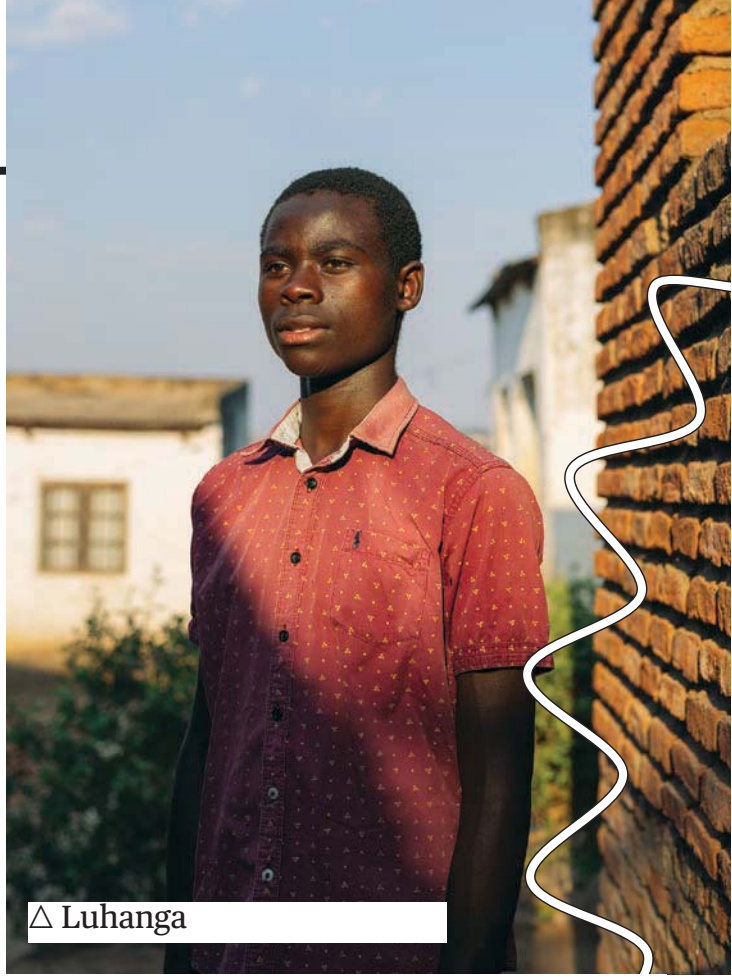
As is true almost everywhere, it's getting a lot easier to gamble in Africa. H2 says Africans this year will wager some $2.9 billion online, more than 50 times the level of a decade ago. Increased access to finance through mobile money networks, even in the most remote places, provides gambling companies with hundreds of millions of potential customers. "The ease of access to credit, combined with the ease of betting—it has put a lot of people in those areas in a debt trap," says Nelson Bwire, founder of the Gaming Awareness Society of Kenya, a nonprofit that fights gambling addiction.

In rural settlements, and even urban areas such as Lilongwe's Area 25, betting shops can serve as informal community centers. They're often the only place around with a television, and locals frequently gather to hang out with friends and watch a match on the big screen. If they happen to put some money down on the outcome, all the better. "There's no lights on at night in their villages, and you open a shop, have lights on, air conditioning, football seven nights a week, it becomes a social hub," says Neil Wilkie, a Brit who served as commercial manager of PremierBet's parent company from 2011 to 2017. "You're going to succeed because there's nothing there for the people."

Gambling sometimes augments government budgets, but much of the profit flows to investors outside the region, says Chris Bunn, a sociologist from the University of Glasgow who researches the industry's impact on public health. European entrepreneurs started many companies, he says, and their businesses in Africa would struggle to compete with established gambling giants back home, where stringent marketing restrictions and rules aimed at reducing addiction can keep a lid on potential earnings. "This is a product that offers hope that is, in most instances, a form of false hope," Bunn says. "And it's extracting money from people who really need that money for something else."

Beyond paying agents who sell tickets, the companies rarely do much for the countries' economies, Bunn says. Kenya's SportPesa is legally headquartered on the Isle of Man, and its rival Betsafe is a subsidiary of Sweden's Betsson. At Editec, the UK-registered company that owns PremierBet, country managers are often Lebanese, and technical and infrastructure support is run out of Romania. Founder and majority owner Franck Attal has homes registered in the UK and United Arab Emirates; profits are passed to an entity in Ireland. All three companies say they pay ample taxes and provide employment for thousands of locals.

The regulatory environment varies dramatically across Africa: Some countries maintain outright bans—in Somalia, gamblers can face public flogging or jail—whereas others have seen dozens of new entrants in just a few years. In Uganda, where licenses cost only a few thousand dollars, there are almost 80 registered operators, and a report published this year in the *Journal of Gambling Studies* found roughly 1 in 5 adolescents in one area qualified as "problem gamblers."



△ Luhanga

Researchers and nonprofit groups say industry players across Africa frequently outspend regulators. Darragh McGee, a senior lecturer in global health at the University of Bath in the UK, says that means many African governments aren't equipped to mitigate the potential harms that betting causes, particularly in countries with increasing levels of online access. In researching youth gambling in various African countries, he says, he frequently encounters regulatory voids and predatory practices. "Even if you are breaking the rules," McGee says, "there's very little chance you'll be caught."

TRAVELERS EXITING LILONGWE'S AIRPORT encounter a billboard highlighting the scourge of forced child labor on the country's tobacco farms, flanked by a giant ad for PremierBet. Promising hefty bonuses for new players, it urges "Bet with the best." A few miles on, PremierBet signs ring a traffic circle. "No account required," they read. "Play and Pay anywhere, anytime." In neighborhoods throughout the city, the chain's dozens of storefronts are painted with its bright green-and-white logo.

Area 25, a fast-growing warren of brick shacks with 100,000-plus residents—half of them children—has five



▷ PremierBet's ads promise hefty bonuses for new bettors

PremierBet outlets within walking distance of one another. At a PremierBet Express shop on a cul-de-sac beside the O to Z liquor store, near a high school and a Seventh-Day Adventist Church, the floor is strewn with discarded betting slips. More than a dozen men and boys pack the three narrow yellow wooden benches, watching an English Premier League match between Chelsea F.C. and Luton Town F.C. The shop's manager, Pious Chirambo, insists he checks the ID of anyone who appears to be under 18, but some are clearly younger. George Sanders, chief executive officer of Editec, acknowledges that keeping teens out of PremierBet stores is a challenge. "We're pushing to lead the way with sort of 'responsible,'" he says. "But it's quite hard to manage."

A faded poster champions a lucky bettor who took home 45 million Malawian kwacha ($39,571). A smaller sign by the door advises players to "please gamble responsibly," which for Chirambo means wagering only your own money. After three years on the job, he says he finds it easy to identify problem gamblers. After a major loss, he'll often gently suggest that the customer "try another day." Some people, he says, bet more than one month's salary. And he knows others whose marriages have failed. "The more you place, the more you lose, so the more you keep gambling," he says. "It's like a syndrome."



▽ Inside a PremierBet shop in Area 25

The association between gambling and soccer—particularly England's Premier League—is strong across Africa. Matches are played almost every Saturday from August through May, and on those days Chirambo usually accepts around 500 bets, with a minimum stake of 150 kwacha. One man recently won 460,000 kwacha with bets on several games, prompting others in the store to bet more. "It's very tough," Chirambo says in halting English, "for Malawians, especially young people, to find a job, basically to make some money."

Gambling experts say sports betting has one major guardrail: It's tied to real-world events and outcomes, so there's an inherent limit to how often players can gamble. That's not the case with casino games. And their digital versions are even easier to access, as there's no need for one-armed bandits, poker tables or spinning balls. All the bettor needs is a connection to the internet and money to lose. "I can be in my office, on my phone, gambling the whole day, and nobody can know," says Andrew Mihawa, advocacy coordinator at Saint John of God Hospitaller Services, Malawi's only organization offering treatment for people with gambling addictions.

A further concern is that sports betting can serve as a gateway to those other kinds of gambling. At another PremierBet location, right off Lilongwe's Mandala Road, the big screen doesn't have a soccer game. Instead, it shows a digital roulette wheel that about half the men in the shop say they're betting on. Malawi's licenses for casino games only authorize betting in actual casinos—not online. PremierBet insists it has the necessary permissions, but Rachel Mijiga, head of the Malawian Gaming and Lotteries Authority, says that's not the case. She expresses surprise when she's shown images of the digital roulette at the Mandala Road and other PremierBet venues. "They're not allowed to offer those games," she says.

About 87% of Malawi's $50 million in gambling industry revenue last year came from sports betting, with the rest coming from seven casinos that range from a penny slot machine parlor to a five-star resort with table games. As ▶



◀ more companies offer online gambling, Mijiga says, her organization lacks the technical ability to monitor operators. But by the end of this year, she says, she'll deploy specialized software that will guarantee online gamblers are offered fair odds while allowing the regulator to accurately track sales for taxation and better identify problem gamblers.

Since she was appointed in February 2022, Mijiga has helped rewrite legislation that dated from the 1990s and can now impose stiffer penalties for infractions. "We needed to get power over the operators when it comes to regulation, to understand what they're doing," says Mijiga, a former executive at the country's Coca-Cola franchise. During her first year in office, gambling revenue more than doubled, Mijiga says proudly, adding that betting can boost tourism and bolster Malawi's foreign currency reserves. She envisions visitors flying to a luxury casino-hotel complex on an island in Lake Malawi, near the coast of neighboring Mozambique. "When tourists come into a country, they don't just want to see the beautiful lake," Mijiga says. "They want some activity."

TWO HOURS BY PLANE NORTH OF LILONGWE, THE road into town from Nairobi airport is smoother and flanked with ads for a vast array of products, a sign of the country's stronger economy. But gambling isn't among them, since traditional billboard promotions for the industry have been forbidden since 2020. That's spurred betting firms to find other ways to get their brands before the public. In the city center, kids in soccer shirts emblazoned with gambling company logos skitter between spewing trucks. The ground floors of downtown high-rises and cluttered suburban strip malls are covered with signage for companies such as Mozzart Bet and Forzza Bet. Newspapers and local websites brim with gambling ads. And betting firms pay influencers to push their brands on social media. "Nobody bets money they can afford to lose—nobody," says Carol Radull, a popular sports radio host who's worked as a brand ambassador for sports betting businesses but is now ambivalent about the industry's impact. "It's reached a point where people bet in Kenya like it's a religion."

Gambling executives describe Kenya as one of Africa's most dynamic markets, but many are concerned about the industry's future there—and not just because of measures such as the billboard ban. Some worry that if sports betting is left unchecked, particularly among young people, policymakers will eventually clamp down. And almost all say the state has ramped up taxes so much that it's getting tough to maintain profitability. Kenya collects a levy of 15% on gross gaming revenue (the difference between what bettors gamble and what they receive in winnings), a corporate tax of 30% on profits, a 12.5% sales tax on each bet laid and a withholding tax of 20% from payouts made to winners. Taxation "is our biggest challenge" in Kenya, says Kresten Buch, a Dane who founded betPawa, which operates in 11 sub-Saharan countries. The levies are roughly in line with those in parts of Europe, but Buch says the burden threatens to drive legitimate operators out and leave less salubrious companies that won't play by the rules.

After selling a provider of sports statistics that he'd founded, Buch in 2009 met a Kenyan who suggested he look at Africa. He soon put money into various industries across the continent then eventually bought a Ugandan sports betting company that became betPawa. He says he's invested $2.5 million in betPawa—the name reflects the local pronunciation of "power"—creating an online offering that takes advantage of the relatively sophisticated mobile networks in East Africa. His goal was to avoid retail operations, which he says are plagued by money laundering and agent theft. "We didn't want to touch anything physical with cash," Buch says.

The effects of the surge in gambling are evident at Nairobi's main soccer stadium, where tens of thousands of seats remained empty for the recent season opener between Gor Mahia F.C., sponsored by SportPesa, and Sofapaka F.C., backed until last year by a rival gambling company, Betika. Those who've bothered to show up seem to be giving as much attention to their phones as to the action right in front of them. Robert Ogada, a 37-year-old pharmacist, says he and his friends no longer bet on local matches because "the data is unreliable." He's talking about match fixing, which, judging from the number of signs around the stadium decrying the practice, is a major issue in Kenyan soccer. So while Gor Mahia and Sofapaka fight it out on the pitch, Ogada keeps a close eye on his phone to track the progress of his 50¢ wager on the outcome of a dozen matches in Europe; if he's right on all of them, he'll win almost $1,700. With two young kids, he says, he needs cash—though he doesn't tell his wife about his betting. "She'd kill me if she knew," he says with a laugh. "Even if she's enjoying the money from my bets, I wouldn't tell her where it's from."



◁ Kenya's gambling companies skirt ad limits with big signs at their outlets

ACROSS AFRICA, VARIOUS groups have sprung up to address the perils of gambling addiction. Joseph Kamau is director of the Primrose Rehab and Wellness Center, a clinic in Nairobi that treats dependence on drugs and alcohol and related maladies. In the clinic's front yard, set back from a dirt road in a neighborhood of run-down villas, two sullen young men—one in a *Star Wars* T-shirt, the other in a jersey of the German soccer club Borussia Dortmund—shuffle back and forth shooting pool at a scuffed table. In 2018, Kamau co-founded a group called Gamhelp to address the growing issue of gambling addiction; since then, it's treated more than 380 people—ranging from 8 years old to 70-plus—who have gambling problems.

Most of his patients who bet are poor, earning as little as $1 a day from menial jobs, and Kamau says many consider gambling a way out of poverty. "They're clinging to the hope that something could happen one day and it could remove them from their financial problems," says Kamau, a soft-spoken man in his early 30s. Gambling companies market irresponsibly, he says, seeking to convince people that betting isn't just for fun, but "something to make you rich, like a legitimate business."

The clinic can house about three dozen people, and it's largely underwritten by patient fees, because neither Kenya's gambling regulator nor any other part of the government offers any financial support. Betsafe at one point contributed $500 monthly, but the Swedish-owned company withdrew its backing in January when it cut its marketing budget. Kamau doesn't charge for outpatient treatment of gambling addiction, so he says he needs assistance from the state to deal with the growing problem. The government "doesn't understand the severity," he says. "We can't meet the demand."

Not all people with a gambling addiction sit at the bottom of Kenya's economic ladder. At age 23, Ezekiel Kimani moved to Nairobi in 2009 from a village in the north, earning $140 a month at a company selling phones. Commuting six hours a day via *matatu*, the ramshackle buses that roam the city, he clawed his way into the middle class, with new jobs, promotions and steady raises. Then in 2021 his teenage daughter was diagnosed with kidney failure and epilepsy. Medication was expensive by Kenyan standards—more than $1,000 a year—but far more ruinous was Kimani's descent into gambling addiction. His younger brother, struggling to conquer his own habit, cautioned, "Once you start, you'll never be able to stop." But he ignored the warning, thinking he was stronger than his brother. "I did not have any fear," he says.

He started playing a form of virtual soccer on a site called SportyBet that offers sped-up versions of imaginary games involving real team names and avatar players, where the operator decides the final score of a match lasting only a few minutes. Initially he wagered a dime, then 70¢, then $1.50. By 2021 he was "out of control," he says, squandering around $4,800 that year—two-thirds of his annual income—as he repeatedly returned to the website seeking to make up for earlier losses. "There's always a feeling, 'I could have won. There's something I've done wrong,' " he says. He told his wife his wages were paid late, then frantically borrowed from friends, relatives and colleagues, who thought their loans were needed to help pay for his daughter's expensive treatment and that he'd soon reimburse them from his steady paychecks.

Two years ago, his daughter, who sometimes went without medication because of family cash shortages, found the website on his phone and looked through his betting history. "I had always been honest with them," Kimani says, breaking down in tears at a cafe in a Nairobi mall. "The person they had trusted the most had betrayed them." He promised to stop but couldn't, and by early 2022, when he won another promotion with a pay raise to almost $700 a month, he sometimes frittered away his paycheck within hours. Then Kenya's economy started to tank, and his wages fluctuated for real. After he missed rent payments for three straight months, he sold his computer and music system to placate his landlord, but the family was still evicted. He asked SportyBet several times to ban his phone number from its site, but each time he got a new number and kept playing. In August he asked Kenya's Betting Control and Licensing Board to permanently exclude him from all gambling sites, regardless of his number. The regulator told him he would require a lawyer's affidavit to do that, which Kimani says he can't afford. "My life is so totally messed up," he says. "I have failed my friends. I have failed my family." B



△ Kimani

Meet the CONNECT

Five countries gaining from shifting supply chains

You may not have grown up playing with an Erector Set, but perhaps you had another building kit where, with patience and parental assistance, you could bolt plastic rods together to create colossal structures. The most important pieces were some of the smallest and the quickest to vanish under the rug or into the vacuum: the connectors. Without those, you were just another frustrated mini starchitect.

We'd like to introduce you to a real-life set of connectors. That's our name for a group of countries emerging as important links in a global economy that's fragmenting into rival blocs. In collaboration with Bloomberg Economics, *Bloomberg Businessweek* took a dive into trade and investment data and found five nations straddling the new geopolitical fault lines: Vietnam, Poland, Morocco, Mexico and Indonesia. Their geographic location and ability to grease trade has set them up as crucial middle grounds between the US and China—or between Europe, China and other Asian economies.

As a group, our connectors punch above their weight: They represent 4% of global gross domestic product, yet they've attracted a little bit more than 10%, or $550 billion, of all so-called greenfield investment since 2017. (The term describes outlays by a foreign company setting up operations in another country.) All have seen their trade with the world accelerate above trend in the past five years.

Economists at the Bank of International Settlements looked at data from more than 25,000 companies and found supply chains lengthening as other countries, especially in Asia, became additional stops in trade between China and the US. Companies shifting supply chains away from China are often moving production to countries whose economies are already highly integrated with China's, such as Vietnam. Mexico, where investment by Chinese manufacturers has ticked up noticeably in recent years, is also becoming an important link in US-China trade. So it's not so much that the US and Chinese economies are decoupling—they're just coupling in different places.

Even if there are winners in this new era, economists warn that the hit to global growth from the disruption to flows of investment and trade will be negative, with poor nations suffering more than rich ones.

Still, the connectors are proof that talk of the end of globalization is overwrought. Goods and capital still move across borders—even more of them, in fact. —*Enda Curran, Shawn Donnan and Maeva Cousins*

▽ Picking Winners: How We Found Our Five



DATA: BLOOMBERG ECONOMICS ANALYSIS OF UN COMTRADE & UNCTAD WORLD INVESTMENT REPORT DATA

'ORS



1 Vietnam A Delicate Balance

	2022	Change from 2017
Exports to US	$127.5b	174%
Imports from China	147.6	104
Greenfield investment	25.9	21

DATA: IMF, UNCTAD

Vietnam's role as a connector economy has been supercharged in the years since former US President Donald Trump placed tariffs on Chinese goods and the pandemic sharpened scrutiny of supply chains.

One example: A $1 billion Foxconn Technology Group factory complex that will churn out Apple Inc. MacBooks is rising in what used to be rice fields in northern Vietnam. Across the Cau River, Goertek Inc., a Chinese company that makes AirPods, is building a plant on a site rimmed by banana trees, lotus ponds and grazing buffalo.

With its combination of low labor costs, improving infrastructure and an expanding roster of trade agreements, Vietnam has attracted a host of Apple suppliers, including Luxshare Precision Industry Co. and Pegatron Corp.

Giant electronics manufacturers have been relocating some production from the Chinese mainland to Vietnam for about a decade, but this trend has accelerated in recent years.

The US is the destination for about a third of Vietnam's exports. China is the biggest supplier of materials for Vietnamese producers of machinery, material for garments and more.

Vietnam formally upgraded ties with the US in September, shifting the relationship to a "comprehensive strategic partnership"—a diplomatic status previously reserved for a select few, including China and India. The US also announced a partnership in September to help Vietnam develop its nascent semiconductor industry. And Vietnam is a member of the Regional Comprehensive Economic Partnership, a three-year-old free-trade agreement that China spearheaded.

The electronics industry contributed 32% of all exports in 2022, about twice as much as a decade ago. The sector employed 1.3 million workers as of June 2022. Vietnamese officials are confident those figures are headed higher. "There are plans for even more factory expansions," says Nguyen Dinh Vinh, who sits on the management board overseeing industrial parks in Bac Ninh province, where Goertek is building another factory. —*Nguyen Dieu Tu Uyen and Nguyen Xuan Quynh*

Greenfield investment, 2017-22

$139.1b

2 Poland Battery Powerhouse

Exports to EU	$257.8b	56%
Imports from China	38.2	112
Greenfield investment	17.8	11

When Poland's government announced last year that the country would be building its own brand of electric vehicles, called Izera, it was a clear signal that a nation that once boasted several of its own marques had bigger ambitions than being a production hub for Western European automakers. State-owned ElectroMobility Poland signed an agreement with China's Geely Holding Group Co. in 2022 to supply the technology for the project. Production of a hatchback model and an SUV is scheduled to begin at the end of 2025 at a plant located in the coal mining heartland of Silesia.

Poland already has well-established links to the European auto industry, and giants such as Volkswagen AG and Mercedes-Benz Group AG are setting up plants to manufacture EVs in the country. But foreign investment has surged in recent years, with a significant portion of the $125.1 billion in greenfield investment it has attracted since 2017 coming from further afield.

Poland sits behind only China in global battery production rankings, hosting the likes of LG Chem, Northvolt, SK Innovation and Umicore. Shipments of made-in-Poland lithium-ion batteries totaled 38 billion zloty ($9.1 billion) last year, equivalent to 2.4% of all exports, according to official data.

The proliferation of battery plants has been accompanied by a jump in imports of raw materials, such as graphite, from China. The value of China's exports to Poland has risen 112% since 2017, to $38.2 billion last year. The dependence on Chinese inputs is widely seen as a potential vulnerability for Europe's nascent EV industry, which is also under assault from a tide of imports of generally lower-priced Chinese plug-in cars. Yet in Poland and other places, longer-term geostrategic concerns carry less weight than the immediate economic boost that the new plants can provide.

LG Energy Solution Ltd.'s five-year-old lithium-ion battery plant in Wroclaw, in the southwestern part of the country, is the largest facility of its kind in Europe, employing more than 7,000 people. Once a €500 million ($530 million) expansion is completed in 2025, the factory will turn out enough batteries to power 1 million plug-in cars a year.

About an hour's drive south from Wroclaw, in Nysa, a joint venture between Belgium's Umicore SA and Volkswagen will sink €1.7 billion into a plant that will manufacture cathode material, a key component in batteries. Mercedes is building an EV plant nearby, at a cost of more than €1 billion. —*Maciej Martewicz*

Greenfield investment, 2017-22

$125.1b

3 Morocco Free-Trade Pacts Pay Off



Exports to US	$1.7b	38%
Imports from China	5.8	80
Greenfield investment	15.3	290

Morocco, home to the world's largest reserves of phosphate, is becoming an important contributor to the global car industry's transformation. The mineral is a key ingredient in lithium-iron-phosphate (LFP) batteries, a fast-growing variety of rechargeable cells used in electric vehicles.

The country already has a burgeoning auto sector, with plants owned by Renault SA and Stellantis NV churning out thousands of cars a day, supported by dozens of established American suppliers. They include Lear Corp. in Southfield, Michigan, and Commercial Vehicle Group Inc. of New Albany, Ohio, which announced expansion plans this year.

Now an EV battery supply chain is taking root. Morocco's strong trade relations with Europe and the US, along with its welcoming attitude toward foreign direct investment, make it a meeting place where companies aligned on either side of the growing US-China divide can compete or collaborate.

In 2022 in Morocco, $15.3 billion in new greenfield factory projects funded by foreign investors was announced—almost as much as the five previous years combined. And the trend shows no signs of slowing. In May, China's Gotion High-Tech Co. signed a deal with the kingdom to build a $6.4 billion battery factory, which would be one of the world's largest. In September, CNGR Advanced Material Co., a Chinese maker of battery components, announced what may become a $2 billion project to produce enough LFP batteries to eventually equip 1 million vehicles a year. CNGR Europe Chief Executive Officer Thorsten Lahrs says Morocco sits in a "sweet spot" for delivering the car batteries of the future.

Greenfield investment, 2017-22

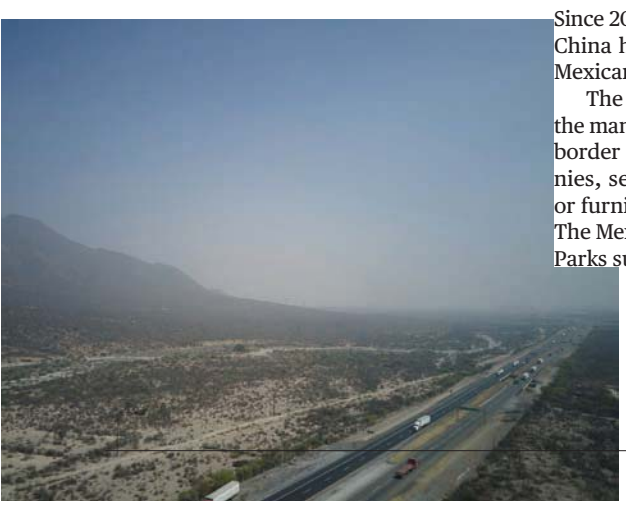
$34.2b

Yet minerals and market access are only part of the story: US industrial policy is also having an impact. In September, South Korea's LG Chem Ltd. and Youshan, a subsidiary of Huayou Group of China, announced plans to make Morocco their global base in the LFP market, with mass production planned for 2026. In the announcement, the partners were explicit about the economic rationale: The choice of Morocco was influenced by the terms of the US Inflation Reduction Act. The 2022 law offers tax rebates on sales of EVs whose contents meet made-in-America thresholds. Parts, and also minerals, sourced from countries that have free-trade agreements with the US count toward those requirements.

—Brendan Murray and Annie Lee

4 Mexico A Side Door Into the US

Exports to US	$454.9b	45%
Imports from China	77.5	115
Greenfield investment	41.0	47



This year, Mexico eclipsed China as the biggest exporter of goods to the US. But that doesn't tell the whole story of how its economic relationship with the colossus next door—and the rest of the world—is changing. Since 2017, the value of Mexico's imports from China has been growing faster than that of Mexican exports to the US.

The reason for this growth is that many of the manufacturers opening plants in Mexico's border states these days are Chinese companies, selling everything, whether car parts or furniture, with a focus on the US market. The Mexican Association of Private Industrial Parks surveyed its members earlier this year and learned that they expect that over the next two years, 1 in 5 of the new businesses setting up shop will be Chinese.

In April, TDI Manufacturing Mexico, an offshoot of Zhejiang Yinlun Machinery Co., a Chinese supplier of cooling systems for cars and heavy machinery, opened a 152,000-square-foot facility in Hofusan Industrial Park, near Monterrey, where all the tenants are Chinese.

Yinlun TDI LLC, the California-based subsidiary of the Chinese manufacturer, had been watching labor costs tick up in the US and the cost of importing goods from China increase as well, says its president and CEO, Scott Chen. So to service clients that include Caterpillar, General Motors and John Deere, the company decided in 2021 to invest $20 million to build the plant in Mexico.

The bet has already paid off. In February 2023, about a year after Yinlun bought the land, the Mexican government announced Tesla Inc. would be opening a Gigafactory to make EVs in the same state, Nuevo León.

Yinlun's initial $20 million investment in its first Mexican factory is going to be small, Chen says. But he's already leased a second plant, bigger in size, and is thinking about a third. Meanwhile, he's working to staff up the new facility by offering bonuses of as much as 80% of base pay to lure technicians and engineers employed by Yinlun's corporate parent in China to Mexico. Eventually, Chen says, he hopes to replace all but a few of the Chinese workers he's imported with local employees. "Every month we get more Mexican staff coming on, and the China staff going back to China," he says. "In two years, we think it'll be almost all Mexican local staff."

One of the biggest draws for Yinlun and other Chinese companies setting up shop in Mexico is the country's 30-year-old free-trade agreement with the US and Canada. Trump successfully pushed for a renegotiation of the original pact with the goal of bolstering manufacturing in North America and reducing US reliance on Chinese imports. He didn't count on Chinese companies finding in Mexico a side door into the US, one that allowed them to evade the tariffs he levied on US imports from China.

The result is that investment announcements by Chinese companies jumped almost 50% in 2022, to $2.5 billion, according to the Latin America and Caribbean Network on China. The momentum has carried into this year. Lingong Heavy Machinery Co. announced in October that it will build an industrial park in Nuevo León that state officials say will lead to $5 billion in industrial investment and about 7,000 jobs.

"Chinese companies have entered a new phase of global configuration," with Mexico a key link in that process, said Zhang Run, China's ambassador to the country, at an event hosted by a commission of the Mexican Senate in October. —*Maya Averbuch*

Greenfield investment, 2017-22

$161.9b



5 Indonesia

In Search of a Counterweight

Exports to US	$34.6b	71%
Imports from China	71.5	105
Greenfield investment	15.0	48



Greenfield investment, 2017-22

$90.2b

Indonesia is actively courting companies from both the US and China to deliver on President Joko Widodo's vision of building out an entire electric-vehicle supply chain. Tesla and Volkswagen have been invited to invest, with an eye to balancing Chinese companies' dominance in refining nickel and making batteries. That's already yielded unique corporate marriages across geopolitical blocs. In March, Ford Motor signed a deal with China's Zhejiang Huayou Cobalt and Brazil's Vale to lock down supplies of nickel, a metal used in the production of EV batteries.

With an abundance of natural resources and a 270-million-strong population, Indonesia is figuring that it's too important to be forced to choose between the world's two largest economies.

Batang Industrial Park in Central Java is home to a number of US companies, including some that have relocated from China, such as solar lamp maker Alpan Lighting Products Inc. And Morowali Industrial Park, on the island of Sulawesi, is dominated by Chinese investment, mainly in nickel processing.

Still, the balance of US and Chinese investment has grown increasingly lopsided over the years, with Chinese foreign direct investment in the first half of 2023 worth twice that of the US's. This disparity has prompted Senior Minister Luhut Panjaitan to call out American companies earlier this year for staying on the sidelines. "We can't keep begging and begging from you," he said. "You may be angry at us for trading with other countries, but we have to survive." —*Grace Sihombing and Claire Jiao*

VIETNAM: LINH PHAM/BLOOMBERG. MOROCCO: FADEL SENNA/AFP/GETTY IMAGES. MEXICO: MAURICIO PALOS/BLOOMBERG. INDONESIA: DIMAS ARDIAN/BLOOMBERG

The Fight for GENERIC DRUGS

Brazil once pioneered affordable treatments.



△ Terto, an AIDS activist, has witnessed Brazil fall behind. "There is so much left to do," he says

Then came a patent war

By AMY MAXMEN
Photograph by RODRIGO OLIVEIRA

FADED POSTERS MARKING PIVOTAL MOMENTS IN HIV history adorn the walls of Veriano Terto Jr.'s office. One announces Brazil's first meeting of homosexuals in April 1980. In another, for World AIDS Day in 1988, Portuguese words wrapped around a globe demand an end to discrimination.

Brazil was once at the forefront of a global movement to provide HIV treatment for everyone who needed it, in rich and poor countries alike. The South American nation led the charge by making and importing lower-cost generic drugs, distributed for free through its national health-care system. Death rates from AIDS in Brazil plummeted by half, and hospitalizations dropped about 70%, from 1996 to 2002. "Brazil succeeded as a kind of model for the world for AIDS treatment," says Terto, vice president of the Brazilian Interdisciplinary AIDS Association (ABIA), an advocacy group in Rio de Janeiro. "I started my treatment with Brazilian generics in 1997," he says, "and because of them, I am alive."

But times have changed. Terto, 62, now gets his HIV pills on the black market through an acquaintance in Florida, because Brazil's health system has yet to distribute his better, but pricier, brand-name medicine. New drugs have become expensive in Brazil and other middle-income countries where pharmaceutical companies stave off competition from generic manufacturers by fiercely defending their intellectual property. Without a license, makers of generics can't sell more affordable versions of patented drugs. "There was a high-water mark for access to medicines at the height of attention to HIV in the early 2000s, when basically every new HIV drug came with licenses," says Matthew Kavanagh, a global health policy researcher at Georgetown University in Washington, DC. "But that has waned, and the prices have gone up."

Almost two-thirds of Brazil's HIV budget is spent on buying medicine, leaving little for programs to prevent and test people for the disease and to ensure that almost 600,000 people with HIV stay on treatment. It's an urgent problem in the country, as well as in much of Latin America, Central Asia and eastern Europe, where rates are rising. HIV infections increased 8% in Latin America from 2010 to 2022, but they dropped 55% in sub-Saharan Africa where pharmaceutical companies permit low-cost alternatives, according to data compiled by the Joint United Nations Programme on HIV/AIDS (UNAIDS).

In Brazil, for example, a key HIV drug—dolutegravir—costs more than seven times the price of generics available across the African continent (table, page 58). In addition, countries categorized as middle-income by the World Bank receive far less aid to buy medicines and supplement domestic health budgets that support large numbers of people living in poverty—about 60 million in Brazil. "One of the reasons why we're not moving as fast as we could to end AIDS as a public-health threat is that the system of sharing technology isn't delivering for the middle-income countries," says UNAIDS Executive Director Winnie Byanyima.

Paradoxically, the countries excluded from licensing deals are often those that have scientists and facilities to make their own medicines. With about 350 drug companies, Brazil's pharmaceutical industry is the largest in Latin America. "We cannot be condemned to the position of being eternal consumers of drugs produced in the US and Europe," Terto says. "We could help the world, especially the developing world, access medicines."

TERTO WAS DIAGNOSED WITH HIV IN 1996, JUST AFTER the World Trade Organization adopted an agreement that would transform health care around the world. As Brazil and India were building up their pharmaceutical sectors, powerful drug companies in North America and Europe successfully lobbied their governments to expand intellectual-property rights by tying them to trade. They established a set of universal standards, such as making patents available for all kinds of inventions and protecting them for a minimum of 20 years.

Brazil, Cuba, India and others argued against the rules. Joseph Stiglitz, a Nobel laureate and former chief economist at the World Bank, described the Trade-Related Aspects of Intellectual Property Rights, or TRIPS, agreement as "a death warrant for thousands of people" living in countries that couldn't afford high prices on brand-name drugs. Nonetheless, to remain members of the WTO, more than 150 countries, Brazil included, signed on.

The fallout was immediate. In 1998, Pfizer Inc. and other drug companies sued South Africa—and the US threatened sanctions—when then-President Nelson Mandela proposed a bill to permit the use of generic versions of patented HIV drugs as deaths mounted in his country. By then, Terto sat on the board of Brazil's first advocacy group for HIV-positive people: Grupo Pela VIDDA, whose full name translates into "For the Valorization, Integration and Dignity of People with AIDS." Alarmed, members of the group traveled to Recife, a city in northeast Brazil, to deliver a letter to the American Consulate asking the US government not to punish South Africa. "We thought, 'That could happen to Brazil,'" Terto says.

It did. In 2001 the US government initiated legal proceedings against the country for allowing generic HIV drugs to be dispensed, many produced domestically prior to the TRIPS agreement. Faced with public condemnation, however, the US didn't follow through.

In 2007, Brazil went a step further under then-President Luiz Inácio Lula da Silva. The government wanted to buy a vastly improved HIV drug, efavirenz, for its citizens. But Merck & Co., its maker, declined to significantly drop its price or permit the entry of generics that cost half as much. In response, Lula issued an order to break patents on the drug, citing a provision of the TRIPS agreement that allows such a move when it's needed to protect public health.

Carlos Passarelli, now a senior adviser at UNAIDS, was in the Brazilian Ministry of Health at the time. He ▶

◀ says the decision was excruciatingly difficult because of concerns about US retaliation. That didn't happen. But Merck issued a statement ominously warning that the move "will have a negative impact on Brazil's reputation as an industrialized country seeking to attract inward investment."

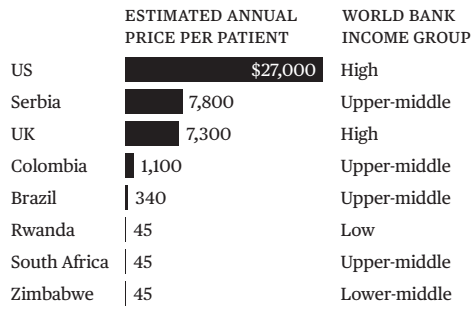
This would be the first and last time Brazil used the provision, called compulsory licensing, to override patents on a drug for humans. Compulsory licensing is technically challenging and politically fraught. When Colombia moved to issue such a license for Novartis AG's leukemia drug Gleevec in 2016, for instance, the US government threatened to pull financial assistance for peace negotiations between the government and guerrilla groups.

Rather than resort to such hair-raising tactics, the United Nations backed an initiative in 2010 that sought a compromise. Pharmaceutical companies could voluntarily share patents with a group in Geneva called the Medicines Patent Pool, which would then license them to generic manufacturers under specific conditions, in return for royalties. The mechanism has delivered: Patent pool agreements on about 20 drugs for HIV, cancer, Covid-19, hepatitis C and tuberculosis allow countries to make and use generics.

But pharmaceutical companies decide which nations to include, and when. Take dolutegravir, the most widely prescribed treatment for HIV, made by ViiV Healthcare Ltd., a London-based company that's majority-owned by GSK Plc. Dolutegravir is more effective, has fewer side effects and is easier to take than earlier treatments. These qualities also translate into fewer new cases, because when people with HIV take potent medicines consistently, they rarely spread the disease, even during unprotected sex. Thanks to patent pool agreements, 126 countries now can buy dolutegravir from generic manufacturers at an annual cost of around $45 per person.

Brazil and Colombia, which together are home to about 60% of people living with HIV in Latin America, are both excluded from these agreements. Brazil pays around $340 per person, per year, for ViiV's dolutegravir; Colombia, more than $1,100. Esteban Burrone, the head of policy, strategy and market access at the Medicines Patent Pool, says that the group attempts to serve as many countries as it can but that the choice is ultimately made by companies. In an email, Melinda Stubbee, a communications director at ViiV, wrote that the company deploys different strategies to "deliver on its mission to leave no person living with HIV behind." These strategies vary according to a country's infrastructure, its gross national income per capita and its epidemic burden, she added.

▽ Dolutegravir Prices



PRICES ARE FOR ADULT DOSES; $45 ESTIMATE BASED ON GLOBAL FUND COSTS. DATA: DRUGS.COM; SIM AND HILL, *JOURNAL OF VIRUS ERADICATION*, 2018; BRITISH NATIONAL FORMULARY; COLOMBIAN MINISTRY OF HEALTH AND SOCIAL PROTECTION; BRAZILIAN MINISTRY OF HEALTH; GLOBAL FUND

It's not quite so transparent, however. South Africa can use generics even though its per-capita output is roughly equivalent to Brazil's. So can Argentina, Chile and Uruguay, despite their being wealthier and having less HIV than Brazil and Colombia.

Andrew Hill, a drug development researcher at the University of Liverpool in England, notes that patents on several HIV treatments are set to expire in the coming years. Without newer, more effective drugs to replace them, he suggests, companies are becoming increasingly protective over their monopolies in specific regions. "Patent protection for drugs like dolutegravir is a key issue," Hill says. With a population of about 215 million people, Brazil ranks as the world's sixth-largest market for pharmaceuticals. It should come as no surprise, then, that pharma companies would want to exercise their pricing power there.

IN EARLY OCTOBER, COLOMBIA TOOK A BOLD STEP BY moving to override ViiV's dolutegravir patent with a compulsory license. In a 70-page document justifying the controversial decision, the Ministry of Health and Social Protection summarized its objective as follows: "To seek a balance between the patent system and public health, ensuring that innovation is at the service of humanity and does not only serve economic interests." Officials at the ministry didn't respond to an interview request.

HIV cases in Colombia have jumped 33% since 2018, spurred by poor access to health care among recent Venezuelan migrants and others living in poverty. More than a third of people infected aren't taking any or enough medicine to suppress their virus levels, meaning they can still transmit the disease. With generic versions of dolutegravir, Colombia estimates it could treat 27 people for every one person with the brand-name pills, while reinvesting the tens of millions of dollars in resulting savings into HIV prevention, diagnosis and treatment programs.

"We are considering how to best respond to this decision and are actively making efforts to engage with the Colombian government to find a way forward," ViiV's Stubbee wrote in her email. In general, large pharmaceutical companies are critical of compulsory licensing because they say it threatens the investment needed for drug development. "Patents and intellectual property rights are the foundation for scientific innovation," Megan Van Etten, director of public affairs at US trade group PhRMA, wrote in an email.

Many researchers have pointed out flaws in this argument. One analysis in the *British Medical Journal* found that the world's 15 largest pharmaceutical companies spent about $800 billion more on advertising, administration and marketing than on research and development from 1999 to 2018.

They also spent more on repurchasing their own shares to return money to shareholders than on drug development.

Activists are urging Brazil to follow in Colombia's footsteps. After all, the country led the way during Lula's first administration, when it overrode patents on Merck's HIV drug. But Lula's current government hasn't offered any indication that it will do so again. "Price is a big concern," says Draurio Barreira, director of the HIV/AIDS department at Brazil's Ministry of Health, noting that patents can be a barrier to the country's ability to incorporate HIV treatments into the national health system.

At one point it looked as though dolutegravir wouldn't get awarded a patent in Brazil. In 2018 the country's drug regulatory agency, Anvisa, advised against approving the drug application, deeming the formula noninventive. Seeing an opportunity, a Brazilian company, Blanver Farmoquimica Ltda., teamed with a public research institute, Lafepe, to develop a generic version. Their drug won regulatory authorization in Brazil in 2020, and the government placed an order. But for undisclosed reasons, the Brazilian patent office disregarded Anvisa's guidance and approved ViiV's application around the same time.

With that, ViiV and GSK filed a patent infringement lawsuit against Blanver and Lafepe. GSK's legal director in Brazil sent a letter to the Brazilian Ministry of Health, reviewed by *Bloomberg Businessweek*, warning that other companies making or distributing dolutegravir were subject to immediate "search and seizure of stock" and that GSK "expects and trusts" the government to annul other purchasing contracts.

Both sides have logged wins and losses as this case continues to shuttle between Brazilian courts. Blanver's lawyer, Pedro Marcus Nunes Barbosa, expects his client to ultimately prevail. But it will be a bittersweet victory, he says, because of the money the local companies have lost in legal fees and potential sales. And Brazil's government will have paid hundreds of millions more than what it might have with lower-cost alternatives.

About 551,000 people take dolutegravir in Brazil, and that number grows by about 50,000 as new individuals are infected each year. At current prices, the government will spend more than $1 billion for dolutegravir until ViiV's patent expires in 2026.

The drug will cost slightly less if a deal between GSK, ViiV and the Brazilian government's institute for scientific research, Fiocruz, delivers. Signed in 2020, the agreement transfers the patents and knowledge to produce dolutegravir to Fiocruz. But a communication officer at the institute says it hasn't begun producing the drug, and declined to say when it would be ready for use.

Terto and other advocates say such deals sound good in principle, but the reality is that big drugmakers often get the advantage. In the heat of the pandemic, for example, the UK-based pharmaceutical company AstraZeneca Plc signed a deal to license its Covid vaccine to Fiocruz that prohibited the institute from producing other companies' vaccines. In South Africa, Johnson & Johnson transferred the technology for its Covid vaccine to a local company, Aspen Pharmacare Holdings Ltd., but later required it to send its first shots to western Europe at a time when Africans were in dire need.

Restricted agreements can also keep costs high when the original companies remain the exclusive seller until the transfer process is complete. Hill, the drug development researcher at the University of Liverpool, says the timeline of Fiocruz's deal with GSK for dolutegravir seems long, considering that Blanver and Lafepe managed to develop and test their own version within two years. "If Brazil took control of the patent, instead, they could bring generic dolutegravir in from anywhere, at the minimum price," he says. "It would save vast amounts of money."

TERTO'S OFFICE AT ABIA IS LOCATED STEPS AWAY from a tiled plaza in Rio de Janeiro where demonstrators have protested everything from Brazil's military dictatorship in the 1980s to former President Jair Bolsonaro's handling of the pandemic. As a storm floods the streets outside, Terto reflects on the past. Choices for HIV treatment used to be grim: One could opt for drugs with severely toxic side effects, or suffer from the unmitigated disease. The founders of ABIA and Pela VIDDA both died of AIDS before better drugs were available. Of the group's original board, Terto says, "I am the last one left."

He adds: "There is so much left to do." Cases of HIV have been climbing in Brazil, a situation exacerbated by Bolsonaro's slashing funds for the disease. Lula reinstated the HIV budget when he took office in January.

Terto says access to the latest HIV drugs might help curb the epidemic. Since 2010 the number of new HIV infections in Brazil has grown 5%. Cost concerns have kept the country from dispensing two other treatments from ViiV: a drug for HIV prevention, cabotegravir, and the medicine that Terto procures through personal connections in Florida. That drug, Dovato, replaces multiple daily pills with a single one, which would help improve adherence, Terto says. Generic companies could sell cheaper versions of the drug if dolutegravir weren't patent-protected.

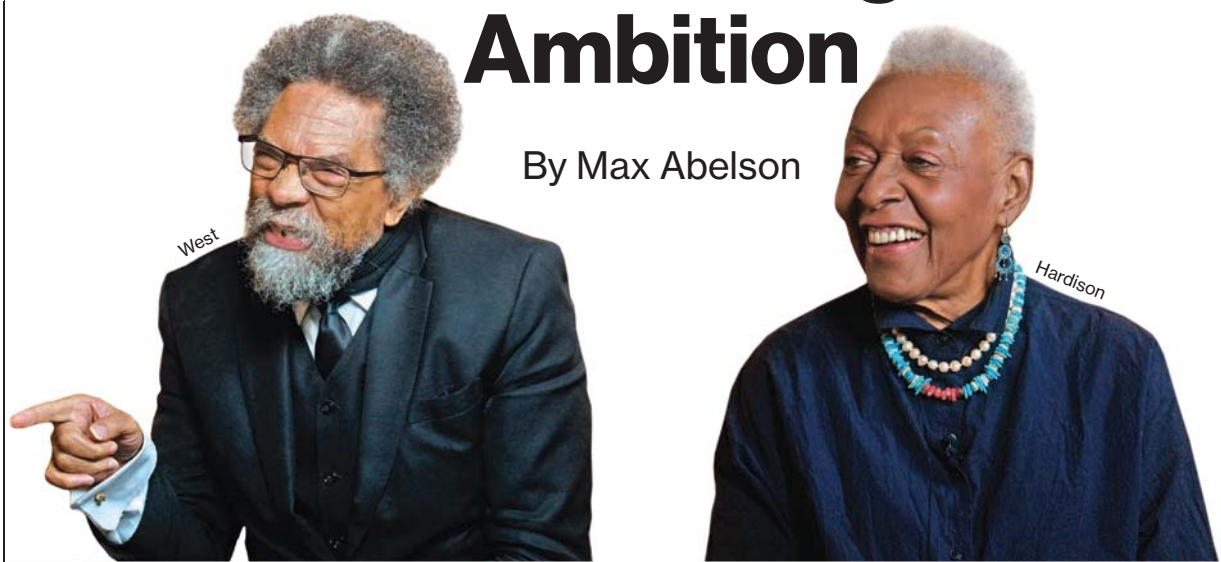
In the early days, Terto says, the HIV movement was not only passionate but also highly organized: Politicians, scientists and economists worked with activists around the world. Today he says he worries that the dominance of the big pharmaceutical companies has become more entrenched, and younger people disinterested.

"People of my generation saw death. We were part of a terrible fight to get medications," Terto says. Without pressure to alter patent policies, he fears Brazil and other middle-income countries could return to a time when lifesaving medicines were out of reach. "Many people never question if their medication will be at the dispensary," he says. "I tell them the history—that it was not always this way, and it could change." B

The Businessweek Show airs on Thursday evenings. Watch on Bloomberg Television and Bloomberg Originals on Bloomberg.com, YouTube and more.

Calculating Ambition

By Max Abelson



After asking geniuses about genius, risk takers about risks, and a billionaire about his moonshots, *The Businessweek Show* is turning to ambition. Are you born ambitious? How does ambition manifest? How much is the right amount? And why does the word connote such nastiness?

Bethann Hardison, who's been a model, advocate and agency owner, helped reshape what American beauty looks like on runways, in magazines and on television. American fashion is more diverse because of her, but Hardison doesn't think she's ambitious. "It's not like I don't like the word," she says. "Ambition to me is someone who actually plans to actually do something." Hardison, who managed Ralph Lauren model Tyson Beckford, prefers to call herself a troubleshooter—or revolutionary. "That I live with very well. I believe I am. I know I am."

Hardison co-founded the Black Girls Coalition in 1988. What started as a way to celebrate big-time models, including Iman and Naomi Campbell, turned into an advocacy group that publicly called out designers whose shows left out Black models. She co-directed *Invisible Beauty*, the new documentary about her career, where her son says she has "enough drive and ambition for the whole world."

The way Hardison sees it, ambition didn't drive her. But when pressed about the kind of ambition that makes things better for other people, she says she can look at what she's accomplished as ambitious. "You're really convincing me," she says. "I'm gonna go outta here with my head held high—and a big head, too."

The philosopher and social activist Cornel West is taking the most ambitious step of his life, running as an independent candidate in next year's US presidential election. He says ambition can be "a beautiful thing," but only when a "spiritual and moral dimension" is a part of it. A few examples: "Tolstoy was ambitious. Toni Morrison was ambitious. John Coltrane was ambitious. Stephen Sondheim was ambitious."

West quit Harvard—twice—and became a professor of philosophy and Christian practice at the Union Theological Seminary in New York. His classes have focused on James Baldwin and Mahatma Gandhi. "I'm a human being. I'm a cracked vessel," he says. "I've got revolutionary potential. I've got thuggish proclivities, and I'm wrestling with this every day."

West is running to end poverty, tax billionaires, protect workers and abolish US Immigration and Customs Enforcement. His ambition could—potentially—end up peeling off just enough voters from President Joe Biden to help Donald Trump win key swing states. "That's part of that civil war—the battlefield of my soul," he says.

But: "If I remained silent, or if I began talking about how wonderful Biden is when I don't believe it, that's a violation of my integrity." Ⓑ —*Abelson is the host of* The Businessweek Show

Bloomberg Businessweek (USPS 080 900) November 6, 2023 (ISSN 0007-7135) H Issue no. 4803 Published weekly, except one week in February, April, May, June, July, August, September, October and November by Bloomberg L.P. Periodicals postage paid at New York, N.Y., and at additional mailing offices. Executive, Editorial, Circulation, and Advertising Offices: Bloomberg Businessweek, 731 Lexington Avenue, New York, NY 10022. POSTMASTER: Send address changes to Bloomberg Businessweek, P.O. Box 37528, Boone, IA 50037-0528. Canada Post Publication Mail Agreement Number 41989020. Return undeliverable Canadian addresses to DHL Global Mail, 355 Admiral Blvd., Unit 4, Mississauga, ON L5T 2N1. Email: contactus@bloombergsupport.com. QST#100832064. Registered for GST as Bloomberg L.P. GST #12829 9898 RT0001. Copyright 2023 Bloomberg L.P. All rights reserved. Title registered in the U.S. Patent Office. Single Copy Sales: Call 800-635-1200 or email: bwkcustserv@cdsfulfillment.com. Educational Permissions: Copyright Clearance Center at info@copyright.com. Printed in the U.S.A. CPPAP NUMBER 0414N68830

ENVIRO/TECH
FSC MIX Paper FSC® C084269


standard chartered
From backing innovation here
to delivering global trade ambitions
We support the growth ambitions of corporations that innovate for the future by connecting the world's most dynamic markets in trade, investment and capital flows.
Find out more at sc.com/hereforgood
From here, possibilities are everywhere.
here for good™

Google



There are more than 94,000 unfilled cybersecurity jobs in Europe.
The Google Cybersecurity Certificate prepares anyone for a career in under six months.
And our Google for Startups Growth Academy supports cybersecurity startups
in Europe with skills and tools to help them grow.

Learn more at safety.google/cybersecurity*

Safer with Google