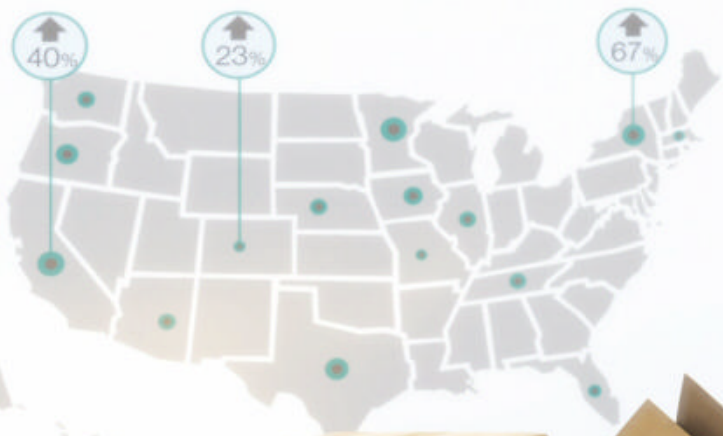


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Tax Departments Take Flight

After several major corporations moved their tax professionals -- and their work -- to accounting firms, a wave of companies are exploring these so-called "lift outs."

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● India revoked the autonomy of Kashmir.

The status has existed for seven decades. The move, which gives India complete control over the state's local police machinery, risks rekindling tensions with Pakistan, raising the possibility of a renewed insurgency in the troubled region. Pakistan suspended bilateral trade in response.

● AmerisourceBergen, Cardinal Health, and McKesson have proposed paying \$10 billion to settle claims they helped to fuel the U.S. opioid epidemic—the first sign of progress in resolving state lawsuits against the drug distributors, according to people familiar with the negotiations.

● John Flint, CEO of HSBC, was abruptly ousted after 18 months, with the bank seeking new leadership in a climate it calls “increasingly complex.” HSBC said it plans to cut more than 4,000 jobs.



● French inventor Franky Zapata successfully flew across the English Channel on a hoverboard, making the 22-mile journey in about 20 minutes. A previous attempt a week earlier failed when he fell into the sea during a refueling stop.



● North Korea fired several short-range ballistic missiles into the sea, warning that nuclear talks with the U.S. are on the verge of collapse amid U.S.-South Korean joint military exercises. North Korean leader Kim Jong Un has given the U.S. until the end of the year to make a better offer.

● Vivendi unveiled plans to sell a 10% stake in its Universal Music Group business to China's Tencent in a transaction that values UMG at **€30b** (\$34 billion).



● Russian firefighters struggled to contain blazes ravaging large parts of Siberia. While forest fires are common in the region, hot weather and strong winds have spread the flames, now engulfing an area the size of Belgium.

● “No other developed nation tolerates the level of gun violence that we do.”

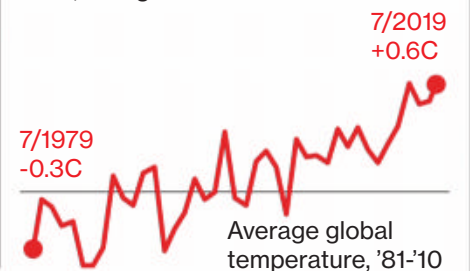
After twin mass shootings over the weekend that left 31 people dead, former President Barack Obama denounced U.S. inaction. He said Americans should reject language that fuels hatred and normalizes racism.



● Luxury retailer Barneys filed for bankruptcy protection and said it would close more than a dozen stores, succumbing to rising rents and falling foot traffic. The company's flagship Madison Avenue location in New York will remain open.

● Europe's Copernicus climate change program said July was the hottest month on record, and 2019 is shaping up to be the second-warmest year.

Difference between global temperature in July and the average from 1981 to 2010, in degrees Celsius



- Italy gave its security forces greater power to seize vessels rescuing undocumented migrants in the Mediterranean.
- Walt Disney shares fell after the tepid opening of the Star Wars: Galaxy's Edge attraction at Disneyland in Anaheim, Calif.
- FedEx said it won't renew its ground-delivery contract with Amazon.com when it expires at the end of this month.
- Toni Morrison, the first black American to win the Nobel Prize in Literature, in 1993, has died at the age of 88.

Don't Let This Moment Pass

● After a weekend of atrocities carried out by homegrown terrorists, it's time for the U.S. to channel disgust and dismay into political action. By Michael R. Bloomberg

Maybe this time will be different. That's the thought on the minds of many Americans now.

Two mass shootings in 24 hours have left 31 people murdered and many dozens more wounded. This, just a few days after a shooter at a festival in California killed three and wounded a dozen. Other shooting sprees over the past week have also left people dead, dozens wounded, and communities shaken.

President Donald Trump addressed the nation but failed to mention the two most important words in this debate: background checks. While he said he supports a federal red-flag law, which allows law enforcement to remove guns from those who pose serious mental health risks, he's yet to push for it. And he pinned more blame on video games and the internet than on our laws that enable such horrific violence—the usual dodge.

And so a familiar ritual threatens to repeat. Politicians express sympathy for the victims, hint at openness to insufficient actions, then run out the clock as public attention moves elsewhere. It's an appalling cycle of political malfeasance that's in danger of recurring even now—after a weekend in which a man in El Paso murdered 22 and wounded dozens, and the very next day a shooter in Dayton killed nine and wounded 27.

This mustn't be allowed to happen. These new atrocities need to change the political dynamic. Senator Lindsey Graham stated: "Time to do more than pray. Time to enact commonsense legislation in Congress to empower states to deal with those who present a danger to themselves and others—while respecting robust due process."

He's right—only it's past time. And it's not enough.

I spent the morning of Aug. 2 with thousands of volunteers from Moms Demand Action and Students Demand Action. They had come to Washington to do exactly that: demand action.

Over the past few years, millions of Americans have joined together to push for commonsense legislation—and it's working.

From Connecticut and Florida to Colorado and California, states have made strides on gun-safety legislation, especially when it comes to red-flag laws that deny guns to dangerous people. But state lines are porous: The shooter at the festival in California got his gun in Nevada. For commonsense reform to move forward everywhere, America's post-massacre ritual has to stop. The anger must be sustained and channeled into political action—as it was in last year's

midterm elections, when volunteers from groups like Moms Demand Action elected dozens of gun-safety proponents to the House of Representatives.

For too long, too many states—along with Washington—have bowed to the demands of the gun lobby, which pretends that reasonable gun regulation proven to save lives is incompatible with the Second Amendment, even though the Supreme Court, in a majority opinion authored by Justice Antonin Scalia, found otherwise.

The Second Amendment isn't the problem. The problem is that the National Rifle Association doesn't advocate for gun owners, the vast majority of whom support commonsense gun-safety laws. It represents and is financed by an industry bent on selling as many guns to as many people as possible.

The two states where the most recent tragedies occurred are examples of this. Both Texas and Ohio have gun laws endorsed by the gun lobby. These are excellent laws if your only aim is to sell guns to anyone. They do little to restrict purchases by the enraged and unhinged while also encouraging residents to carry guns everywhere out of fear that the enraged and unhinged will turn their arms on them.

Instead of sensibly regulating gun purchases and possession, Texas and other gun-lobby protectorates have outsourced their responsibilities to the "good guy with a gun." Yet time and again, people are shot before the good guy, who in reality almost always wears a badge, can stop the carnage. Ohio law-enforcement officers encountered the Dayton shooter within a minute. It was too late. There are countless cases of accidental shootings, rage-induced homicides, and alcohol-fueled attacks for each instance of an armed civilian stopping a shooting. A recent Federal Bureau of Investigation report gives zero credence to the good-guy-with-a-gun myth.

Until the superheroes turn up, laws will have to do. The House of Representatives passed a hugely popular comprehensive background-check bill in February, along with legislation to close the loophole that let a racist mass murderer acquire the weapon he used in a church in Charleston, S.C., in 2015.

Senate Republicans have failed to act on both those proposals. That will change only if more Americans demand it—and send a clear message to their representatives that voting against gun safety will cost them on Election Day.

This time can be different. But only if we reward political leaders who protect public safety, and drive those who don't from public office. We cannot let this moment pass. **B**

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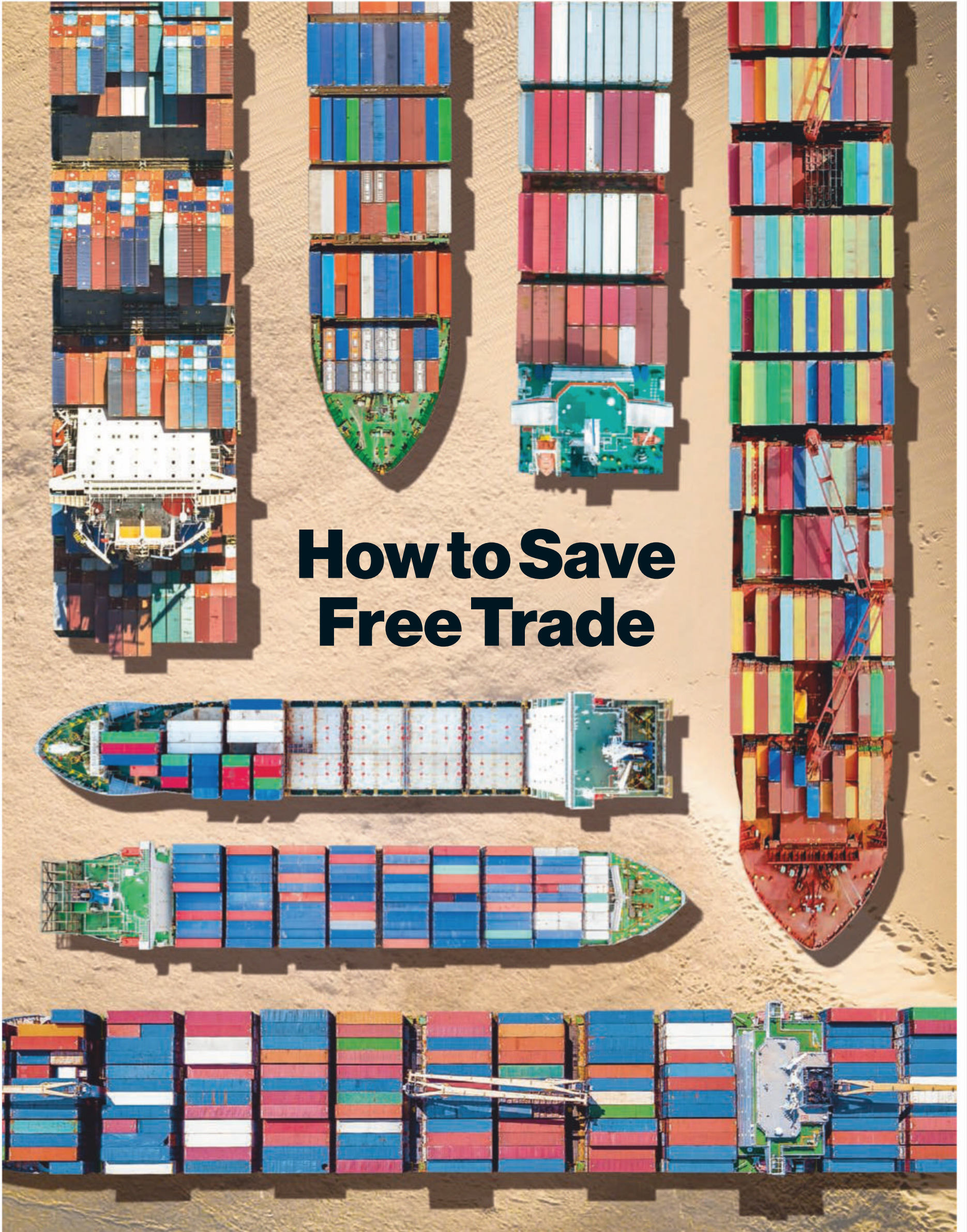
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Jack Ma
Executive Chairman,
Alibaba Group



How to Save Free Trade

● To preserve the global order, we've got to start by changing the way we debate the problem

● By Michael Schuman

As if we needed another reminder about the importance of trade. After the latest failed round of negotiations between the U.S. and China, President Trump moved to impose yet more tariffs on Chinese imports. When they come into effect on Sept. 1, just about everything Americans buy from China will have a punitive duty slapped on it. Four days after Trump's decision, Beijing's leaders, as if to prove they were uncowed, briefly allowed the yuan to depreciate to promote China's exports, instantly tipping off fears that the trade war would morph into a currency war. The U.S. Department of the Treasury responded by formally labeling China a currency manipulator, a long-threatened but usually avoided measure.

Stocks tanked, big business wailed—but to no avail. “If they don't want to trade with us anymore, that would be fine with me,” Trump said of the Chinese.

Such a startling statement from a sitting American president would have been unthinkable even a couple of years ago. Now it's just part of our day-to-day discourse on economic policy. While the U.S. delegation was wrangling in Shanghai, Democratic candidates were heaping abuse on trade during their presidential debates. Senator Bernie Sanders (I-Vt.) complained of the “awful trade policy which allowed corporations to throw workers in this community out on the street.”

Once a pillar of American foreign policy, good for the country and the world, trade is now the Black Death of the middle class, a scheme for unscrupulous foreigners, in cahoots with global elites to swindle the average Joe out of his paycheck. Rather than a cooperative endeavor to promote economic growth and investment, trade has become a worldwide “us-vs.-them” struggle for jobs, technology, and factories.

It's not much better from the Beijing side. Chinese leaders like to portray themselves as the new champions of globalization, and as the biggest beneficiaries of global economic integration, they should be. But their constant promises to “open up” have become a farce. China remains one of the most protectionist major economies—closing markets, restricting capital flows, and subsidizing favorite sectors. The fact is the Chinese leadership has done more to undermine confidence in the free-trading system than anyone else. Amid this rising economic nationalism and tariff-heavy confrontation, trade is suffering. The World Trade Organization expects global trade to grow only 2.6% in 2019, down from 3% last year.

How critical trade is to our money, our daily lives, and our future is forgotten in all this anger. The worldwide exchange of goods still shapes where we work, what we buy, and what we pay for it. Trade helped lift unprecedented numbers of people

out of poverty over the last half-century and contributed to what is likely the greatest surge of wealth in human history. But I won't regurgitate here the case for free trade. My fear is what happens to the global order without free trade to hold it together. Trade was part of a greater mission—to unite disparate nations with conflicting ideologies and strategic interests in a common cause of global prosperity. Without it, the risk is higher that the world disintegrates into competing, potentially hostile powers, engaged in a zero-sum race to the bottom.

We need to have a more honest discussion of what's really gone wrong for the average American family. People think they are victims of globalization; in fact, they are feeling the yawning disparity between rich and poor, particularly in the U.S. Although trade has played its part in that problem, it's just one cause—as I address below—and a minor one at that.

Of course, trade on its own isn't a magic cure-all for conflict. Historians point out that intensifying economic integration in Europe didn't prevent the outbreak of the First World War. But it's also widely accepted that the protectionism and economic nationalism of the 1930s not only deepened the Great Depression but contributed to the rise of fascism and to World War II. We can also make a case that one reason relations between the U.S. and China have remained peaceful and stable (at least until recently) is the high degree of economic cooperation between them. So more trade is better than less.

I've witnessed the wonders of trade. My first overseas post as a journalist was to Seoul in 1996. As I studied South Korea's economic history, I came to realize that it was the Country That Trade Built. Thirty years before, Korea was desperately poor, divided by war, and given little hope by economists of becoming much more. But South Korea is now a member of the rich-countries club, the Organization for Economic Cooperation and Development. It was all because it capitalized on the world's free-trading system. First, its factories pumped out shoes and toys with cheap labor, then they graduated to ships. By the time of my arrival, they'd upgraded to microchips. Whatever Trump says, trade creates wealth.

Some Republicans insist the U.S. president's trade wars are just a strategy to foster freer trade. That's self-delusion. Declaring himself a “tariff man,” Trump has imposed them on everything from washing machines to steel to tomatoes to beer kegs. And he has company on the antitrade bandwagon. The one significant trade deal his administration negotiated—the United States-Mexico-Canada Agreement, aka “Nafta 2.0”—is stalled in Congress, perhaps hopelessly.

Even Democratic presidential candidate Joe Biden said he won't join the Trans-Pacific Partnership (TPP), a trade pact negotiated by the administration in which he served as vice president. Senator Elizabeth Warren of Massachusetts, probably the political polar opposite to Trump, can sound downright Trumpian when it comes to trade. “We will engage in international trade—but on our terms and only when it benefits American families,” she recently wrote. Her “plan” on trade deals is effectively a plan not to do trade deals. Warren wants to open the negotiating process to unions, consumer ►

◀ groups, and Congress in a quest to make them friendlier to the American worker. But a second-grade bake sale couldn't get off the ground with so many players involved, let alone something as complex as a trade pact.

What happens if the world follows Trump and Warren? Well, I've seen that, too. A grad-school internship brought me to New Delhi in 1991. It was a bewildering experience. Hardly any of the brands stacked on store shelves were recognizable. On the streets were antiquated cars better suited for a museum. The city was sickeningly poor. The problem was, in part, India's decidedly antitrade economic model. Its post-colonial politicians believed trade was "rigged" and the only way to grow rich was to substitute imports with domestic industry. The results were uncompetitive companies, pitiful consumer choice, and far less wealth and development than Asian countries such as South Korea already enjoyed. A looming financial crisis forced change. In one of their first reforms, liberal-minded ministers took a blowtorch to much of the country's trade regulation.

Trump and Warren don't want to go as far as India did, but with "tariff man" in the White House and alternatives intent on turning trade agreements into social-action programs, can free trade survive? Yes, it can. And here's how.

New champions must take the lead. What's going unrecognized by many in Washington is that free trade isn't as unpopular outside the U.S. It's telling that the 11 remaining participants in the TPP finalized the pact even after Trump pulled the U.S. out immediately upon taking office. Japan, long resistant to opening its home market, wasn't only instrumental in keeping the pact alive, but also inked another free-trade agreement with the European Union, which took effect in February. A few months later, African leaders launched a continentwide free-trade agreement, aiming to create a common market with 1.2 billion people.

Outside Washington, Trump and Warren look more like outliers than trendsetters. That has consequences for America's economic future. Rather than setting rules for global exchange, the U.S. and China might find they're getting left out of new bonds being forged in their absence. That's already happening. U.S. farmers have lost some of their market in Japan to competitors in countries that signed the TPP.

Those governments that still support free trade have to step into the breach, take the lead, sign more deals, and keep the pressure on the backsliders in Washington and elsewhere to rejoin the trade game or risk getting shut out of critical markets. (It would help if those promoting trade would avoid their own pointless disputes, such as the mini-trade war Tokyo is now waging against South Korea.)

Change the sales pitch. As Princeton economist Alan Blinder has pointed out, selling the positives of free trade to a skeptical public is extremely challenging. The idea that everyone is better off trading with each other, rather than making stuff at home, is somewhat counterintuitive. The details of productivity gains fall flat before heartstring-pulling tales of unemployed workers and closed factories.

Economists usually promote trade based on its economic efficiency (as they are trained to do). That means they stress lower prices for consumer goods and bigger profits for corporations. The way to alter the narrative is to focus on how trade helps workers. It's perpetually portrayed by its opponents as a job destroyer, but it's also a major job creator. Economic theory, furthermore, proffers that those jobs are better jobs. By allowing countries to specialize in industries in which they have a comparative advantage, trade makes workers more productive and, therefore, gets them higher wages. One study of the effects of the North American Free Trade Agreement by the Peterson Institute for International Economics figured that the jobs created in the U.S. by increased exports to Mexico paid 7% to 15% more than the jobs that were lost.

Strengthen the WTO. In June the trade ministers of the Group of 20 reaffirmed a commitment to reforming the WTO, with a "sense of urgency." That's certainly warranted. One reason Washington resorted to trade wars to solve its disputes is a perception that the WTO isn't doing the job. Trump is the loudest critic—he's even threatened to withdraw the U.S. from the organization—but he's far from alone in being frustrated with its ineffectiveness. Some question whether fixing the WTO is possible or if it's even relevant. But try we must, because the alternative—a world trading system without accepted rules—is a recipe for endless conflicts that feed economic nationalism. A lot needs to get done: limiting permitted exemptions, stiffening rules to address harmful practices (such as government subsidization and the role of state-owned enterprises), and giving the WTO greater power to penalize noncompliant countries. The negotiations to craft and implement such reforms will be complicated. They should start with improving the process of dispute settlement.

Close the income gap. Those who oppose free trade do so because they believe it's bad for the welfare of American families. Trade, we're told, benefits chief executive officers but leaves the wage earner with a raw deal. But it's all too simple to blame job-stealing foreigners for problems created very much at home. Today, about 6.7 million fewer Americans are working in manufacturing than there were 40 years ago. Those vanishing jobs have hurt hard-working families and the communities they live in. But not all of them were lost to trade. Advancing automation and other technology had something to do with it, too.

To blame the deterioration of the middle class on the loss of a few million jobs in one sector over a period of decades is patently ridiculous. Politicians have to find the will to tackle the real roots of the problem. That would entail controlling the costs of education and health care, making tax policies more just, investing in job training and schools, and restoring workers' rights and union power, to name just some necessary changes. Making trade "fair"—whatever that means—won't cure these ills, nor will it save the American dream. If progress is made on making the U.S. economy more equitable, trade wouldn't seem so evil anymore. **B**

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Janet Yellen

Former Chair, U.S. Federal Reserve Board of Governors and Distinguished Fellow, The Brookings Institution



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Bill Gates
Co-Chair,
Bill & Melinda Gates Foundation



The Unfulfilled Promise of On-Demand Birth Control

Big Pharma can make lots more money elsewhere, so contraceptive innovation has lagged

Since the contraceptive pill transformed women's lives almost 60 years ago, there's been precious little innovation in birth control for women. Now a company in San Diego claims to be on the verge of something that could advance the field: a gel women can apply an hour before sex, without having to mess with their hormones. "There hasn't been innovation in this category in decades," Evofem Biosciences Inc. Chief Executive Officer Sandra Pelletier says. "It's time that women have the opportunity to have sex on demand, like men have had with condoms for years."

That's a powerful message. But look more closely and Evofem's product, Amphora, is also a case study in why real advances in birth control are so rare. With plenty of consumer interest in an easier-to-manage female contraceptive, you'd think there'd be many more choices. Yet Amphora is a little-changed version of an over-the-counter lubricant cleared for sale more than a decade ago.

The reason there aren't more and better options for women is simple: money. In the era of \$20 billion blockbusters such as the arthritis drug Humira and \$2 million-a-patient gene therapies to treat rare diseases, the pharmaceutical industry doesn't see a big payoff in rolling out products that don't have record-breaking potential. Bayer AG's Yaz family ►

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◀ of medicines, one of the best-selling lines of birth control pills, generated about \$1.4 billion in revenue at its sales peak. Evofem estimates its birth control gel could top out at just under \$1 billion in annual U.S. sales. “Pharmaceutical companies don’t really see the benefit,” says Emma Gargus, who leads contraceptive projects at Northwestern University’s Woodruff research lab.

That argument means little to the many women who are ready for improved contraceptive choices. Those on the market today may be complicated to use, and they can hijack hormones, leaving some users with headaches, bloating, or depression. Although the pill is tried and true, it comes with its own baggage, including an increased risk of high blood pressure and blood clots. Long-term options such as intrauterine devices can have side effects—not the least of which is heavy bleeding every month. “Women today are basically using the same birth control methods for the most part that our grandmothers did,” says Nomi Fuchs-Montgomery, deputy director of the family planning program at the Bill & Melinda Gates Foundation. “If we don’t galvanize the field and nothing changes, this will be true for our daughters and sons as well.”

The industry funnels only 2% of annual revenue from contraceptives back into research and development, according to the Gates Foundation. That works out to about \$100 million, less than a sixth of what a company might spend to bring a single cancer drug to market. Even though the government often backs patient trials—the most expensive and riskiest part of bringing a treatment to patients—for birth control medicines, the progress is still slow.

Diana Blithe, who heads the National Institutes of Health’s contraceptive development program, contrasts the plodding advance of an innovative contraceptive with the pace of testing a tumor drug. A cancer trial can enlist a very small number of people and usually needs to show a single key result: that patients don’t die as quickly. Side effects are less of a concern. A contraceptive, on the other hand, must be safe for vast numbers of healthy individuals, a far higher hurdle. Women seeking a birth control method “have other options,” Blithe says. “Their lives are not generally at risk.”

That safety hurdle has made the contraceptives industry a target for waves of lawsuits starting back in the 1970s, when drugmaker A.H. Robins pulled its Dalkon Shield intrauterine device from the market after 2.5 million women had used it. Robins eventually filed for bankruptcy. Bayer faced more than 11,000 Yaz-related lawsuits over risks including blood clots, heart attacks, and strokes. Over the past three years, the courts dismissed

two multidistrict litigation cases involving an IUD known as Mirena for lack of evidence. Bayer says it remains committed to the IUD market and is investigating nonhormonal approaches and smaller devices.

Still, the litigious landscape has resulted in few companies being willing to push forward with a new product, says Régine Sitruk-Ware, a scientist at the Population Council’s Center for Biomedical Research. That leaves the job mostly to academics and nonprofits.

The Population Council, which conducts medical research, developed Annovera, a vaginal ring that lasts longer than others and won U.S. Food and Drug Administration approval last summer. A year later, the device still hasn’t reached potential clients. TherapeuticsMD Inc., which licensed the ring, expects a full introduction next year, when it’s had time to build its manufacturing processes.

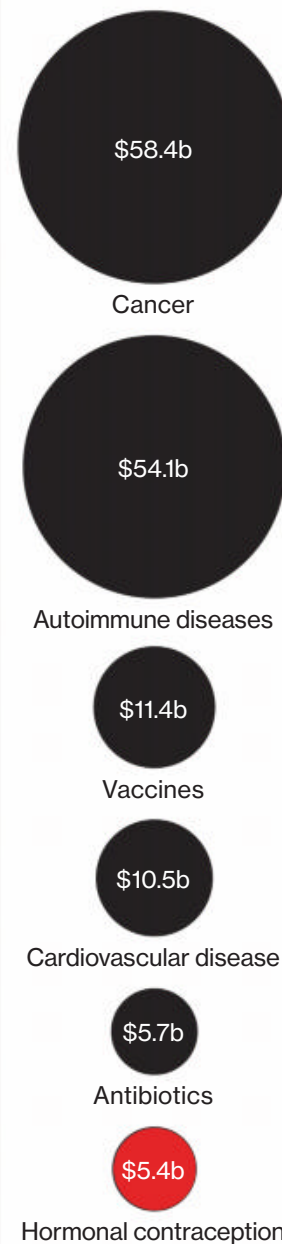
The Gates Foundation plans to boost its contraceptives spending to as much as \$56 million a year by 2021—more than double its investment of \$26.4 million in 2015. Spurred in part by that funding, some academic labs are looking to make more than incremental improvements. Researchers at Northwestern, for example, are exploring gene networks to find ways to control ovulation and perhaps also maintain fertility, Gargus says. But such measures are at best years off.

The road to market for Amphora, the Evofem gel, shows how long and winding it can be for contraceptives. About 20 years ago, Rush University’s labs in Chicago developed a version of the gel at a time of surging interest in products that could tackle both birth control and sexually transmitted diseases such as HIV. Amphora works by keeping vaginal pH, which usually spikes in the presence of semen, artificially low to create an inhospitable environment for sperm. The approach dates back to ancient Egypt, where a sticky paste made with acacia and honey may have acted as a crude contraceptive.

Spermicide gels failed to halt the spread of HIV though, and most drug developers gave up, recalls NIH’s Blithe, who was involved in early studies of some of the products. That left Amphora as “the last gel standing,” Evofem’s Pelletier says. Evofem—then called Instead Inc.—got FDA clearance in 2004 to market the gel as a vaginal lubricant, arguing that it was basically the same as two products already on the market. But the lubricant was never sold.

Now, Evofem is basing its business model on getting the gel—with the same recipe as the 2004 version, but what it says are better versions of some of the ingredients—approved as a prescription medicine. The company says it’s aiming for a list price

● U.S. drug sales for selected categories, 2018



similar to that of branded contraceptive pills, about \$140 to \$170 a month.

Still, U.S. regulators already rejected the prescription version once. Evofem is planning to resubmit its application by the end of this year. Pelletier says that should be quick enough to bring Amphora, after all its twists and turns, to the market by mid-2020. “It isn’t just a kitschy lifestyle category,” she says. “It’s something that’s really serious and meaningful.”

This sentiment can’t override that pharmaceuticals companies will never be able to sell birth

control drugs at anything like the prices they get on new treatments for cancer, rheumatoid arthritis, obesity, or heart disease, lowering interest in reproductive health medicine.

“The pill is as cheap as chips,” says Anna Glasier, honorary professor at the University of Edinburgh. “So everything has to be not much more expensive than that.” —*Naomi Kresge and Cynthia Koons*

THE BOTTOM LINE A new birth control gel from Evofem holds the promise of a sex-on-demand contraceptive for women. But its likely low price and high legal exposure could limit drugmakers’ interest.

Package Tours Are No Picnic

● Even as Thomas Cook struggles, Germany’s TUI thrives by sticking closer to customers

For decades, tour operators such as TUI, Kuoni, and Thomas Cook thrived by offering package holidays to sun-starved Europeans put off by unfamiliar tongues, foreign currencies, and hotel reservations made from afar. But now the euro has eased money concerns, discount airlines will fly northerners to warmer climes for the cost of lunch, and beachfront accommodations are just a few mouse clicks away—no language skills needed. At the same time, terrorism, political turmoil, and hotter summers in the north have kept many would-be travelers at home.

The shift has squeezed profits at tour operators and forced long-standing players from the field. French stalwart Club Med went on the block in 2015 and ended up in the hands of Fosun Tourism Group from China. Switzerland’s Kuoni in 2015 sold its tour operations to a German supermarket chain after off-loading its business travel and airline units. Thomas Cook—which invented the package holiday in the 1840s with train trips through the English Midlands for temperance activists—said in July it would sell its consumer tourism business to Fosun after its bonds fell to one-third of face value.

The one exception: TUI, a century-old German company with roots in mining. After branching out into goods ranging from chemicals to toothbrushes,

in 1997 it bought German freight line Hapag-Lloyd, which owned a handful of cruise ships and a package-tour unit, Touristik Union International. The idea was to abandon heavy industry and focus on travel, and the company changed its name to TUI in 2002. “When rivals are in trouble, you always have to ask yourself: Is that because they’re performing poorly, or is the industry getting more difficult?” says Chief Executive Officer Fritz Jousen. “The industry has become more difficult, and that’s why we began to transform.”

It’s been a bumpy road, with investors criticizing management for missing earnings targets and selling industrial assets too cheaply while overpaying for an ill-timed foray into container shipping. The company even held a controlling stake in Thomas Cook for 15 months but was ordered to sell it in ▶



◀ 2000 to comply with antitrust rules. While TUI still needs to prove the package-tour business can thrive longer term, says Richard Clarke, an analyst at Sanford C. Bernstein, the strategy shift has steered the company in the right direction. “TUI has evolved enormously,” he says. “It’s also suffering, but it has managed to adapt.”

Key to TUI’s resilience has been going upmarket and adding exotic destinations while getting closer to customers and controlling more of the revenue they generate. Whereas Cook serves mostly as a booking service, paying for blocks of rooms at a discount and reselling them to clients, TUI owns or manages 380 hotels with a total of more than 240,000 beds, up 60% in the past decade. And with Hapag-Lloyd, it picked up a handful of ocean liners, not traditionally a big business in Germany. “We asked ourselves: Should we sell the cruise business or try and turn it around ourselves?” says Sebastian Ebel, the TUI executive responsible for hotels and cruises. “We went with the turnaround.” Today, TUI has 17 vessels, from 150-passenger craft for Amazon or Arctic excursions to 2,900-bed behemoths with sumptuous suites, swimming pools, and multiple restaurants.

In its home market, TUI sensed an opportunity. Cruises weren’t popular in Germany, but the country’s prosperity, generous vacation policy, and aging population suggested they could become a big business there. In the past decade the number of Germans taking cruises has more than doubled, to 2.2 million a year. The business helps even out cash flow, because unlike hotels, ships can move south to keep earning in the winter months, and passengers often pay earlier than summer holidaymakers do.

TUI further reduced seasonality by adding hotels in year-round destinations such as the Caribbean and started filling them with nearby North Americans brought in via expanded ties with U.S. travel agencies. The shift hasn’t been cheap: A resort big enough for package tourists can approach \$100 million, and a large cruise ship costs many times that. TUI’s annual capital expenditure has doubled, to \$800 million, in the past five years.

Myriad dangers remain as travelers flock to online reservation sites. Booking Holdings, owner of Booking.com and Priceline, has a market value of \$77 billion—more than 10 times TUI’s. Vacationers want more personalized experiences, such as those offered by Airbnb, which has 6 million-plus listings. And airlines are teaming up with hotels and rental car companies to offer many components of package tours. With tens of millions of passengers a year, “it’s now our job to get them to book their entire holiday with EasyJet,” Johan Lundgren, the carrier’s CEO and a veteran of TUI, told analysts in May.

Yet TUI insists its strategy is sound. Two-thirds of profit now comes from cruises and hotel ownership, twice the level of five years ago. The company is planning a big push in Asia to attract Chinese and Indians to beach destinations. It has nine hotels from the Maldives to Thailand and aims to more than double that in the next few years. And it plans to step up sales of extras such as snorkeling trips, four-wheel-drive outings, or guided city tours, a business it estimates is worth \$150 billion a year. “We have a great chance of success,” CEO Jousen says. “We want to know every customer so well that we can offer them individual experiences.” —*Richard Weiss*

THE BOTTOM LINE TUI has added cruises and spiffier hotels in exotic places to control more revenue from travelers, but it faces stiff competition from online booking platforms and airlines.

Where Cadillac and Lincoln Are Still Cool

● China’s status seekers are becoming the largest buyers of the aging U.S. luxury brands

The streets of Beijing are teeming with German luxury cars, but Cindy Zhang wanted something different—something that reminded her of the muscular vehicles she sees on American TV shows like the spy thriller *Homeland*. So she bought a boldly styled Cadillac XT5 SUV in a color dubbed red passion. “The vehicle looks pretty solid and makes me feel safer,” says Zhang, 29, a primary school teacher. “I don’t know whether those scenes with American cars in the shows helped me with the choice, but it felt natural and right.”

The well-wheeled in China are increasingly embracing American luxury brands—the bigger, the better—with Cadillac crossovers and Lincoln SUVs flying off dealer lots. The country has already become General Motors Co.’s largest market for Cadillac, overtaking the U.S. in 2017, and Ford Motor Co. says it will soon be the top market for its Lincoln brand, which arrived there only three years ago.

The rapid growth of their luxury sales in China is welcome news for Detroit automakers, which have recently seen sales of their mainstream models plunge there. While total China sales for both Ford and GM slid in the second quarter, demand for their premium brands climbed. Lincoln’s rose 7% in the April-June period from a year earlier, and

Cadillac's surged 36%. "Luxury sales have definitely been more resilient than the overall market," says GM Chief Financial Officer Dhivya Suryadevara.

Both brands are launching an armada of new models in the world's No. 1 auto market and are projected to account for 1 in every 10 premium vehicles sold there by 2022, according to researcher LMC Automotive. "It's been a struggle for them in the U.S. to get any traction that is lasting," says Jeff Schuster, senior vice president at LMC. "But the interest in the brands by Chinese consumers, combined with the sheer size of the market, creates a good opportunity for them to get the volume and scale that they haven't been able to in other markets."

Why do the Chinese revere the Detroit luxury cars that many Americans find irrelevant? Part of it is cultural: They admire the brands' long histories and see them as the gilded carriages of American presidents and Hollywood movie stars. Chinese consumers tend to associate Lincoln with the 16th American president, who's highly esteemed there. And they see none of the baggage Cadillac and Lincoln built up over decades of disastrous branding decisions such as the Cadillac Cimarron economy car and the short-lived Lincoln Blackwood pickup. "Chinese people associate Lincoln and Cadillac with wealth and power and everything that goes along with America's status as the No. 1 superpower," says Michael Dunne, a China expert and chief executive officer of consultant ZoZo Go. "They were aware of these prestigious brands coming out of the United States. They were not sure what they looked like or how they drove, but the names were pure gold."

will be built in China, starting with the Corsair crossover later this year. And it's rapidly expanding a tearoom-style showroom strategy, where customers get the royal treatment, including massage chairs and lattes topped with their personal portraits.

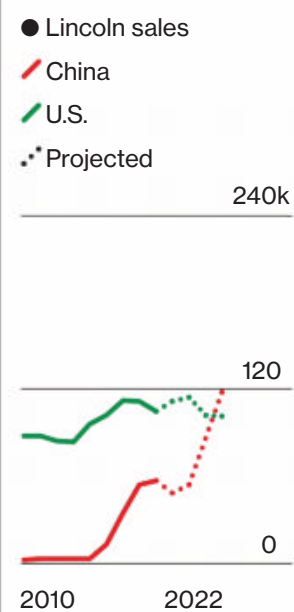
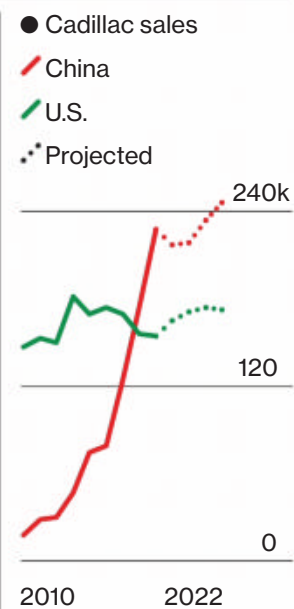
Particularly striking is the huge age difference between the brands' average buyers in China, who are in their early to mid-30s, and in the U.S., who are about 60. Detroit's marketers don't have to overcome past mistakes or deal with the stigma of promoting a vehicle considered to be an "old man's car." Cadillac and Lincoln have clean slates to introduce their models to consumers increasingly interested in looking beyond Audi, BMW, and Mercedes-Benz, which together control 68% of China's premium segment, according to LMC. "We're an alternative to what's in the luxury market now," Carlisle says.

Rather than copying the languid TV spots they use to entice luxury buyers in the U.S., Lincoln and Cadillac are trolling for Chinese consumers on social media and at online stores operated by Alibaba Group Holding Ltd., the Amazon of China. "You really don't have time for an ad campaign," says Joy Falotico, president of Lincoln. "You have to move quickly and have relationships there with the social media giants."

The American luxury brands are also aggressively seeking customers in China's inland cities, where personal wealth is growing and the German automakers aren't as entrenched. These third- and fourth-tier cities, with populations of as much as 7 million people, are larger than every U.S. city except New York. "You have wealthy people in each of those cities," Dunne says, "and they're ready to buy premium vehicles."

Looming over this newfound opportunity are trade tensions between the countries, which have included increased tariffs on vehicles and auto parts going both ways. President Trump raised the stakes on Aug. 1, announcing he would impose a 10% tariff on a further \$300 billion in Chinese imports. The new import taxes, which he later said could go "well beyond" 25%, will begin to go into effect on Sept. 1.

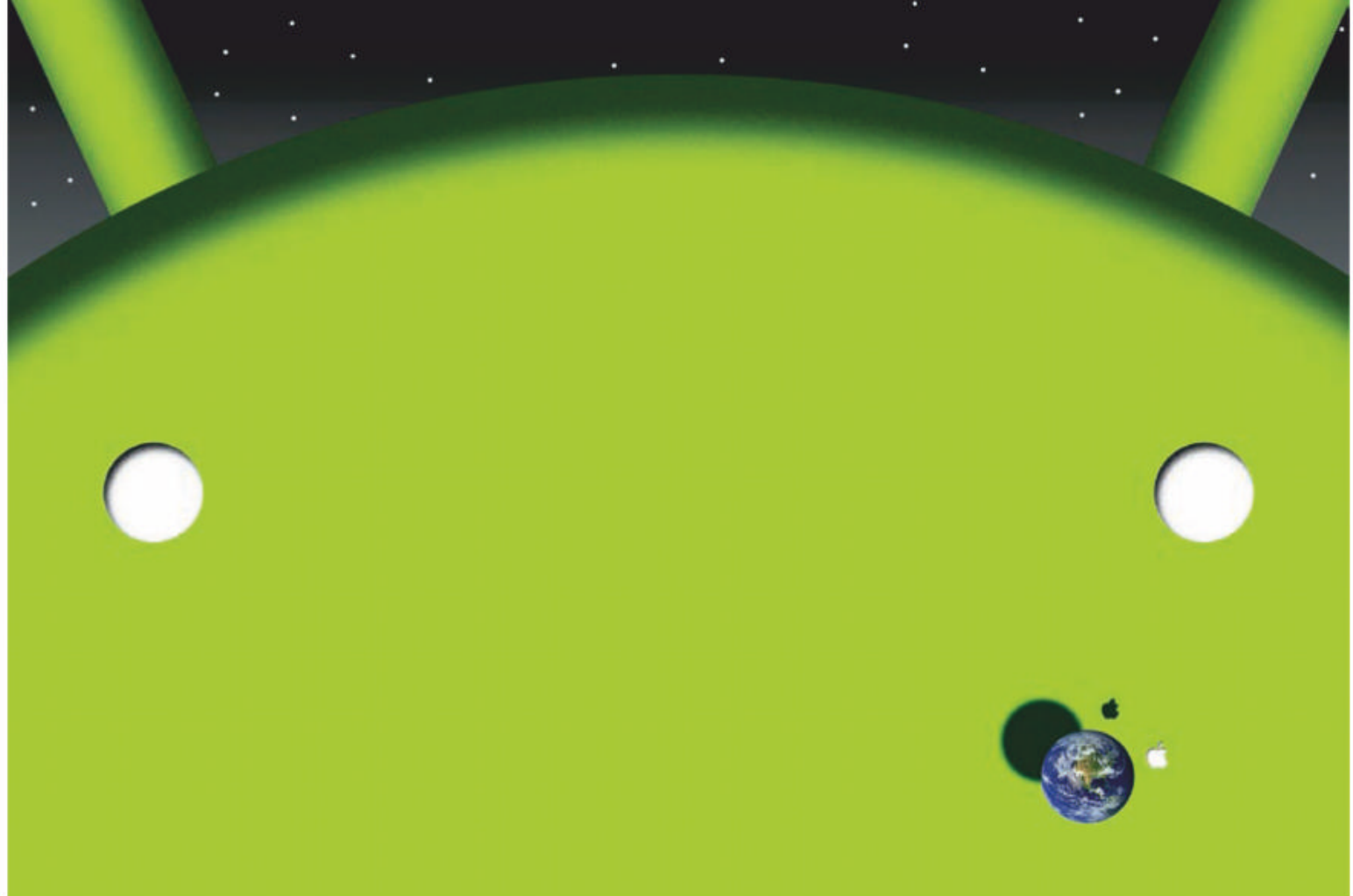
Avoiding tariffs is a key reason Lincoln plans to eventually build all its models in China, except for the Navigator SUV, which doesn't sell in large enough numbers to justify local production. "We see China as ground zero for Lincoln, given the size of the market and how well the brand has been received," said Bob Shanks, Ford's then-CFO, in May. "It's a huge, huge improvement in the business model."
—Keith Naughton and David Welch, with Tian Ying



With China emerging as the world's largest market for electric vehicles, Cadillac will debut its first EV there in 2022. GM then plans to roll out a handful of plug-in Cadillac models in China over the next several years. "There is an appeal to American brands," says Cadillac President Steve Carlisle. "There is an association from a values perspective of 'anything can happen' and the American dream."

Lincoln will introduce a string of SUVs that

THE BOTTOM LINE American luxury cars are in overdrive in the world's No. 1 auto market. More Cadillacs are sold in China than in the U.S., and the same will likely be true for Lincoln in a few years.



How Android Took Over the World

● Google, Samsung, and China made the mobile OS ubiquitous. But the future looks different

Steve Jobs was furious. “I will spend my last dying breath if I need to, and I will spend every penny of Apple’s,” he told his biographer Walter Isaacson, “to right this wrong.” The wrong? A mobile operating system by the name of Android, the free Google software that manufacturers were using to make all kinds of look-alike iPhones capable of acting like iPhones. Under Jobs, Apple Inc. tried to sue what it called iPhone ripoffs straight out of existence. The chief executive was pretty straightforward about that aim. Included in that same rant from 2010 is the line “I’m going to destroy Android.”

Thank goodness Jobs failed, in the courtroom and the marketplace. Without Android, smartphones might have stayed as they were when he was alive: a remarkable technology confined mostly to the relatively affluent parts of the globe, as the PC was before it. Instead, the smartphone represents a new branch of technological evolution, the driving force that’s bringing the rest of the world online.

Only a decade has passed since the first major Android phone, the Samsung Galaxy, hit store shelves, and just about half the global population had a smartphone or something similar by the time Samsung Electronics Co. unveiled its latest flagship

model, the Galaxy Note 10, on Aug. 7. Few other consumer gadgets have gotten to that threshold so fast. Although Apple sparked the modern smartphone revolution, Android was the essential ingredient that made the devices ubiquitous.

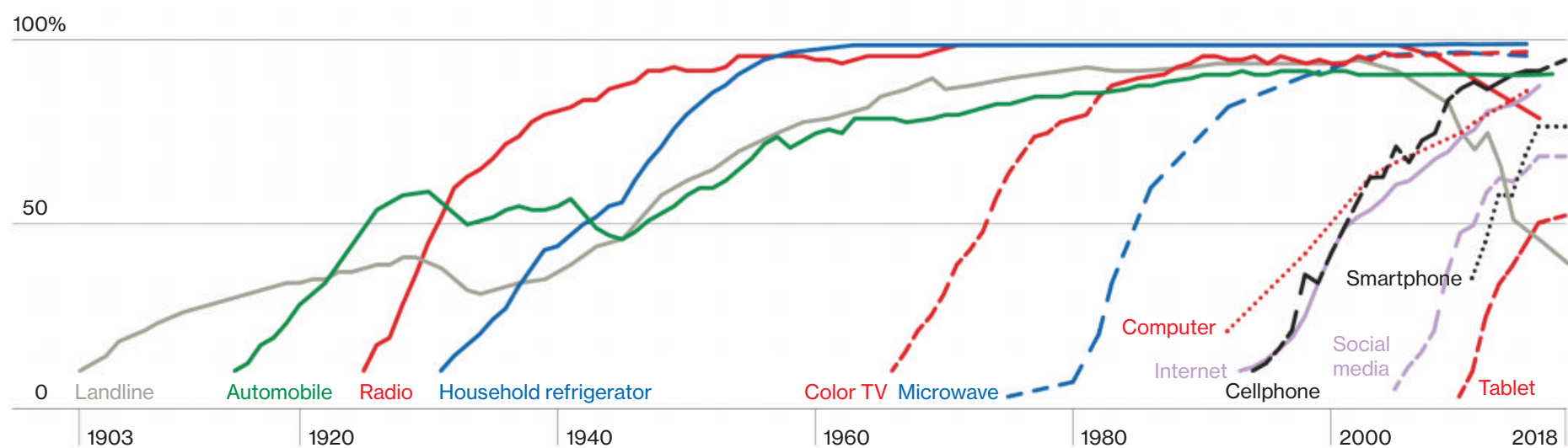
Maybe this all would have happened even if Android never existed. More likely, it would have taken longer for smartphones and the internet in general to reach this tipping point, and online adoption might have stopped at a much lower level. Consider that when Jobs unleashed his Android rant, the iPhone represented about 15% of the 175 million smartphones sold worldwide in the prior year. Fast-forward to 2018, and Apple still had about 15% of the market, but total smartphone sales had mushroomed to 1.4 billion. Versions of Android powered more than 8 in 10 of those new devices.

Three principal forces pulled off this coup. There was Google, with its software and services; Samsung, a South Korean electronics giant waking from its slumber; and China, where a stunning economic rise created a massive audience for life-changing gadgets. Together, this unwitting coalition created an unprecedented technological transformation. Essential to Android’s success: It was, as it still is, a hot mess.

Each of the big three players in Android’s ascendancy is starting to seriously reckon with the downsides of the way things were set up. Android won, but as companies race to figure out the future beyond smartphones, Jobs is getting his revenge.

From today’s vantage point, it’s easy to view the ubiquity of the smartphone as preordained, but only an extremely optimistic tech seer would have predicted it when Google bought a startup called Android in 2005. After the iPhone landed like a bomb in 2007, Google scrambled to make its

Share of U.S. households using select technologies



DATA: OUR WORLD IN DATA, HORACE DEDIU, COMIN AND HOBIJN (2004), U.S. CENSUS, CDC, EIA, PEW INTERNET, EDISON RESEARCH

open source mobile OS available for no direct cost to phone carriers and manufacturers. In return, Google was able to latch its lucrative online advertising machine to most any phone running Android.

It's tough to overstate how many of the key industry decisions around this time were driven by fear. Wireless carriers who'd long been able to dictate phones' looks and functions wanted their control back from Apple. Manufacturers such as Motorola initially had no compelling answer to Apple's design and worried they might be wiped out. (Many were proved right.) Google itself was terrified that Apple, Microsoft Corp., or another company would dominate the young smartphone market and shut out its search engine. Android seemed a neat solution to all these problems, or at least a Xanax for the anxieties. "Google truly opened the door," says Ryan Reith, a vice president for market researcher IDC.

With Android, any phone maker could churn out an iPhone-like product and, if it wanted, customize it before branding it as its own. Companies that made video games, ringtones, and other phone software no longer had to create a zillion versions tweaked for a vast sea of mostly crummy proprietary operating systems. Mobile carriers had something for which customers would pay more, helping the companies recoup the billions of dollars they were pouring into faster mobile internet networks capable of handling skyrocketing traffic from websites.

The first Android devices entered the market about 18 months after the iPhone, in late 2008. They were clunky and didn't catch on right away. But the technology and devices got better, and the beginning of a movement slowly took hold starting in 2009. Cellphone pioneer Motorola and relative newcomer HTC Corp. came out with fairly popular Android phones. Samsung took it to another level.

The Galaxy was the first Android model from a major cellphone manufacturer. Samsung was the

world's second-biggest seller of mobile phones, behind Nokia Corp., when the iPhone went on sale. The Korean company was caught flat-footed by the first round of iPhone mania, but dove in once it saw Android starting to gain traction. Samsung began to make a dizzying array of Android phones at every conceivable price tier and with different features. In its home country and elsewhere in Asia, it aggressively pushed its larger-screen phones, and they became global trendsetters. In the U.S., starting in 2011, the company began to spend lavishly on TV commercials that poked fun at iPhone owners as mindlessly loyal to just-OK gadget upgrades.

Rivals sneered at Samsung for trying to spend its way to relevance in the U.S., but it worked. Two years after the company put its weight behind Android, it edged past Apple to become the biggest global smartphone manufacturer, accounting for about 1 of every 5 sold. The following year, the South Korean company grabbed close to one-third of a booming smartphone market, according to Counterpoint Research.

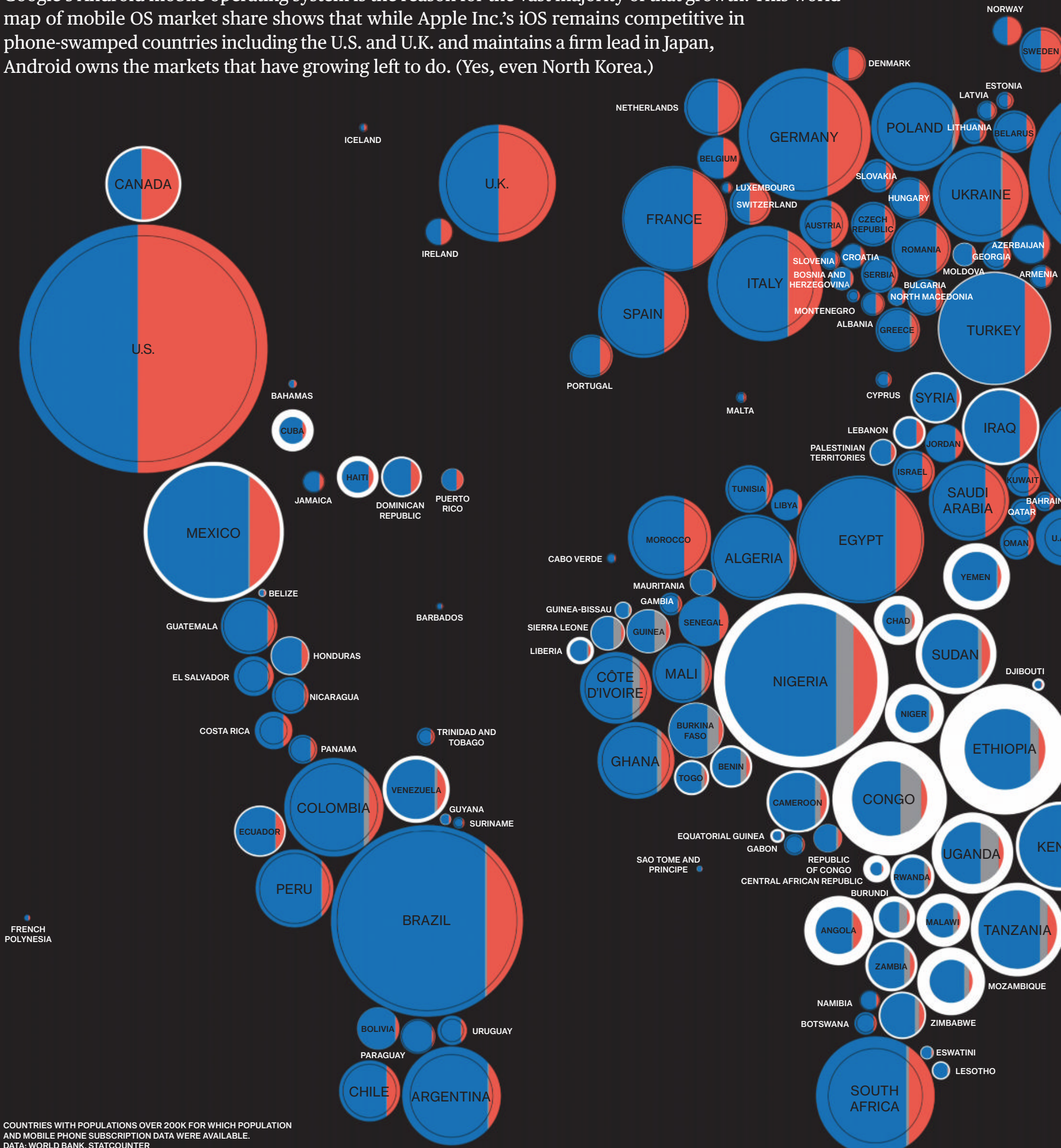
China came next. The government's push for economic growth quickly put fast mobile networks in every corner of the country. Samsung was initially a powerhouse in China before the booming urban classes gravitated to Apple, but the biggest winners were homegrown smartphone companies such as Huawei Technologies Co. and Xiaomi Corp., which created customized versions of Android without Google apps. The U.S. company's web services have been officially inaccessible in China since Google pulled back its operations in the country in 2010.

The world's most populous nation skipped a whole generation of PC development and went mad for smartphones. In 2005 less than 10% of China's population used the internet, according to the United Nations. The figure in 2017, the ►

The world's most populous nation skipped a whole generation of PCs and went mad for smartphones

It's Android's World. You Just Deliver Valuable Personal Information to It

Smartphone use has exploded over the past decade, approaching 50% of the global population, and Google's Android mobile operating system is the reason for the vast majority of that growth. This world map of mobile OS market share shows that while Apple Inc.'s iOS remains competitive in phone-swamped countries including the U.S. and U.K. and maintains a firm lead in Japan, Android owns the markets that have growing left to do. (Yes, even North Korea.)

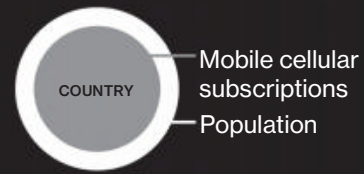


COUNTRIES WITH POPULATIONS OVER 200K FOR WHICH POPULATION AND MOBILE PHONE SUBSCRIPTION DATA WERE AVAILABLE. DATA: WORLD BANK, STATCOUNTER

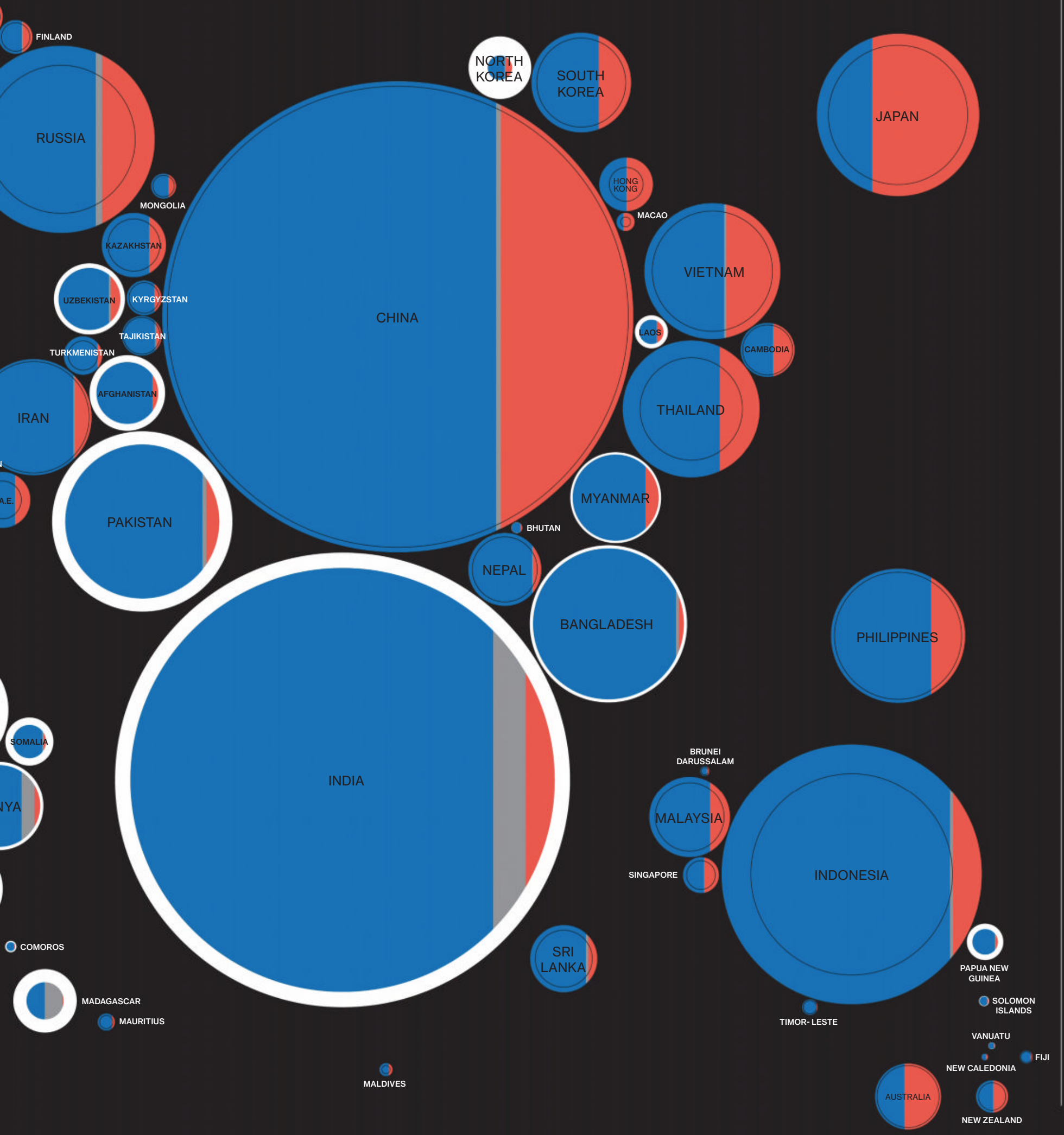
Mobile operating system share

- Android
- iOS
- Other

More people than cellphones



More cellphones than people



◀ most recent available, was 54%. Almost all those 800 million people use smartphones, not PCs, to go online. Apple was successful in China, too, but about 9 of every 10 smartphones sold in the country run on Android.

In India, the fastest-growing major smartphone market, Android devices account for 99% of units sold, says Counterpoint, and the Android-like KaiOS is the next-most popular for internet-connected phones. This pattern has been repeated around the world. The iPhone arrived, but Android grabbed the biggest share of buyers and made the smartphone a mainstream tool like nothing before.

Last year smartphone sales volume was more than nine times what it was in 2008, the year after the iPhone came out. It took a quarter-century for annual cellphone sales to hit 1 billion. Smartphones got there much faster, rocketing past 1.5 billion a year before a recent sag in new-device sales.

Android has come with downsides, of course, for its key triumvirate and the rest of the world. The same qualities that made internet-connected mobile devices so thrilling for more than a decade—eliminating gatekeepers, making information instantaneous, and connecting people with different points of view—now feel threatening to democracy, public safety, and our mental health. Samsung and other Android partners have also increasingly sought to free themselves from Google by pushing their own apps or software features ahead of those in the standard Android bundles.

And for Google parent Alphabet Inc., Android's legacy has grown messy. Last year, after a long investigation, European Union regulators declared that Google's offering Android for free but with strings attached was a violation of EU anti-monopoly laws. The EU also fined Google for favoring its web shopping service ahead of rivals and for hurting competition in internet search ads. The company is appealing all three actions.

The smartphone is now middle-aged by the sped-up standards of the tech world. IDC estimates that sales of the devices will decline in 2019 for the third straight year. There remains a big gap between the 50% of the world that uses the mobile internet and the 80% to 90% where analysts predict adoption will top out. But reaching the next 3.5 billion to 4 billion people gets progressively harder. Even Android can't drive phone prices down low enough for some people and places where the smartphone hasn't spread widely.

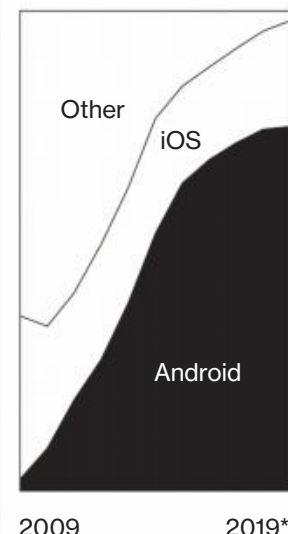
And as technologists bet on what lies beyond the smartphone, the odds are that Android or an Android-esque system won't have a major role. In a future in which wireless connections are so fast

and cheap that the internet can be built into every car, desk chair, thermostat, virtual-reality device, and pair of glasses, a single gadget that acts as an access point for the digital world may be much less important. And the biggest platforms for cloud computing, driverless cars, and voice-activated digital assistants are proprietary systems, not open coalitions like Android.

They have an example in that regard. Even with a minority share of the world's smartphones, Apple captures the vast majority of profits among smartphone manufacturers, and loyal iPhone owners buy billions of dollars of additional Apple hardware, apps, and internet add-ons each year. So while Google's OS blankets the globe, Jobs's philosophy may yet win out in the next generation of gadgets. For better and worse, the future of computing probably won't look like Android—an open, democratizing, somewhat uncontrollable technology that rules the world. —*Shira Ovide*
Ovide is a tech columnist for Bloomberg Opinion.

THE BOTTOM LINE Android's unique synthesis of powerful partners made the smartphone one of the fastest-adopted inventions ever. It's unlikely to happen again.

● Mobile operating system market share



Like *The Odyssey*, But for Drones

● A startup's robot sailboat just returned from Antarctica with some troubling climate clues

The robot sailboat is called #1020. It's a lackluster moniker for a machine that just spent seven months battling its way through 12,500 miles of frigid, massive waves to circumnavigate Antarctica. The robot, made by startup Sairdrones, is the first of its kind to complete the harrowing journey. More important, it's the only scientific vehicle to have captured such a detailed environmental picture of the state of the Southern Ocean, bringing back data that could be key to our understanding of climate change.

Scientists have long viewed the Southern Ocean as a major carbon sink, meaning it pulls carbon dioxide out of the air and pushes it deep underwater. About 40% of the 2.5 billion tons of carbon the ocean absorbs every year is thought to make its way into the waters around Antarctica, says Bronte

● The aim is for the fleet of drones sailing the oceans to eventually total

1,000

Tilbrook, a scientist who studies the region on behalf of CSIRO, Australia's national science agency. This process helps in removing carbon dioxide that causes warming in the atmosphere, although it also contributes to increasing ocean acidity. The truth, though, is that scientists know precious little about exactly how the Southern Ocean operates, because it's been such a difficult spot to measure.

Each year, a few ships make journeys to points in Antarctica and take measurements along the way. Their routes are limited, and they typically sail only in the warmer months. Over the past few years, more data has been gathered from scientific floats that measure the acidity of nearby water to estimate carbon dioxide levels. As with the ships, the data points are sparse and provide a vague picture of the environmental conditions around the entire continent. "We have such a limited amount of data to assess the Southern Ocean," Tilbrook says. "There are vast areas where no measurements have ever been made." The idea of sending something like a drone to take continuous measurements in all areas and across all seasons had been thought impossible, because of weather and ocean conditions, until now.

Founded in 2012, Saildrone operates a fleet of dozens of bright orange robotic sailing vessels. Rather than having a cloth sail, they rely on something more akin to a plane's wing. The company gives each drone a destination, and off it goes, sailing and tacking on its own. The drones are packed with hundreds of thousands of dollars' worth of scientific equipment to measure things like currents, dissolved oxygen levels, water temperature, acidity, and salinity, and they operate for a fraction of the cost of traditional research vessels. Meanwhile, sonar and other gear pinpoint animal life and produce data on fish stocks, for example. Saildrone's ultimate goal is to have as many as 1,000 drones providing a real-time accounting of what's happening in the oceans, plus invaluable information about the weather and the environment.

On Jan. 19, Saildrone released three drones from the southern tip of New Zealand to attempt the voyage around Antarctica. Storms soon battered two of the drones, forcing them to struggle back to New Zealand for repairs. But #1020 was designed with a shorter, squatter, rectangular sail rather than the usual lofty, triangular shape. The craft measures 23 feet long with an 8-foot-high sail. "We had been there before and learned to engineer something specifically for the Southern Ocean," says Richard Jenkins, the company's co-founder and chief executive officer. "It's like a brick shithouse and incredibly strong." During its journey, the drone withstood 50-foot waves and 80 mph winds. At one point, it



rammed into an iceberg, which killed some atmospheric sensors and the onboard camera.

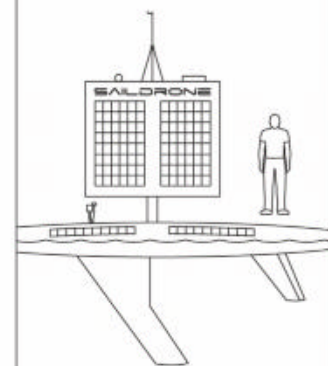
Even without the camera, Jenkins could monitor #1020's path via location-tracking devices. The drone crossed every line of longitude and on Aug. 3 returned, bruised and battered, to New Zealand, where Jenkins and his team retrieved it and downloaded huge stores of data gathered by its carbon dioxide sensor, designed by the U.S. National Oceanic and Atmospheric Administration.

Recent data-gathering has led to a big debate among researchers, with some claiming the Southern Ocean might not store nearly as much carbon as believed. Based on preliminary Saildrone data, NOAA scientists observed the Southern Ocean actually releasing carbon dioxide during the winter months—a fact that could have major implications on climate models. "Over the next 20 years, we can expect very big changes in the Southern Ocean ecosystems," says Tilbrook, the Australian scientist. "The message is that the Saildrones work and can survive and that now we need more data."

The Li Ka Shing Foundation, a charitable organization backed by the Chinese billionaire, paid for this mission. Moving forward, Jenkins expects to have a fleet of drones constantly circling Antarctica, measuring not only carbon dioxide but also things like krill stocks and temperature. The plan then is to make the data available to the public and run a contest with a \$1 million prize for "the most transformational work" done with it. "We need a mathematical model than can predict the ocean's uptake of carbon," Jenkins says. "It's freaking 38 degrees centigrade in London. This is not a coincidence. Are we experiencing a runaway effect from carbon? We need to know the answer, and we really have to accelerate the rate at which we do the research." —Ashlee Vance

THE BOTTOM LINE The Saildrone expedition around Antarctica offers climate researchers tantalizing new data, but remains a first step in resolving a debate about the continent's carbon storage.

▲ The startup recovered its Antarctic research vessel, and the precious data inside, on Aug. 3



▲ The "sail" on Saildrone #1020 is 8 feet tall



The Chaos Cycle

Powell speaks. Trump tweets.
China reacts. Markets freak. Repeat

The ups and downs of asset prices on any given day are being determined, more and more, by the words and actions of three men.

First, of course, is Donald Trump, who has rediscovered his power to send markets soaring—or into a tailspin—with less than 280 characters on Twitter. Then there's U.S. Federal Reserve Chairman Jerome Powell, who repeatedly finds himself on the receiving end of nasty Trump tweets for abiding by his mandate to do what's best for the U.S. economy, which isn't necessarily always the same thing as

what's best for the sitting president. And in Beijing, it's Xi Jinping, the president of China who sits atop a Communist Party in which politicians and central bankers famously sing from the same hymnal, at least when the audience is outside observers.

The financial markets have been like a mosh pit where these three players bang against one another. Powell, under pressure from Trump to cut interest rates aggressively, sent markets reeling by signaling the central bank's rate cut last month was a "mid-cycle adjustment" and not the start of an

aggressive loosening of monetary policy. The very next day, Aug. 1, Trump exacerbated the sell-off by saying he would place tariffs on practically any U.S. imports from China that don't already have them, starting in September. The response from Beijing on Aug. 5 caused the biggest waves in global markets, as the People's Bank of China allowed its currency to depreciate by the most since 2015 and reach more than 7 per dollar, a threshold it had prevented the yuan from crossing in recent years. China also asked state-owned companies to suspend purchases of U.S. crops, renewing pressure on the beaten-down prices of American corn and soybeans.

With each of these collisions, the fragility of the global economy and markets is exposed. It seems increasingly possible that something big and important is broken. Investors who'd believed U.S.-China relations were stabilizing, if not improving, were caught on the wrong foot when tensions abruptly escalated. The prevailing assumption that President Trump won't allow the trade war to continue through the 2020 presidential campaign season is being reconsidered, as the two sides appear further apart than ever. Economists at Goldman Sachs Group Inc., for example, no longer expect a trade agreement before the election and see the Fed cutting its benchmark interest rate two more times this year in an effort to counteract the economic damage that will be done by the impasse.

The constant whiplashes in expectations can be seen in an index that measures how often news stories mention uncertainty surrounding U.S. trade policy. It almost tripled in June to a 25-year high, before dropping by more than half in July after a comparatively uneventful stretch. The drama of August isn't yet reflected in the index, which is calculated monthly.

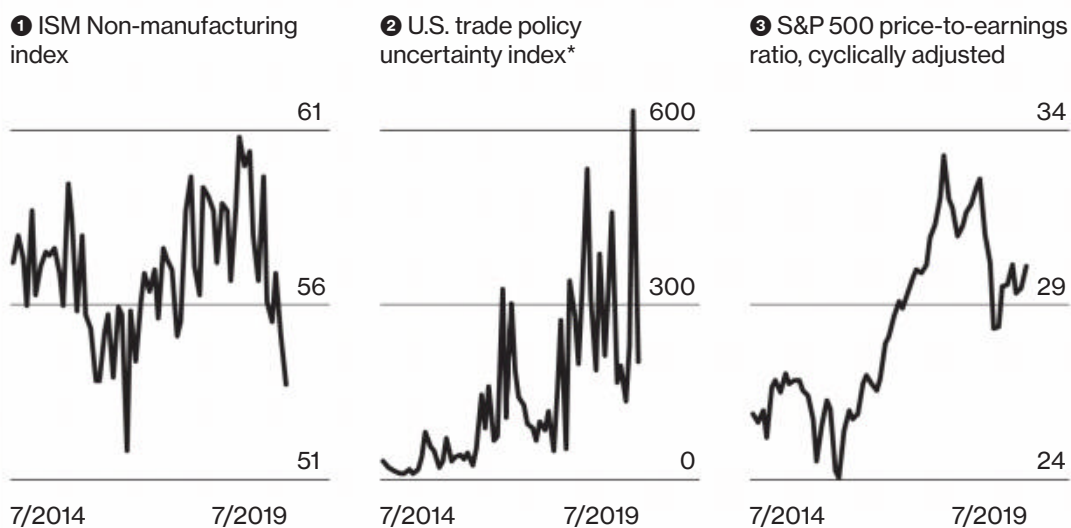
As troubling economic data pile up, the question being openly debated on Wall Street is whether lower borrowing costs will be enough to fend off a recession. An Institute for Supply Management index for the U.S. manufacturing businesses that Trump's policies were meant to support dropped to an almost three-year low of 51.2 in July. A similar gauge of the service industries had dropped from 60.8 in September to a three-year low of 53.7 in July. For both indexes, readings below 50 are a sign that economic activity is shrinking. In Europe, whose factories are caught in the crossfire between China and the U.S., manufacturing barometers already point toward recession. Growth in U.S. corporate profits, which the tax cuts put on steroids last year, has all but halted, and forecasts for the timing of a rebound keep getting deferred.

As the trade war morphs into a potential

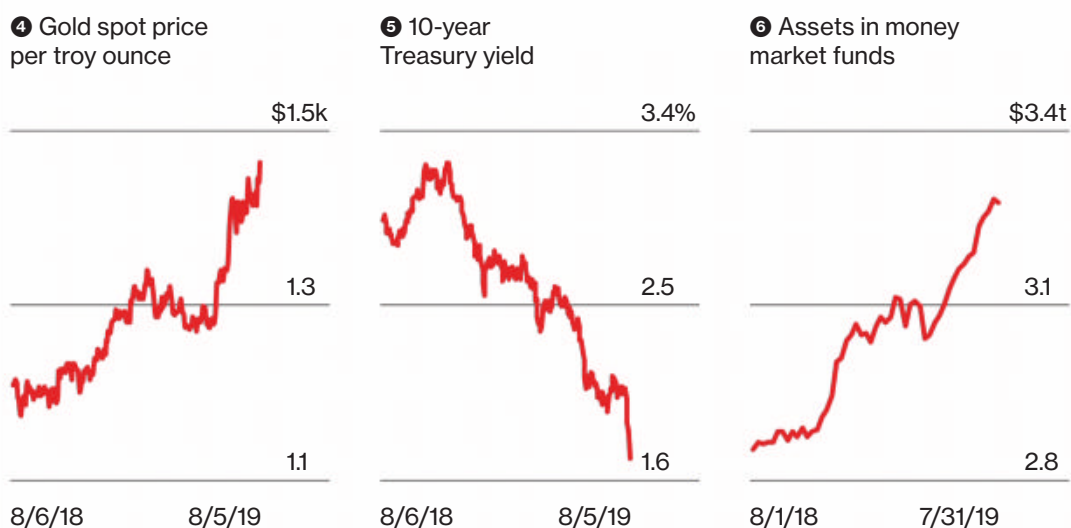
currency war—in which countries race to devalue to get a competitive edge for their exports—there are whispers about how and where the tensions could escalate further. Could the U.S. thumb its nose at China and sell F-16 fighter jets to Taiwan? Or could Washington signal support for the anti-Beijing protesters who've paralyzed Hong Kong this summer? And what could be at risk among more than a quarter of a trillion dollars of U.S. investments in China since 1990?

All these questions are arising in the dog days of summer, a time of year when Wall Street's vacation calendars are jammed and markets seem especially easy to rattle. Measures of stock market volatility tend to rise on average in August, and some of the ugliest swoons in equities over the past decade have occurred in this month. The S&P 500 index has shed about 6% from its last record, in late July, leaving it below the peak it reached in January 2018 at the height of optimism surrounding Trump's corporate tax cuts. Even the most reliable big spenders in the market these days—corporations ▶

Signs of Strain



Some Investors Look for Shelter



*U.S. CATEGORICAL ECONOMIC POLICY UNCERTAINTY TRADE POLICY INDEX. DATA: INSTITUTE FOR SUPPLY MANAGEMENT; BAKER, BLOOM AND DAVIS; ROBERT SHILLER; INVESTMENT COMPANY INSTITUTE; BLOOMBERG

◀ themselves—have had trouble keeping share prices afloat. Shares of Google parent Alphabet Inc. surged almost 10 percent after the company announced a \$25 billion share buyback plan on July 25. The stock proceeded to lose almost all of that gain in the following week.

Before the latest swoon, there were signs that some investors were getting nervous about the balance of risk and reward offered in the market. Some measures of valuation look high. Warren Buffett's preferred metric, the ratio of the total market value of U.S. stocks to gross domestic product, is at about 1.49, higher than it was just prior to the financial crisis. The cyclically adjusted price-to-earnings ratio, based on the last 10 years of earnings, is about 30, well above the 50-year average of 20. Both measures capture roughly the same thing: how much it costs to buy a piece of the wealth that businesses are generating. Neither number can tell you when the market is about to turn, but they both suggest prices are high.

For Buffett, there doesn't seem to be much worth buying at current valuations. The latest earnings report from his Berkshire Hathaway Inc. showed the holding company sold more stocks than it bought in the second quarter, and its pile of cash rose to a record \$122 billion. He's not the only one sitting on the sidelines: assets in money-market mutual funds—the mattresses investors tuck money under when

other choices look too risky—have climbed to an almost 10-year high of \$3.3 trillion.

The recent rush into safe havens sent gold to a five-year high and triggered a rally in Treasuries that pushed 10-year yields to their lowest since Trump was elected in 2016. (Yields drop when prices rise.) At the same time, rates on three-month Treasury bills were higher than those on 10-year bonds—a phenomenon known as a yield-curve inversion that's widely considered a reliable warning of an impending recession. The lower long-term yields signal that markets expect interest rates to come down in response to weak economic growth.

“We may well be at the most dangerous financial moment since the 2009 Financial Crisis with current developments between the U.S. and China,” tweeted Larry Summers, Treasury secretary under Bill Clinton and economic adviser to Barack Obama. One might detect a partisan edge in that comment, but there's no doubt markets are trying to see their way through a lot of potential chaos. Bulls may hope that Trump will tweet about a breakthrough with “his good friend Xi,” and stocks will be off to the races again. But for now the cacophony in the mosh pit just seems to get louder and louder. —*Michael Regan*

THE BOTTOM LINE Investors are reacting not only to earnings and economic growth, but also to unpredictable moves by influential policymakers.

● Cash held by Berkshire Hathaway

\$122b

Help Wanted Busting Dirty Money

● European banks need more people to comb through data in the fight against ill-gotten funds

For decades, increasing reliance on technology and automation has meant one thing for workers: fewer jobs. In a fast-growing corner of the finance industry, it's doing the opposite as banks across Europe struggle to fill positions in units employing tech to combat money laundering.

Reeling from a litany of scandals and more than \$20 billion in fines since 2012, lenders are using artificial intelligence and machine learning to ferret out miscreants seeking to obscure the origin of ill-gotten cash. But that technology coughs up so much data that banks must hire legions of workers to sort through it all and separate the scoundrels from the scrupulous.

Compliance and financial crime personnel today

account for about 3% of the average bank's head count in the U.S. and Europe, more than double the level in 2013, according to Boston Consulting Group. With most lenders now thoroughly evaluating business clients annually instead of every three to five years, as they did a few years ago, big banks typically spend more than \$300 million annually staffing their anti-money-laundering operations, BCG says. Investment bank Mediobanca SpA estimates European financial houses will have to hire 10,000 people in the next two years, but there aren't nearly enough qualified candidates. “There's an ongoing labor crunch,” says BCG partner Norbert Gittfried. “The day-to-day need is still going up.”

With low interest rates and a weak regional

economy squeezing profits, bulking up is tough, but banks have little choice. In January new European Union anti-money-laundering regulations will come into effect, tightening rules and expanding the range of activities that must be examined. Danske Bank AS, which says as much as \$220 billion in suspicious transactions moved through its Estonian branch, needs 600 people to staff its crime and compliance units. ING Groep NV, which in 2018 paid a €775 million (\$860 million) penalty to settle money laundering cases, in the second quarter of this year created 500 full-time positions to monitor suspicious transactions—a 20% rise. France’s biggest lender, BNP Paribas SA, has increased its compliance and anti-financial-crime head count by 40%, to 4,200, over the past three years.

Several lenders have farmed out lower-level jobs in the field to Eastern Europe. Others are holding “date nights,” where compliance executives meet with potential hires, seeking to spiff up the image of what’s long been viewed as a fusty backwater of the finance industry. Rabobank Group, which has agreed to pay \$369 million to end a U.S. investigation of money laundering for Mexican drug cartels, has opened 21 compliance hubs across the Netherlands to attract workers reluctant to move to bigger cities. Deutsche Bank, the troubled lender that plans to cut 18,000 jobs by 2022, has vowed it won’t “make any sacrifices” in compliance and expects to spend €4 billion partly to beef up its crime-fighting capabilities in the next three years. Across Europe, salaries for compliance officers have climbed 20% since 2016, far outpacing raises in the rest of the banking business, according to recruiter Korn Ferry.

Although it would be impossible for banks to comply with money laundering regulations without software, the tools can flood them with thousands of “false positives.” Loosening the algorithms could reduce that problem, but that would likely also let some bad guys squeak through—exposing banks to the risk of massive penalties. Moreover, criminals are constantly coming up with ways to hide the provenance of their cash, often using elaborate webs of offshore companies or rapidly moving money around the world using digital payment transfers and cryptocurrencies. Computers can spot suspicious activity, but they’re typically not smart enough to unravel precisely what’s going on with a client or a transaction.

That’s why banks need people such as Carolien Al-sabbag. The 29-year-old analyst was hired last year by Rabobank’s compliance center in Zeist, a town of 63,000 about 45 minutes south of Amsterdam by car. On a recent afternoon, she got



◀ Al-sabbag at Rabobank’s compliance center in Zeist

a notice that a client with a sizable real estate portfolio had made a series of cash deposits in excess of €10,000, and the source of the funds was unclear. After a quick Google search, Al-sabbag discovered that police had found an illegal pot farm on one of the customer’s properties. She called the man’s accountant, who said the client owns a restaurant (which she verified with the Dutch Chamber of Commerce) and that the money was legitimate revenue from there. She passed her findings on to a supervisor, who would decide whether to report the suspicious activity to police. “People aren’t always happy when we scrutinize them, but with so many dirty-money scandals, they’re starting to understand it more,” she says.

Still, simply hiring a bunch of recruits isn’t sufficient, says Charles Delingpole, chief executive officer of ComplyAdvantage, a London startup that provides anti-money-laundering software to more than 400 clients including Banco Santander’s U.K. division and Earthport, a payments processor owned by Visa. Lenders are being asked to keep closer tabs on accounts even as apps let customers do everything from currency trading to taking out mortgages with just a few taps on their smartphone. And every time a bank stops a transaction or investigates a client, the business can go elsewhere.

Delingpole says striking a balance is a serious challenge requiring a new mindset across the entire organization, not just more people and software. “It’s much easier to throw bodies at the problem than it is to rewire financial infrastructure,” says the tech veteran of JPMorgan Chase & Co. “But money launderers are tremendously innovative, and the range of regulatory demands and the severity of penalties for transgressions continue to increase.”

—Ruben Munsterman and Edward Robinson

THE BOTTOM LINE With ever-tighter oversight and fines topping \$20 billion, banks are cracking down on dirty money—and creating thousands of jobs in the process.

“People aren’t always happy when we scrutinize them”

Borrowing Billions To Buy Stock, Not Invest

The long-standing link between corporate debt and capital expenditures has broken down

When the Federal Reserve cuts interest rates, making it cheaper to borrow, it's supposed to deliver a direct boost to the economy. But one key part of that machinery has broken down.

Business investment used to rise when U.S. companies took on more debt—because most companies borrowed to add capacity. Nowadays, they're likelier to funnel the money to shareholders.

Investment is stuck at low levels by historical standards. President Donald Trump's reduction in

corporate taxes hasn't changed the pattern. Neither has a decade of low interest rates, even before the Fed's quarter-point cut on July 31.

It's not that business stopped borrowing. As a share of gross domestic product, corporate debt has climbed to a record. What's all but vanished is the correlation between how much companies borrow and how much they invest.

That long-standing relationship endured, albeit weakened, through the 1980s and '90s as companies



focused increasingly on driving shareholder value, says J.W. Mason, a fellow at the Roosevelt Institute in New York who's been researching the topic. Now it's gone, and Mason says the data suggest a different link. "If you can borrow on more favorable terms, you don't necessarily invest more," he says. "You might think this is an opportunity to give bigger payouts to shareholders. This is a big reason why monetary policy isn't as effective as it used to be."

Companies can return money to investors through share buybacks and dividends. Cash payments for acquisitions fit the category too—at least for an economist looking at the macro picture rather than at individual companies—because they're another transaction where money goes to holders of already-existing assets.

Buybacks, in particular, have become a controversial way for businesses to spend. They took off in the U.S. after 1982, when a U.S. Securities and Exchange Commission ruling reduced the risk that they'd trigger charges of market manipulation. Buybacks are likely to approach \$1 trillion this year, according to a Goldman Sachs Group Inc. forecast, rising from 2018 levels that were already a record.

The finance industry defends the practice, arguing that outsiders shouldn't be second-guessing corporate managers who have the best handle on where they can usefully channel funds. If those managers can't see opportunities for profitable investment, in other words, maybe there aren't any.

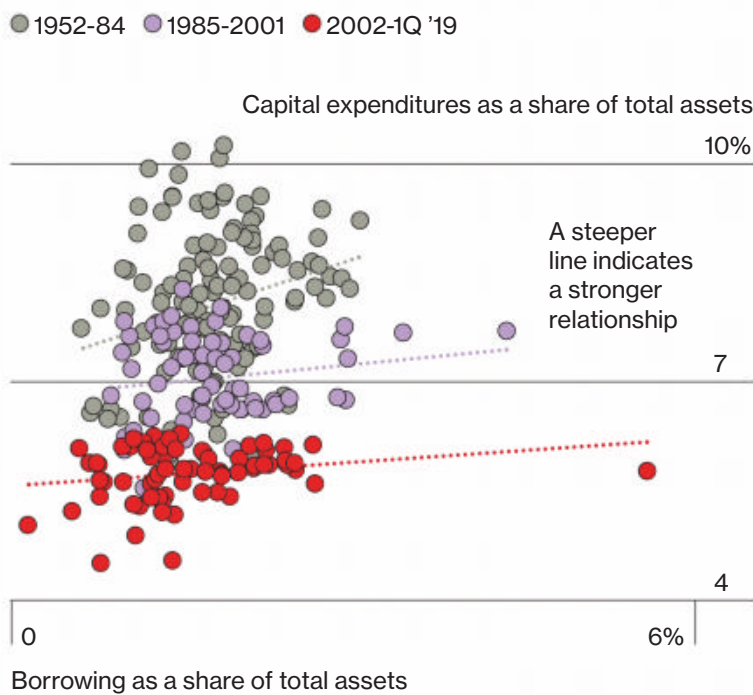
Still, buybacks are in the political spotlight. On the Democratic side, Senators Chuck Schumer and Bernie Sanders have called for curbs. Republican Senator Marco Rubio has criticized the tax code for encouraging buybacks over investment.

Dan Ivascyn, group chief investment officer at Pacific Investment Management Co., says the economy can benefit in "indirect ways" when companies borrow at low rates to finance buybacks and dividends, as those activities typically boost the price of a stock. For owners of those shares, there's a wealth effect—which may induce them to spend more. There's also a dynamic in which "higher stock markets improve business confidence," because they're widely viewed as a gauge on the outlook for the economy, says Ivascyn.

That's pretty much the line Fed Chair Jerome Powell took at a July 31 press conference, after the Fed's first interest-rate cut in a decade. Asked how cheaper borrowing can help the real economy when the cost of capital doesn't appear to be an issue for business, he said the policy "seems to work through confidence channels, as well as the mechanical channels." That confidence has lifted asset prices to record highs—though it

A Weakening Link

Capital spending and borrowing by U.S. companies, quarterly



DATA: BLOOMBERG CALCULATIONS FROM FEDERAL RESERVE DATA, BASED ON WORK BY THE ROOSEVELT INSTITUTE'S J.W. MASON

doesn't seem the kind that gets business to invest.

When economists search the horizon for the next source of trouble, they often alight on corporate debt. It's true that American companies aren't the biggest borrowers in the low-rates era that began in 2008. That would be the federal government. But the government controls the dollar printing press, so it can't really go bust. Plus, there hasn't been a sovereign debt default in a rich country for decades.

Analysts at Capital Group, a Los Angeles-based investment firm, have concerns about debt-financed buybacks and dividends. That kind of spending has jumped above a key cash flow measure, they found. "We're trying to identify those companies that, in this late cycle, might not have used debt for the primary purpose of growing the business," says David Bradin, a fixed income investment specialist at Capital Group.

Companies that borrow to increase capital spending or for acquisitions will have more options to pay off debt in a downturn. It'll be easier for them to pare back operations or "potentially sell noncore assets to pay off some of the debt," Bradin says. Companies that borrow to fund buybacks and dividends may not have those resources to draw on.

While bond pickers like Bradin look at the risks for individual businesses, economists such as William Lazonick, a professor at the University of Massachusetts at Lowell, worry that buybacks, debt-financed or otherwise, are bad for the whole economy. Lazonick has campaigned against the practice for decades. It's often been a lonely fight—but less so lately. He advised Hillary Clinton when she was running for president in 2015 and has been consulted ▶

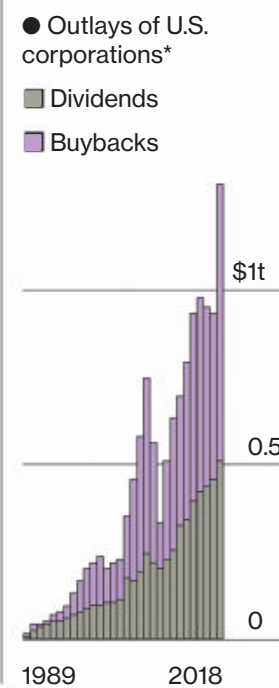


ILLUSTRATION BY JACK TAYLOR. *2002 NONFINANCIAL U.S.-BASED COMPANIES THAT REPRESENT MORE THAN 98% OF THE U.S. PUBLIC EQUITY MARKET. DATA: CAPITAL GROUP

◀ by Sanders. Rubio cited his work this year in a report on America’s failure to invest.

Lazonick says buybacks are a driver of high inequality and low investment. They’re also a reason U.S. companies have fallen behind their Chinese competitors in the race to dominate 5G telecommunications. (He’s working on a paper comparing Huawei Technologies Co. with Cisco Systems Inc., which has spent more than \$100 billion this century buying its own stock.)

Most economists, blinded by faith in financial markets as the most efficient allocators of

resources, have missed the whole problem, according to Lazonick. “They just say, ‘Oh, the investment ends up somewhere,’” he says. “That’s an argument with no evidence.” Lazonick says the label favored by corporate bosses to describe their buybacks—“capital return program”—is misleading. “Capital is something that gets invested,” he says. “It’s not capital. It’s just money.” —*Ben Holland and Liz Capo McCormick, with Alex Tanzi*

THE BOTTOM LINE U.S. corporate borrowing is on track to exceed last year’s record. But the debt binge is financing stock buybacks instead of productive investment.

Vietnam Has It **Good**—Maybe **Too Good**

- The country has benefited so much from the U.S.-China impasse that it risks getting dragged into the trade war

U.S. President Donald Trump’s trade war has Peter Chang scrambling. Sixty components makers that supply Foxconn Technology Group and Samsung Electronics Co. have come knocking at his industrial park northeast of Hanoi in the past three months. They’re looking to skirt U.S. tariffs on Chinese products. “They need to get into Vietnam now—immediately,” says Chang, deputy general director of Shun Far Land Development Co., which operates the Thuan Thanh II Industrial Park. “We have our building team waiting.”

Chang is negotiating with neighboring landowners to convert rice fields into assembly lines to take advantage of the sudden boom in business. He realizes, though, that it may not last. Even as foreign companies are lining up at Vietnam’s industrial parks, the Trump administration is increasing pressure on the country’s communist leaders to curb its growing trade surplus with the U.S.

Vietnam is caught between contradictory forces unleashed by the U.S.-China trade war: The country of 96 million people is benefiting so much from the impasse that it, too, is at risk of being hit with punitive American duties. Its leaders are trying to convince the Trump administration that they’re fair traders as they seek to protect exports to the U.S., which in the first half of 2019 equaled almost 26% of gross domestic product. “The United States has been clear with Vietnam that it has to take action to reduce the unsustainable trade deficit,” said U.S. Trade Representative Robert Lighthizer in a written communication with the Senate Finance Committee released on July 29.

The combination of a young and comparatively cheap labor force, stable government, and business-friendly environment has turned the Southeast Asian nation into an appealing alternative to China. Intel Corp. and Samsung were early to spot its promise: Today they employ more than 182,000 workers combined at factories that assemble chipsets and smartphones.

Now makers of sneakers and video game consoles, among others, are looking to shift production to Vietnam to evade American tariffs on Chinese goods. The government granted investment licenses to more than 1,720 projects in the first six months of the year, up 26% from the same period last year.

Vietnam’s dependence on exports makes it particularly vulnerable to the surge in protectionism. Its trade surplus with the U.S. totaled \$25.3 billion in the first six months of 2019, 39% higher than the same period last year, according to U.S. Census Bureau data. The Trump administration has seized on the worsening imbalance as evidence that some companies are funneling made-in-China products through Vietnam to avoid tariffs, a practice known as transshipment. In July the U.S. slapped duties of more than 400% on steel imports from Vietnam that it says originated in South Korea and Taiwan.

Washington is dialing up the pressure on Hanoi in other ways. In May, Vietnam was added to the U.S. Treasury Department’s list of possible currency manipulators, a designation that could result in punitive measures. A month later, Trump, in an interview on Fox Business Network,





described Vietnam as “almost the single worst abuser of everybody.”

The threat of new duties against Vietnamese products is real, says Sian Fenner, a Singapore-based economist at Oxford Economics, noting that the nation’s textile, computer, and seafood exports to the U.S. are especially at risk. The Americans’ increasingly hostile rhetoric has some companies rethinking their Vietnam strategy. Eclat Textile Co., a Taiwanese company that makes sportswear for Nike Inc. and Lululemon Athletica Inc., says it needs to shift work out of Vietnam to hedge against the possibility of the country’s getting caught in Trump’s tariff assault.

To placate Washington, Vietnam’s leaders have committed to buying more American products, including Boeing Co. jets. They also could offer to expand market access to service sectors, such as telecommunications, finance, and insurance, Fenner says.

Prime Minister Nguyen Xuan Phuc has directed officials to step up efforts to crack down on Chinese exporters that are rerouting products through the country. Vietnam is willing to engage in regular communications with the U.S. to “promptly resolve any issues that arise,” said Nguyen Phuong Tra, a spokeswoman at the deputy foreign ministry, in an emailed statement.

Meanwhile, managers at the country’s industrial parks can barely cope with the spike in business. At Bau Bang Industrial Park, north of Ho Chi Minh

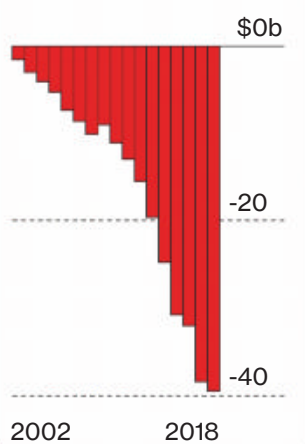
City, factory walls rise up from land where rows of rubber trees once stood. Housing for thousands of workers is being completed, as is a hospital. There’s a Taiwanese restaurant nearby. One of the enterprise zone’s operators gets visits from about 18 overseas suppliers a week. That’s triple the normal rate last year, according to Rose Chang, chief financial officer of DDK Group, which is involved in a joint venture with Warburg Pincus-backed Becamex IDC to operate a 200-acre section of the industrial park that will be home to Taiwanese companies making products such as headphones, baby strollers, and swimming pool and patio furniture.

Kinh Bac City Group, which operates similar facilities across the country, has hosted visitors from 90 foreign companies this year that are exploring moves into one of its northern Vietnam industrial parks, says Phan Anh Dung, deputy general director. On a recent morning, he was taking a break after meeting with representatives of a Chinese company looking to set up operations in one of the group’s parks, about 45 kilometers (28 miles) from Hanoi. GoerTek Inc., an Apple Inc. supplier based in China, has begun construction on a \$260 million factory expansion there. “I have never seen anything like this before,” Dung says. —*Xuan Quynh Nguyen and Nguyen Dieu Tu Uyen, with Nguyen Kieu Giang, Mai Ngoc Chau, and John Boudreau*

THE BOTTOM LINE Vietnam, whose trade surplus with the U.S. grew 39% in the first six months of the year, could be the next country to face punitive tariffs.

▲ Bau Bang Industrial Park has seen a surge of interest from foreign manufacturers

● U.S. trade imbalance with Vietnam



5

POLITICS



● The gun-rights group is hobbled by lawsuits and has lost its longtime power brokers

In February 2018, two weeks after a shooting at a Florida high school left 17 dead, President Trump made a blunt declaration to a roomful of politicians during a televised discussion on school safety: “You’re afraid of the NRA.” Trump promised action. He vowed—just as he would following the mass shootings in El Paso and Dayton over the weekend of Aug. 3 and 4 that killed 31 people—to expand background checks on firearms purchases as a way to prevent shootings.

The earlier push for background checks brought a familiar figure to the White House. Chris Cox, then the National Rifle Association’s chief lobbyist, emerged from the Oval Office a day after Trump’s promise with a clear message of his own: “POTUS &

VPOTUS support the Second Amendment, support strong due process and don’t want gun control,” he wrote on Twitter. Trump soon pivoted to discussing measures such as arming teachers and narrower state-level restrictions tied to severe mental-health risks—steps broadly supported by the NRA.

The difference this time, after a weekend with two massacres, is that there was no publicized visit from NRA officials to the White House. There’s also no Cox: He was ousted in June after losing a power struggle with NRA chief Wayne LaPierre.

This is the NRA’s first big test since April, when a brewing civil war resulted in a flurry of lawsuits from former allies, the departure of key players, and the consolidation of power by an embattled LaPierre.

Trump has already signaled a turn back toward support for background-check legislation proposed by Senators Joe Manchin of West Virginia and Pat Toomey of Pennsylvania, a Democrat and a Republican, respectively. The bill would make it more difficult for individuals with mental illness to

purchase firearms and would require background checks for transactions at gun shows or over the internet. “Mental illness and hatred pulls the trigger, not the gun,” Trump told the nation on Aug. 5.

Trump could also move without congressional support to restore executive actions on gun control undertaken by President Barack Obama in 2016 that allowed mental health records to be part of the background-check system. Trump rescinded those measures a month into his presidency. The White House didn’t respond to a request for comment.

Whatever comes next will be a test of both the changing political landscape on guns and the still-formidable power of the NRA. A report detailing lavish spending under LaPierre, published in April by the *Trace*, a nonprofit publication focused on firearms coverage, led New York Attorney General Letitia James to open a probe into the NRA’s nonprofit status. Karl Racine, the attorney general for Washington, D.C., has also opened an investigation. After NRA President Oliver North complained about alleged financial misconduct, LaPierre pushed him out of his unpaid post. The NRA sued in an attempt to bar North from seeking legal fees, and North countersued.

LaPierre has replaced his internal rivals. Cox, a 17-year veteran of the NRA’s Institute for Legislative Action, has been succeeded as chief lobbyist by Jason Ouimet, who previously worked as a deputy at the institute. The unrest inside the group has prompted some large donors to withhold contributions until LaPierre steps down.

As part of the unraveling, the NRA has broken with and sued its longtime advertising firm Ackerman McQueen Inc. The loss has already led to noticeable changes in the tone and tactics of the association’s public statements. After past shootings, the NRA would typically decline to rush out a statement. Following the 2012 elementary school shooting in Newtown, Conn., the group waited a week before LaPierre offered an aggressive defense of firearms: “The only thing that stops a bad guy with a gun is a good guy with a gun,” he said.

This time around, however, the NRA issued a statement one day after the weekend’s first major shooting, in El Paso. “The NRA is committed to the safe and lawful use of firearms by those exercising their Second Amendment freedoms,” the group said. On Aug. 5, after Trump discussed the shootings, it issued a second statement in support of measures focused on mental health.

These unusually mild and prompt statements came without counterpoint from the NRA’s fierce talking heads on its digital-video network. The feud with Ackerman McQueen has led to the abrupt end

of NRA TV, a web platform that promoted videos by aggressive gun-rights spokeswoman Dana Loesch and other NRA stalwarts. Loesch, a conservative commentator and radio host, took to Twitter following the weekend shootings to voice support for the Second Amendment in general—without boosting the NRA, as she has in the past.

Disarray at the biggest gun-rights group can be seen in Congress. Even though the NRA spent \$9.6 million on lobbying in 2017 and 2018, none of its top five bills became law. The group also spent less on the 2018 midterm elections than it had in the past: \$10 million, down 64% from its 2014 spending. The NRA’s revenue dropped 15% from 2016 to 2017, according to tax filings, which could herald decreased spending in the 2020 election. The group spent a record \$30.3 million in 2016.

In the meantime, there isn’t too much for the NRA to fear on the federal level. Despite Trump’s meetings with senators who support background checks, no gun-control measure would likely get past the Republican-controlled Senate. The spectacle created by the NRA’s dysfunction could even help distract people from its anti-gun control agenda at a time when suburban voters are getting increasingly nervous about gun violence. That would give Senate Majority Leader Mitch McConnell of Kentucky cover to continue to block meaningful reform as the party aims to retain that segment of its base. (Michael R. Bloomberg, founder of *Bloomberg Businessweek* parent Bloomberg LP, is a donor to candidates and groups that support gun control, including Everytown for Gun Safety.)

The NRA itself is continuing to project a robust public image. “With many in the media writing the obituary of the NRA, we are scoring big wins in the legislative, legal, and public policy arenas,” said spokesman Andrew Arulanandam in an emailed statement. A May 31 mass shooting in Virginia Beach that killed 12 led to a special legislative session to consider gun-control legislation. But Republican lawmakers put off the matter until November, which the group claimed as a victory.

LaPierre’s first outing as the unrivaled NRA leader has gotten mixed reviews. Aaron Davis, a former NRA fundraiser, called the rhetoric less obviously strategic than usual. “It’s about as competent a statement as they could make under the circumstances,” says Richard Feldman, a former NRA political director. “There are no gun owners who feel good about guns being used in such tragedies.” —*Polly Mosendz and Neil Weinberg, with David Voreacos*

THE BOTTOM LINE Even without some key personnel, the NRA retains much of its potency as a cultural movement, which means that significant gun-control legislation is still unlikely.



● LaPierre

The unrest inside the group has prompted some large donors to withhold contributions until LaPierre steps down

California's Inside-Out Climate Conflict

● The state is struggling to rectify its housing shortage in an environmentally responsible way

The Los Angeles County Board of Supervisors voted in April to approve Centennial, a 19,333-home planned community with more than 10 million square feet of commercial space 60 miles north of downtown Los Angeles. Dozens of representatives from trade unions and working-class neighborhoods urged the supervisors to bless the plan, describing the urgent need for housing in a county where the median home price was \$618,500 as of Aug. 1, according to Zillow, up from \$350,000 in 2012.

And yet some environmental advocates want to kill the development. The reason: the potentially long drive to work for the people who'd live there. For the last 50 years, California has been a leader in environmental regulation. It was the first state to establish tailpipe emission standards for cars in the 1960s, and its 2012 Advanced Clean Cars program aims to reduce greenhouse gas emissions from new vehicles about 40% by 2025.

But the California Air Resources Board last year reported that the state is falling short of some of its goals. A large part of the problem, according to its report, is the increasingly long commute many Californians have been forced to make: More than 500,000 residents had a one-way commute longer than 90 minutes in 2018, according to U.S. Census Bureau data. That outweighs all the benefits of cleaner, more fuel-efficient vehicles.

"Los Angeles is the poster child of sprawl," says Alejandro Camacho, director of the Center for Land, Environment, and Natural Resources at the University of California at Irvine, referring to the endless landscape of single-family homes in the surrounding valleys and down the coast. "From a political perspective, it's understandable to approve a development like this, because of the need for housing, but the challenge is to build that housing closer to where the jobs are."

As in most states, land-use decisions in California ultimately fall to local governments, where lawmakers face pressure from developers and home-seekers. There's still a lot of money to be made by so-called leapfrog development, away from existing cities, says Ethan Elkind, director of the Climate Program at the Center for Law, Energy

& the Environment at the University of California at Berkeley. Many working-class families are so desperate for a place they can afford, they're willing to drive as far as necessary.

Suburban homeowners have so far successfully fought attempts to allow high-rises in neighborhoods zoned for single-family homes. A bill in the California Senate that would make it easier to build apartments in low-density neighborhoods close to jobs was shelved in May after fierce opposition.

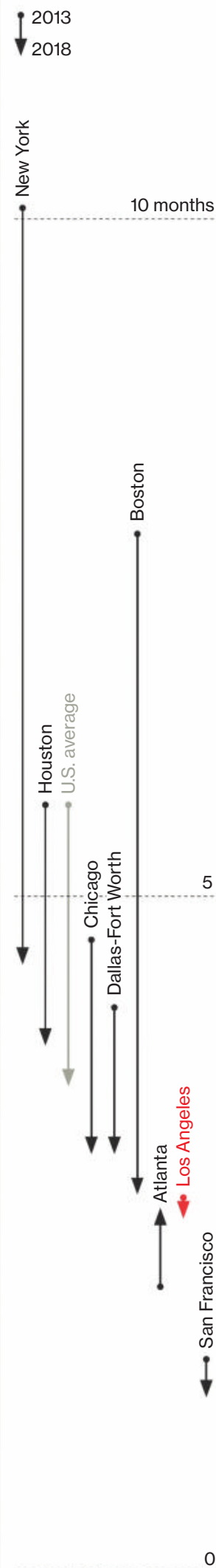
In 2008, Tejon Ranch, the developer behind Centennial, made a deal with the Sierra Club, the Natural Resources Defense Council, and other environmental groups to set aside 90% of its land for conservation in exchange for their not fighting its developments. The Center for Biological Diversity, which wasn't part of the agreement, has filed several suits seeking to prevent Centennial from moving forward. Most recently it argued that the project's environmental impact report fails to adequately disclose, analyze, and mitigate the harm a city of 57,000 residents will do to grasslands and wildflowers.

"Centennial is fundamentally incompatible with the state's climate goals," says J.P. Rose, an attorney with the activist group. In its lawsuit, the organization also says the site has been designated a very high or high fire severity zone, sitting at an intersection of two mountain ranges with rolling hills, steep grades, and often gusty winds.

At the hearing, County Supervisor Sheila Kuehl, whose district was devastated in the Woolsey Fire in November, pointed out that even if Centennial incorporates the most advanced fire-resistant materials, it will still require scarce resources from emergency responders in case of a widespread wildfire. "We are still going to defend these houses," Kuehl said. "We're not going to say, 'Oh well, you built them so they don't burn, so that's fine.'" She was the only supervisor to vote against the plan.

In the end, Centennial may be no different from other planned cities that have gone up around Los Angeles in the past 50 years. Many started out as bedroom communities but developed into job centers, says Bill Fulton, director of Rice University's Kinder Institute for Urban Research in Houston. Tejon Ranch expects strong commercial demand and projects that half of its residents will work within the community. "Policymakers are saying you have to build anything but that," Fulton says, referring to rambling exurbs. "But it's a real Rubik's Cube to meet real housing goals within the constraints of state policy." —*Edvard Pettersson*

● Change in time needed to sell existing supply of single-family homes, by metropolitan area*



THE BOTTOM LINE Without incentives to build expensive infill housing, developers continue to create cheaper new communities away from city centers in the hope that jobs will follow.

*BASED ON LOCAL SELLING RATES. DATA: JOINT CENTER FOR HOUSING STUDIES OF HARVARD UNIVERSITY

The Issue

- Extend Medicare coverage to all Americans within four years



It took Bernie Sanders about a minute and a half to start talking about health care in his opening remarks at the Aug. 3 American Federation of State, County and Municipal Employees 2020 Public Service Forum in Las Vegas.

to build on the Affordable Care Act than adopt an entirely new system. A late July Kaiser Family Foundation poll found that just 39% of likely Democratic voters favor Medicare for All over more modest improvements to existing laws.

Sanders told union members that Medicare for All removes the uncertainty when they switch jobs or renegotiate their contracts. “Let us not forget, 500,000 people in this country this year will go bankrupt after they leave the hospital,” he said. “That will not happen under Medicare for All.”

Sanders enjoys a home field advantage with labor crowds, and this one was no exception. Privately, however, some had questions about their existing coverage, said Kathryn Lybarger, 52, a union leader and gardener at the University of California at Berkeley.

“What about union members who have negotiated fantastic health plans? Will they be able to keep that?”
 “Here’s the thing,” she continued. “It would be nice to actually take the question of health care—something that’s a basic human right—off the table and not have to negotiate it anymore.”

Sanders has been polling well behind former Vice President Joe Biden and is neck and neck with Harris and Massachusetts Senator Elizabeth Warren, all of whom had slots at the forum. Who impressed Lybarger the most?

“There’s a really strong field here,” she said. “I think most all those candidates would do a fantastic job.” —*Emma Kinery*
Photos by Kareem Black

“I want to thank Afscome for supporting the idea of a ‘Medicare for All’ single-payer program,” the Independent Vermont senator said to cheers. He threw in an “I wrote the damn bill!” for good measure, a throwback to his fiery performance at the CNN debate on July 30.

Sanders has had to fight the notion that his ideas are more popular than he is. This is especially true regarding health care. In 2016, running for the Democratic presidential nomination, he was dubbed extreme, even radical, for proposing that Medicare, the 50-year-old public insurance program for senior citizens, be expanded to cover all Americans. Today, 12 of the top 20 candidates for the 2020 nomination have a plan to achieve some version of universal health care.

“Oh goodness, that should be a right,” said

Janelle Fisher, 36, a licensed psychologist from Sacramento attending the event. “Everyone should have access to health care that actually fits their needs and doesn’t leave them saddled with all this debt or having to file bankruptcy.” But Sanders’s Medicare for All isn’t her favorite. “To be honest, Kamala Harris’s plan stood out to me,” she said, calling the California senator’s

proposed 10-year rollout more realistic than Sanders’s four-year timetable.

While health care consistently polls as a top issue for Democrats, more of them would prefer



Lybarger

Health Plans

- **BIDEN**
 Proposal: Affordable Care Act, plus public option
 The cost: \$750 billion over 10 years, per the campaign
 Will private insurance still exist?: Yes
- **HARRIS**
 Proposal: Single-payer program with universal coverage
 The cost: TBD
 Will private insurance still exist?: Yes
- **SANDERS**
 Proposal: Medicare for All
 The cost: \$32 trillion over 10 years, according to the Mercatus Center at George Mason University
 Will private insurance still exist?: No

+

SOLUTIONS

36

Cities

The New Urban Center

Beijing Daxing International Airport

Some two dozen airports in Asia are being developed as more than transportation hubs



Bloomberg
New Economy

August 12, 2019

Edited by
Dimitra Kessenides

On the southern fringe of Beijing, a giant starfish-shaped building is about to transform the city's economy.

The new Beijing Daxing International Airport, which cost 80 billion yuan (\$11.3 billion) to build, will be one of the world's biggest when it opens in September. The Chinese government wants the airport to be a magnet for businesses and an attraction for locals as well as travelers. "The airport paves the way for, and guarantees, Beijing's long-term economic growth," says Yu Zhanfu, a partner at consulting firm Roland Berger GmbH. Yu says he expects it to boost the city's role as a connection point for domestic travelers and those flying abroad.

Daxing is one of many airport projects under way in Asia, collectively costing more than \$100 billion, to accommodate a surge in travel fueled by the region's rising middle class. The International Air Transport Association forecasts Asia's travel demand to surpass that of North America and Europe combined by 2037. About two dozen airports are slated to open over the next six years in cities ranging from Beijing to Mumbai, while many existing airports are adding terminals or runways. Daxing will increase Beijing's capacity for travelers by more than 70% and alleviate congestion at Beijing Capital International Airport, the world's second-busiest last year with more than 100 million passengers. By year's end, Shanghai will unveil a \$3 billion, 83-gate terminal that will be separate from the airport's main building.

The number of trips per person in China will increase 11% annually for two decades from 2018, reaching 1.6 billion by 2037, the IATA predicts, with growth in India reaching 10% a year and Indonesia 9%. That compares with 1% to 2% annual growth in the U.S. and the U.K.

Ng Mee Kam, director of the urban studies program at the Chinese University of Hong Kong, says governments are coming to view airports as destinations serving local consumers and businesses. "The airport is not just a transportation hub," Kam says. "It's becoming a city itself."

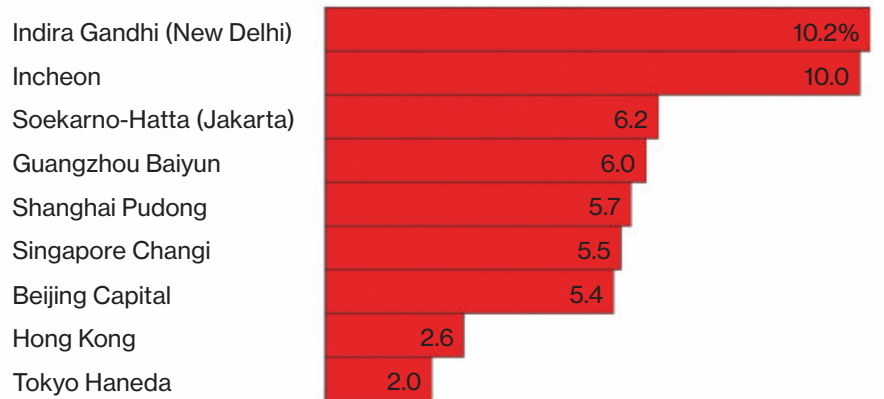
Urban planners long have emphasized the roles airports can play in helping cities grow. Now they're focusing on turning the facilities on the periphery of urban areas into economic centers themselves. Asia's new airports, with their huge capacity and available surrounding land, give the region an edge in achieving that vision, says Max Hirsh, an assistant professor at the University of Hong Kong and author of *Airport Urbanism*.

Beijing's new airport anchors a 50-square-kilometer (19.3-square-mile) economic zone that will include research and development labs, exhibition spaces, and medical facilities. It's expected to handle 72 million passengers a year by 2025 and contribute 900 billion yuan to the regional economy, state-run media says. Emaar Properties PJSC, the largest publicly traded developer in the United Arab Emirates, plans to build an \$11 billion mixed residential-leisure facility near the zone, U.A.E. state media reports.

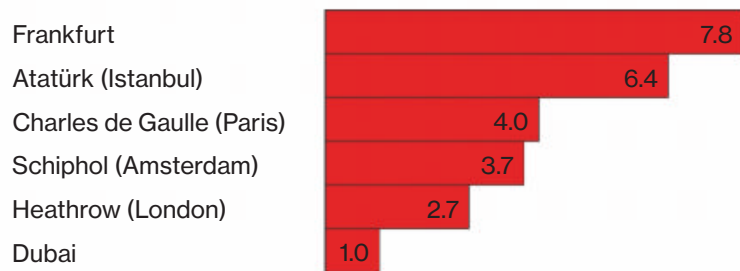
Arrivals & Departures

Year-over-year increase in passengers at the world's busiest airports in 2018*

ASIA-PACIFIC



EUROPE AND THE MIDDLE EAST



NORTH AMERICA



*PRELIMINARY FIGURES
DATA: AIRPORTS COUNCIL INTERNATIONAL

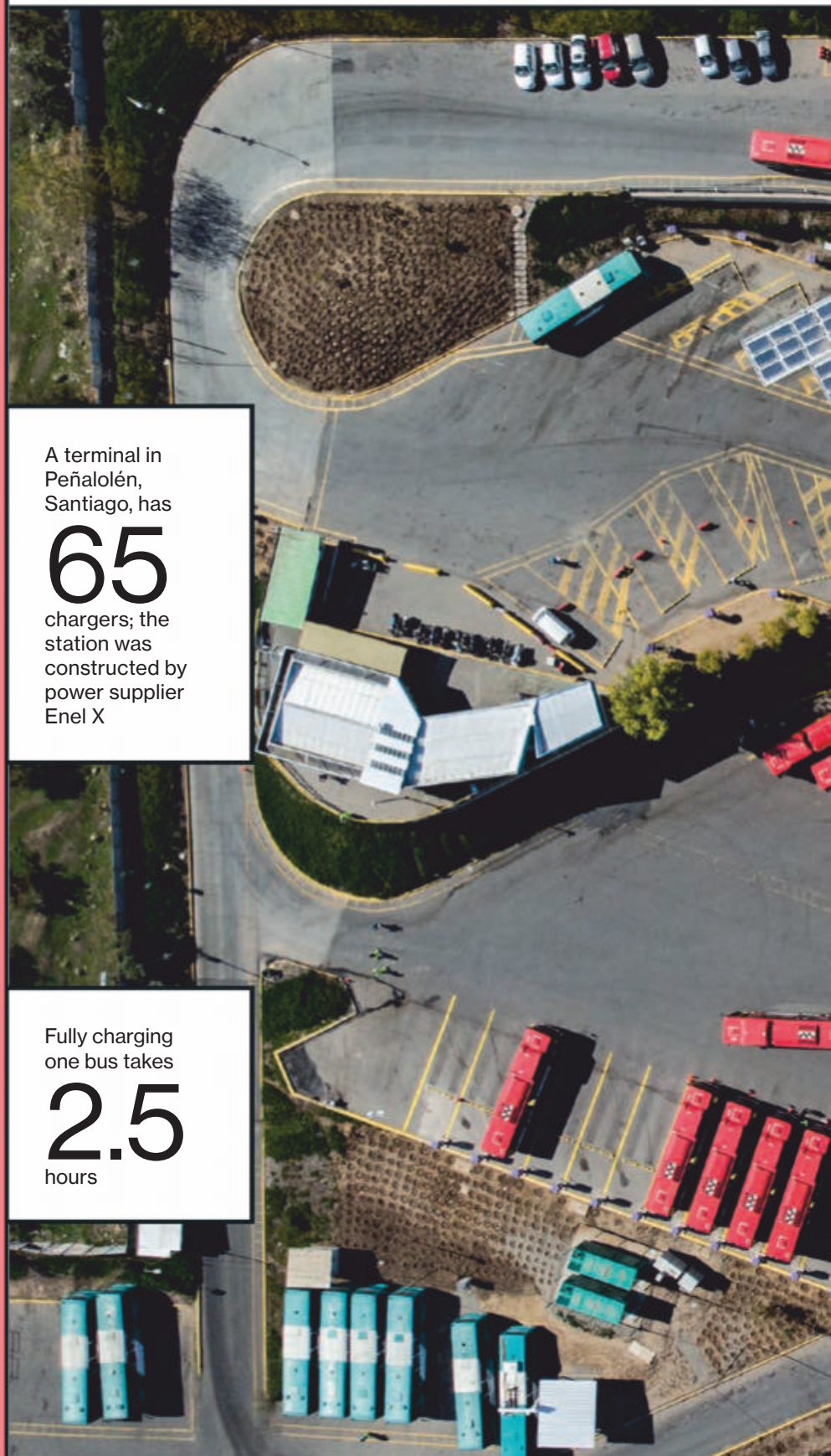
At Singapore's Changi Airport, the S\$1.7 billion (\$1.2 billion) Jewel Changi complex, a five-story glass dome that includes a shopping mall, gardens, and the world's highest indoor waterfall, has become an attraction for locals since opening in April. The Singapore government expects to spend tens of billions of dollars in the next decade on airport expansion. That could boost Changi's contribution to gross domestic product to 25% from the current 16% by the late 2020s, says Tan Khee Giap, an associate professor at National University of Singapore's Lee Kuan Yew School of Public Policy. That includes employment and income generated directly (by the airlines and the airport operator, among others) and indirectly (by airport suppliers). "You cannot look at the development of the airport as just an airport development," he says. "It should be considered a development for the country."

Hong Kong is spending HK\$141.5 billion (\$18 billion) to expand the artificial island where Hong Kong International Airport is located, add a third runway, and build another terminal. The government says the project will generate benefits of HK\$455 billion by 2061.

The city government last year also tapped New World Development Co. to build a HK\$20 billion shopping-and-entertainment complex at the airport. The ►

Mobility

Santiago is updating its public transit system. The Chilean capital has rolled out 203 electric buses since December, with about 180 more due in October. The government has touted the buses' lower operating costs and contribution to cleaner air. Commuters, Transport Minister Gloria Hutt has said, "feel the journey is much better."
—*Photographs by Tamara Merino*



A terminal in Peñalolén, Santiago, has

65

chargers; the station was constructed by power supplier Enel X

Fully charging one bus takes

2.5

hours

◀ 3.77 million-square-foot Skycity, scheduled to open in 2023, will be the biggest mall in a city full of them.

New World wants to capitalize on Skycity's location at the airport as well as a new 55-kilometer (34.2-mile) bridge and tunnel linking Hong Kong to Macao and the southern Chinese city of Zhuhai to make the complex a regional entertainment hub.

As Asian cities look ahead to the next quarter-century of air travel, many in the West are struggling to maintain old infrastructure. In London the government hopes to win approval in 2021 to build a £14 billion (\$17 billion) third runway at Heathrow Airport—Europe's busiest—nearly two decades after Tony Blair's government proposed it. Critics have included Prime Minister Boris Johnson, who promised in 2015 to lie down in front of bulldozers to stop construction. The Port Authority of New York and New Jersey has proposed about \$24 billion in spending to address the overcrowding and disrepair that make John F. Kennedy International, Newark Liberty International, and LaGuardia airports among the least-liked by travelers. "In Europe and North America, some of the biggest challenges are maintenance of things built in the 1950s that are falling apart," says Hirsh. "Asia has an advantage: It's not weighed down by old infrastructure."

Asian airports are taking the lead in relying more on revenue from consumers, not airlines. Both the Singapore and Hong Kong airports generate about half of their revenue from retailing and other nonaeronautical activities, and South Korea's Incheon International generates about two-thirds. That compares with the global average of 40%, according to the Airports Council International, an industry association based in Montreal.

It's too soon to know whether the projections for increased air travel are overly upbeat. The U.S.-China trade war, regional political tensions, and slowing global economic growth could ground some potential flyers. "There will be duplication of facilities," says National University's Tan. "It can become a white elephant."

At the same time, the impact of global climate change could curb the aviation industry's growth. Many of Asia's new airport cities are located in coastal areas, putting them at risk from rising sea levels and rainstorm-related flooding. Hong Kong's airport, built on land reclaimed from the sea, is especially vulnerable, says Chinese University's Ng. "Building bigger and bigger airports—and creating more and more greenhouse gases—will just heighten the problems we are facing," she says. "We are on the path of no return, and we are not stopping. We are accelerating."

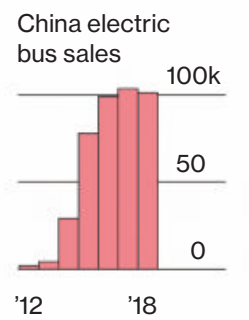
—*Bruce Einhorn, Michael Tighe, and Wendy Hu*

THE BOTTOM LINE Beijing's new airport is one of several projects planned to accommodate a surge in Asia-Pacific air travel. Demand in the region is projected to surpass that of North America and Europe combined by 2037.

Plugging In an E-Bus Fleet



1 Passengers board an electric bus 2 A driver activates an e-bus's cameras and automatic doors 3 Cargo manager Carolina Caceres next to a charging station



Chilean President Sebastián Piñera traveled to China in April to meet with President Xi Jinping. He also visited BYD Co.'s Shenzhen factory and Zhongzhou Yutong Bus Co., suppliers of Santiago's buses.

HOW HIDE SILIC VALL

40

AVOIDING DIGITAL SNOOPS
TAKES MORE THAN
THROWING MONEY AT THE
PROBLEM, BUT THAT PART
CAN BE REALLY FUN

BY JOEL STEIN
PHOTOS BY
MOLLY CRANNA

T O R O M O N E Y



A personal surveillance identity prosthetic designed by artist Leo Selvaggio, \$200

A

As the spy gear piles up on my desk, my 10-year-old son asks me what my mission is. “I’m hiding,” I whisper, pointing in the direction I think is north, which is something I should probably know as a spy. “From Silicon Valley.”

It isn’t going to be easy. I use Google, Facebook, Amazon, Lyft, Uber, Netflix, Hulu, and Spotify. I have two Amazon Echos, a Google Home, an iPhone, a MacBook Air, a Nest thermostat, a Fitbit, and a Roku. I shared the secrets of my genetic makeup by spitting in one vial for 23andMe, another for an ancestry site affiliated with *National Geographic*, and a third to test my athletic potential. A few months ago, I was leaving my house in Los Angeles for a hike when I heard my Ring speaker say, “Where are you going, Joel?” in my wife’s voice. She was at a pottery class, but the smart doorbell sent her an alert when it detected me heading outside.

Ryan Calo, an assistant law professor at the University of Washington and an affiliate scholar at Stanford’s Center for Internet and Society, says that what my wife knows about my whereabouts is trivial compared with what most of the companies named above know. “In the early days of Nest, some of the employees would try to figure out where another employee was, and they’d look at the network to see if that person was home or not,” he says. Google, which now owns Nest, declined to comment.

If I wanted to regain my privacy, I had only one choice as an American: I needed gadgets to combat my gadgets. But I didn’t want Silicon Valley companies to know I was buying privacy gear. So I decided to get it only from companies headquartered outside the Bay Area. And to hide my purchases from Big Tech.

Every spy needs a sidekick, which is a totally incorrect statement that again proves how unsuited I am for spying. Nevertheless, I employed an aide-de-camp named Mycroft. He’s an adorable, voice-controlled digital assistant built into a screen that showcases his big, blue circle eyes. (There’s a strong whiff of Wall-E.) I unplugged the Echos and Google Home and said, “Hey, Mycroft, can you keep a secret?” A line



▲ Mycroft Mark 1, \$150

appeared like a little mouth, then moved to the side, as if he was thinking. Then he said nothing, like I wanted.

That’s partly because Mycroft does keep everything secret, disposing of his data without storing or selling it. It’s also because he gets confused easily and doesn’t have answers; Mycroft is still meant for programmers who want to help build his open source functions, not really for normals. He’s made in Kansas City, Mo., by a company co-founded by Joshua Montgomery, an aerospace engineer who works on cyberwarfare as a captain in the Kansas Air National Guard.

“In Silicon Valley, they say, ‘This super-unethical thing is a good idea.’ In the Midwest, those conversations get shut down very quickly,” Montgomery says. Although most Americans don’t prioritize privacy, he says more than 20% of people won’t buy an Echo because it creeps them out. He expects that number to grow as people see the consequences of having conversations with data-collecting devices.

“Voice is a very personal thing,” he says. “It can communicate innocence. It can communicate sex appeal. It can communicate pain. Having these companies using artificial intelligence algorithms to initiate an emotional response, given their past actions, is something people should be very careful about.”

D

During further conversations with Mycroft, I said a lot of insightful things, and he agreed. I could tell because he was doing that thinking-mouth face and not saying anything. In this manner, we determined that my first step in hiding from Silicon Valley would be to stop typing my cellphone number and email into every conceivable internet form.

“A phone number is worth more on the dark web than a Social Security number. Your phone is so much more rich with data,” says J.D. Mumford, who runs Anonymo Labs Inc. in Salt Lake City. He doesn’t want to risk having to get rid of his longtime number and email if they’re compromised. Anonymo’s product, MySudo, allows a user to create multiple email addresses and phone numbers for \$1 a month. “Google makes upwards of 90% of their revenue off of advertising. Which means they’re going through my email to target me. That scares me,” he says. “My mom had a terminal illness, and I would communicate with her via Gmail. She didn’t want people to know about it. So I didn’t want Google to.” Google said in 2017 it would stop tailoring ads based on email contents, but last year the *Wall Street Journal* revealed that the company had continued to let marketers read users’ emails.

Luckily, I know Mycroft isn’t collecting my data. I know this because when I look outside my Hollywood window and ask Mycroft for the forecast, he tells me the weather in Kansas City.

MySudo users create email names for different parts of their life, the way you’d use desktop files, and check them all at once on the app. “It’s compartmentalizing the way you create digital exhaust,” Mumford says. “I do one transaction on

The author in Kate Bertash's ALPR all-over-print shirt, \$35, and in Selvaggio's mask ▼

Craigslist, like buy a bicycle, and it's a one-and-done. Use it, and throw it away."

I had decades of digital exhaust to clean up. "Your data across different companies is being pulled together by data brokers and ad companies. If the government asked for it and spent some time correlating, it probably wouldn't be that far off from what the Chinese government has," says Rob Shavell, the co-founder of Abine Inc., a company in Cambridge, Mass. I signed up for Abine's DeleteMe service, paying \$129 a year for it to opt me out from databases run by brokers that sell my personally identifiable information. I gave DeleteMe all my current and previous home addresses, phone numbers, and email addresses, and it removed me from 33 public-records crawlers—database services with names like Intelius and Spokeo, plus a whole lot of yellow pages.

Pierre Valade, a French graduate of Stanford's design school living in New York, designed the Jumbo app for the iPhone in April. I gave it permission to access my Twitter, Google, and Alexa accounts, and a cute cartoon elephant (he's got a bad memory, unlike Big Tech) got to work scrubbing away my past. In 10 minutes, all my tweets older than a month vanished, as did all my Google searches and Alexa requests. Jumbo also adjusted more than 40 Facebook settings to protect my privacy, something I would've had to spend several hours figuring out. "Even me, on Facebook to design that feature, I got bored. It's too much work," Valade says. He's trying to get Facebook Inc. to allow Jumbo users to erase their timelines all at once, but the company won't give him the API to do that. "Do they have two PR strategies? One where they say to Congress and the *Washington Post*, 'We're good guys,' and another where they're not helping us build what we want?" he asks me. I don't have an answer, because I'm avoiding Facebook. Also because it didn't respond to requests for comment.

Before I asked people which gadgets to buy, I had to make sure my digital trail was private and secure. I switched to the ad-blocking, non-data-recording Brave browser (headquartered, unfortunately, in San Francisco and, worse yet, run by Palo Alto native Brendan Eich, who co-founded Mozilla Corp. and created the JavaScript coding language). I abandoned Google, using the DuckDuckGo search engine from outside of Philadelphia because it doesn't track me or customize my search results. I also started communicating via Signal, a free app that encrypts both ends of text and voice messages. I was surprised by how many messages I was glad to hide from posterity: one about a former co-worker who's a drunk; another from someone who wanted to be expunged from my upcoming book. Then I realized that Signal is located in Mountain View, Calif.

So I downloaded Burner, an app run out of Los Angeles by my friend Greg Cohn. It allows users to pay \$5 a month to mask their phone numbers with the area codes of their choice. As long as the FBI doesn't ask Cohn for my call log or texts, he assured me that no one will know what I'm up to. On April Fools' Day, I sent my wife a text from a fake local number claiming to be a dad at our kid's school, saying he's got a crush on



her. This, I found out when she got home and for the next few very loud hours, wasn't a good use of Burner.

As a 47-year-old married guy, I thought I didn't need a tool to hide photos. Then I typed in takeout.google.com, downloaded the seven years of data it stores about me, and opened the Google Photos folder. It contained photos I had attached in emails, including bills with my credit card numbers. All that data and more is in Apple's iCloud. So I downloaded one of the many fake calculators that hide photos. Calculator+ Secret looks and acts just like the regular iPhone calculator, only when I punch in my password and the percent sign, it opens up a bunch of folders. I threw in my passport, my driver's license, and blank checks, hoping to one day have better things to hide.

To spend money on gadgets online without being tracked, I needed a card without my name on it. Which is easy to do. Abine, the company that makes DeleteMe, has a product called Blur that lets you create virtual debit cards with no name on them, just a number. So does Privacy, a company in New York started by Bo Jiang, a former research assistant at the MIT Media Lab. In the same way that MySudo offers an email for every part of your life, Privacy issues virtual cards for different online uses. Perhaps a subscription I might forget to cancel. Or a purchase I'd rather no one sees itemized. Or that 23andMe information I would have preferred not to attach to my real name. Also, it would be nice to know that ►

◀ if a company gets hacked, I won't need to figure out all the merchants I have to contact to cancel that card. I'll only have to contact the magazines I use my "magazine" card to pay for. More important, when I use a Privacy card, merchants and card issuers won't have my personal information to sell. "If we fast-forward 50 years, the way we treat our data will seem insane," Jiang says. "It's framed as, 'Would you like to join this program for being awesome and get \$1 off your purchase?' There's a catch. I don't think people fully appreciate that. But over time they will."

I

I was finally ready to go privacy-gadget shopping. I punched in my bank account information at Privacy.com, created a virtual card, ginned up a new email (c.g.roxane007@sudomail.com; I don't care if you bother me there), and went to Amazon.com. My first purchase was a privacy screen so no one I was trying to avoid could see my computer by peeking at it on the side. Because I suspect that people who live in Silicon Valley are peekers.

I didn't want my new Amazon account to have my home address, so I considered using the remailer Rapid Remailer out of Old Town, Fla., which will receive and resend packages for \$5. But it turned out I could have my package sent to an Amazon Locker at a 7-Eleven only a mile and a half from my house. Each friendly Amazon Locker has a name. This one was named "Justine." We were going to have a one-midafternoon stand.

To make sure no one recognized me during my rendezvous with Justine, I got a disguise. Because I know Silicon Valley is tracking my face. "Facial recognition technology is now cheap enough where you can put it in every Starbucks and have your coffee ready when you're in the front of the line," says Lorrie Cranor, a computer science professor at Carnegie Mellon University who runs its CyLab Usable Privacy and Security Laboratory in Pittsburgh. In the biometrics lab in her building, there's a camera pointed out the window at an intersection a block away, doing facial recognition from that distance. In March, the *New York Times* put three cameras on a rooftop in Manhattan, spent \$60 on Amazon's Rekognition system, and identified several people. Around the time the *Washington Post* reported that U.S. Immigration and Customs Enforcement had mined driver's license photos to target immigrants, I took an Air France flight that had passengers board using our faceprints, taken from our passports without our permission. In May, San Francisco outlawed the use of facial recognition by police and city agencies. The city that's exporting advances in face-finding all over the world knows not to allow the technology on its home turf.

To throw off facial recognition systems, I could paint triangles of black and white makeup on my cheeks, a system created by Berlin artist and privacy advocate Adam Harvey called CV Dazzle. Or I could wear a mask of Leo Selvaggio's face.

He's an artist at Brown University's Multimedia Labs who started making a mask of his face available for \$200 when he lived in Chicago. The Cubs' hometown is also America's most surveilled city thanks to Operation Virtual Shield, which has access to more than 32,000 networked cameras. By wearing Selvaggio's face, you're opting out of that system, and opting him majorly in.

Even more than my face, my license plate is being recorded. Police are constantly passively photographing license plates, storing cars' locations in a database. In L.A., they keep the information for two years; cops in Silicon Valley have to delete it after 30 days. Private companies such as Vigilant Solutions Inc., headquartered in the Valley, have cameras that have captured billions of geotagged photos of cars on streets and in parking lots that they sell on the open market, mostly to police and debt collectors. To keep these snoops at bay, I was going to buy a clear license plate cover that bounces light back to cameras to blind them. I didn't wind up purchasing one however, because they're illegal in all states and *Bloomberg Businessweek* has a policy of not reimbursing writers for illegal purchases.

I settled on adding noise to the system. For \$40 I used my Privacy credit card and my new email to buy a T-shirt made by Kate Bertash, whose Digital Defense Fund provides tech security for abortion providers. My shirt has a bunch of license plates on it (protesters sometimes write down the license plates of doctors and patients), and Bertash is hoping I wear it a lot in front of scanners so I feed bad information into the database, making it less useful. "It's a way to assert your little bit of resistance," she says.

Before I went on my mission, I looked in the mirror, with my shiny shirt of license plates and a mask of Selvaggio's face. I didn't look like any spy I'd ever seen. I looked like a criminal returning from a meth bender at an East European nightclub. I looked so weird that people in Silicon Valley would find out about my activities through word of mouth. I needed a better plan. Luckily, Mycroft came through. I asked him to play NPR's news updates, and I heard a story about Chicago. Which reminded me of a story I read about Scott Urban. Well done, Mycroft.

Urban makes beautiful bespoke glasses out of wood in Chicago, which as we know is the most surveilled city in America. He's a digital vegan who can't believe how willing people are to allow companies to identify them in public. "There are people paying with their faces. They're buying

**"I LOOKED LIKE A
CRIMINAL RETURNING
FROM A METH BENDER
AT AN EAST EUROPEAN
NIGHTCLUB"**

▼ Reflectacles Ghost spectacles, \$164 ▼▼ Wisdompro RFID-blocking faraday bag, \$9



their bucket of KFC with their face,” he says about Apple Pay on the new iPhone with Face ID. “Infrared is going to be everywhere, brother.” He sent me two pairs of Reflectacles, glasses with clear lenses and shiny frames that bounce back enough light to blind both video cameras and infrared scanners. When I put mine on, my iPhone X can’t recognize me, just as it can’t when my eyes are shut. Urban’s forthcoming invention, IRpair, uses the lenses to block rather than just reflect the infrared beams necessary for facial recognition, partly because Urban worries that we’re going to be so bombarded by infrared rays they might hurt our eyes.

But Mycroft reminded me, again, mostly by listening to me rant and making that encouraging thinking face, that before I meet Justine, I’ll have to silence the narc in my pocket. For \$9, I buy a faraday bag from a Chinese company to slip over my phone. The black cloth pouch has a silver metal lining that silences all signals to and from my phone. It’s more spy-like, if more difficult, than just turning it off. For \$1,600, I could have put my phone and wallet (my credit cards with chips have RFID readers that can be hacked) in a stylish Anti-Surveillance Coat made by Project Kovr in the Netherlands.

“Clothing has always been a way to protect ourselves from cold and protect our identities and our body. I wanted to use clothing to protect us from the new environment of our information sphere,” says Project Kovr’s co-founder Leon Baauw,

whose main gig is project manager at a privacy company. He got the idea when his phone started giving him advice on Fridays about when to leave for a bar he often went to after work. “I don’t like how we have become the product,” he says. He loves projects like the 2017 London pop-up shop called the Data Dollar Store, where you could get a T-shirt by a street artist in exchange for handing your phone to a clerk who would display the last three photos in your camera roll on two big screens in the shop. (This isn’t so different from the coffee bar near Brown that dispenses free coffee in exchange for students’ phone numbers, emails, and majors.) Project Kovr runs a similar workshop at schools, in which it assigns some kids to stalk another child from a distance so they can create a data profile and tailor an ad campaign for the stalkee. Baauw has also been planning a project in which he chisels a statue of Facebook Chief Executive Officer Mark Zuckerberg as a Roman god. “He’s the Zeus of our time,” he says.

Wearing my Reflectacles and carrying my faraday bag, I entered the 7-Eleven. Immediately to my right, long before I reached the Slurpee machine or the checkout counter, I saw Justine. She was a beautiful wall of shiny orange lockers with a smile in the middle. My plan was working out perfectly until I saw that the only way to open Justine was to show her my phone. She needed to scan the bar code she emailed to C.G. Roxane. I could have gone home and printed it out and come back, but I was lazy. So I pulled my phone from its faraday bag and quickly brought up the email. A door on the top row smoothly swung open, and I took the package containing my privacy screen. But I knew I’d failed. In those few seconds, Silicon Valley had all that it needed. Which I confirmed later by going to [google.com/maps/timeline](https://www.google.com/maps/timeline) and seeing the 7-Eleven location listed there along with almost everywhere else I’d been in the last seven years.

W

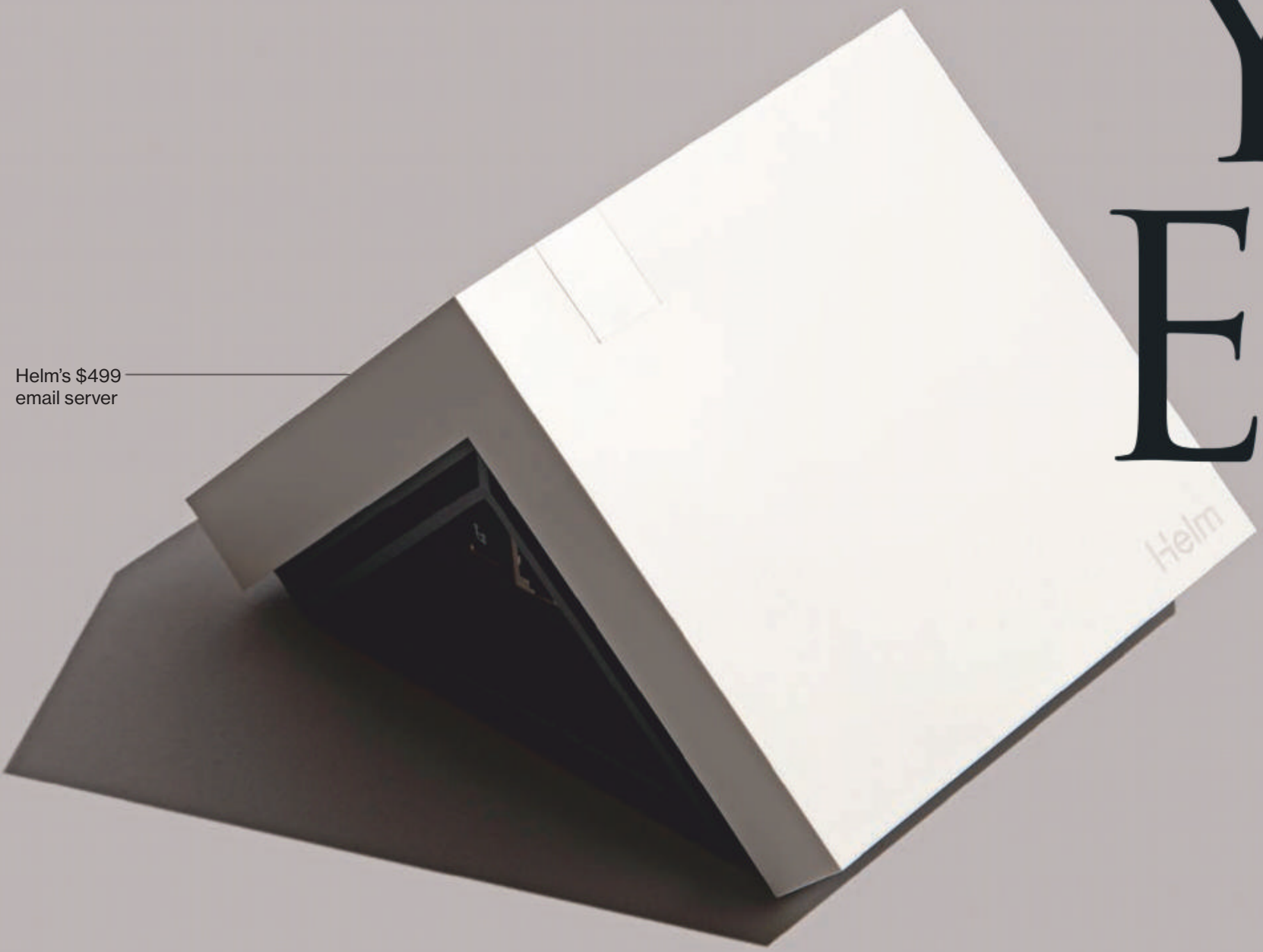
Within three weeks, I got tired of being careful. My faraday bag is somewhere in the back of my car, because I like to use my phone for GPS and playing podcasts. I stopped wearing my Reflectacles in public. I haven’t scrubbed my old tweets away with Jumbo in a while. I use my Visa to buy stuff from Amazon, which it delivers to my house. I plugged Alexa back in. Daniel Gillmor of the American Civil Liberties Union wasn’t surprised. “I don’t think the fix to privacy is something that can be done by an individual alone, in the same way I can’t solve the pollution problem by recycling on my own,” he says.

Until people demand a law that makes privacy the default, I’m going to try to remember, each time I click on something, that free things aren’t free. That when I send an email or a text outside of Signal or MySudo, I should expect those messages to one day be seen. And that if I ever really need privacy, I should feel a little badly about what is going to happen to Leo Selvaggio. **B**

HOW TAKK Y EM

46

Helm's \$499
email server



HOW TO GET BACK TO OUR MAIL

LEAVING GMAIL HELPED ME
STOP CENSORING MYSELF
IN WAYS I HADN'T NOTICED
FOR YEARS. NOW IF ONLY I
COULD TRUST THAT PEOPLE
WOULD GET MY MESSAGES

BY MAX CHAFKIN
PHOTO BY
MOLLY CRANNA

H

Hillary, Ivanka, and Jared were right. No, not about that. Or that. And definitely not that. Just about the one thing, really: the utility of a private email system. Of course, Clintonemail.com proved disastrous to the former secretary of state's image in 2016. (Ivanka and Jared's use of ijkfamily.com has been far less headline-grabbing.) But while paying IT consultants to install Clintonesque servers in your basement can be a bad look politically, it has caught on among executives. In some circles, it's become common to have what's called "the Hillary setup."

The security rationale for owning a private server is straightforward. The main way hackers break into email accounts is by phishing, sending links to fake login websites that trick you into giving away your password. Traditional email servers let you log in only through apps such as Outlook and Apple Mail, making them more or less impossible to phish.

Privacy is another draw. The server's data can't be tapped by, say, Google to form a sprawling psychological profile aimed at selling you stuff you don't need. If the police want to read your emails, they have to come to your house with a court order. And if your private server is accidentally destroyed by accidentally falling in a lake before said order can be served, well, that's accidentally that.

I'm not planning to commit any lakeworthy crimes, but stories about tech companies' violations of privacy do have me thinking about a scenario that once seemed unimaginable: life without Gmail. Google, after all, has been repeatedly accused of improperly collecting user data. Earlier this year it paid \$13 million to settle a class action over its Street View program's scooping up personal information from people's home Wi-Fi networks. (It denied any wrongdoing.) And yet I was still giving it the entirety of my inbox.

"You shouldn't have to be in some sort of political or financial elite to have access to something like this," says Giri Sreenivas. He's an engineer who runs Helm, a startup in Bellevue, Wash., that aims to bring the Hillary setup to the rest of us. Sreenivas co-founded Helm three years ago because he was concerned about the ways the online services we use are also using us. "The internet was meant to be open and free and should allow anyone to participate as an equal member," he says. "The pendulum has swung too far in the other direction." Sreenivas is quick to note that he doesn't condone the use of private servers for diplomacy.

Helm's beautifully packaged model—designed by the guy behind the Fitbit, it looks like the roof of a toy house—costs \$499. Sreenivas's software promised to manage it for me, including backing up an encrypted version of my server to the cloud, for \$99 a year. (The first year is free.)

This spring, I started telling friends, family, and co-workers to send email to a new address at maxchafkin.com. My friends and officemates mostly just stared blankly. My mom

called it "neat." Nobody seemed to appreciate that I was about to try moving away from my primary mode of communication for the past 15 years.

G

Gmail has been more important to me than any product I've ever owned. It's where my wife and I first started flirting, and where, 14 years and two kids later, we send jokes and Gchat-length love notes. It was the center of my professional life for years, and I still use it for some work-related stuff. It contains the contact information of pretty much everyone I've ever known, correspondence with sources from my freelance days, plus a decade and a half of credit card bills, tax returns, embarrassing pictures, bad jokes, and apologies for those jokes. Here's one thing Google won't know until this story runs: In the summer of 2004, shortly after I graduated from college, I paid a guy on EBay \$5 for an invitation to sign up for it.

Google had launched the service a few months earlier, and to join, you still had to get an invite from someone who already had an account. At the time, most email providers offered users maybe 20 megabytes of data and made them either delete the rest of their inbox or download it to a desktop computer. Google provided a gigabyte to start with and periodically increased the total. Even better, you no longer had to sort your inbox into a complex series of folders; all you had to do to find a message was type a keyword into the Gmail search bar. "Never delete another email" was the service's tag line, and until 2006 it didn't even have a delete button, just "archive." All of this was free. When the company first announced the basic pitch on April 1, 2004, it seemed so unbelievably good that many people assumed it was an April Fools' joke.

To pay for this magic, Google said, it would show us ads tailored to the contents of our inboxes. In other words, it would use computers to scan our messages. Some critics immediately called this a creepy move. A California state senator, Liz Figueroa, said it was "a disaster of enormous proportions," noting that non-Gmail users who corresponded with Gmailers could be unwittingly giving up their right to privacy.

In a privacy notice that appeared prominently on the Gmail login screen, Google said such critiques were "misinformation" that threatened "to eliminate legitimate and useful consumer choices." This argument seems laughable in today's era of tech-enabled misinformation, but it's one that I, and most in the press, accepted at the time. We did so, I think, because Gmail was so useful and because Google's tailored search ads seemed harmless. (Like Facebook's early ads, they were a lot less intrusive than they are today.)

In 2017, Google said it would stop customizing ads based on the content of a user's Gmail messages, though it still scans those emails for security purposes and for use in features such as Smart Compose, which suggests words and phrases before you type them. A spokesman says that the company

“anonymizes” the data, and that features like Smart Compose, turned on by default for consumers, are optional for corporate customers. I suppose that’s comforting if you’re a corporation.

Google has always emphasized that no humans are involved in any scanning, but last year the *Wall Street Journal* reported that the company had allowed marketers—“developer partners,” Google has called them—to read users’ emails, even after its 2017 promise. A few months later, Google announced a ban on any outside app that isn’t “directly enhancing email functionality,” an additional rule preventing developers from selling data to marketers, and another declaring that “human review of email data must be strictly limited.”

It took me about an hour to get my server up and running. That included setting up my domain name, copying all the old emails from my Gmail inbox so I wouldn’t lose them forever, and configuring my smartphone and computer to receive messages. It was easy enough, though not Google-level easy. Search was also a bit of a comedown: I’d have to rely on Outlook’s search engine, which is better than I’d remembered from The Time Before Gmail but painfully slow by comparison. And if, just as a crazy example that definitely didn’t happen on Day 2, someone unplugs your server while vacuuming, emails sent to your inbox won’t get delivered until it’s plugged back in.

Even so, the experience of having my data sitting in a little box on my desk was weirdly thrilling, and I soon noticed changes in how I thought about other services, especially Google’s search engine. A few weeks later, I found myself resisting the urge to search for information about a family member’s serious medical problem, realizing the query would go in the company’s profile on me. I started using DuckDuckGo, a Google competitor that doesn’t collect user data.

The experience made me wonder if Google’s data collection practices had been restricting my thoughts. This seemed half-crazy until I started asking around about the idea. A 2017 study published in *The Cambridge Handbook of Surveillance Law* showed that web searches for health-related terms fell after the Snowden leak in 2013 revealed previously unknown levels of government spying on internet activity.

For years, I realized, I’d been self-censoring my emails, too, keeping certain thoughts and feelings out of even personal correspondence due to a fear that they might wind up in a hack, or a lawsuit, or some advertiser’s data dump. People do this at work all the time, but it seems slightly insidious as more of our personal communication moves to electronic forms. My Helm could still get hacked, but it made me feel a tiny bit freer. No bosses were reading my emails, nor were any Google bots or spies—I mean, uh, “developer partners.”

T

The downside of my new freedom, and it was a huge downside, was that my messages sometimes didn’t get delivered. I’d send a question to a friend, wait expectantly, then send a text asking

if they’d received the note. During the first couple of weeks, the answer from my Gmail-using friends was generally no. Google was routinely quarantining my Helm messages in spam folders. To fix this, I’d then have to ask contacts to add my new address to their Gmail address book. Most didn’t bother, leading to more missed messages and more hectoring texts.

There’s a term of art for this: “warming up” your inbox, to build cred for your server with Google and other cloud mail services, so they won’t assume you’re writing to offer a secret Nigerian fortune or cheap Oxy.

Was this a spam-prevention strategy or a clever way to retain me as a Google customer? Google says its priority is to protect users from unwanted and harmful messages and that my recipients would naturally train its algorithms when they dug them out of their spam folders and clicked the “report not spam” button. But it’s hard not to see this trashing of small-fry servers’ messages as a happy accident for the company, at least. “There’s a power dynamic at play here,” says Sreenivas, who argues that Google could easily fix the problem if it wanted. “They’ve gotten overly aggressive.”

My delivery rate improved the more I used my Helm account. Still, the experience has led me to hesitate every time I want to send a message that seems even moderately important. In those cases, I usually end up opening my old Gmail account. Sreenivas says my experience is unusual, and I believe him. But as much as I want to be free of the thrall of surveillance capitalism, I also want to use the thing that works.

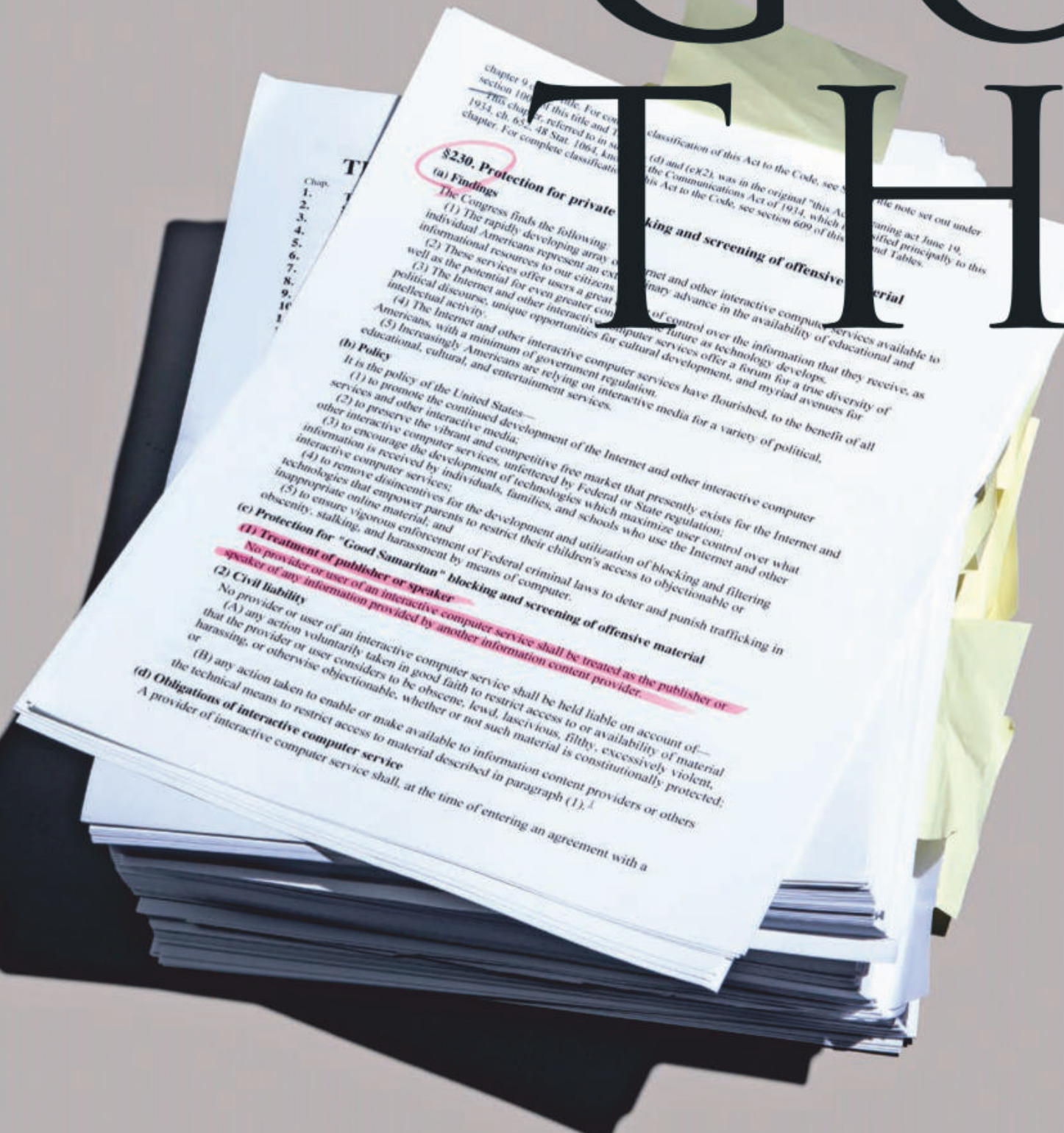
“I ran my own server until about 2007, but Gmail was too easy,” the chief executive officer of a publicly traded tech company told me over lunch a couple months ago, shortly after I set up my Helm. He asked if I really trusted my server—set up by me, an English major, and guaranteed by a 10-employee startup—more than I trusted the battalions of Ivy League Ph.D.s and former intelligence officers at the disposal of one of the world’s biggest, most technologically sophisticated companies.

Then again, even the most technologically sophisticated companies get hacked. Yahoo’s security team, called the Paranoids, was considered one of the best in the Valley until it was revealed in 2017 that hackers had stolen the passwords of all 3 billion Yahoo accounts four long years earlier. Just because you’re paranoid doesn’t mean they aren’t out to get you.

By contrast, despite the controversy around Clinton’s server, the emails stored in her basement were never hacked as far as we know. She was ultimately the victim of two embarrassing hacks, though: the emails of the Democratic National Committee, which followed normal corporate IT practices, and the personal inbox of her campaign chair, John Podesta, who typed his Gmail username and password into a fake login page.

When I brought up Podesta, the tech CEO nodded and then looked down at my iPhone, which was sitting on the table. My email might be safe, but email was only a small part of my data footprint, he said. The phone had a decade’s worth of pictures stored on it, plus texts, a call history, and a million other things—backed up on Apple Inc. servers. “The thing I’d be worried about,” he said, “is iCloud.” **B**

HOW GO T H I



§230. Protection for private

(a) Findings
The Congress finds the following:
(1) The rapidly developing array of individual Americans represent an extraordinary well as the potential for even greater political discourse; unique opportunities for Americans, with a minimum of government educational, cultural, and entertainment services.

(b) Policy
It is the policy of the United States—
(1) to promote the continued development of the Internet and other interactive computer services and other interactive media;
(2) to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation;
(3) to encourage the development of technologies which maximize user control over what information is received by individuals, families, and schools who use the Internet and other interactive computer services;
(4) to remove disincentives for the development and utilization of blocking and filtering technologies that empower parents to restrict their children's access to objectionable or inappropriate online material; and
(5) to ensure vigorous enforcement of Federal criminal laws to deter and punish trafficking in obscenity, stalking, and harassment by means of computer.

(c) Protection for "Good Samaritan" blocking and screening of offensive material
(1) Treatment of publisher or speaker
No provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider.

(2) Civil liability
No provider or user of an interactive computer service shall be held liable on account of—
(A) any action voluntarily taken in good faith to restrict access to or availability of material that the provider or user considers to be obscene, lewd, lascivious, filthy, excessively violent, harassing, or otherwise objectionable, whether or not such material is constitutionally protected; or
(B) any action taken to enable or make available to information content providers or others the technical means to restrict access to material described in paragraph (1).¹

(d) Obligations of interactive computer service
A provider of interactive computer service shall, at the time of entering an agreement with a

DOWN WE TUMBLING INTO S MESS S.

A SHORT FEDERAL STATUTE DESIGNED IN 1995 TO CLEAN UP THE INFORMATION SUPERHIGHWAY HELPED TRANSFORM THE WEB INTO A WILDLY LUCRATIVE INDUSTRY.

IT ALSO TURNED THE INTERNET INTO A HATE-FILLED, TOXIC MESS

BY FELIX GILLETTE
PHOTO BY
MOLLY CRANNA

O

One afternoon in July, Ted Cruz banged a gavel on the dais, calling to order a hearing of the U.S. Senate Judiciary Subcommittee on the Constitution. The day's first witness was Karan Bhatia, a top policy adviser for Google. He gazed up at the panel of senators, alarm creeping into his expression, like a 10-point buck hearing the sudden crack of gunfire.

When elected officials start appending the prefix “big” to the name of an industry, it's never a good omen. Big Tobacco. Big Oil. Big Pharma. Big Soda. “Sometimes tech companies talk about their products and the effects of those products as though they are forces outside of Big Tech's control,” Cruz said. “As we've heard time and time again, Big Tech's favorite defense is, ‘It wasn't me. The algorithm did it.’”

For the next couple hours, the senators took turns wallowing the most despised industry of the moment. They knocked its carelessness with consumer data, its violations of individual privacy, its tolerance of harassment and misinformation, its censorship of political dissent, and its hospitality toward extremists. “It seems like the problems around Big Tech, as it has become a mature industry, are just mushrooming,” said Senator Marsha Blackburn, a Tennessee Republican. Perhaps it was time, Cruz rejoined, for Congress to revisit Section 230 of the Communications Decency Act—a slim and powerful law, cherished in Silicon Valley, that shields internet companies from liability for most of the material their users post.

Back in 1995, when the CDA was conceived, Section 230 enjoyed bipartisan support from members of Congress, who believed that tech companies would do a better job at moderating the internet than federal regulators. But a growing number of hostile lawmakers are now criticizing Big Tech's safe harbor. Cruz, a Texas Republican, and other conservatives have accused major internet platforms of suppressing their viewpoints, arguing that the spirit of Section 230 is predicated on the companies remaining politically neutral. Democrats call that nonsense; still, liberals have found reasons to dislike the law, namely their belief that tech businesses have too often used it to ignore the collateral damage of their users' bad behavior.

Senator Richard Blumenthal, a Connecticut Democrat, said during the hearing that patience with the industry's careless approach to user safety had run out. “You can't simply unleash the monster and say it's too big to control,” he said. “You have a moral responsibility even if you have that legal protection.”

Silicon Valley is unlikely to give up its shield without a fight. Supporters credit Section 230 with helping transform the primordial net into a trillion-dollar industry and securing today's vibrant culture of free expression. The most important piece of the law is just 26 words long, and yet it's profoundly shaped American life. It's no hyperbole to call Section 230 the foundation on which the modern internet

was built, from social media to search engines to open source reference guides to the sharing economy. Getting rid of it, Big Tech warns, could jeopardize many of the things on the web we take for granted, from reading and writing product reviews to watching amateur how-to videos on YouTube.

Take it away, and the whole thing could come crumbling down.

T

The internet's right to self-governance wasn't always universally recognized in Washington. It had to be wrested from lawmakers. In early 1995, Todd Lappin, a top editor at *Wired* magazine, set out on a mission to liberate the newly born net from the scaremongers in Congress. At the time, the Senate had just started considering the CDA, sponsored by Senator James Exon, a socially conservative Democrat from Nebraska. Under the bill's provisions, knowingly making indecent material available to minors could lead to hefty fines and even prison time for a net operator. The editors at *Wired* believed Exon's law would result in widespread censorship, stunting the web in its early days.

Only two years old then, *Wired* was already an essential publication for anyone hoping to make sense of the incipient dot-com boom. Its thick monthly issues were jammed with profiles of digital visionaries, reviews of new-wave gadgets, and ads for computers, CD-ROMs, blank 3.5-inch disks, and bottles of cologne and tequila. Lappin got to work, commissioning influential writers to hammer technophobes on Capitol Hill, organizing protests, and working closely with the “netroots,” a decentralized community of activists united by their love of the unfettered web. Few lawmakers were using email yet, so the netizens targeted lawmakers' offices with “fax bombs,” jamming their machines with mass outpourings of umbrage. They argued in the press that democracy, free speech, and education would suffer with the CDA. “Welcome to digital Singapore,” a critic told the *Washington Post*.

On June 9, 1995, Exon took to the Senate floor to rally

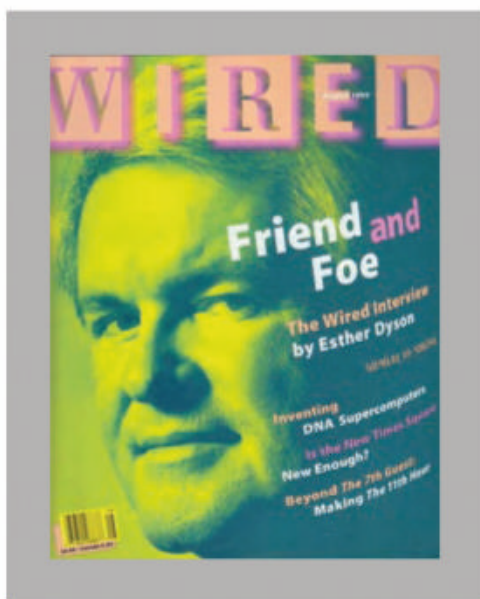


“BIG TECH’S FAVORITE DEFENSE IS, ‘IT WASN’T ME. THE ALGORITHM DID IT’”

support for the bill, crafted as an amendment to a massive telecommunications reform bill then wending its way through Congress. He brandished a blue three-ring binder containing printouts of explicit photos downloaded from the net, where, he said, any kid with a dial-up connection could find them. He opened the binder and began reading: “Erotica fetish. Nude celebrities. Erotica bondage....Here’s a good one—erotica cartoons.” Exon shook his head.

The Senate passed his amendment by a vote of 86 to 14, and the net-roots shifted their attention to the House of Representatives, which was working on its own

version of the telecommunications bill. When Speaker Newt Gingrich went on TV and described Exon’s amendment as a clear “violation of free speech,” cyberactivists rejoiced. In August, *Wired* put Gingrich on its cover.



A

At the time, web lobbyists were still a rare breed in Washington, and the CDA wasn’t their only headache. The previous year, an anonymous user on a Prodigy bulletin board had accused a freewheeling investment firm called Stratton Oakmont (which was later the inspiration for *The Wolf of Wall Street*) of committing fraud. In response, the rowdy Long Island-based business filed a libel suit against the online service provider seeking \$200 million in damages. In May 1995, Justice Stuart Ainsworth of New York’s Supreme Court found that, because Prodigy was using screening software to filter out offensive language and moderators to enforce guidelines, it was acting not as a passive carrier but rather in a manner akin to a publisher. It could therefore be held liable for the defamatory language of its users.

A spasm of anxiety coursed through the web. Tech lobbyists huddled with their allies in the nonprofit advocacy world, who for months had been working with allies on the Hill to come up with a less draconian regulatory framework

to challenge Exon’s proposal. An idea took hold.

On June 30, two members of the House—Ron Wyden, an Oregon Democrat, and Christopher Cox, a California



Republican—introduced the Internet Freedom and Family Empowerment Act. At the heart of it was a stipulation that “no provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider.” The bill also contained a provision declaring that internet service providers couldn’t be held liable for “any action voluntarily taken in good faith” to remove materials from their platforms.

Cox and Wyden told the media that their “good Samaritan” amendment would give internet companies enough legal breathing room to regulate their own communities without fear of getting sued if something heinous inadvertently slipped through. It would be a much more cost-effective way of patrolling the net than the ham-fisted measures passed by the Senate, they said. “Clearly, to guard the portals of cyberspace, the private sector is in a far better position than the federal government,” Wyden told the *Washington Post*. On Aug. 4, the House passed the amendment by a vote of 420 to 4.

When, months later, members of the House and the Senate met to reconcile the differences between their bills, they jammed Exon’s penalties and Cox and Wyden’s immunity provisions into the final text, leaving it to the courts to sort out the contradictions. On Feb. 8, 1996, President Bill Clinton signed the whole package into law. ▶



D

Despite Section 230, the net erupted in protest. For the next 48 hours, more than 1,500 websites, including Yahoo! and Netscape, switched to a black background screen as a warning that the CDA would censor free speech. John Perry Barlow—a



netroots hero, who'd previously written lyrics for the Grateful Dead and co-founded the Electronic Frontier Foundation (EFF)—wrote a defiant email, widely circulated by activists and later republished in *Wired*, lambasting the law. “Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind,” Barlow wrote. “On behalf of the future, I ask you of the past to leave us alone.” He grandly titled his hot take “A Declaration of the Independence of Cyberspace.”

Opponents filed lawsuits. On June 26, 1997, the U.S. Supreme Court struck down the indecency provisions of the CDA—while all but ignoring Section 230. “In some ways, Section 230 was a kind of sheep in wolf’s clothing,” says Mike Godwin, a lawyer who helped lead the fight for the EFF. “It was basically something that was really good for the internet that was couched as something that would create more policing.”

It wasn’t long, however, before the internet’s preferred version of self-enforcement would get lots of unwanted attention. In the immediate aftermath of the 1995 Oklahoma City bombing, Kenneth Zeran, a Seattle real estate agent, started receiving threatening phone calls. He quickly learned that an anonymous user on AOL was posting his name and phone number alongside ads for fake souvenirs making fun of the tragedy.

Zeran tried frantically to get the company, America Online Inc., to remove his name and number, but it was slow to respond. He later sued, accusing the company of negligence. Lawyers for AOL responded by filing a motion to dismiss, invoking Section 230’s safe harbor. In March 1997, in a federal court in Virginia, Judge T.S. Ellis III ruled in AOL’s favor. Several months later, a panel of judges on the U.S. Court of Appeals for the Fourth Circuit upheld that ruling, advancing a strikingly broad interpretation of Section 230. They found that if an internet company was notified that its site was distributing

something illegal from a third party—be it defamation or death threats—it would remain immune from civil or criminal liability, even if it continued to knowingly propagate the illicit material.

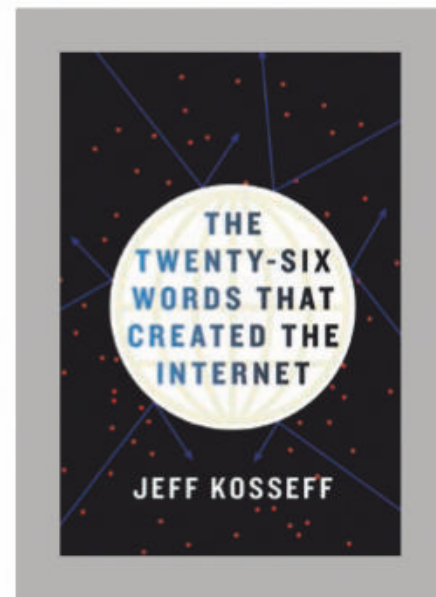
Critics of the law cite this ruling as ushering in a golden age of online harassment. In the years that followed, individuals who felt stung by the negligence of various web communities repeatedly filed suit for damages. Again and again, their cases were tossed out. “By the end of the summer of 2003, Section 230 appeared to be kryptonite to any plaintiffs who were considering a lawsuit against a website or internet service provider,” writes Jeff Kosseff, author of *The Twenty-Six Words That Created the Internet*. A law that had originally been envisioned as a way to keep the internet clean—or clean enough—instead made it safe for hatemongers, tormentors, and purveyors of misinformation.

Mary Anne Franks, a professor at the University of Miami School of Law, compares the behavior of internet companies under Section 230 to that of gunmakers under the Protection of Lawful Commerce in Arms Act, a 2005 law that provides extensive liability protection to firearm manufacturers and dealers. The freedom to self-regulate, she argues, allows internet companies to ignore public demands to make their products safer—and “we can now see what the industry has chosen to do with that freedom,” she says. “They have not only let a lot of bad stuff happen on their platforms, but they’ve actually decided to profit off of people’s bad behavior.”

In recent months, Wyden, the co-author of Section 230, has said that conservatives are misinterpreting the law’s intent. Rather than encouraging neutrality, the bill was designed to empower tech companies to proactively remove questionable material from their platforms.

“There were two parts to the law,” Wyden says. “There was a shield, and there was a sword. The sword was the legal authority of the website owner to moderate content. It’s clear to me looking at the evolution of time that too many sites—particularly the big companies as they got so prosperous—enjoyed the shield, but weren’t willing to use the sword. I have told them that if they don’t clean up their act and use that authority to moderate content with the sword, people are going to constantly come after them and say, ‘We’re going to take your shield.’”

**“THERE WAS A SHIELD,
AND THERE WAS
A SWORD”**



W

When Section 230 was passed, the leading internet companies were underdogs. Now they're the overlords of the U.S. economy. The inversion of power means Section 230 cases frequently result in the spectacle of a tech giant squashing the complaints of the wee internet villagers. Section 230 has enabled Twitter Inc. to dismiss allegations that it spread Islamic State propaganda; it's helped Yelp Inc. avoid having to take down defamatory reviews; and it's allowed Google to swat away the outcry of neighborhood locksmiths who say that Google search results are overrun with fraudulent listings.

Somewhere along the way, Section 230 crossed over from the realm of law journals into a bankable, mainstream villain for conservative and liberal audiences. In December, Netflix Inc.'s topical comedy show *Patriot Act with Hasan Minhaj*, which had previously tackled progressive bugbears such as the hazards of U.S. oil dependency, did a lengthy segment lashing out at Section 230. "This is a very difficult issue, and the solutions here aren't simple," Minhaj said. "But relying on the good faith of tech companies to regulate themselves? That ain't working." Meanwhile, an article on *Breitbart* referred to Section 230 as "the golden government handout" that's allowed Big Tech to flourish, recommending reform of the law as a way to "curb Google."

Over the years there have been attempts to reform Section 230. In 2013, 47 state attorneys general signed a letter beseeching Congress to allow states to pass laws contradicting the provision. The effort failed. Last year federal lawmakers succeeded at exempting cases involving online sex trafficking. In June of this year, Josh Hawley, a Republican senator from Missouri, introduced a bill that would require big tech companies to get the Federal Trade Commission to certify their political neutrality to qualify for the liability protection.

Such efforts to trim Section 230's powers are likely to proliferate in the current political environment, in which pillorying the excess of Big Tech is suddenly a la mode. They'll be met with well-funded resistance. The internet's version of self-regulation might be imperfect, supporters argue, but the government's would be far worse.

David Greene, an attorney for the EFF, says Section 230 is a victim of its own success. People look at the biggest web companies, such as Facebook Inc., and think they have so much money they should no longer receive the liability shield, he says, but the statute is necessary to protect smaller web



services that might otherwise get crushed by unfair litigation. Any resulting bad behavior is an unfortunate byproduct of an otherwise effective law. "Any time you have a legal immunity, you're going to have some people abusing it," he says. "Think of the spousal privilege or something like that. It's not necessarily surprising that there have been some bad effects." For now, tech executives will continue to moderate the internet as they see fit.

A

At some point, the accumulation of "bad effects" can start to look more like a national emergency. In early August, following a mass shooting at a Walmart in El Paso, much of the ensuing national outcry focused on the deadly assault weapons—and websites—favored by domestic terrorists. On Aug. 5, two days after the shooting, the chief executive officer of Cloudflare Inc., a major web security company, announced it would be cutting off service to 8Chan, an online forum popular with white nationalists, including the alleged El Paso shooter. But to date, such piecemeal efforts at self-policing by the tech industry have proven largely ineffective, while individual sites are all too happy to invoke Section 230 to deflect legal responsibility for the havoc caused by their sickest users. Consider Gab.

Three years ago, Andrew Torba, a conservative entrepreneur who'd grown annoyed with progressive politics in Silicon Valley, founded a social media site called Gab. He positioned the service as a less restrictive alternative to Twitter, which, due to intense public pressure, had started to ban some of its more troublesome users. Word got around that Gab had no policies prohibiting hate speech. Doves of white nationalists set up shop, according to the Anti-Defamation League. (Gab does forbid speech not protected by the First Amendment, including calls for acts of violence against others.)

Reached by email in late July, Torba said he supports the efforts in Washington to investigate Big Tech for anti-trust violations, but he dislikes Senator Hawley's proposal to alter the internet's immunity protection, which he calls "a powerful shield that allows us to protect our users' free speech rights."

Those users include Robert Bowers, a middle-aged Pennsylvanian who joined the site in early 2018 and started stewing in the fire sauce of hateful misinformation. On Oct. 27, he wrote a status update: "Screw your optics, I'm going in." He then allegedly drove to a synagogue in Pittsburgh and murdered 11 people.

In the aftermath of the shooting, Pennsylvania Attorney General Josh Shapiro said his office would be investigating Bowers's social media activity. Gab responded on the company's Twitter feed with a knowingly dismissive taunt: "Have you ever heard of CDA 230?" **B**

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THE GONE- FISHIN' GUIDE ...

P U R S U I T S

57

August 12, 2019

Edited by
James Gaddy

Businessweek.com

Oliver White, a guide from North Carolina, gets the money shot with a bonefish in the Marls, Bahamas

...to angling experts, old-school rods, river ranches, un-endangered salmon, an acrobatic kayak, and the prettiest damn fly you've ever seen

WHERE TO GO,

It's the worst of times to be an angler. The fish are smaller, the crowds are bigger, and climate change is ruining everything. And yet, it's also the best of times: The latest gear makes the sport more effortless than ever, and no location is too remote to access with a rod and reel. For those who like to travel, today's base camps have begun to resemble world-class resorts with spa services, herb gardens, and wine tastings. The focus is still on catching fish, but booking a top-shelf angling vacation means having options. One day you might be heli-fishing for steelhead, the next you're chasing them upriver in a 200-horsepower jet boat. The key to the top trips is your guide, an experienced hand who knows the area and will lead you to the perfect inlets, eddies, runs, and other secret spots. Here are 10 experts on their home turf—and the local fish that'll get you hooked.

—Darrell Hartman

Hunting for tarpon in the Everglades with Eleven Experience

AND WHO TO

PATAGONIA

South America's southern wilds are famous for their vast, sparsely populated landscapes—which are flecked with glacial-blue lakes and untouched rivers full of trout. The Argentine side of the Andes has a drier climate and draws comparisons to the American West a half-century ago: It's big-sky country, with a gaucho culture and very little competition on the water.

■ **THE FISH** Patagonia's brown and rainbow trout are considered ideal for dry-fly fishing. The average river-dweller here is 18 inches—typically your biggest of the day in Montana. But there are challenges: Afternoon winds can hamper even a seasoned caster.

■ **THE LODGE** Located in the mountain village of Trevelin, Argentina, the PRG Lodge has raised the bar with a smorgasbord of options. "It's

where I go with big-hitter clients," says guide Oliver White, who recently brought investor Bill Ackman. The 12-room operation is the flagship of Patagonia River Guides, which was started in 1998. It has its own winery, a 220-bottle whiskey bar, and, opening in the fall, a spa. Guests fish contrasting terrain to the north and south, where PRG can arrange stays in traditional *estancias* or safari-style camping.

■ **THE GUIDE** Veteran Esteban Oszust is the "best guide I've ever fished with, hands down," says Matt Canter of North Carolina's Brookings Anglers, which books two trips with PRG a year. "He's a very good coach, even with inexperienced anglers."

■ **THE PRICE** From \$5,950 per person for a week*; patagoniariverguides.com

SKILL LEVEL: 🐟🐟🐟

SIZE FACTOR: 🐟🐟🐟

WHAT IS AVAXHOME?

AVAXHOME-

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WHAT TO CATCH,

HELP YOU FIND THEM

Tarpon
▼

saltwater fishing left on Earth,” says Texas-based guide J.T. Van Zandt, especially now that the Somali pirate threat of recent years has lessened. “If you can part easily with 20k, you should go.” The wade-able, fish-rich flats of Cosmoledo Atoll in particular have begun to achieve mythical status.

■ **THE FISH** There are bonefish, triggerfish, and barracuda here, but they all dwell in the shadow of the giant trevally, a bulky apex predator that can average 30 pounds. “They’re tackle-wrecking machines: massive, hyper-aggressive, and lots of teeth,” says Joe Codd, manager of saltwater fishing programs for Frontiers International Travel. “You want them to eat your fly, but you also kind of know something bad is about to happen.” Its ferocity puts the “GT” in a league of its own—one reason Codd’s next available booking here isn’t until 2022.

■ **THE RESORT** The beach suites and stilted A-frame bungalows at Alphonse Island Resort ooze private-island luxury, and its fishing pros have been leading excursions to Cosmoledo Atoll for more than a decade. Starting last fall, the resort began offering lodging there at Cosmoledo Eco-Camp, where guests stay in former shipping containers that have been converted into comfortable, low-impact cabins. During the fishing off-season, May to November, the lodge turns the camp over to marine-conservation researchers.

■ **THE PRICE** From \$14,950 per person for a weeklong guided trip; alphonsefishingco.com

SKILL LEVEL: 

SIZE FACTOR: 

THE EVERGLADES

Florida remains *the* place to pursue the most pulse-quickenning quarry in the sport. What the state’s primeval wetlands lack in water clarity they make up for in sparse crowds and an abundance of hungry game.

■ **THE FISH** Atlantic tarpon checks every box. They roll on the surface, savage small tackle, weigh into the triple digits, and reward anyone skilled or lucky enough to hook one with spectacular acrobatics. Their leaps can snap the line, making the “silver king” notoriously hard to land. “The first time I caught a tarpon, it was so aerial, so visual, that I went out of body for a second,” says Montana-based guide Hilary Hutcheson.

■ **THE SHIP** Eleven Experience has changed the equation with the live-aboard *Outpost* “mothership,” which cruises the Everglades from

February to April with three air-conditioned staterooms and chef-prepared meals.

■ **THE GUIDE** Paul Ray, one of Eleven’s two Everglades experts, has been working the area for 12 years. “Paul is one of the best, if not the best, I’ve ever fished with—and I fish all over the place,” says Wes Bradish, an investment banker in Denver.

■ **THE PRICE** \$4,800 per person for a four-person, four-night guided trip; elevenexperience.com

SKILL LEVEL: 

SIZE FACTOR: 

THE SEYCHELLES

The Indian Ocean archipelago “has the best

MARTHA’S VINEYARD

This classic New England getaway has seafood shacks, farmers markets, and historic tree-lined streets, all of which a die-hard angler will happily ignore. Fishing grounds range from saltwater ponds and inlets to beaches, jetties, flats, and action-packed “rips,” the swift currents that run out to sea from shore. In May cinder worms emerge from undersea mud to become big-fish chow near the surface. The island’s massive squid migration, another feeding-frenzy moment, is in June.

■ **THE FISH** The Vineyard’s iconic species is the striped bass, and for good reason. “They want to toilet-bowl” ▶ **Cont’d on page 61**

Some Fishermen Prefer Bamboo

The nostalgic, quasi-religious, near-irrational appeal of the most expensive cane you can cast. *By John Gierach*

Split-bamboo fly rods are better than they've ever been.

I first heard this observation from rodmaker John Bradford, a man not known for hyperbole, and it's hard to argue. Today's craftsmen have more than 150 years' worth of collective experience to draw on, plus the advantages of 21st century glues and varnishes. For once, tradition meets high tech with a happy outcome.

As the name implies, a split-bamboo rod is made from strips of bamboo, called "splines," that are cut from a stalk, or "culm," of bamboo. The joints themselves are called nodes. The strips are then tapered using either a milling machine or, if you want it to take longer, a hand plane and an adjustable form. Afterward, the segments are glued together into a six-sided shaft.

This method was developed in the mid-1800s and gives a craftsman control over the rod's taper, which determines the way the rod imparts energy to the fly line during the cast. And in fly-casting, that action is everything. Rodmakers work to tolerances of a few thousandths of an inch on each spline, and a few thousandths one way or the other can mean the difference between a magnificent casting instrument and a broomstick.

For the better part of a century, split bamboo was the benchmark for fly rods. In many cases, aficionados can trace an apostolic succession from one shop to the next as apprentices left to start their own companies. Think of Hiram Leonard, who began producing split-bamboo rods shortly after the Civil War. He taught Edward Payne,

who then opened his own business, E.F. Payne Rod Co., where he passed on the craft to his son Jim, who then took over and continued to build bamboo rods until 1968. The lineage of others, such as F.E. Thomas, Goodwin Granger, Pinky Gillum, and Everett Garrison, can be followed in a similar way.

By the 1960s, bamboo's popularity had faded with the advent of fiberglass and, later, graphite materials that are lighter, more durable, and easier to manufacture. But the obituaries for split bamboo were as premature as those for vinyl records. Collectors honed in on the period from about 1920 to 1950, a stretch known as the "Golden Age," and they began to sense a fortune in those classics that could still sometimes be found cheap at yard sales and flea markets as "old fishin' poles." Some of these rods can sell for \$3,000 to \$5,000. I've seen extremely rare ones priced at \$10,000 or more. Meanwhile, those who continued to fish bamboo, as well as the craftsmen who made their rods, remained a small but vital fishing subculture.

When you consider the daunting amount of time and painstaking handwork that goes into a bamboo rod (South Creek Ltd.'s Mike Clark once told me it takes him 40 hours to make one, and he bangs them out as quickly as anyone I know), it's not surprising that bamboo fly rods have become luxury items. Some rodmakers even find themselves in the awkward position of their wares becoming collectible while the craftsmen themselves are still alive and working. Hoagy Carmichael, one of the authors of *A Master's Guide to Building a Bamboo Fly Rod*, was annoyed when he saw his rods go straight from the shop into a glass case without ever being fished. Others took it in stride. When Michigan rodmaker Bob Summers learned a client had bought a rod at the going rate only to turn around and sell it for considerably more to a collector, he shrugged and raised his prices.

The price tag is inevitably part of any discussion of bamboo fly rods, and often it's the opening salvo. Fishermen usually ask me, "Why go to R.L. Winston, Thomas & Thomas, Tom Morgan Rodsmiths, or Tellico River Rods for bamboo costing thousands when I can get a serviceable graphite rod starting around \$300 or \$400?"

It's a fair question with a vague answer. Part of it is the way we value the Yankee Workshop-like tradition of fine handwork done with what we now consider to be primitive tools, as well as the antique virtues of skill and patience.

But there's also some unapologetic nostalgia at work here. Bamboo fly rods can recall a time when life was simpler, fish bigger (and more numerous), and fishermen fewer and farther between. Or so we like to imagine.

For others, it's the material itself. Bamboo is a species



A 4-weight bamboo rod from Tom Morgan Rodsmiths

Schuster runs a 23-foot Parker out of Martha's Vineyard for striped bass, bluefish, and bonito



of grass—more like a reed than a piece of lumber—and it has a natural sensitivity that more modern materials lack. Bamboo fans say that their rods cast more fluidly, that their slight extra weight does more of the work, and that they're better at cushioning light leaders. Where a graphite caster would talk about power and efficiency, one who uses bamboo might invoke terms such as "warmth" and "friendliness."

There's also the matter of uniqueness. Part of the character of every rod is imparted by the particular culm of bamboo from which it was made—its size, age, density, moisture content, whether or not it was heat-treated and if so, how—so that even among identical rods by the same maker there can be discernible differences. And bamboo rods, like violins, are said to evolve with use, so even if a rod doesn't have a personality the first time you string it up, it will after you've fished with it for a few seasons.

Is this all beginning to sound a little mystical? Well, that's how they get under your skin. The late rod-maker Charlie Jenkins once told me that half of what his customers were buying was the image of the lone craftsman in his workshop with his glasses pulled down on his nose, hand-making their rod. That sounds mostly right to me. Of course, Charlie was too modest to add that, in his case, the other half was one damned fine fly rod. **B**

◀ Cont'd from page 59

your fly," says Hutcheson, who's fished stripers there as a guest. "When they go for it, it's for the kill." In September they typically share the water with bonito, bluefish, and lightning-fast false albacore, loading the field for a Massachusetts "grand slam."

■ **THE INN** The Hob Knob (\$559 per night; hobnob.com), a Gothic Revival inn in historic Edgartown, has the traditional down-home white-columned porch but makes up its beds with sumptuous Versai linens. The full-service spa is a major perk.

■ **THE GUIDE** Abbie Schuster, 29, represents the next generation of northeastern saltwater guides. She only fly-fishes and has a strict catch-and-release policy, unconventional for a striper specialist. "I try to make it a full experience," she says. That could mean a full day chasing schoolies in her 23-foot Parker or a mixed program involving beach driving and a guided yoga session during slack tide.

■ **THE PRICE** \$850 for a full-day trip with Schuster; kismet outfitters.com

SKILL LEVEL:



SIZE FACTOR:



PONOI RIVER

Moneyed anglers are going farther afield than ever to pursue Atlantic salmon, as commercial harvesting, climate change, and other ills have reduced North American runs. The new hot spot is Russia's Kola Peninsula, whose 25 million acres of tundra and salmon rivers lie almost entirely within the Arctic Circle. The southerly Ponoï River "is so much better than everything else," according to globe-trotting guide Oliver White. Frontiers International Travel spokesperson Mollie Fitzgerald agrees: "They catch in a week what many places in Scotland or eastern Canada catch in an entire season"—on average, 28 fish per rod.

■ **THE LODGE** Ryabaga Camp enjoys exclusive access to 50 miles of the wide, easy-flowing Ponoï, which guests of all skill levels can fish on foot or by boat. Unlike its northerly neighbors, the Ponoï has two mini seasons, in early and late summer. The accommodations have recently been upgraded from canvas tents to duplex wood cabins with en suite bathrooms. A major selling point is the variety of accessibility—that is, once you've taken the weekly charter flight from Helsinki and the two-hour helicopter ride from Murmansk.

■ **THE GUIDE** Ryabaga's Max Mamaev has spent two decades on the Ponoï. "He is truly one of the world's greatest guides—so resourceful, so industrious. I heard he made his first pair of waders out of a chemical warfare suit," White says. "And I believe it."

■ **THE PRICE** From \$7,490 per person for a weeklong stay; frontierstravel.com

SKILL LEVEL:



SIZE FACTOR:



THE AMAZON

The crazy-colored peacock bass is just one of many fascinating creatures in the Amazon Basin, but the violence with which this freshwater predator smacks a fly will take your breath away. The capable guides at Agua Boa Amazon Lodge, located on a clear-water tributary of the same name, rarely have trouble finding them. An inexperienced fly-caster can catch dozens of the smaller "butterfly" variety in a day, even using mandatory barbless single hooks; when the water's low enough, meanwhile, sight-fishing for 15-pounders tests the skills of anglers and guides alike. "It's an honest-to-God adventure," says Canter of Brookings Anglers, who's hosted trips here. "You hop on that charter from Manaus for the two-hour flight to the lodge, and a few minutes in, it's nothing but jungle." Granted, ▶ **Cont'd on page 64**

LORD OF THE FLY

The foremost expert in the art of tying flies goes deep on his version of the Green Highlander Hairwing
Photograph by Grant Cornett

Henry Hoffman started fishing 70 years ago, at age 15, and began tying his own flies about five years after that. By 1962 he was earning \$1.15 for every dozen flies he sold.

Eventually he discovered a different way to turn a profit: raise chickens whose feathers would serve as high-quality hackle for other fishermen's flies. "I kept breeding continuously," the fly-tying Hall of Famer says. "It genetically improved them to the point that instead of getting \$3 a bird, which wasn't enough to cover their feed, I was getting \$40 or \$50."

He became known for his "grizzly" hackle, feathers from a black-and-white-striped descendant of the barred Plymouth Rock rooster, which is one of the few breeds to develop in North America. By 1970, sporting goods retailer Orvis was lauding his superior feathers in its newsletter and calling them "super-grade grizzly." He sold the business in 1989 to premium breeder Tom Whiting.

Since then, Hoffman has focused more on the art of fly tying—he was named Oregon Fly Tyer of the Year by Fly Fishers International in 2000, and in 2008 he won the Buz Buszek Memorial Fly Tying Award, which has been called the "Heisman Trophy of fly fishing."

Now 85, Hoffman lives in Warrenton, Ore. (population 5,500), where this Green Highlander Hairwing pattern hangs in his dining room. It's become a popular one to display because of the color combinations—Hoffman uses 13 kinds of material in his version—but it originally earned its rep as a surefire way to land salmon on the East Coast. "Back when there *were* wild salmon on the East Coast," he says. **B** —James Gaddy

BACKGROUND The pattern of the Green Highlander Hairwing first originated in Scotland, Hoffman says, where it wasn't popular. Its fortunes changed in North America, where it became famous for its success in catching salmon on the East Coast and steelhead out west.

Soft breast feathers of a rooster have been dyed yellow

Hoffman's famous grizzly hackle, dyed orange

The jungle cock pattern of rooster feathers is now illegal to import from India

GOODS Among the more exotic hackle that Hoffman uses is the golden pheasant in the tail of the fly and jungle cock, which can cost as much as \$1 per feather. Green chickabou comes from one of his breeds that mimics the feathers of the marabou, an African stork that's become a protected animal.

TIME There are more simple flies, Hoffman allows. Because of all the material, this one can take up to two hours to tie. He can finish flies that require only three pieces of material in about five minutes.

COST With Hoffman's background in breeding, it's no shock that he uses premium products. "There's \$5 worth of material in there!" he says with a laugh. "People aren't going fishing with a fly that expensive." (Normal flies retail for about \$2.) Instead, he'll arrange it with others in a fly plate and donate them for fundraising auctions at Fly Fishers International events. A plate of six has gone for as much as \$800.

Green bucktail is topped with gray squirrel hair, also dyed orange

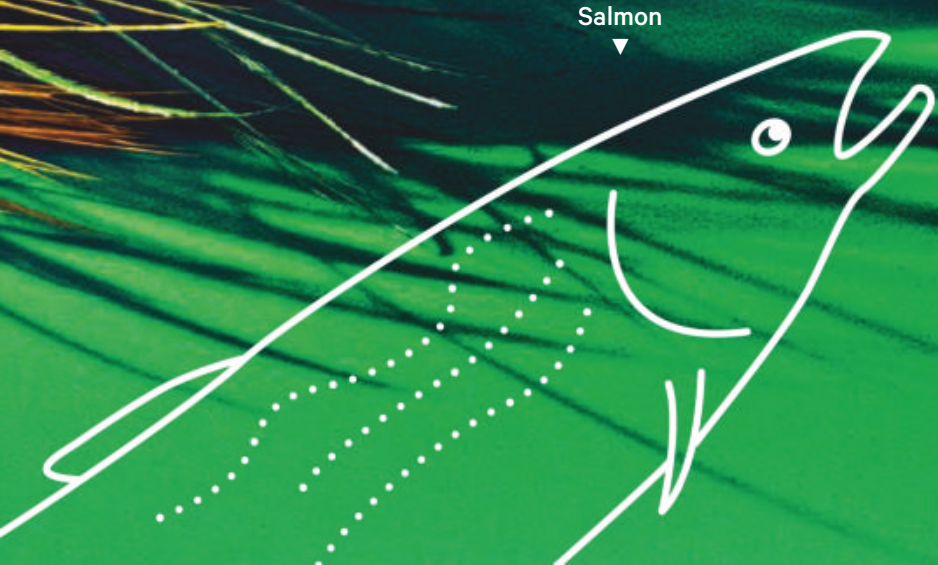
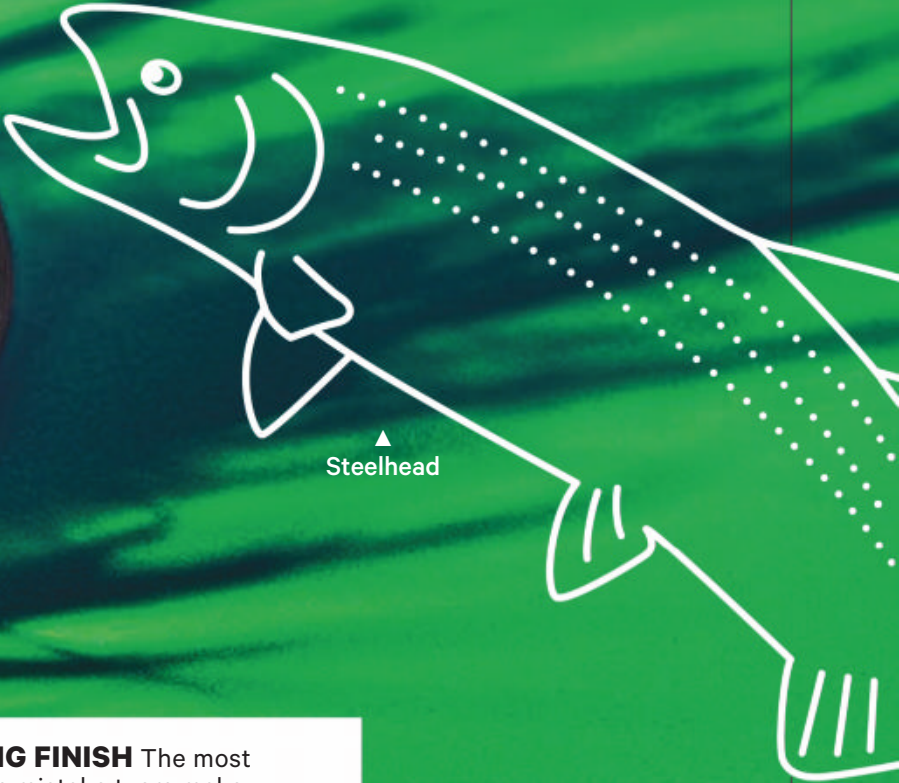
Two feathers from the neck of a golden pheasant are paired with a single flank feather of a barred wood duck

Black ostrich feathers cover up the thread wraps where the pieces of the fly get attached

THE CATCH The pattern was originally intended for salmon and steelhead, which begin in fresh water but swim out to salt water, then return to spawn at 25 to 30 pounds. But they're not really feeding at that point. "Most flies try to imitate what a fish would eat," Hoffman says, "but migratory fish don't do that." Instead, they're attracted to bright colors—hence this pattern's success.

Daiichi No. 2051 size 3/0 Salmon fly hooks can cost \$1 apiece

Yellow floss ribbed with silver tinsel is fronted by green chickabou feathers



THE BIG FINISH The most common mistake tyers make, Hoffman says, is with the final knot at the head of the fly. "It can be a bulky mess because you haven't left enough space to finish," he says. He compares it to learning how to tie a Windsor knot: "I always found when I was doing a new pattern that the third, fourth, and fifth flies always looked better than the first one or two."

◀ **Cont'd from page 61**

the little patch of jungle you come back to each evening has a pool, air-conditioned bungalows, daily laundry service, and no end of well-made caipirinhas.

■ **THE PRICE** From \$6,400 per person for a weeklong stay; sweetwatertravel.com

SKILL LEVEL: 🐟🐟🐟

SIZE FACTOR: 🐟🐟🐟

SKEENA RIVER

Although fish populations near the U.S. border have dwindled, hundreds of thousands of colorful salmonids still flood this massive river system in British Columbia every fall. The mountain hub of Smithers is a 90-minute flight from Vancouver.

■ **THE FISH** Fortified by years at sea, steelhead are as big as salmon and fight with the leaping, hell-for-leather energy of a rainbow trout. Patience and casting capability are a must. “There are very few casual steelheaders,” says Justin Miller of the Fly Shop, a California-based retailer and destination-fishing outfit.

■ **THE LODGE** Frontier Steelhead Experience makes the most of the Bulkley River, which sees about 40% of the Skeena’s fall steelhead run. Its guides steer rafts through tumbling canyons, race 200-horsepower jet boats upriver, and can arrange heli-fishing days on the ultra-remote Upper Skeena. Home base is a baronial post-and-beam lodge where there’s a pastry chef and a masseuse on hand.

■ **THE GUIDE** Joel Gourley has been guiding on the Bulkley for 16 years. “He knows every nook and cranny and is a technician when it comes to finding steelhead,” says FSE owner Derek Botchford.

■ **THE PRICE** From \$7,600 per person for a weeklong stay; bulkleysteelhead.com

SKILL LEVEL: 🐟🐟🐟

SIZE FACTOR: 🐟🐟🐟

EG-UR WATERSHED

Landing a 50-inch trout on a dry fly has the ring of a fish story, but not in Mongolia.

When a taimen strikes, “it sounds like someone dropping a bowling ball in the river,” says Dan Vermillion, co-owner of Montana’s Sweetwater Travel Co. His Mongolian Taimen Camps, the only foreign outfits with exclusive access to the Eg-Ur watershed, have spearheaded conservation efforts since pioneering this niche offering two decades ago.

■ **THE PRICE** From \$6,830 per person for a weeklong stay; mongoliataimenfishing.com

SKILL LEVEL: 🐟🐟🐟

SIZE FACTOR: 🐟🐟🐟

PUNTA GORDA

Belize has hundreds of miles of white-sand flats and the longest barrier reef in the Northern Hemisphere. It banned bottom trawling a decade ago, and efforts are underway to do the same with gill nets.

■ **THE FISH** The finicky permit is the “most annoying fish in the world—that’s why getting one becomes an addiction,” says Schuster, who’s hosted saltwater trips here. Midday sun and winds of 5 to 10 knots will slightly improve your odds of hooking one of these platter-shaped, scythe-finned fish.

■ **THE LODGE** Copal Tree Lodge is far enough below “Permit Alley” that clients get the nearby flats and five brackish river systems largely to themselves. Placid lagoons nearby are a solid

alternative in bad weather. There’s also a rum distillery, an organic farm, and a 12,000-acre nature reserve on the premises.

■ **THE GUIDE** “A true permit guide is a special breed of person,” says Todd Calitri, Copal Tree’s head of operations. He recommends Scully Garbutt, a native Belizean guide. “He makes sure a client has a great day whether they catch a fish or not.”

■ **THE PRICE** From \$3,679 per person for a weeklong stay; copaltreelodge.com

SKILL LEVEL: 🐟🐟🐟

SIZE FACTOR: 🐟🐟🐟

THE MARLS

This may be news to the snowbirds of Harbour Island and Eleuthera, but the Bahamas offer some of the world’s best saltwater fishing. Typically you’re casting over sapphire-blue waters onto shallow sand flats in breezy, high-visibility conditions that require advanced skills. Luckily, the dream-vacation surroundings make it easier to shrug off a shutout.

■ **THE FISH** The silvery bonefish is on every fly fisher’s bucket list, and not just because it dwells in paradise. It launches like a rocket when hooked. “They try to do all this sneaky shit, pull you into the mangroves, smash their face into the ground to try to get the fly out,” Hutcheson says. They’re usually in the 5-pound range.

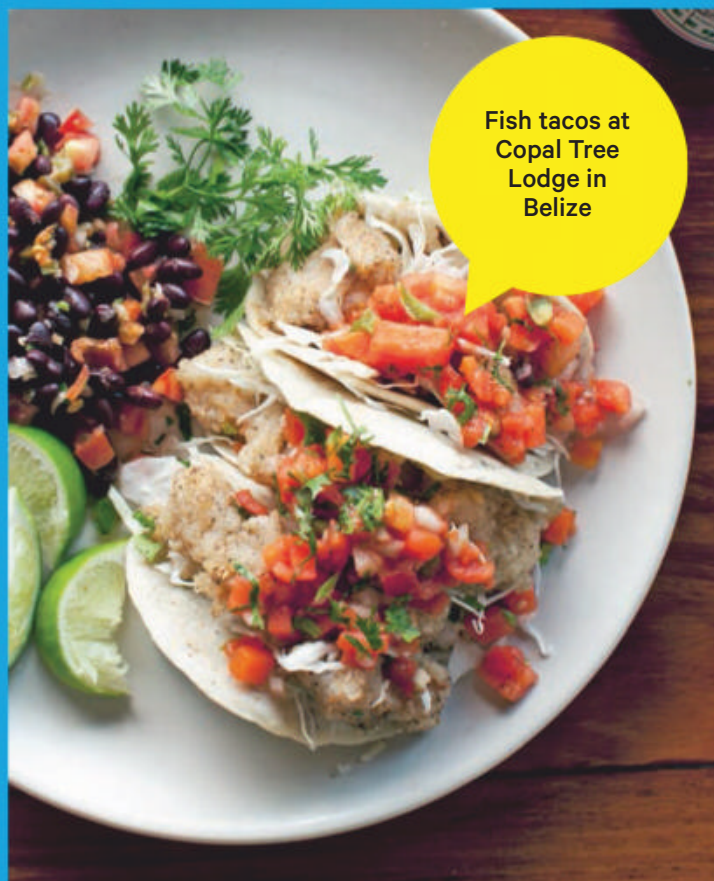
■ **THE LODGE** Abaco Lodge is the only outfitter on Great Abaco Island’s Marls, a 300-square-mile stretch of pristine flats. Its on-site boat dock is a convenient luxury.

■ **THE GUIDE** Paul Pinder switched from commercial fishing to guiding more than 20 years ago. “No one reads your ability or personality better,” Van Zandt says. “He sets the standard for the other guides.”

■ **THE PRICE** From \$6,150 per person for a weeklong stay. Shorter trips are available, including \$3,595 per person for two-day trips; abacolodge.com

SKILL LEVEL: 🐟🐟🐟

SIZE FACTOR: 🐟🐟🐟



Fish tacos at Copal Tree Lodge in Belize

Meanwhile, Back at the Ranch

Got a few mil? Swap your fishing camp for a compound with its own fishing holes. *By Claire Ballentine*



LONE PINE RANCH

Near Mendocino National Forest in Covelo, Calif., this \$25 million estate includes 26,600 deeded acres across three large ranches. It comes with more than 16 miles of frontage on the Eel River, one of the state's largest—and least altered—watersheds to which salmon and steelhead migrate from the Pacific. Acquired by stockbroker Dean Witter in 1942, the property contains a 1930s main home, along with plentiful blacktail deer, pigs, bears, and quails. *Broker: Bill McDavid, 406 542-3762*



RUBY RIVER ONE AND DONE

Set in southwestern Montana's Ruby River Valley, this 400-acre property includes an airy, minimalist 10,000-square-foot home created by Seattle architect George Suyama and designed to maximize the Big Sky views. There's also an 18-hole putting green and a skeet and pistol range. The \$10.5 million estate includes access to both sides of the fabled Ruby River, but there are also three constructed trout ponds, one of which is right outside the door. *Broker: Keith Lenard, 406 542-3762*



GRAYSTONES

Located above the Lehigh River Gorge in the Poconos, Graystones Preserve in Albrightsville, Pa., comes with 3,800 deeded acres and seven residential structures holding 31 bedrooms. The \$11.9 million property contains 3 miles of water stocked with large tiger, brown, rainbow, and eastern brook trout and is within easy driving distance of New York City and Philadelphia. With state parks on three sides, whitetail deer, black bears, and turkeys roam the grounds. *Broker: Keith Lenard, 406 542-3762*



WESTLANDS

This 4,600-acre estate in Meeker, Colo., two hours northwest of Aspen, includes an owner's mansion, guest quarters, a tennis court, and a four-hole golf course designed by Greg Norman. The pinnacle of the \$46 million property, though, is the private 5-mile stretch along both forks of the White River, where it's said 15-pound trout roam more than 30 pools, runs, and channel confluences. For the last three decades, Westlands has belonged to financier Henry Kravis. *Broker: Brian Smith, 970 879-5544*

Is It Too Late For Salmon?

To protect the overfished species, one man is going on the offense

By James Tarmy

Some of the world's most famous conservationists have been hunters. Teddy Roosevelt, John James Audubon, and Ernest Hemingway each have the somewhat dubious distinction of saving animals' habitats to try to kill them. Pacific salmon aren't often mentioned alongside Roosevelt's elephants or Hemingway's tigers, but in Tucker Malarkey's *Stronghold* (Random House, \$28), fish is the biggest game of all.

Malarkey's protagonist is a charming misfit named Guido Rahr, who also happens to be her cousin. A naturalist almost as soon as he could walk, Rahr got hooked on fly fishing in his late teens only to realize, to his horror, that the hydroelectric dams, agricultural runoff, commercial fishing industry, deforestation, and climate change in the Pacific Northwest could bring wild salmon to extinction.

And so begins a gripping chronicle that follows Rahr as he slowly gained access to increasingly lofty ladders of power, first in the U.S. and then in Russia, where he discovered the last remaining, utterly untouched salmon habitats on the planet.

The stakes aren't just sport fishing's future, or even people's dinner. Salmon, it turns out, is a so-called keystone species upon which entire ecosystems depend. "Without wild salmon returning to the rivers of the Pacific Rim," Malarkey writes, "the vast ecosystems that relied on their rich nutrient supply suffered. The impact moved steadily up the food chain, from microbes to insects, grasses, bushes, trees, amphibians, birds, mammals, and people." A scientist on one of Rahr's expeditions, for instance, discovered that a nitrogen isotope unique to marine systems can be found in 2,000-year-old trees on the banks of salmon rivers. "The salmon themselves established these riparian forests with the nutrient deposits of their carcasses," Malarkey explains.

In an attempt to save the salmon that are left, Rahr adopted a "stronghold" approach to conservation. Unlike most government-led

efforts, in which a species is protected only when it becomes endangered ("the Endangered Species Act was not a conservation strategy," Malarkey writes. "It was an emergency room."), Rahr set about protecting an entire environment to save a specific species. For Pacific salmon, that meant preserving rivers in Kamchatka, Russia, just as the area began to open up to logging, mineral extraction, and oil and gas drilling.

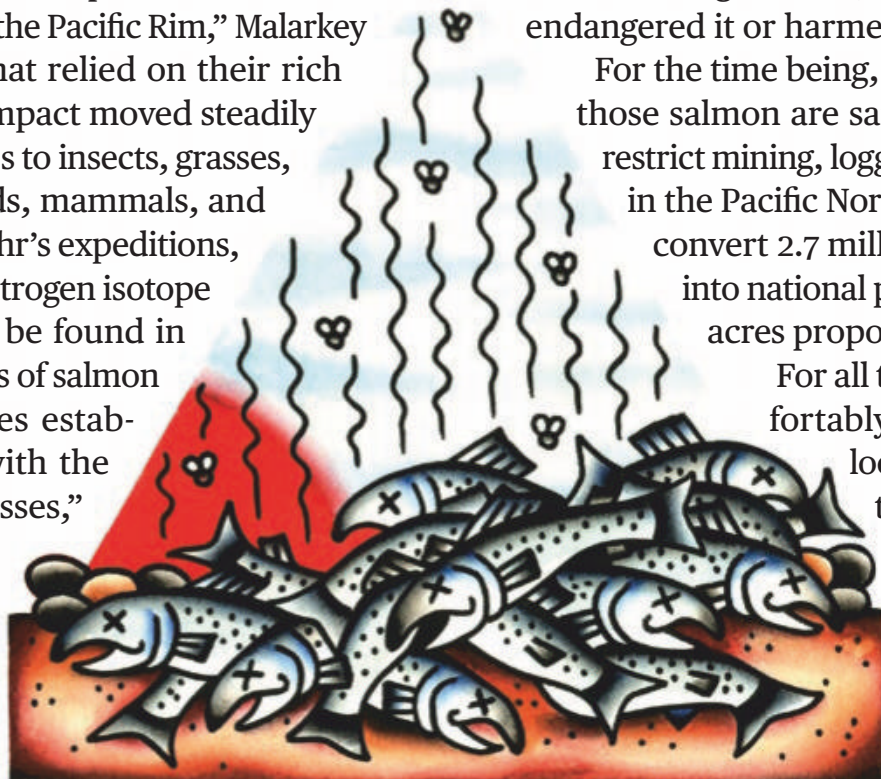
Malarkey plots Rahr's exploits with the skill of a novelist and the affection of a close relative; she's factual, in other words, but not objective. Of the distinction between fly fishing and regular fishing, she writes that it's "the difference between a hunter who stalks his prey for days versus the weekend warrior who shoots from the back of a truck. One is fighting fair, and the other is a kind of terrorist."

No matter where you land on the question of rods, hooks, and reels, the stories of needless destruction are appalling. Malarkey describes poachers' camps carpeted with carcasses of discarded, rotting salmon killed for their roe, which in turn is brined and eaten by Russian and Asian consumers. One local activist came across poachers who'd laid a net across an entire river. "On the riverbank and spilling into the forest," Malarkey writes, "was a growing mound of gutted female salmon. Thrown alongside, the males suffocated slowly."

As a result, Rahr's quest has a pathos not usually afforded to fish, which to their detriment are neither cute nor cuddly. The luminaries who've lent him support—retired Supreme Court Justice Sandra Day O'Connor, Tom Brokaw, Ted Turner, and Intel Corp. founder Gordon Moore among them—are rendered in near-heroic terms. Russian titans Oleg Deripaska, Alexander Abramov, and Ilya Shcherbovich, who may be controversial figures for other reasons, are here lauded for chipping in to protect the Kamchatkan wilderness. Malarkey isn't blind to the fundamental paradox of conservation under capitalism—the people with the means to effect change are often the people who've benefited most from a country's destruction—but she remains relatively agnostic. *Stronghold* is about saving salmon, not blaming the people who've endangered it or harmed the planet in other ways.

For the time being, thanks to Rahr's efforts, some of those salmon are safe. He helped usher in laws that restrict mining, logging, and hatchery fish production in the Pacific Northwest; in Kamchatka, he helped convert 2.7 million acres of salmon strongholds into national parks, with an additional 4 million acres proposed for protection.

For all that, the book ends on an uncomfortably ambivalent note. The planet's looming resource crisis, not to mention future climate fluctuations, don't bode well for wild salmon—or for humans, for that matter. But the point of *Stronghold* is that some things can be saved, at least in part, if you know how to fight for them. **B**



Pedal, Don't Paddle

Hobie's new kayak expands on its hands-free fishing promise
Photograph by Sergiy Barchuk

Other than patience, the key to fishing is precision—nailing the angle, position, and stealth required to not scare off your prey. Hobie Cat Co.'s MirageDrive technology, a foot-powered propulsion system for kayaks that came out in 1997, was a much welcomed tool for this pursuit, allowing an angler to maneuver while keeping a grip on his rod. But it only allowed forward and backward motion. The MirageDrive 360 system solves that problem. Making its debut in September on Hobie's 12- and 14-foot Pro Angler kayaks, it offers left- and right-turn capability to further integrate man and machine.



THE COMPETITION

- The 34-inch-wide pedal-propelled Native Watercraft Slayer Propel 10 (\$2,200), with its sturdy standing platform, is great for casting. At a mere 81 pounds fully rigged, it's easy to transport yet still able to handle 400 pounds.

- Comfort reigns on the \$1,800 Perception Pescador Pilot 12.0, which has adjustable-seat and gear systems, tension knobs, and a sharp-looking modern design that allows for ample cargo space with four molded-in rod holders.
- Stretching just over 13 feet and featuring a rotational pedal drive, the \$2,500 Old Town Predator PDL allows backward and forward mobility and comes armed with a cool knob-controlled rudder. It does weigh in at 117 pounds, so it may not be the easiest boat to carry.

THE CASE

There are cheaper pedal kayaks on the market, but none boast the mobility of the Mirage Pro Angler 360. The patented drive system is simple to use, with a hand-operated knob, giving users full movement—forward, backward, and side to side. (Doing doughnuts is especially encouraged.) Hobie has also introduced retractable kick-up fins, allowing you to charge over underwater obstacles without fear of damage. And with a 600-pound carrying capacity, there's not many creatures from the deep that could sink it. From \$4,650; hobie.com

The Problem When Inventory Is Not a Problem

By Justin Fox

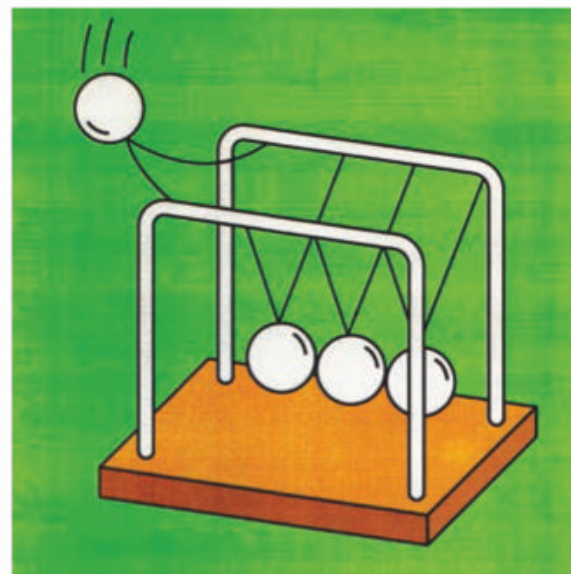
In an industrial economy, businesses build up inventories to meet expected demand. If sales disappoint even slightly, those inventories can balloon, leading companies to cut production and lay off workers, depressing overall demand. As economist Lloyd Metzler described this “inventory cycle” in a classic 1941 paper, “An economy in which business men attempt to recoup inventory losses will always undergo cyclical fluctuations.”

The U.S. economy has changed a lot since the 1940s. Goods represent a much smaller share of gross domestic product than they used to, and the services and virtual products that have taken their place generally have no inventories. Just-in-time manufacturing and better technology for tracking sales have also enabled manufacturers and retailers to get by with smaller stocks of goods on hand. In the process, inventory swings have become a much smaller factor in economic fluctuations.

This shift got a lot of attention in the early 2000s, when economists were trying to explain the “Great Moderation” of the business cycle. The sharpest economic downturn in seven decades put most such research on hold, but with the current expansion now the longest on record, it seems quite relevant again.

As inventory cycles and other ups and downs of an industrial economy have become less important, it now seemingly takes a financial-market meltdown—such as the stock market collapse of 2000-02 and the mortgage crisis of 2007-08—to send the economy into reverse. In the meantime, a smoother, steadier economy lulls investors into the very complacency that leads to crisis. **B**

—Fox is a business columnist for Bloomberg Opinion



● **STEADY BUT SLOW**
U.S. economic growth is smoother but slower, averaging 2% a year since 2000 and 2.7% going back to 1980. From 1929 to 1980, it averaged 3.6%. Measures of entrepreneurship and productivity growth are down, too. Less volatile isn't necessarily better.

● **KEEP IT GOING**
Unless a recession is declared retroactively (which seems unlikely), the current expansion is

121

months old as of the end of July.

● **OUT WITH THE OLD**
The current expansion breaks the previous record of 120 months, a period of growth that stretched from the waning years of George H.W. Bush's presidency to the beginning of George W.'s.

Contribution of change in private U.S. inventories to change in real GDP, in percentage points



● **SHIFTING PRIORITIES**
In 1950 total inventory value equaled more than 5% of U.S. sales. In the second quarter of 2019 it was 2.3%, tied for the lowest ever. Services' share of GDP, which averaged 44% in the 1940s and 42% in the 1950s, is now 62%.





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