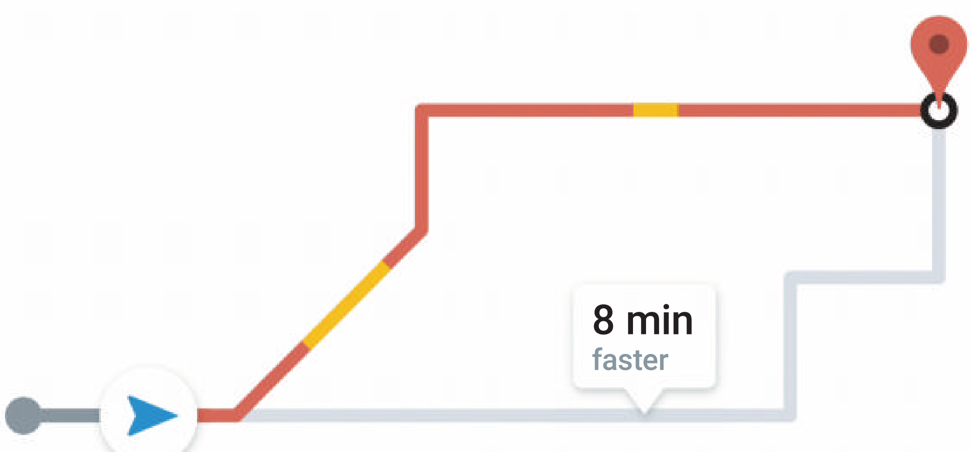
Bloomberg Businessweek

August 19, 2019

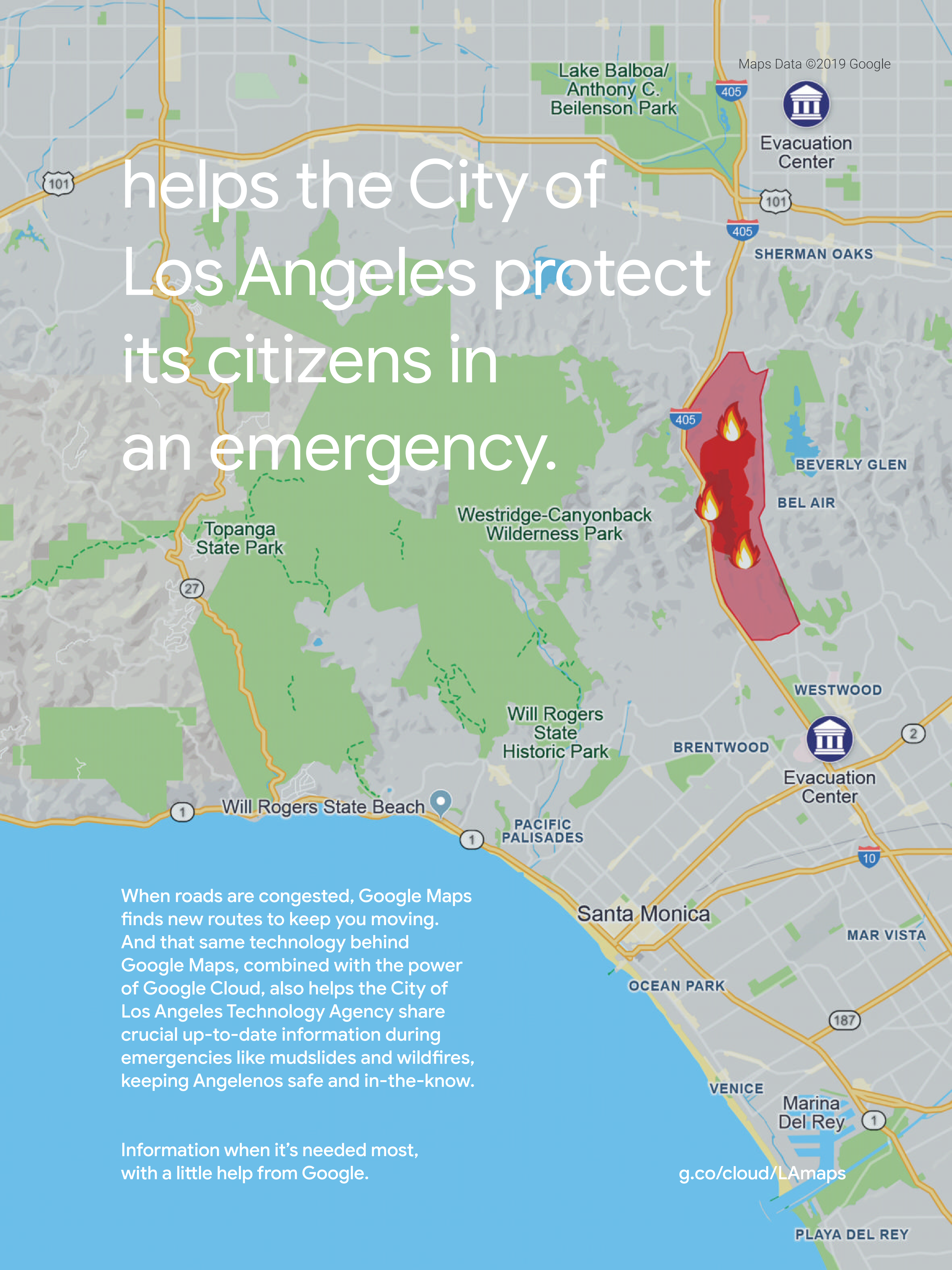
10 WEEKS OF PROTEST 1,454 WEEKS UNTIL ONE SYSTEM HONG KONG'S COUNTDOWN TO 2047

10

The same technology that helps you avoid traffic on the 405



helps the City of Los Angeles protect its citizens in an emergency.



When roads are congested, Google Maps finds new routes to keep you moving. And that same technology behind Google Maps, combined with the power of Google Cloud, also helps the City of Los Angeles Technology Agency share crucial up-to-date information during emergencies like mudslides and wildfires, keeping Angelenos safe and in-the-know.

Information when it's needed most, with a little help from Google.

g.co/cloud/LAmaps

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◀ Mohamad al-Assar tapped the black market to rebuild after his concrete-mixing factory was destroyed

PHOTOGRAPH BY MOHAMMED ZAANOUN FOR BLOOMBERG BUSINESSWEEK

FEATURES

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I'M TURNING
WAREHOUSES
INTO
SYMPHONIES.
Eric Rice is part of the Honeywell team developing systems and software for connected distribution centers, orchestrating predictive analytics and system performance optimization efforts to ship billions of packages as fast as the orders come in.
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IN BRIEF

By Benedikt Kammel

● The U.S. fiscal deficit grew to almost

$867b

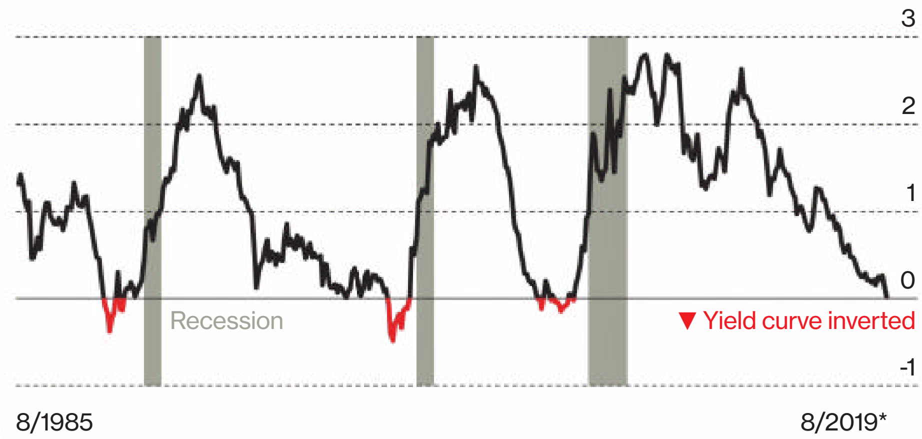
for the first 10 months of the fiscal year, exceeding the figure for all of last year. Republican tax cuts, increased federal spending, and an aging population have contributed to the strain.

● Argentina's stocks, bonds, and currency fell after President Mauricio Macri lost in primary elections.

Investors fear his shock upset on Aug. 12 may set the stage for a populist government that could seek to renegotiate billions in foreign currency debt and hard-won agreements with the IMF. ▷ 32

● On Aug. 14 the yield on 10-year U.S. Treasury notes briefly dropped below that of 2-year notes. That reversal, known as a yield curve inversion, is considered a sign that a recession will occur within about 18 months. By the market's close, 10-year yields had rebounded.

Difference between yields on 10-year and 2-year Treasuries, in percentage points



● "He can take all the people aboard Hollywood on his private plane and support them in his villas."

Italian Deputy Prime Minister Matteo Salvini lashed out at actor Richard Gere, who came to the Italian island of Lampedusa to ask European leaders to find a port for a ship with 160 migrants that the country has refused to allow into its waters.

● CBS, the most-watched U.S. broadcast network, and Viacom, the owner of the Paramount movie studio and cable channels such as MTV and Nickelodeon, revealed a merger plan. The companies expect annual cost savings of about $500 million from the deal.

● Saudi Aramco cemented its status as the world's most profitable company, reporting net income of

$46.9b

for the first six months of 2019. Saudi Arabia wants to raise a record $100 billion by selling a 5% stake in Aramco, which would rank as the biggest IPO in history.

● The Volcker Rule, a postcrisis safeguard that limits banks' ability to trade with their own funds, is set to get a major overhaul. Regulators seek to loosen restrictions on lenders investing their own money in private equity and hedge funds, according to people familiar with the plan.

● Jeffrey Epstein, charged

with molesting minors and sex trafficking, died on Aug. 10 in an apparent suicide. On Aug. 14 a woman who says he raped her in 2002, when she was a teenager, said she's suing his estate and three of his associates. A New York law took effect that day allowing victims of alleged abuse to file claims even if the statute of limitations has expired.

● A failed missile test on Russia's White Sea near the Arctic Circle killed five atomic scientists and released radiation in the area. The detonated weapon may have been the SSC-X-9 Skyfall, a nuclear-powered cruise missile President Vladimir Putin unveiled last year.

● The Trump administration plans to impose limitations on the Endangered Species Act. The law has protected threatened plants and animals for more than four decades. Agencies such as the Fish and Wildlife Service will have to cite economic repercussions in their assessment of whether to list a species as threatened or endangered.

● Verizon will sell the Tumblr blogging platform to the parent of the WordPress publishing tool for a nominal sum.

● The People's Bank of China is "close" to issuing its own cryptocurrency, according to a senior official.

● Uber reported a $5.24 billion quarterly loss and sales that missed estimates, raising doubts about its growth prospects.

● Guatemala elected former prisons director Alejandro Giammattei, who's vowed to crack down on crime, as president.

EPSTEIN: RICK FRIEDMAN/CORBIS/GETTY IMAGES. GREEN SEA TURTLES: MARK CONLIN/GETTY IMAGES. *THROUGH AUG. 14. DATA: COMPILED BY BLOOMBERG

▶ Retail Therapy in a Trade War

A busy week beckons for retailers, with Home Depot, Gap, Kohl's, and TJX all reporting numbers on Aug. 20. To keep consumers happy, President Trump said on Aug. 13 that he will delay tariffs until mid-December on some products that are holiday-season favorites.

▶ On Aug. 19, German Chancellor Angela Merkel meets Hungarian Prime Minister Viktor Orban in Sopron, which played a key role in the Iron Curtain's fall.

▶ France hosts the Group of Seven meeting on Aug. 24-26 in Biarritz, with President Trump attending amid increasingly frayed trans-Atlantic relations.

▶ BHP Group releases earnings on Aug. 20. Demand for copper and iron ore at the world's biggest miner provides a barometer for economic growth.

▶ Nauru, the world's smallest island nation, whose fertilizer reserves once made it fabulously wealthy, holds parliamentary elections on Aug. 24.

▶ Bank Indonesia releases its rate decision on Aug. 22. It's hinted at a cut to unwind a series of hikes from last year, joining other central banks.

▶ Aug. 22 is a day of jubilation—or bitter tears—as the GCSE final school exam results will be published for British 15- and 16-year-olds.

■ BLOOMBERG OPINION

What Is Boris Doing?

● Whether the U.K. prime minister is pursuing negotiations or an electoral advantage, he's headed for disaster

When a government makes emergency plans to safeguard water supplies, stockpile vital medicines, manage food shortages, prepare for civil unrest, suspend the legislature, and exploit arcane procedures to stay in power, things aren't going great. For British Prime Minister Boris Johnson, it's evidently all part of the plan. He came into office in July vowing to leave the European Union on Oct. 31, with or without a withdrawal agreement. Since then his government has been shifting cash around, reassigning civil servants, initiating a huge propaganda campaign, and noisily affirming its pledge to pursue a no-deal Brexit if needed.

This apparent commitment to self-harm has a certain logic. It might induce the EU to offer more concessions to Johnson's negotiators and produce a revised exit agreement that Parliament could assent to. Or it might help the prime minister secure a more coherent majority after an election. There's also the remote possibility he thinks it's the right thing to do.

Whatever his purposes, a no-deal exit looks likelier by the day. This would, it bears repeating, be a calamity. It would lead to severe trade disruption, transport bottlenecks, rising prices, consumer shortages, failing businesses, and in all likelihood a recession within months. Public finances would be ravaged, and unemployment would surge. By the government's own reckoning, the long-term costs could be immense.

Nor would such an exit achieve its stated goals. If the objective is a competitive "global Britain," severing all ties with the country's biggest trading partners overnight amid a simmering trade war and a looming recession probably isn't ideal. Of the 36 trade deals the U.K. was subject to within the EU, it has managed to roll over just 13, many of them only partially.

Far from offering a "clean break" from the EU, moreover, a no-deal exit would ensure years of hideous negotiations with no leverage and little hope of clawing back the benefits of membership. Any agreement would likely need to be ratified by the EU's 27 parliaments, which may not be sympathetic after the U.K. has imposed such mayhem.

Among the only certainties are that Britain's influence will diminish and its union be weakened. Any deal it reaches with the EU will leave it with rules it has little power to shape. Scotland may demand independence; a referendum on a united Ireland may follow; even Wales is asking questions.

Partly because this strategy is so obviously illogical, the government has had a hard time getting people to believe its warnings. One survey found only 14% of small businesses have made plans for no deal. Of the 245,000 British companies that trade exclusively with the EU, just 66,000 have completed the customs paperwork they'd need after a crash-out. They seem to take Johnson at his word that the chances of no deal are "a million to one"—thereby increasing the cost and risk of the whole misadventure. Ⓑ

Written by the Bloomberg Opinion editorial board

ILLUSTRATION BY OLLIE SILVESTER

Protesting L

● Hong Kong's demonstrators have one big issue: Their city's fate when China fully takes over in 28 years

● By Matthew Campbell

When U.K. Prime Minister Margaret Thatcher agreed in 1984 to return Hong Kong to China, it wasn't clear who would end up changing whom. The People's Republic was still in the early days of the most dramatic economic transformation in modern history, opening for the first time in decades to money, people, and ideas from abroad. Hong Kong, freewheeling and prosperous, boasted plenty of what China's reformers seemed to want: wealth, of course, but also order and stability, guaranteed by a colonial government that offered clean courts and some individual rights without ever flirting with true electoral democracy. "One country, two systems," shorthand for Beijing's pledge to maintain the city's political character for 50 years after the 1997 British turnover, contained within it the possibility that by the time 2047 rolled around, the systems would have converged—mostly, perhaps, in Hong Kong's direction.

After more than two months of violent confrontation, that's decidedly unlikely. On Aug. 12 pro-democracy protesters made their most dramatic move yet, flooding into Hong Kong's gleaming airport and forcing it to shut down completely. The next day, protesters disrupted service again, though short of closing things down. It was the latest episode in what's become a summer of rage in Asia's financial capital, with millions taking to the streets to oppose what they say are attempts to steamroll the city's freedoms. Beijing has responded with undisguised fury, suggesting that some protesters have committed "terrorism" and hinting at the possibility of military action.

To pessimists—and in today's Hong Kong, there are plenty—the rupture is confirmation that the Communist Party and a free city will never be able to peaceably coexist. And yet they must. Despite the wishes of some of Hong Kong's more passionate activists, Chinese rule isn't going anywhere. But neither is the fury of many in Hong Kong. "On the current trajectory, another confrontation is inevitable, unless the younger generation in Hong Kong can see that their concerns are being addressed," says Steve Tsang, director of the University of London's SOAS China Institute and the author of *A Modern History of Hong Kong*. China's leaders, he says, "just don't get it. Their default is to use repression, which will only breed more protest."

Hong Kong's worst crisis since the handover began in June, with rallies of unprecedented size against legislation backed by the pro-Beijing chief executive, Carrie Lam, that would allow extradition to mainland China. Lam, a longtime civil servant elected by a handpicked committee of local notables, had badly misjudged the public mood. On the eve of another huge protest, she agreed to shelve the proposed law, later declaring it "dead." For emboldened activists, that wasn't enough. They've now taken to the streets in large numbers for 10 consecutive weeks, clashing with police who have been given the green light to use aggressive tactics. Almost never employed before this year, rubber bullets and tear gas

ANTHONY WALLACE/AFP/GETTY IMAGES

ike It's 2047

▲ Protesters at Hong Kong's international airport on Aug. 9

are being used regularly against protesters. At one point on Aug. 11, officers fired the gas inside a subway station.

The activists have five official demands: the formal withdrawal of the extradition bill; the release of arrested protesters; an independent inquiry into police tactics; the retraction of the government's description of a June demonstration as a "riot"; and the implementation of full democracy. But the protests have also evolved into something inchoate, unfocused, and unpredictable. Concentrated at first in Admiralty, the unofficial government district, they're now occurring in a wide range of neighborhoods, shifting from preplanned marches to flash-mob civil disobedience organized on social media platforms. In busy subway stations, strangers are sharing pro-democracy memes and information on upcoming marches via AirDrop, the Apple tool for device-to-device file sharing.

China's willingness to tolerate such dissent is wearing thin. On Aug. 6, the day after a strike paralyzed much of the city, government spokesman Yang Guang refused to rule out military action and said that Beijing would "never allow" unrest that would threaten national security. "Those who play with fire," he said, "will perish by it." A week later, he warned that "the first signs of terrorism are starting to appear."

That it's taken more than two decades for military intervention to become a real risk in Hong Kong could be viewed as evidence that "one country, two systems" was at least a temporary success. Many in the city were genuinely nervous before the handover, fearing an abrupt end to civil liberties, the rule of law, and their ability to make money. Families with the means bought property abroad, sending their children to attend school and, if possible, acquire foreign passports. In the years before the handover, more than 60,000 Hong Kong immigrants arrived in Vancouver alone.

But as the deadline approached and then passed, the crisis never arrived. Indeed, an unprecedented real estate boom pushed the skyline and housing prices ever higher. Emigrés returned as stocks soared and banks expanded their footprints, seeing in Hong Kong a stable, English-speaking base from which to tap China's growth. For the most part, Beijing was content to leave the city be, wary of spooking investors or killing a golden goose. (Indeed, many members of China's elite, or their families, came to own Hong Kong assets.)

Hong Kong's defenses were certainly tested, but they proved robust. In 2003 activists organized huge rallies to oppose Beijing-backed legislation to enshrine harsh penalties for "sedition" against the mainland. That was eventually shelved, as was a 2012 proposal to require students to receive "patriotic education" that also engendered opposition.

Until now, the tensest moments came during the 2014 Occupy protests, which demanded the replacement of its partially democratic electoral system and took over part of Hong Kong's urban core for more than two months. The official response was, in retrospect, restrained; police used comparatively modest volumes of tear gas and mostly gave demonstrators a wide berth.

But over the next several years, China's tolerance for opposition declined markedly. On the mainland, President Xi Jinping was engaged in one of the broadest crackdowns on dissent in decades, detaining thousands and drastically restricting unsanctioned views. In that context it was inevitable that the pressure would turn up in Hong Kong, where the local ▶

◀ government jailed pro-democracy activists and placed strict limits on who could run for office. It also banned political parties from advocating independence.

For the Communist Party, which came to power in 1949 determined to unify a nation that had been periodically carved up by foreigners, the suggestion of a future for Hong Kong outside of China is among the ultimate red lines. And despite the growing sophistication of mainland business, the city still has a crucial place in China's economy. With its open financial markets and international connections, Hong Kong "plays a central role for capital formation," says Albert Ho, a prominent lawyer and former member of the territory's Legislative Council. "Hong Kong is important to China, all the more when China is now facing pressure from America due to the trade conflict."

What no one in Hong Kong can predict is where the relationship with the mainland—and the very nature of the city's governance—goes from here. There are three obvious scenarios. The first is a broad accession to protesters' aims, including a pullback of aggressive policing and perhaps moves toward greater democracy. It's also the least likely. China has rejected even the simplest of this summer's demands: an independent inquiry into the unrest. The Communists are loath to back down in the face of popular pressure, especially in full view of the global media.

The second scenario, a violent intervention in Hong Kong followed by the intense repression of its citizens, is the most frightening. Elements within the Chinese government appear willing to at least signal the possibility. In late July the Hong Kong garrison of the People's Liberation Army released a video that included a fictional scene of soldiers marching toward a crowd of protesters; more recently, state media published a video of armored vehicles rolling through Shenzhen, which directly borders Hong Kong.

The potential consequences of military action are too numerous to list. But the best argument against such a move is a practical one: It probably wouldn't work. Beijing has sought to portray the protesters as a small group of full-time agitators supported by shadowy foreign backers, but one of the most striking things about the demonstrations is their broad participation. The huge crowds include teachers and students, accountants and shopkeepers, and white- and blue-collar workers of all ages. Short of a massacre, there's almost certainly no way to force them back to their homes.

At this point a third scenario is the most likely. School will be back in session in September, presumably giving students less time to be in the streets. The business community, always Hong Kong's most important constituency, will eventually lose patience with protests disrupting transport and scaring off tourists. It's entirely possible that the demonstrations will fizzle out in favor of a return to the day-to-day hustle of one of the world's most energetic cities.

Any respite, though, will be temporary—and leave behind a city where investors might be eyeing the exits, whether for Singapore or another global hub. And even in the best case, Hong Kong's long-term status is uncertain. The legal arrangements governing its relationship with China are silent about what happens after 2047, when "one country, two systems" is due to expire. Barring unforeseen events, that will be a decision for the Communist Party. The only public hint of how Xi views the issue came in 2017, when he wrote in a report to the party's 19th Congress that "we should ensure that the principle of 'one country, two systems' remains unchanged." Some observers interpreted his language as indicating a willingness to extend the status, or something like it.

Even if that doesn't occur, there are options for integration that would fall short of turning Hong Kong into just another Chinese city. It's conceivable it could formally join the People's Republic with an enhanced version of the autonomy enjoyed by some of China's more dynamic regions, such as the special economic zone that encompasses Shenzhen. That outcome would be viewed by many in Hong Kong as a disaster. The privileges of SEZs relate, as the name suggests, to business and trade rather than democracy or civil rights.

Some critics of the protesters warn that unless unrest subsides, it's not even certain the existing setup will reach its 50th anniversary without major change. "If today's situation persists, maybe we won't even make it to 2047," says Ronny Tong, a lawyer and member of the Executive Council, which advises the Hong Kong government. If the local authorities can't bring the situation under control, "one country, two systems could really be at risk," he says.

While the confrontation has turned entirely on political issues, it's important to remember the frustrations of Hong Kong's young people are broader. They live in one of the most unequal places on earth, with an astonishing proportion of the economy controlled by a few billionaires who dominate real estate, retail, utilities, telecommunications, and critical industries. Measured by the Gini index, a common tool for summarizing inequality, Hong Kong looks more like sub-Saharan Africa than East Asia, with an income distribution significantly more skewed than those of Nigeria or Mozambique. Housing is dearer than in New York, London, or Singapore, yet the minimum wage is equivalent to about $4.75 an hour.

Indeed, one of the ironies of Hong Kong's post-handover period is that, viewed strictly from the perspective of business, its capitalist values may now find their clearest expression across the border, in Shenzhen, Guangzhou, and Shanghai. Billionaires are a very poor guide to ordinary citizens' lived experience, but in this case they're probably instructive. The average age of mainland China's five richest people is about 55; in Hong Kong, it's almost 87.

What made Hong Kong special under the British, and gave it the uniqueness its citizens fear losing, was more than Western-style liberties. It was opportunity—and the belief that for those willing to work hard, there was nowhere better to dream big. It's hard to make that case now. China's leaders and Hong Kong's protesters are never going to agree on politics. But if Beijing wants to find a way to drain their anger, it might start there. Ⓑ *—With Blake Schmidt, Natalie Lung, and Sheryl Tian Tong Lee*

But Is It *Good*?

Consumer-products giant Unilever aims to imbue each of its brands with a sense of purpose

As chief executive officer of Unilever, Paul Polman transformed the sprawling maker of Dove soap, Knorr stock cubes, Cif cleaning sprays, and Hellmann's mayonnaise into a test bed for the idea that companies can benefit from affiliation with social causes, such as improved hygiene or better access to toilets. While investors and analysts were initially skeptical, Polman was ultimately lauded for redefining the corporation as something more benign than a purely profit-driven enterprise, even as margins edged up slightly from the midteens to almost 20% during his tenure. Now, Alan Jope, the Scotsman who succeeded Polman in January, is amping up the strategy.

To set Unilever apart and combat what Jope calls "woke-washing"—the social responsibility equivalent of bogus "greenwashing" campaigns aimed at

Edited by James E. Ellis and David Rocks appearing environmentally conscious—he's raising the volume on the message. In an effort to transform hundreds of products such as Tresemmé shampoo and Marmite yeast spread into beacons of justice and empowerment, Jope has ordered executives to assign a clear, specific mission to each. "We are committed to all our brands having a purpose—we will give them time to identify what this is and how they can take meaningful action," he says.

The new CEO says that aligning each brand with a specific concern, rather than a wider abstraction of purpose at the parent company, will reinforce credibility. The 28 brands Unilever counts as "purposeful" contributed almost two-thirds of revenue and drove 75% of sales growth in the first half of 2019. These include Dove, which focuses on improving women's self-esteem and has been celebrated for its "Real Beauty" campaign showcasing female bodies of all shapes and sizes; Lifebuoy soap, which teaches children hand-washing techniques in emerging economies to reduce the 5 million premature deaths a year from infectious diseases related to poor hygiene; and Ben & Jerry's ice cream, which seeks to raise awareness about climate change with its Baked Alaska flavor. "If a brand can't find its purpose," Jope says, "we may sell it."

Shoppers are turning increasingly to products with images that extend beyond generating shareholder value, and shareholders are asking companies to consider their wider raison d'être. Brand consultant Kantar expects purposeful brands to grow at twice the rate of those without any higher-order societal aim. In January, Larry Fink, the CEO of $6.5 trillion asset manager BlackRock Inc., wrote in an annual letter to business leaders that "purpose is not the sole pursuit of profits, but the animating force for achieving them." He knows the danger: With shares of companies such as Exxon Mobil Corp. and BP Plc trailing the wider market as investors have shifted toward businesses focused on renewables, BlackRock lost more than $90 billion on big oil investments over the past decade, according to the Institute for Energy Economics and Financial Analysis.

In consumer goods, a lack of purpose can foreshadow irrelevance. In February ketchup maker Kraft Heinz Co., which long championed extreme frugality at the expense of feel-good marketing (and which unsuccessfully tried to buy Unilever for $143 billion in 2017), took a $15 billion writedown on the value of has-been brands. Some of these, such as Oscar Mayer hot dogs and Velveeta processed cheese, have lost ground to new fare that's considered better for the planet, such as plant-based meat and cheese. And companies that try to invigorate old-line names with social cred can be met with ridicule if they do so clumsily. In January razor maker Gillette donated $1 million to charities that combat toxic masculinity, but an ad unveiling the campaign has been panned for leaning on lazy stereotypes and commercializing the #MeToo movement; it's gotten almost twice as much negative feedback on YouTube as positive. While many people buy goods simply to fill a need, about 60% of consumers—particularly millennials—"really care about the product's wider mission, such as shampoos engineered to require less water," and are willing to pay a premium, says London Business School professor Alex Edmans, who aggregated a series of consumer studies to come to his conclusions.

Unilever has even had problems with brands that it holds up as exemplary. Two years ago, Dove was excoriated for introducing shower gel bottles in shapes that caricatured female bodies. Shortly thereafter, the brand came under fire for an ad depicting a black woman morphing into a white one. The company had intended it as a celebration of diversity, but many observers deemed it racist. Hellmann's was derided as a bully in 2014 when Unilever sued the maker of an eggless variant called Just Mayo, accusing it of false advertising—a blemish the company is seeking to soothe with a campaign in Canada aimed at tackling food waste. And Fair & Lovely, a line of skin-whitening creams sold in India, has been criticized for suggesting that fairer complexions are more desirable.

While sales grew about 25% to €51 billion ($57 billion) during Polman's decade at the helm, Unilever's profitability has lagged behind that of rival Procter & Gamble Co. Jope says his campaign can supercharge growth and boost profits, asserting that a stable of purposeful brands will resonate with shoppers and offset declining demand ▶

● Jope

Doing Well While Doing Good

Change in selected consumer companies' metrics, 2009-18, yearend

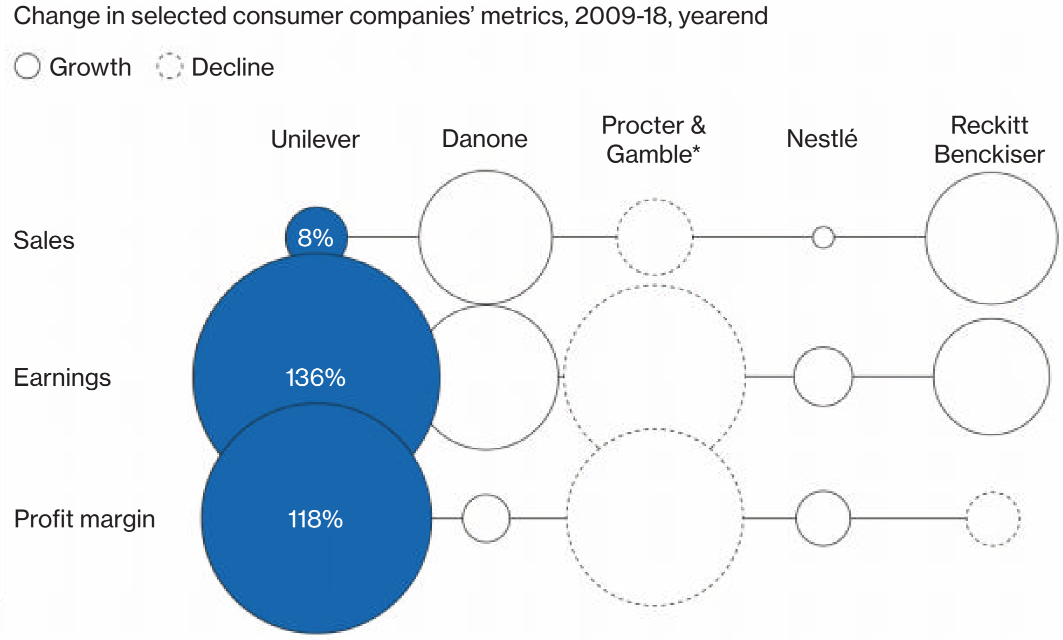


PHOTO ILLUSTRATION BY 731; BLOOMBERG (1); GETTY IMAGES (3). JOPE: JASON ALDEN/BLOOMBERG. *THROUGH FISCAL 2019, WHICH ENDED JUNE 30. DATA: COMPILED BY BLOOMBERG

◀ for run-of-the-mill products such as Breyer's ice cream, which has fallen behind low-calorie upstarts like Halo Top. "Our whole business is about staying relevant," Jope says. "If what people want is more environmentally sound products, remaining relevant requires us to respond to that." —*Thomas Buckley*

THE BOTTOM LINE CEO Jope says aligning each of Unilever's hundreds of brands with a specific mission will reinforce the company's credibility in its efforts to effect change.

France May Take The Cuffs Off Its TVs

● Archaic broadcasting rules could be eased, leveling the field with web rivals and bringing millions of additional euros in ad revenue

France has long been known for having some heavy-handed regulations, whether requiring many stores to stay closed on Sunday or allowing judges to veto children's names. But some of the most arcane have involved the nation's television business. National broadcasters such as TF1 and M6 aren't allowed to show movies on Wednesday, Friday, and Saturday during prime time and can't run ads for books, movies, or sales at retailers. And unlike broadcasters in all other European markets, according to Bank of America Merrill Lynch, they aren't even allowed to tailor ads to the location or demographics of their viewers, a routine practice in the digital age.

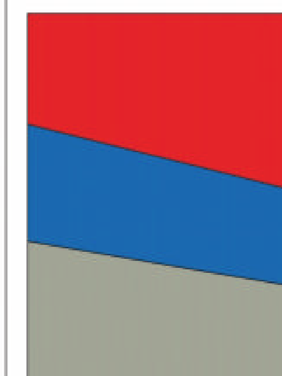
Some rules were designed in part to protect French cinema and keep people going to movie theaters. The country—host of the Cannes Film Festival, known for its highbrow auteur movies—prides itself on its *exception culturelle*. Other restrictions were to buttress the nation's regional media operators.

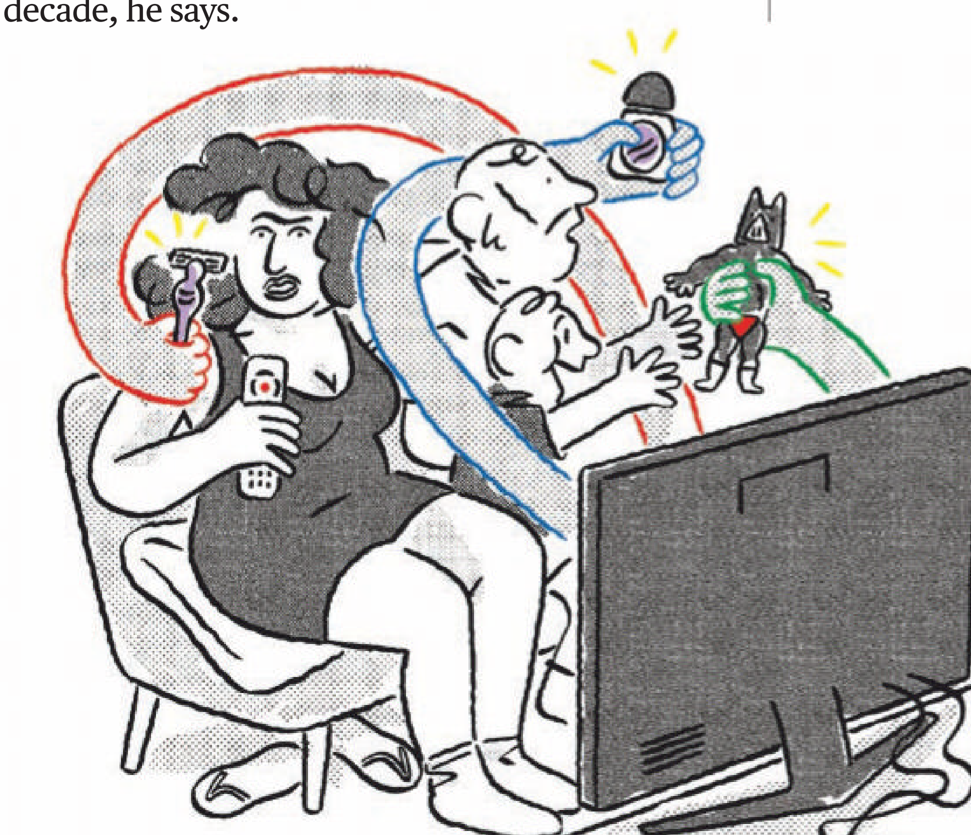
Now the government of President Emmanuel Macron soon will consider overhauling the rules, which date to the late 1980s, when France had only six TV channels—at least three of them state-owned. The regulations are less relevant now that French broadcasters are competing with Alphabet Inc.'s Google, Netflix Inc., and other digital interlopers, which aren't covered by the restrictions and have made significant inroads. Netflix has garnered more than 5 million subscribers less than five years after it was introduced in France. "These archaic rules had the goal to protect some of our industries, like French cinema," says Isabelle Vignon, who runs marketing and communications at SNPTV, a union for TV advertising. "But it makes no sense nowadays. Consumer habits have changed."

Broadcasters could see an annual windfall of as much as €200 million ($224 million) in extra TV ad revenue should targeted advertising be allowed, according to a study commissioned by SNPTV. If movie and promotional retail ads were authorized, an additional €160 million a year would come in, says Publicis Media. That could boost overall revenue for the industry, which took in €3.43 billion last year, by 11%. "Traditional broadcasters consider it's a necessary modernization and would level the playing field with U.S. web giants, since these digital players can do targeted advertising," says Philippe Nouchi, media and advertising analyst at Publicis Media.

Media executives have thrown their weight behind loosening the rules. It "represents an economic opportunity," Alain Weill, chief executive officer of Altice Europe NV and founder of the BFM TV channel, wrote in a white paper in June. "If carried out in the right way," the reform will allow broadcasters to better defend themselves in a "market that's been totally upended."

The measure is scheduled to be discussed by the French cabinet starting in October and then in Parliament early next year. Final passage could happen by the end of 2020. "This reform has the potential to be a big bang for the sector," says Bank of America Merrill Lynch analyst Adrien de Saint Hilaire. "But it all depends on whether it does happen and, if it does, on how far it goes." Talks about such reforms have been going on for at least a decade, he says.





Macron first announced his intentions to shake up the TV industry in 2017, his first year in office, but the yellow vest social and economic movement, which began last fall, pushed parliamentary consideration of the reforms to the back burner.

Because his party dominates Parliament, strong opposition is unlikely. But lawmakers may have to take into account opposition from regional newspapers and radio stations, which fear allowing national broadcasters to do targeted advertising would eat into their business. "We are opposed to this deregulation," says Bruno Hocquart de Turtot, executive director for Alliance de la Presse d'Information Générale, the union representing national and regional press. "This liberalization is meant to be helping free-to-air broadcasters against U.S. web giants, but it can't be done against the interest of the press." —*Angelina Rascouet, with Helene Fouquet*

THE BOTTOM LINE France has strong restrictions on its broadcasters. Now, as U.S. web giants steal TV advertising, President Macron is ready to scrap some of the constraints.

Mining Gold From China's Fanboys

● Game streamer DouYu profits big from gifts to its stars. But can that business model last?

Cameras flashed and fans screamed as Liu Mou stepped into the spotlight on a sweltering summer evening. In the industrial heartland city of Wuhan, tens of thousands of spectators packed the waterside strip that bore witness to Chairman Mao Zedong's iconic swims across the Yangtze River half a century ago. In unison, the mob roared "hubby"—the moniker jokingly bestowed on many male celebrities in China—and Liu, 28, waved back with a smirk. The crowd was mostly men.

Their adulation was a testament to Liu's status as one of the brightest stars among China's gamers. He and his fans were on the waterfront for a carnival hosted by one of the nation's largest video game streaming companies, DouYu International Holdings Ltd. Liu, its biggest celebrity, spends at least four hours a day playing *League of Legends* and other popular titles, streamed to his more than 10 million subscribers and followers.

DouYu is counting on stars like Liu to generate revenue via virtual gifts given by fans, potentially showing tech giants such as Facebook Inc. and Amazon.com Inc. a new way to monetize game streaming beyond ads and sponsorships. Liu's fans lavish him with virtual fish balls and rockets, ranging from a few pennies to $300 per item. He and DouYu split the money in half. Analysts predict the industry could grow to be a $3.5 billion business in China in 2020, from $2 billion in 2018. "I choose DouYu because the platform has accumulated a huge base of *League of Legends* fans," says Liu, better known as PDD. "So far our success is built upon each other, and we complement each other."

Twitch, acquired by Amazon for almost $1 billion in 2014, is the No. 1 U.S. game streaming platform. Its absence in China—the government has banned it—has set local startups vying for dominance there.

Liu plays exclusively on DouYu, which went public in New York in July; 91% of the company's revenue came from virtual gifts in the quarter ended in March. He alone may have contributed as much as 3% of DouYu's revenue in the second quarter, says Aequitas Research's Ke Yan, who analyzed statistics from xiaohulu.com, which monitors virtual gift spending across Chinese streaming services.

By putting in 15-hour days training as a teen, Liu became captain of Invictus Gaming, one of China's top e-sports clubs—it won the country its first *League of Legends* world championship last year. After retiring in 2014, Liu began to stream his gaming sessions full time. Now he lives in a 3,200-square-foot Shanghai apartment, where he broadcasts from.

Platforms such as DouYu pay Liu and other top gamers at least $4 million a year to retain them exclusively, he says. That's in addition to his share of the money from followers' virtual gifts.

The high cost of marketing and retaining performers has caused investors to question the business model of China's game streamers. Shares of DouYu archrival Huya—which has fewer stars but higher profit margins—trade at only half their 2018 peak. DouYu founder Chen Shaojie, 35, says its advantage over Huya is a bigger user base and wider game offerings, which in time will help it generate more revenue. "Top streamers are extremely valuable for us," says Chen. "After we're public [longer], we'll become more experienced with monetization." —*Zheping Huang*

THE BOTTOM LINE Amazon's Twitch video game streaming service is barred in China. That's left local platforms to develop the market, often bypassing the advertising-driven model in the U.S.

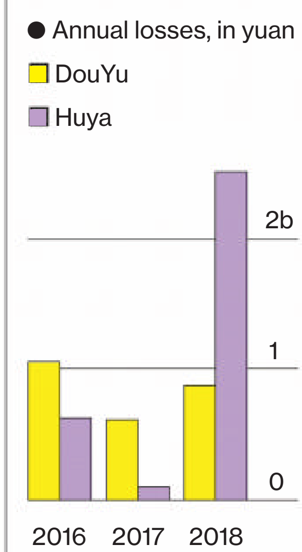


ILLUSTRATION BY GWENDAL LE BEC. *PROJECTED. DATA: ZENITH; COMPILED BY BLOOMBERG

So Far, the Techlash Has Only Made Facebook *Stronger*

The company's privacy settlement with the FTC gave it cover on antitrust and other issues

PHOTO ILLUSTRATION BY 731; PHOTOS: GETTY IMAGES (2)

When Facebook Inc. agreed to settle a privacy complaint with the U.S. Federal Trade Commission for $5 billion last month, both parties acted like the news was a big deal. The FTC noted it was a record federal penalty, while the company released a video of Chief Executive Officer Mark Zuckerberg solemnly telling employees a new era of regulatory compliance was at hand. Leaving aside that the fine was hardly a serious blow—last year alone, Facebook's profit topped $22 billion—the settlement is great news for Zuckerberg in another way. The fine print will likely help Facebook cement its dominant position in social media advertising, just as the FTC begins an antitrust investigation of the company.

Facebook's most valuable resource is its data. Every click, comment, and even scroll from its 2.5 billion users is incorporated into its ideas about what people like and want. The company combines that knowledge with information ▶

Edited by Jeff Muskus

◀ from outside sources, tracking people as they browse the open web and offline through their credit card purchases and phone GPS signals, then uses that data to precisely target ads for Facebook and its other apps: Instagram, Messenger, and WhatsApp. This unimaginable mountain of information is the bedrock of Facebook's $70 billion-a-year ad business.

The FTC settlement put no restrictions on how much data Facebook can collect or analyze, as long as users consent. Anytime the personal information of more than 500 users is shared with a third party without those users explicitly choosing to move it, Facebook and Zuckerberg can be held liable for the violation. The company is likely to interpret that law in the most beneficial way possible, arguing that it's legally required to keep its valuable data to itself.

"I can't believe Facebook didn't pay more for this," Alex Stamos, a former Facebook executive, said on Twitter after the settlement was announced. He imagined the FTC demanding that Amazon.com Inc. always offer Amazon-branded products at lower prices than other merchants on its marketplace: CEO Jeff Bezos "would leap across the table with a $10B check and a massive grin," he wrote. Facebook declined to comment for this story. FTC Chairman Joseph Simons says he doesn't believe Facebook will put undue requirements on developers that also compete with it, but that if it does, "a huge red flag would go up and potentially start another antitrust investigation."

Facebook used to want to share its data. A few years ago the company relied on outside developers to build apps (*FarmVille*, Spotify) that would weave into its service and give users more reasons to log in. Those developers, meanwhile, could use the social network's data fire hose to learn and grow faster. Facebook mostly shut down those partnerships in 2015, but it has little control over the vast troves of user information it had handed over.

That came back to bite it with last year's Cambridge Analytica scandal, which prompted the FTC investigation. A developer of a Facebook personality quiz sold the data he collected to Cambridge, a political consultant working to help right-wing politicians analyze and sway voters.

Facebook has since moved on to new growth strategies that rely more on its own network than third parties. It's erased the once-vaunted independence of its other properties and chased off those companies' founders. Now it plans on linking its core app and other services so that, say, Instagram users can message WhatsApp users in a new mega-network.

As the FTC punishes Facebook for doing things it no longer does, the agency is also helping ensure no other company can get as big. Facebook's data collection creates a "barrier to entry for other businesses," said Margrethe Vestager, European Commissioner for Competition, in an October interview with the *Privacy Advisor*. She proposed a way to share big data sets with smaller businesses.

The FTC's antitrust investigation, which it notified the company about in June, is focusing so far on whether Facebook acquired competitors like Instagram and WhatsApp just to remove them from the market. Several presidential candidates and other politicians have called for the company to be broken up into smaller pieces. While the government weighs its options, Facebook is steadily making a potential breakup much tougher.

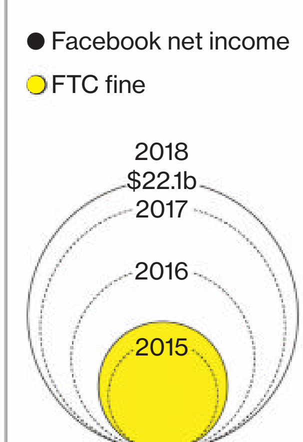
For example, Zuckerberg has decided to combine all the messaging networks so people can communicate securely among them. He's said the move is going to help the company provide users with encryption—particularly with the impregnable WhatsApp system—that not even it can crack. He also wants to change the branding of WhatsApp and Instagram to "WhatsApp from Facebook" and "Instagram from Facebook," supposedly to boost transparency, according to his public-relations team.

Zuckerberg has said publicly that these moves must be made to protect privacy. Within the company, however, that isn't the main reason he's giving for the changes, say people familiar with the matter. He's combining the messaging apps in the hopes that the move will improve people's view of Facebook more than it taints the other brands by association. Another move in this vein, the people say: Instagram and WhatsApp employees will soon have to use @fb.com email addresses.

Integrating the products may prove a disincentive for strong action on antitrust. "For any anticompetitive behavior they want to get away with, they're going to say, 'The FTC made us,'" says Matt Stoller, a fellow at the Open Markets Institute. "That's what they bought for $5 billion."

The tests keep coming. On Aug. 13, Facebook confirmed a Bloomberg News report that it's been paying hundreds of outside contractors to transcribe clips of audio from users of its services. (The company said it had stopped a week earlier.) Ireland's Data Protection Commission said on Aug. 14 that it's "seeking detailed information from Facebook." —*Sarah Frier*

THE BOTTOM LINE Facebook is under the spotlight of another FTC investigation, but based on the results of the last one, it doesn't seem to have much to worry about.



Intel's Foil Finally Has a Free Shot

● Back from the brink, AMD is taking advantage of its larger rival's stumbles

▲ Su

For 50 years now, Intel Corp. has had Advanced Micro Devices Inc. to kick around. AMD has seen good eras, but it has remained an afterthought in the semiconductor business, and less than a decade ago seemed so adrift that analysts predicted it would be acquired or simply go out of business. Today, things are starting to look different.

In its five years under Chief Executive Officer Lisa Su, AMD has scraped its way back to relevance. It has stabilized and improved finances, spent the money needed to develop chips that can outmatch Intel's, and sold them to major clients who might have laughed it out of the building a few years ago. Those heavyweights include the cloud arms of Amazon.com, Microsoft, and (as of Aug. 8) Google, the trifecta of cloud computing. The big cloud providers are especially desperate for an alternative to Intel's pricey server chips. "We're really excited to have AMD as an option for our customers," says Matt Garman, who heads infrastructure for Amazon's cloud business. "For a long time, they weren't."

AMD's value proposition used to begin and end with price—being a cheaper Brand X. Arguably its greatest disadvantage was Intel's ability to steadily refine its manufacturing production techniques, improving its chips' capacity and performance while lowering their costs. But Intel botched the rollout of its most advanced technology: processors made up of transistors just 10 nanometers thick, 7,500 times thinner than a human hair. Years of delays have handed AMD a real chance to challenge Intel in the lucrative server-chips business, a market in which a single chip can cost close to $18,000. AMD said on Aug. 7 that it has 7-nanometer server chips ready to order and that Google is already using them. Intel has delayed its older 10nm shipments until sometime next year.

"I like to keep my promises," says Su. Lee Rusk, an AMD engineering project leader who's been with the company for more than three decades, says of his team's beating Intel to market with smaller transistors, "It's just kind of mind-blowing."

Intel says it's been delayed because incorporating all its best innovations into the chips has taken longer than expected, and it's confident its designs will help maintain its market share. "It's natural market behavior to have customers always look at what their options are," says Lisa Spelman, ▶

PHOTOGRAPH BY JESSICA CHOU FOR BLOOMBERG BUSINESSWEEK. DATA: COMPILED BY BLOOMBERG

◀ a vice president of Intel's Xeon server business.

When Su, an electrical engineer by training, became the first woman to run a chip company in 2014, she was AMD's fourth CEO in a decade. The company had lost money in six of those 10 years, and with glitchy chips that were weak imitations of Intel's, its share of the server-chip market had gone from 26.2% to less than 1%. Today, it's still just 3.4% while Intel has pretty much all the rest, according to Mercury Research, but AMD's share is growing, and its share price has increased more than ninefold since Su took over, to about $32. "It's all about earning credibility. Every single day," Su says. Now that the chips have been redesigned from the ground up, she adds, "We are structurally in a better place."

Born in Taiwan, Su graduated from the Bronx High School of Science in New York and got her Ph.D. from MIT. After stints at such places as Texas Instruments Inc. and IBM Corp., she arrived at AMD in 2012 as a senior vice president in charge of much of the company, and helped turn things around by getting AMD chips in Microsoft's Xbox One and Sony's PlayStation 4. As CEO, she's mostly kept her head down and focused on customer demands, compared with predecessors known for splashy product launches that often couldn't deliver on their promises or their jabs at Intel. (The long-standing industry joke was that AMD stands for "Almost Made a Difference.")

Su says she's not involved directly in the engineering of AMD's products. Yet when AMD was developing the Zen chip design at the heart of its current processors, she'd turn up in the lab to review test results. She also made the decision to move production of her best chips to the factories of Taiwan Semiconductor Manufacturing Co., which exclusively builds chips for other companies instead of designing and selling its own.

The CEO and her team say they aren't taking their momentary advantage for granted, or fooling themselves about the challenges ahead—like that other 96.6% of the server-chip market. "Judge me on what franchise I build five years from now," Su says. Intel remains roughly seven times AMD's market value, and its server unit alone last year recorded a profit of $11 billion, close to double AMD's annual revenue. Still, Su says that imbalance in resources and reach is motivating, not overwhelming. "I expect our competition is going to continue to be very formidable," she says. "But yeah, I think we've earned a seat at that table." —*Ian King*

THE BOTTOM LINE AMD isn't going to unseat Intel in the server-chip business anytime soon, but Intel's stumbles and CEO Su's steady hand have made it a credible alternative for big customers.

When Midwest Startups Sell, Their Hometowns Often Lose

● Cities keep handing local companies tax incentives even after they've cashed in, shortchanging schools

City officials in Columbus, Ohio, could hardly believe their luck. In less than a decade, $850,000 worth of state dollars for local startup CoverMyMeds appeared to have paid off many times over. Drug distribution giant McKesson Corp. acquired the company for $1.3 billion, a state record. At each stage of development, CoverMyMeds, which makes software that automates insurance approvals for prescription drugs and sells it to doctors and pharmacists, had been nurtured by public money. The deal seemed to vindicate the local boosters who'd steered millions of dollars' worth of public funds into tax incentives and other support for Ohio's fledgling startup scene.

That was two years ago. Today, roughly 1,000 of Columbus's 4,300 public schoolteachers are spending part of their summer vacation near CoverMyMeds' downtown headquarters, protesting the property tax abatements that followed. Since McKesson acquired CoverMyMeds in 2017, it's

ILLUSTRATION BY TOMI UM

received $55 million more in tax breaks from the city, even as Columbus was slashing its education budget and programs to battle mounting deficits. The teachers say that their politicians shouldn't have taken the company's threats to move CoverMyMeds and its 1,000 employees to the suburbs so seriously, and that McKesson, which reports about $2 billion in profit most years, can pay its own way.

"They want to feel like they are good neighbors," says John Coneglio, president of the teachers union. "Well, what's best for your community is to pay your taxes." CoverMyMeds said in a statement that the undeveloped land where its new offices will be built had generated only $32,821 for the school district and will now bring in $649,000 a year. But under the deal, the school district, Ohio's largest, must wait 15 years before the company pays its full $3.6 million annual tax bill.

Development officials in Columbus say tax incentives are critical to keeping companies such as CoverMyMeds, which are "inherently portable," according to the city's development director, Steve Schoeny. Yet this spring, McKesson moved its own headquarters from San Francisco to Irving, Texas, without getting a dime to do so. (It was offered incentives earlier in its development in Texas but didn't meet the requirements needed to collect them.) Pittsburgh hasn't given MModal, its homegrown maker of transcription software, any more tax breaks since 3M Co. bought the company for $1 billion in December. "Anyone that has that kind of money will always say, 'We'll just go somewhere else,'" Coneglio says. "Well, you don't know if you don't say no. What about saying no?"

Saying no has proven a tough proposition for cities throughout the Midwest. While tech startups are far from the only businesses seeking tax incentives wherever they can, their success almost always means an exit that siphons money away from the region to venture investors elsewhere, even as the new parent company demands more subsidies from the startup's hometown. "It's a horrible irony," says John Austin, director of the Michigan Economic Center, who says only early-stage startups should benefit from public funds. "We don't end up the home of the money and control. You are subsidizing an entity that's going to do what it wants anyway—and giving away dollars that could educate your local population to a higher level or build your transportation system to make the region more vibrant."

The protests in Columbus against CoverMyMeds may represent a new front amid a wave of teachers strikes, which until now haven't called out a homegrown startup by name. Educators in particular are pressing the issue, faced with crumbling schools and stagnant pay. In Indiana, where teacher salaries have fallen and schools are struggling to close funding gaps, the capital city of Indianapolis has given ExactTarget, a software company that automates email marketing, some $60 million in tax abatements to stick around: $43 million prior to its $2.5 billion acquisition by Salesforce.com Inc. six years ago, and $18 million since.

"The abatements in Indiana are a killer," says Jennifer McCormick, Indiana's schools superintendent, adding that Salesforce's $1.7 million in grants to the Indianapolis Public Schools doesn't make up for the millions more the district might have seen had the company just paid its taxes. Salesforce, which is based in San Francisco and has a market value of more than $120 billion, declined to comment on whether the incentives were determinative.

City officials aren't crazy to think valuable startups might move elsewhere. St. Louis still rues letting Square, the digital credit processing company, move to San Francisco in 2009 without a fight. "They couldn't find enough local talent here," says Cliff Holekamp, co-founder of Cultivation Capital, a local venture firm. "There's this huge sense that we totally missed the boat." (It might also have had something to do with co-founder Jack Dorsey, who was raised in St. Louis, living in San Francisco.) Since Square's $3 billion initial public offering in 2015, St. Louis has given it about $5 million, and Square has hired about 500 people in the area. Square declined to comment on whether the incentives were determinative.

Instead of giving established startups incentives, public dollars are best used investing in companies' earliest stages, says Paul Krutko, president of Ann Arbor Spark, the region's economic development entity. His team gave local startup Duo Security Inc. $3 million for an office space expansion before, not after, Cisco Systems Inc. acquired it for $2.4 billion last year. "It's about gardening vs. big-game hunting," Krutko says. "We believe in gardening."

In Columbus, the school district hired a private contractor over the summer to replace striking teachers, who demanded better pay as well as influence over tax abatements such as the one CoverMyMeds got after it sold. This would be unprecedented power for a teachers union. "We are always being told there is no money for what we need as teachers," says Coneglio. "We want a say in the process so next time there is a big deal worked out behind closed doors, what the schools and teachers need comes first, not the needs of another wealthy corporation." *—Mya Frazier*

THE BOTTOM LINE Startups notching big exits have been able to get more tax breaks after they've sold, often at the expense of schools and other public-service budgets.

"Anyone that has that kind of money will always say, 'We'll just go somewhere else.' Well, you don't know if you don't say no. What about saying no?"

3

FINANCE

The Lasting Burden Of Student Debt

Paying off the $1.6 trillion bill for higher education could take U.S. borrowers a lifetime

The Wilsons are hardly the kind of couple you'd expect to find locked in a latter-day debtors' prison. Jon works as a manager for an online transcription business. Vicky is a digital marketer for a semiconductor company. They're both 37, and together the Austin couple makes more than $150,000 annually.

The Wilsons owe $260,000 in student loans for college and a pair of master's degrees for Vicky. Even worse, though they're meeting their $1,300 in required monthly payments, their balance has remained roughly the same over the past year because Vicky's outlay doesn't cover all the interest on her loans. For all their education and career success, the Wilsons can't envision repaying their school debts—ever. And forget about buying a home or opening a college fund for their 3-year-old son. "We don't even think about it," Jon says.

It's no secret that America's young adults will take a long time to pay off their student loans. But few know that this generation of borrowers is chipping away at their debt so slowly that some may not escape it until they're dead.

Edited by
Pat Regnier

That's the grim assessment of a new *Bloomberg Businessweek* analysis, which found that U.S. student loan borrowers as a group are paying down about 1% of their federal debt every year. It's as if a former student were reducing the balance of a typical $30,000 college loan by only $300 annually. At that rate, it's almost unthinkable how long it would take to repay the government: a century.

Of course, many borrowers will pay off their loans much faster, especially as wages grow over time. The low annual paydown reflects the significant number who are struggling, as well as a group of borrowers—including Vicky Wilson—in a program that can lower payments and may ultimately result in their debt being forgiven in 25 years or less.

The Bloomberg analysis relies on data from the government and ratings firm DBRS Inc. Bloomberg checked its conclusion with the U.S. Department of Education, as well as with economists who study student loans and with former government officials. All agreed with the magazine's calculations.

Secretary of Education Betsy DeVos "is very concerned about the ballooning student loan portfolio and the implications for students and taxpayers," says spokeswoman Elizabeth Hill. The agency is improving servicing and simplifying repayment plans but can't solve the crisis on its own, she says.

The glacial payback rate alarms experts of all political persuasions. It also helps explain why the burden of the nation's $1.6 trillion in student loans—almost all of which is owed to the federal government—has become a major issue in the U.S. presidential campaign. Senator Bernie Sanders, an independent from Vermont, and Senator Elizabeth Warren, a Massachusetts Democrat, are both proposing massive student loan forgiveness.

Another Democratic candidate, 37-year-old Pete Buttigieg, the mayor of South Bend, Ind., has spoken of the roughly $130,000 of college debt he and his husband still hold. "Is the only real solution debt forgiveness or death?" asks Michael Pierce, a former regulator who oversaw student loans at the federal Consumer Financial Protection Bureau. "That's where we are."

Progressives propose a bailout because tuition has far outpaced inflation while household wages have stagnated. Conservatives say the government has created the crisis by promoting out-of-control spending by colleges fueled by no-holds-barred borrowing by families—a reckoning that's long been deferred. Payments on student loans "are easy to put off," says Jason Delisle, a former Republican analyst for the U.S. Senate Budget Committee.

Generation-spanning debt marks a sharp break from the roots of the current student-lending

◀ The Wilsons at home in Austin

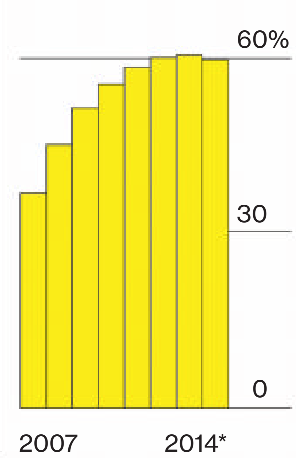
program, part of President Lyndon Johnson's 1960s Great Society initiative. The plan typically called for 120 monthly payments of the same amount, with about 10% of the borrowed amount paid down every year. Borrowers generally repaid their loans within a dozen years.

The repayment rate began to slow in the mid-1990s, but it wasn't until 2012 that the student loan program crossed an alarming threshold, according to a 2015 study by Adam Looney, then a Treasury Department economist, and Constantine Yannelis, now a finance professor at the University of Chicago Booth School of Business.

For the first time, a majority of debtors who'd been in repayment for two years ended the second year owing more than they borrowed. Their lack of progress in paying back their loans dragged down the statistics for their entire cohort: For every $1 the class of 2010 had borrowed, members owed $1.02 by 2012. The share of borrowers whose balances rose after two years of bills—53%—was 10 times the proportion of similar borrowers who'd entered repayment in 1980.

In part, the government is encouraging borrowers to stretch out their payments through programs that can lead to loan forgiveness. In 2011, President Barack Obama's administration began urging more of them to make use of government plans that allow them to make monthly payments based on how much they earn, rather than what they owe. Outlays could be as little as 10% of income—or even zero, for those with especially low incomes. Ultimately, the loans could be forgiven in as little as 20 years. The government could wipe ▶

● Percentage of federal student loan borrowers whose balances rose in the first year of their repayment period



PHOTOGRAPH BY SARAH WILSON FOR BLOOMBERG BUSINESSWEEK. ILLUSTRATION BY EVA CREMERS. *YEARS REPRESENT WHEN BORROWERS ENTERED REPAYMENT; BASED ON A TWO-YEAR AVERAGE WITH PRIOR YEAR. DATA: U.S. DEPARTMENT OF EDUCATION; FEDERAL RESERVE

◀ away loans held by teachers, firefighters, and other public-service workers in 10 years.

The promotion of income-based repayment plans led to a surge in participation. About 8 million people are in such arrangements. The average borrower who enrolled in 2017 avoided payments of $327 a month on $50,743 in debt. As more people reduced their monthly payments, delinquencies and defaults fell. These plans have contributed to slower repayments and rising balances. (Many borrowers in these plans may not end up having their debt erased because of paperwork errors that can cause people to drop out of the program. Others may get raises that enable them to pay off their debt.)

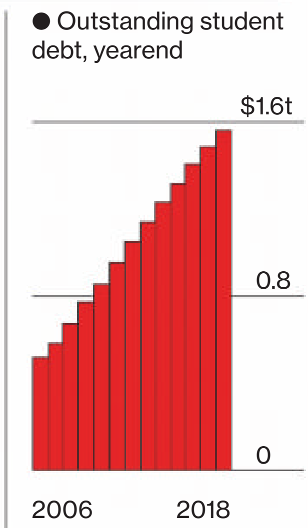
Looney, the former Treasury economist, says it's particularly alarming that former students are stretching out payments now. Although the recovery from the 2008 financial crisis has been slow, unemployment is at a 50-year low and the economy is in its longest expansion in history. What happens if times get tougher? "I find this all terrifying," says Looney, a senior fellow in economic studies at the Brookings Institution.

So does a thirtysomething Chicago couple, Jena Kehoe and Warren Williams. They're watching the balance of their $67,000 in federal loans rise by at least $40 every month, even while Kehoe shells out the required $200 she owes.

Williams, an epileptic, can't make his payments and still afford premiums for health insurance. Kehoe borrowed for a bachelor's degree in English. Williams dropped out of a now-shuttered for-profit college after transferring from a state university. He works as a film editor, she as an editor at a publishing company. They'd like to start a family, but they're delaying having kids in part because of their debts. "It's become such an insurmountable thing," Kehoe says.

James Kvaal, a senior Obama adviser who helped craft higher education policies, says no one knows how the country will navigate its current level of education borrowing. "We are running a big experiment here: No generation before has carried student debt burdens anything like what today's students are carrying," says Kvaal, now president of the Institute for College Access & Success, a nonprofit education research and advocacy group. "There will be substantial amounts of student debt that will never be repaid." —*Shahien Nasiripour, with David Ingold*

THE BOTTOM LINE At the rate borrowers are paying down their student loans, many will see their balances linger for a long time. Some could end up having their debts forgiven.



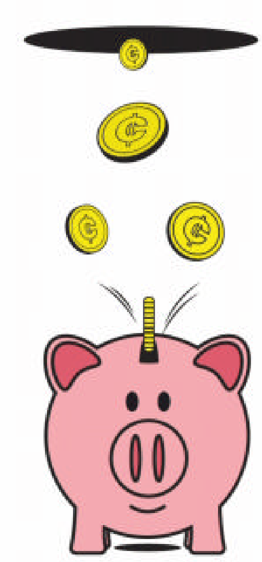
When Patience Isn't a Virtue

● As people postpone consumption, interest rates around the world are plunging

Keyairra Wright, 32, of Bridgeport, Conn., is proud of being frugal. "I have clothes since I was a first-year teacher in 2008," says Wright, who switched careers this year from teaching math to developing educational software. "There are no holes in them. They may not be the latest fashion, but they serve the functions that clothes serve."

Writ large, frugality like hers may be one explanation there's almost $16 trillion of debt worldwide with a yield of less than zero. Patience, thrift, and caution might be too much of a good thing, contributing to a glut of savings. People no longer have to be bribed with a high interest rate to save rather than consume. The yield on 30-year U.S. Treasury bonds, while not negative, fell to a record low on Aug. 14.

The question is what's changed. Is it the people or their circumstances? Negative interest rates are such a new phenomenon that speculation on their cause is wide-ranging. Former Federal Reserve Chairman Alan Greenspan and Joachim Fels, global economic adviser at Pacific Investment Management Co., a large bond-fund manager, say they're open to the possibility that people's core habits have changed, making them value consumption in the future as much as or more than consumption in the present. Economic forces may have "altered people's time



preferences," Greenspan said in a recent Bloomberg interview. He added that he expects people to eventually revert to old spending habits. "These changes won't be forever."

An alternate explanation is that circumstances, not people, have changed. For example, if people are saving more because longevity has increased, that's not a personality change. It's a rational response to the growing chance of living past 100. Another theory is that rather than being more patient, people are saving more as a precaution, because they were "scarred by the financial crisis," says Andrea Ferrero, an economist at Oxford University.

The notion that today's low interest rates are a function of oversaving seems to conflict with a rise in some types of debt, such as student loans. In reality, they're two parts of the same phenomenon, namely "secular stagnation," says Harvard economist Lawrence Summers. Excess savings have to be invested somewhere, and since there's a dearth of demand for conventional projects such as factories, some of the money finds its way into things like private financing of students' educations, he says. Rates on those loans are higher than investors can get elsewhere.

Summers and Lukasz Rachel, a senior economist at the Bank of England, attempt to sort out the factors contributing to low rates in a paper they wrote for a conference this spring at the Brookings Institution. They focus on the so-called neutral rate, which will prevail when the economy is running at its maximum noninflationary pace. They estimate that the neutral rate, stripping out inflation, for six major economies—Canada, France, Germany, Japan, the U.K., and the U.S.—fell from 3.6% in 1971 to just 0.4% in 2017.

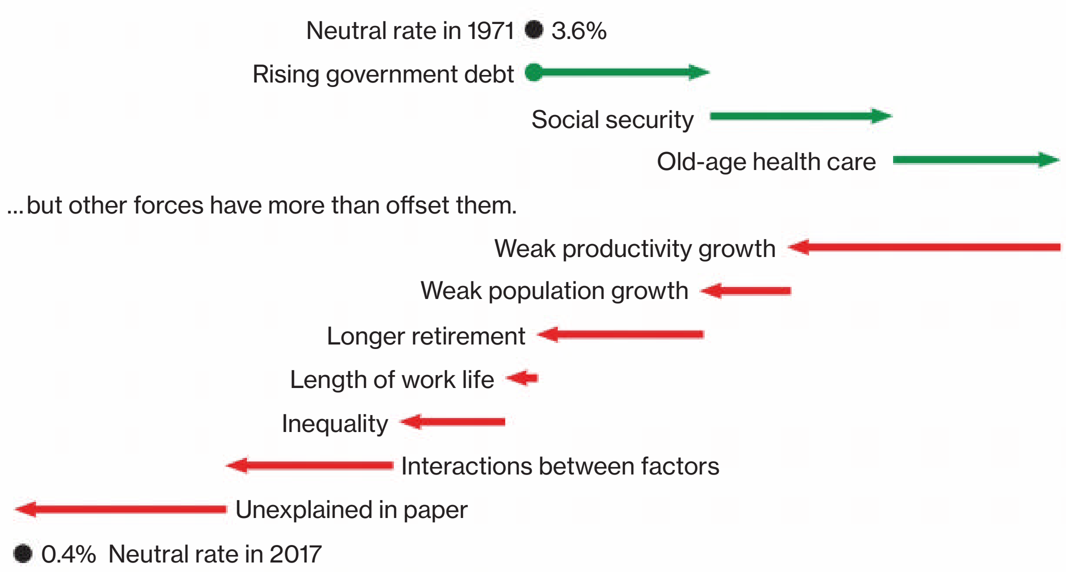
They conclude that government policy, often condemned as profligate, has actually kept advanced economies out of a chronic slump by providing a boost to spending. As low as interest rates are today, they would be even lower if not for the upward pressure from government policies, they say (chart). Government deficits and the resulting increase in borrowing push up the neutral rate by 1.2 percentage points, they estimate. Social security and old-age health-care programs in the six countries add 2.3 percentage points to the neutral rate, they calculate. Those programs transfer money to retirees, who have a higher propensity to consume rather than save their income.

But those upward pushes have been more than offset by downward forces in the private sector. The biggest is weak productivity growth, which, according to one model they use, knocks 1.8 percentage points off the neutral rate. The theory underlying that model is that when productivity is weak, the economy grows more slowly. When people foresee dimmer prospects, they save more so they don't run out of money when they're old. The estimate of 1.8 percentage points is probably on the high side, Summers says.

Weak population growth knocks more than half a percentage point off the neutral rate, Summers and Rachel calculate, mainly because there's less need for investment in housing, schools, and so on. They also theorize that economic inequality increases savings: Rich people save more because they've run out of things to buy, while people closer to the edge need to save as a cushion against greater income volatility and uncertainty. Interactions between effects is an additional 1.1 percentage points. "For example,

Pushed in Both Directions

Since the 1970s, government policies have put upward pressure on the neutral rate...



DATA: LUKASZ RACHEL AND LAWRENCE SUMMERS

aging in the world of low growth is worse than just the sum of aging and impact from growth," Rachel writes in an email. The authors leave a final 1.4 percentage points of the drop in the neutral rate unexplained. Summers says one factor there is probably a reduction in the cost of production goods, "exemplified by the fact that an iPhone has more power than the biggest computers of a generation ago."

Several commentators, including Bloomberg's Joe Weisenthal, have argued recently that negative rates are just a way of charging for keeping people's money safe. But that's nothing new. The reason that idea is being talked about now is that the price of safety is no longer masked by other factors that used to push up rates, such as strong growth in productivity, population, and prices. And, perhaps, impatience. *—Peter Coy, with Liz Capo McCormick*

THE BOTTOM LINE Low and negative interest rates may reflect a reduction in people's taste for spending now rather than later—but they may also indicate that people are worried about the future.

ILLUSTRATION BY 731

A 3,100-Acre Fixer-Upper

☆ Waterfront Brownfield w/ Rail, Port, ~Near Highway!~ *Bonus* Proximity to 1/3 of US Population! $72 million (Baltimore County)

Edited by
Cristina Lindblad

● A modern distribution hub is rising up from the ashes of old industry

Sparrows Point looked like the backdrop to a dystopian sci-fi flick when Roberto Perez first laid eyes on it in the summer of 2012. Located along Chesapeake Bay in Maryland's Baltimore County, the site housed what was once the world's biggest steel mill as well as a shipyard. Scrap metal and giant machinery littered the landscape. The soil and water were laced with toxins.

When he heard Sparrows Point's owner, RG Steel LLC, had filed for bankruptcy, Perez chartered a flight from Chicago for his team to see what could be salvaged. At a minimum, his employer, Hilco Global—a company that specializes in selling distressed assets—could strip Sparrows Point for parts and make a quick profit. Perez, who as chief executive officer of Hilco Redevelopment Partners oversees the group's real estate investment activities, had an inkling there might be other ways to wring money from a 3,100-acre spread of industrial land with its own deep-water port, 100 miles of shortline railway, and easy access to an interstate highway—all within a day's drive of about a third of the U.S. population.

Less than three months later, Hilco and an investment partner purchased Sparrows Point at auction, paying $72 million. "It was insane," Perez says. "We literally bought a city."

Fast-forward seven years, and Sparrows Point has been transformed into Tradepoint Atlantic. Amazon.com Inc. and Under Armour Inc.—the sports clothier run by Baltimore booster Kevin Plank—have leased almost 2.5 million square feet of warehouse space between them. Other tenants include FedEx, Volkswagen, and Harley-Davidson. Officials at Tradepoint are projecting that private investment will reach $2 billion by the time the operation is at full development in 2025. About 4,000 work at the site at present, counting construction crews. Total employment, a figure that includes indirect jobs generated by the project, is expected to swell to 17,000 in a few years' time.

Sparrows Point is more than a tale of revival on the doorstep of a city that Donald Trump has reviled as a "disgusting, rat and rodent infested mess." It's a counternarrative to the president's Make America Great Again formula, which privileges manufacturing above other industries. Here on the edge of Baltimore, a Rust Belt city that was hollowed out by forces of globalization, services such as e-commerce and logistics are powering a renaissance. The majority of the businesses that have set up shop at Tradepoint aren't trying to roll back decades of trade liberalization. They're thriving because of it. Trump often rails about the size of America's trade deficit. What he doesn't mention is that the U.S. consistently logs a large services surplus with the rest of the world.

"When you think about it philosophically, you had the steel mill and the conversations about the global economy impacting American industry and putting it on its knees," says Tradepoint spokesman Aaron Tomarchio. "Now this place has a global footprint, and the global economy is helping fuel the success here."

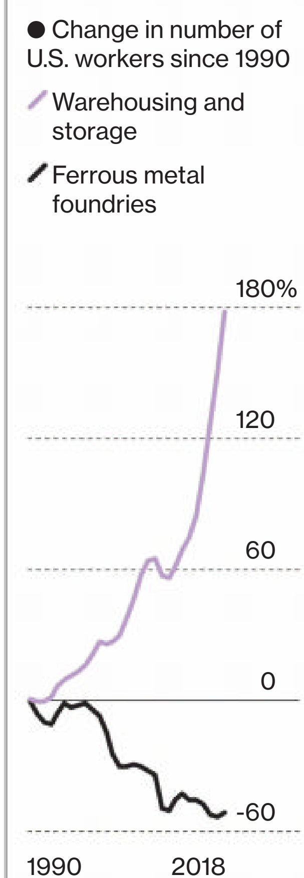
In Sparrows Point's glory days, the blast furnaces owned by Bethlehem Steel Corp. supplied metal for the Golden Gate Bridge and Empire State Building. Boats welded at the shipyard helped America win both world wars. At the peak in the 1950s, workers numbered more than 30,000. There was a company town, complete with a hospital, schools, stores, a streetcar line, and a cemetery.

Alan Thompson worked at the steel plant from 1995 until it closed in 2012. "It was flames everywhere, sparks flying, molten steel," he recalls. The hulking monster produced smog and red dust that blanketed the town, plus a tremendous amount of noise. It was "music to my ears," says Thompson, 61, whose father was born in the Bungalows section of the town and later found employment at the mill and the shipyard. "That means a lot of people are making money!"

Jerry Ernest, 68, also followed his father into the steel mill—and stayed for 43 years. It could be dangerous work. He remembers losing three colleagues, including one who tumbled into a vat of hydrochloric acid. But wages were more than decent, and there was free health care and a pension. "It was a good job," Ernest says. "No one really understood how good it was until it was gone."

The beginning of the end came in 2001, when Bethlehem Steel filed for bankruptcy, blaming competition from cheap imports, spiraling debt, and crippling pension obligations. Over the next dozen years, Sparrows Point changed hands several times. (At one point it belonged to Wilbur Ross, the veteran dealmaker whom Trump drafted to be his commerce secretary.) RG Steel completed its purchase in March 2011; the company filed for Chapter 11 protection just 13 months later. By that time the number of employees had dwindled to just 2,000.

Hilco arrived with low expectations. More than a century of steelmaking had left the area badly polluted. Refuse from the steel furnaces called slag was dumped so frequently into the Chesapeake Bay ▶



◄ Sparrows Point before Hilco bought it in 2012

PHOTOGRAPH: CAMERON DAVISON. DATA: BUREAU OF LABOR STATISTICS

◀ that today it forms most of the existing landmass at the site. A 2009 review by state authorities had revealed highly toxic levels of benzene, chromium, and zinc in the groundwater. The site "was perceived by everyone to be environmentally unsolvable or certainly too scary to get involved with," says Eric Kaup, Hilco's general counsel.

Perez persisted, knowing there would be ready buyers for the leftover raw materials and equipment. Hilco teamed up with a St. Louis, Mo., company that assumed all of the environmental liabilities. Together they paid less than one-tenth of the $810 million Sparrows Point had previously sold for.

When Hilco sold a state-of-the-art cold mill to Nucor Corp. for parts at the end of 2012, it was clear that Sparrows Point's steelmaking days were done. Much of the rest was demolished and sold as scrap. "To watch that old girl that I worked on, and generations before me, just torn down—it broke my heart," Ernest recalls.

As Perez and other Hilco executives clocked more hours at the demolition site, they began to hatch a plan. "About 18 months in, we realized that the land was actually the most valuable part of the deal," says Kaup. In 2014, Hilco and Redwood Capital Investments LLC, a firm backed by Baltimore billionaire Jim Davis, formed a joint venture and bought out Hilco's original partner in the auction. The companies reached an agreement with the Environmental Protection Agency that allowed them to start remaking Sparrows Point into a logistics hub while environmental remediation work continued. As a condition, the companies were required to place $48 million in a trust to cover the cost of the cleanup in the event the venture failed.

Sites like Sparrows Point where redevelopment is complicated by the presence of pollutants are called brownfields by the EPA. Todd Davies, CEO of Hemisphere Brownfield Group, whose company specializes in rehabilitating these type of properties, reckons that Sparrows Point may be the largest of the 450,000 or so in the U.S.

The National Brownfield Association estimates that almost $1 trillion of real estate value could be unlocked from these sites, many of which have features that are appealing to developers, including waterfront locations, transport links, and proximity to large urban populations. But many investors won't touch brownfields because of the expense and regulatory burden. Says Davies: "You have to be eminently patient to move through the process, and you have to have an appropriate risk tolerance."

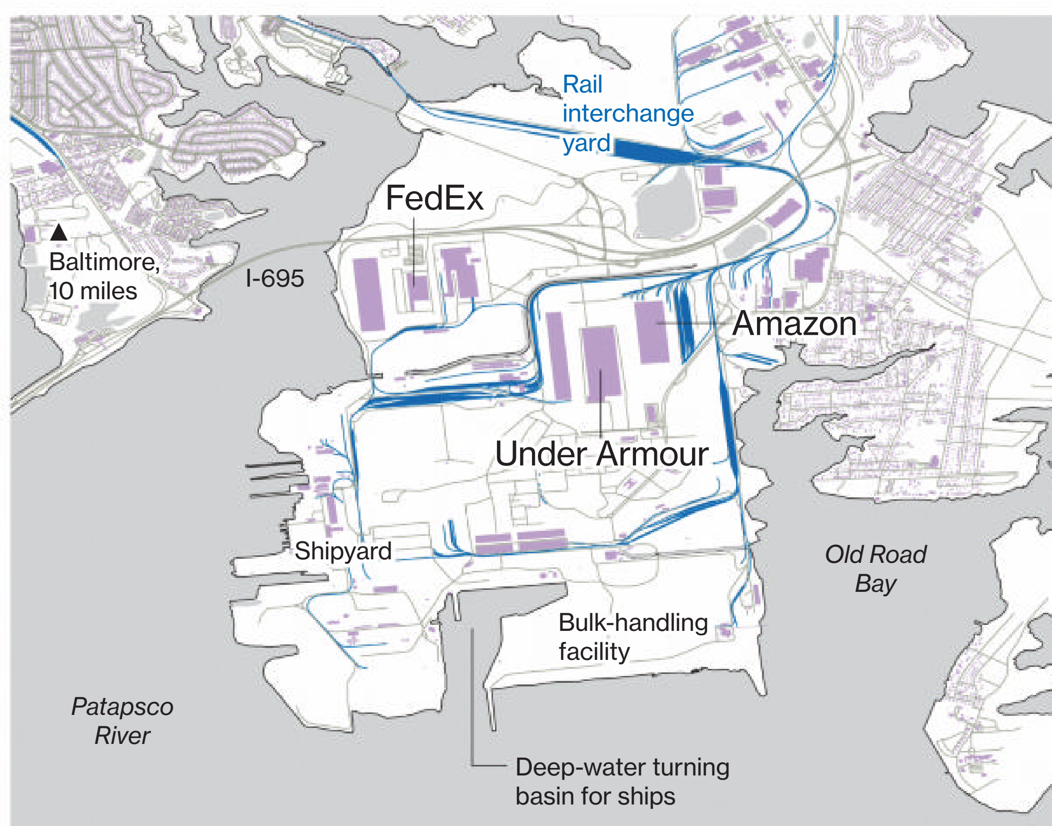
Hilco and Redwood created Tradepoint to oversee Sparrows Point's transformation. Eric Gilbert, the venture's chief development officer, recalls that area residents were initially skeptical when officials outlined their plans in town-hall-style meetings. "When we said, 'We're going to rebuild the roads and water and sewer, we're going to bring thousands of jobs and big-name companies,' well, we got a lot of rolling eyes."

One of the things Tradepoint did at Sparrows Point was to build a 1 million-square-foot warehouse—about the size of 17 football fields—the same way a developer might put up a spec home to show to prospective tenants. The first company to sign on was FedEx Corp., which opened a distribution center in late 2017, bringing with it about 300 positions. The number of tenants is now 15 and counting. More than 3,000,000 square feet is under construction for Home Depot and Floor & Decor, while a Gotham Greens hydroponic greenhouse is set to open later this year.

"About 18 months in, we realized that the land was actually the most valuable part of the deal"

Businesses Flocking to Sparrows Point

Location of distribution centers and major transport infrastructure



DATA: MD IMAP, GEOFABRIK, OPENSTREEMAP, TRADEPOINT ATLANTIC

The warehouses, enormous as they are, only take up a fraction of the land at the site. Half a mile away, giant yellow dump trucks crisscross a construction site. Tradepoint's plans call for adding 15 million square feet of space—mostly industrial but also some retail.

On an afternoon in May, the parking lot of the new Amazon fulfillment center is bustling with activity. Workers line up at a food truck for $13 crabcakes. A woman gathers her belongings before walking into orientation on her first day at work. Two

COURTESY TPA

▲ Under Armour's distribution facility

guys sit in a car rolling a joint during a shift break.

Over by the port, stacks of aluminum destined for car manufacturers cover an area roughly the size of two city blocks. Tradepoint is spending about $50 million on upgrades to the facility, so it can accommodate higher tonnage vessels.

Executives at Hilco and Tradepoint say initially there was apprehension in the local community about whether the jobs being created would be as good as the ones they were replacing. The short answer is: not quite. The median wage for an order filler at a warehouse is $15.35 an hour, compared with $19.34 for a metal furnace operator, according to the U.S. Bureau of Labor Statistics.

"If all 17,000 jobs were of the caliber, salary, and benefits of the steel plant, I think any local jurisdiction or state or country would be doing back flips," says Johnny Olszewski Jr., the executive of Baltimore County, who grew up in the shadow of the Bethlehem Steel mill. "But I think in many ways the economy has shifted."

And not just here. Nationwide, warehouse jobs have more than doubled in the space of a decade, to reach almost 1.4 million in 2018. Automation will eventually start eating into those numbers, the way it has in the steel industry. Consider that the U.S. produces about as much steel today as it did in 1990 while payrolls have dropped from more than 180,000 to less than 85,000 today, according to data from the Bureau of Labor Statistics and the World Steel Association.

"If you're lazy, it's not for you," says Ameera Toyer, whose job at Amazon's warehouse in Sparrows Point consists of putting items on different machines and pushing a button that labels and packs boxes. Her quota is 700 per hour. "I hit 900 an hour once," says the 20-year-old. "It's all in the hands."

Toyer says the work is boring, but the $15-an-hour pay beats what she was making previously as a manager at a fast-casual restaurant. Most days she works more than her 10-hour shift to get overtime. Plus, in October she'll have been with Amazon a year, which means she can go back to school to become a social worker and have the company pay her back for 95% of the cost. "It's good for now," she says. "There's a lot of benefits to working here."

Locals have other reasons to be thankful for the changes taking place at Sparrows Point. With the mill's closure, a perennial source of toxins has been removed. "This is the best thing that could have happened to the site," says Paul Smail of the Chesapeake Bay Foundation, which sued Bethlehem Steel in the 1980s over discharges of pollutants into the surrounding waterways. Remediation work at the site is about halfway done, according to Tradepoint.

In a development that underscores how Sparrows Point is staking its future on the new economy, Tradepoint announced in July that it was leasing 50 acres to Orsted A/S, a Danish company that's building an offshore wind farm some 20 miles off Maryland's coast. Orsted will ship components to Sparrows Point so the turbines can be assembled there.

Officials at Tradepoint are also looking to rehabilitate the shipyard on the premises, which has been little used since the turn of the century. The massive dry dock can still accommodate ships, and they're hoping to bring in a tenant who'll use it to repair and refit navy boats. "We'd love to have a big manufacturer here," says Tomarchio, the spokesman, but "we have to be realistic about what kind of industry is going to be coming here." —*Tom Maloney and Heather Perlberg*

THE BOTTOM LINE Seven years after the closure of a steel mill at Maryland's Sparrows Point, the area has been transformed into a logistics center for companies including Amazon and FedEx.

The Incredible Sinking Argentina

Markets reeled as the country whipped back toward protectionism

Over the last 70 years, Argentina has endured hyperinflation, government collapse, and the world's largest sovereign debt default. It's spent a third of that time in recession, a record that almost deserves its own chapter in economic textbooks.

And yet even the embattled Buenos Aires stock exchange had never experienced anything like the 48% plunge it took on Aug. 12, a day after left-wing candidate Alberto Fernández bested the fiscally conservative incumbent Mauricio Macri in the presidential primary by more than 15 points, winning more than 47% of the vote. The primary is meant to winnow the slate of candidates, but in reality it serves as a nationwide poll to preview the official vote for the presidency, still 10 weeks away.

Macri will stay in the race, but investors and pundits consider his deficit in support too vast to make up. Fernández, meanwhile, is seen as a promoter of the same policies that have failed in Argentina for decades. The whiplash was too much for investors—poll numbers only days before the vote had showed the two candidates in a much closer race. "We have this long transition where it looks like Alberto Fernández is going to be the president, but he still has to be elected," says Daniel Kerner, Eurasia Group managing director for Latin America. "With the market tanking and the government not

Edited by Jillian Goodman

knowing how to manage it—and actually playing on this fear—we are entering a very, very delicate situation in Argentina for the next several months."

Macri was elected in 2015 with a mandate to fix the problems created by the preceding eight-year administration, which had doctored statistics, imposed limits on foreign capital, and kept public service bills artificially low, leading to a swollen deficit and an isolated country unable to borrow. He promised to eliminate poverty and attract a "deluge" of investments to South America's second-largest economy. But after a cautious start that involved taking on tens of billions of dollars in international debt to paper over fiscal imbalances, Macri's approval deteriorated, as did Argentina's economy.

After the U.S. Federal Reserve raised interest rates in 2018, causing a steep slide in the peso, Macri was forced to negotiate a $56 billion bailout with the International Monetary Fund, the largest ever made with the lender. The agreement called for steep spending cuts and limits on liquidity to meet fiscal goals. The austerity measures did yet more harm to Macri's standing with voters, who lost faith that his market-friendly approach would mend the battered economy. Annual inflation now sits above 50%, and the economy will contract in 2019 for a second straight year.

Fernández, for his part, seemingly emboldened by the support, sees no reason to change tack despite the extreme market reaction. The politician was a cabinet chief for the late Néstor Kirchner, president from 2003 to 2007; Fernández's running mate, Cristina Fernández de Kirchner, was Néstor's wife and successor. Her administration has been blamed for much of the mess Macri inherited.

Fernández has been vague about what his economic program would look like and elusive about how he might engage creditors, including the IMF. But he insists that only government change can calm the market. Macri, however, has pointed to the market collapse as an example for voters of what a return to the past might look like. "Blaming Kirchnerismo for market turbulence is a high-risk strategy," says Nicholas Watson, a London-based Latin America analyst for Teneo, a management consultant. "Clearly, a large proportion of the electorate sees Macri as the problem, not the solution."

Macri could force a runoff if he manages to claw back enough support from the front-runner and other lower-tier candidates before the official election on Oct. 27 to bring himself within 10 points of Fernández. As long as Fernández also receives less than 45% percent of the vote, there would be a runoff on Nov. 24—giving him more time to spin his comeback narrative. Still, he'll have to rely on extraordinary turnout and likely reinvent his original campaign message, which has already started to drift left.

Many expected Cristina Kirchner to run for president, despite being embroiled in corruption probes dating to her time in office. She denies wrongdoing and has called the investigation political persecution. Her seat in the Senate, which she won in 2017, gives her legal immunity, though that could be stripped by a two-thirds vote of the upper chamber. As vice president, she would be head of the Senate, and by running in the No. 2 position, she's able to stay out of the limelight's harshest glare.

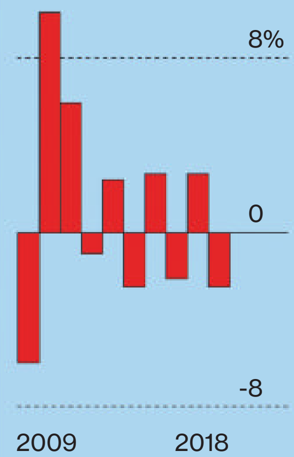
While the market has long feared another Kirchner administration—a poll in April showing her narrowly defeating Macri in a runoff sent bond prices into free fall—part of the extreme reaction to the primary result can be traced to a false sense of security created by pre-primary polling. Many of Argentina's top pollsters shared their findings only with paying clients, including large investment firms, but a few that became public in the weeks leading up to the primary showed a close race. One showing Macri ahead by a point led to a small rally on the last trading day before the vote.

On the first trading day after the vote, Argentina's so-called country risk gauge—the extra yield investors demand to hold government debt over U.S. Treasuries—surged to a 10-year-high, topping those of all other emerging markets, and its debt is now the costliest in the world to insure against default. Macri himself appeared shaken in his first public appearance, admitting he'd run a "bad election," sheepishly vowing to stage a comeback, and lambasting pollsters for their errors.

Barring a miracle for Macri, Fernández will assume the presidency on Dec. 10. The president tweeted a few days after the vote that he and Fernández had talked and that the presumptive next leader "showed willingness to try to bring calm to markets." What he inherits will depend more, though, on what he and his rival can do together in the interim to address default expectations, the real economy, inflation, savings, and any number of other factors that could sink the economy yet further. Markets are wary, but Argentines have long since grown accustomed to whiplash. Politics are "a seesaw that comes and goes," says Ruben Haleblian, a 70-year-old vendor in an electronics store in downtown Buenos Aires. "I already lived it several times." *—Juan Pablo Spinetto and Daniel Cancel*

THE BOTTOM LINE A stunning primary defeat for Argentina's president has opened the door for the return of protectionist policies, which stand to throw the economy even further into chaos.

● Argentina's real GDP, year-over-year change



DATA: INTERNATIONAL MONETARY FUND

Putin's Post-Crimea High Is Wearing Off

● With oil prices falling—and taking living standards with them—the people are finding ways to express their discontent

Yevgeny Dubinin had never been to a political protest. But he was so angry authorities had refused to register opposition candidates in the Moscow city council election that he couldn't stay home. "They're taking away people's right to vote, telling them whom to vote for," the 44-year-old business manager said on his way to a late-July demonstration on the capital's main street, Tverskaya, that had been denied a permit by authorities. "If people don't stand up for their last remaining right now," he said, "they'll lose everything else."

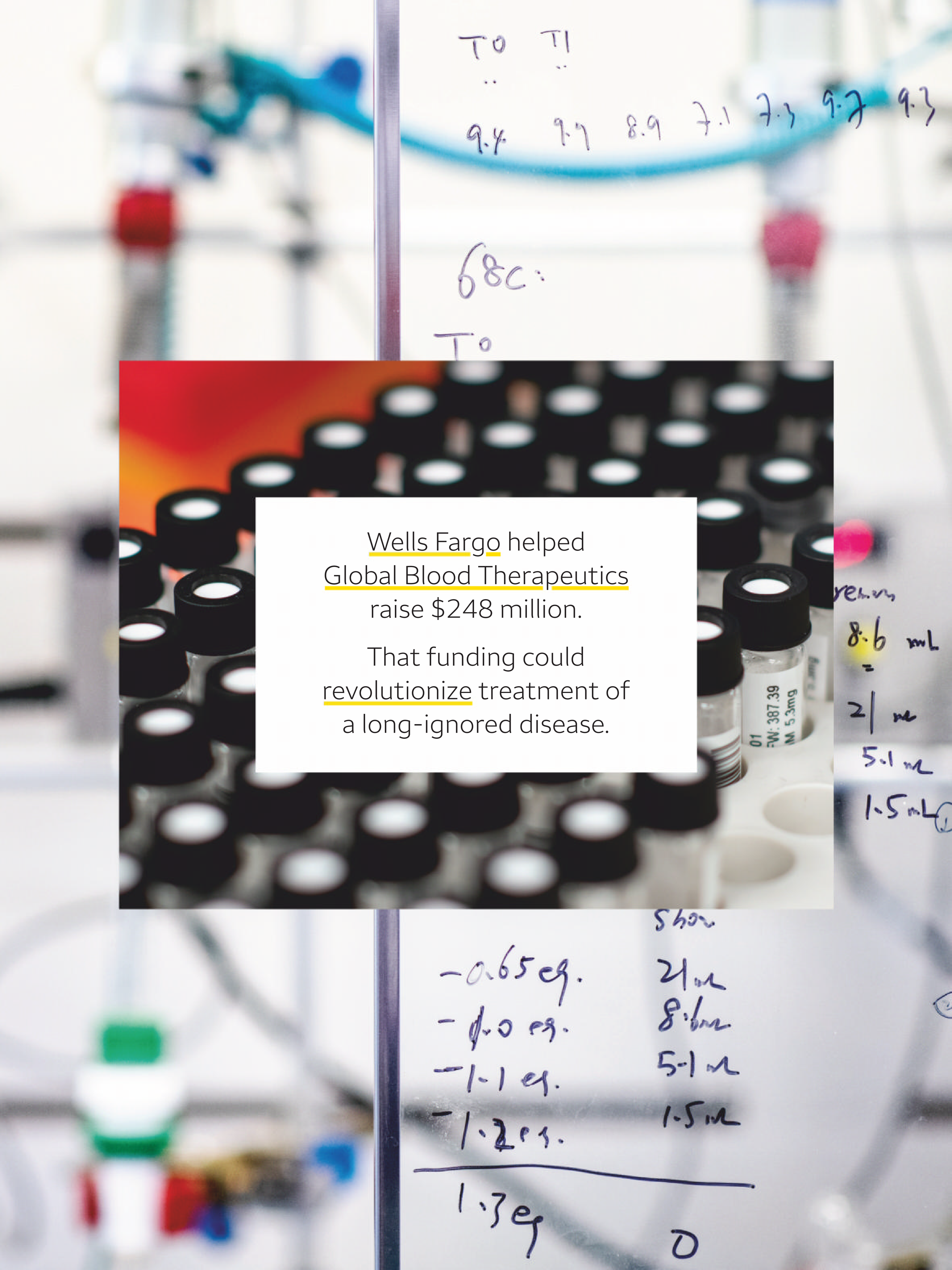
Once Dubinin arrived, he managed to hold up his small homemade sign for only a few moments. "I heard a scream, and then I saw five or six men in uniforms and masks running toward me," he recalls. "They took me by the arms and legs and dragged me to a bus with bars on the windows. I just managed to turn as they pushed me in, so instead of breaking my nose on the door frame, I just banged my head."

The protest-arrest cycle, which began in July, has become a weekly routine in Moscow, even as escalating crackdowns by police have led to thousands of detentions. Some are facing five years or more in jail under "mass unrest" statutes, which are designed to quell riots, not the peaceful rallies the Kremlin's opponents are mounting. In at least one case, police threatened to strip the parental rights of a couple who'd brought their toddler to a protest. Authorities have deployed thousands of riot police and phalanxes of investigators and hastily organized music and food festivals–including one with the unfortunate name Meat&Beat–to divert potential protesters.

The demonstrations represent the biggest public challenge to Vladimir Putin's two-decade rule since

▼ Moscow protesters on Aug. 10

EMIN DZHAFAROV/KOMMERSANT/AP PHOTO



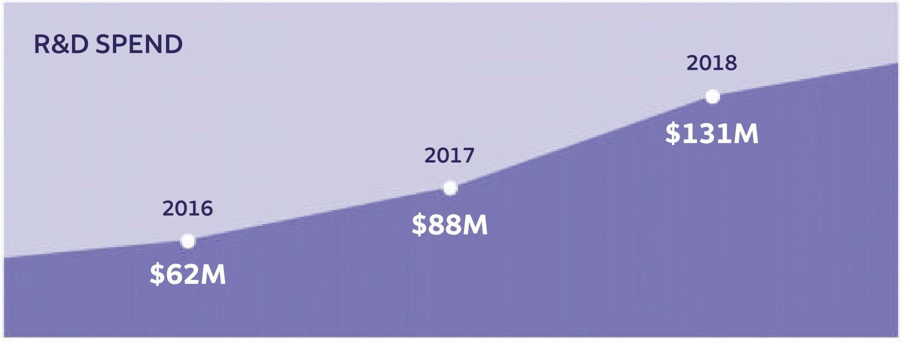
Wells Fargo helped Global Blood Therapeutics raise $248 million.

That funding could revolutionize treatment of a long-ignored disease.

The Billion-Dollar Battle Against Sickle Cell

When he was a medical student at Yale, Dr. Ted Love was struck by how poorly sickle cell patients were treated. Today, the disease affects 15 million worldwide – mostly people of African descent. Little could be done to alleviate a condition that damages organs, causes bouts of intense pain and shortens lives by decades.

After retiring from a career in biotechnology, Dr. Love is back in the lab. He's raised over $1 billion to create a once-daily pill to treat sickle cell disease that the FDA has put on the fast track to possible approval. Almost $250 million was raised by an equity offering led by Wells Fargo.



"If GBT's treatment is approved, it would be life-changing. I would no longer have to plan my day around my sickle cell disease."

Cassandra Trimnell
Social Media Consultant
Global Blood Therapeutics

protests interrupted his campaign for a third term in 2012. Then, his decision to return to the presidency combined with allegations of widespread fraud in parliamentary elections the previous December to set off a wave of anti-Kremlin actions that brought tens of thousands into the streets. The six-month opposition drive eventually wilted under pressure similar to that now being applied to demonstrators.

Not long afterward, Putin's approval ratings surged amid a patriotic wave inspired by the 2014 annexation of Crimea from Ukraine, reaching highs of almost 90%. Last year, however, his popularity plummeted to 64% after he pushed legislation through the State Duma that increased the retirement age by five years, to 60 for women and 65 for men, which will cost the average Russian 900,000 rubles ($13,800) in lost benefits.

Incomes in Russia have fallen for five straight years because of the persistently low price of oil, Russia's main export, and the grinding impact of U.S. and European Union sanctions imposed over Crimea. Simmering discontent has periodically boiled over into protests—not only in the politically energized capital but also in the heartland. The complaints tend to be about local issues such as plans to build a trash dump or low salaries for state workers, but anti-Kremlin slogans aren't uncommon.

"It's all part of the reaction to the overall sense of injustice: the lies on television, the unfulfilled past promises," says Sergei Belanovsky, a Moscow sociologist who was among the few to predict major protests in the 2011-12 political cycle. "The repressions will help [the government] in the short term," he says, "but there will be more flare-ups all over."

In a few cases, the authorities have given in. Spontaneous demonstrations against plans to build a church on a popular park in the Urals city of Yekaterinburg this spring attracted the attention of Putin, who called for a local referendum on the idea. After voters rejected the plan for the church, authorities dropped the idea.

The stakes are higher for big national issues in the capital. While the Moscow City Council has limited power, the election is seen as a warm-up for parliamentary voting in 2021. Controlling that vote is critical for the Kremlin as it looks for ways to ensure Putin's rule extends beyond the end of his current term in 2024. Term limits prevent him from running for reelection, but top officials are already talking about constitutional changes as the deadline looms.

Putin is leaning on his government to get the economy going by then. He's hoping to revive the engine of his popularity in his first two terms: a steady rise in living standards. He's laid out plans for a massive $400 billion spending program to boost growth in the coming years, though even his own officials aren't sure it will work.

For the moment, Kremlin officials are confident they can keep the lid on popular anger, combining targeted concessions and an extra-tough line against unsanctioned demonstrations to keep the unrest from festering. The harsh crackdown has the added benefit for the Kremlin of saddling a number of prominent opposition politicians with criminal convictions, which, under Russian law, will bar them from running for office in the next political cycle. Authorities are looking into allegations of money laundering at the anti-corruption foundation set up by opposition leader Alexey Navalny—who's sat out most of this summer's protests in jail—in an apparent effort to crush a key resource for Kremlin critics. State media have also blasted the protests as inspired by Russia's enemies in the West.

Turnout at the demonstration on Aug. 10—which had been granted a permit by authorities—was as high as 60,000, according to an independent count, making it the largest since 2012. "Saturday's protest in Moscow, which definitely set a record for numbers for this time of year, won't have any political consequences," says Konstantin Kostin, a former Kremlin official who now heads a think tank that works with the government. "Modern hybrid regimes—democracy plus soft authoritarianism—can easily deal with this kind of action. By repressive means, of course, if the law is violated," he adds.

Kostin may well be speaking with the overconfidence of an insider in the hermetically sealed world of the Kremlin elite. A late-July poll commissioned by his group found 37% of Muscovites support the protests, while only 27% have a negative view of them. The Sept. 8 city council vote is still weeks away, giving public anger room to grow.

"If I go to the next one, I have to decide for myself whether I'm ready to die"

Dubinin was released quickly after he was detained, but he sat out the next week's protest, nursing his bruised head. He says he filed a complaint against police and emergency workers who ignored his appeals about the rough treatment. "If they wanted to scare people, then they succeeded," he said soon after. "If I go to the next one, I have to decide for myself whether I'm ready to die."

On Aug. 10, however, he was back out on the streets, and now says he's overcome his fears of getting hurt again. "Now I've decided that it's wrong to be scared. I'll be going to all the demonstrations—permitted and not—to stand up for my civil rights and support those who were arrested." *—Irina Reznik and Ilya Arkhipov, with Stepan Kravchenko*

THE BOTTOM LINE Protests against political oppression in Moscow have so far withstood a police crackdown, but the effort to end them is just a warmup for the Kremlin.


Carol Massar


Jason Kelly

Security

ILLUSTRATION BY MOLLY ROSE DYSON

Democracy vs. Hackers

The 2020 elections could face more serious attacks

The front line to protect the integrity of the U.S. presidential election is in a Springfield strip mall, next to a Chuck E. Cheese's restaurant. There, inside the Illinois Board of Elections headquarters, a couple dozen bureaucrats, programmers, and security experts are furiously working to prevent a replay of 2016, when Russian hackers breached the state's voter registration rolls.

For 2020, Illinois is deploying new U.S. government software to detect malicious intrusions and dispatching technology experts to help local election officials. Even the National Guard, which started its own cyber unit several years ago, is on speed dial for election night if technicians needed to be rushed to a faraway county.

Still, Illinois officials are nervous. The cash-strapped state remains far short of the resources needed to combat an increasing number of nations committing geopolitical breaches. "We're in an unusual time, and yes, there is concern about whether we have enough to go into 2020 totally prepared for what the Chinese, Russians, or North Koreans or any enemy of the United States may do to influence our ▶

August 19, 2019

Edited by
Dimitra Kessenides

◀ elections," says Governor J.B. Pritzker, a Democrat. "We're securing our elections with state resources, but there is a federal need. This is a national crisis."

State election authorities are more prepared than they were four years ago, when they weren't focused on the threat of voting system hacks. But Illinois's struggles illustrate how outmatched most states are and how money—and the cyberskills of local authorities—will determine whether election infrastructure from Illinois to Florida will be secure in November 2020. While those two were the only states named in special counsel Robert Mueller's report as targets of election meddling by Russian hackers, the Senate Intelligence Committee in July concluded there were "extensive" efforts to hack all 50 states.

In 2016, Russia's cyberforces sent e-mail phishing messages and tested the vulnerabilities of voting systems. Election-security experts fear that was merely practice for a much more aggressive effort, according to the Senate panel's report. The biggest concern is that foreign actors could change enough votes to swing an election. Experts say that's almost impossible because machines generally aren't connected to the internet and votes are counted and audited at thousands of individual polling places. A more plausible concern: Hackers meddle with data that poll workers depend on. If voters' information is altered or their names removed from registration lists, the result could be anger and chaos that undermine the election's legitimacy.

Funding remains a key obstacle. In Illinois, officials have said they need about $175 million to rebuild and defend the election apparatus but have received slightly more than 7% of that amount. Like Illinois, most states don't have enough money to pay for new security measures that experts say are required to ward off increasingly sophisticated attacks, according to state election officials across the country, academics who study election security, and executives at cybersecurity companies.

The scale of the country's election infrastructure is a big part of the problem. Elections are administered by state and local officials, which means all 50 states must wage their own battles with the U.S.'s geopolitical rivals. Convincing smaller and rural counties with few resources that they too could be targets remains a challenge, says Matthew Masterson, senior adviser on election security at the U.S. Department of Homeland Security. They often lack even basic security measures, such as two-step verification for accessing internal election databases. "They think, 'Who would want to bother us?'" he says.

Since last year, Congress has distributed $380 million to the states, which have used much of that money to install a threat-monitoring system called Albert, a spinoff of a federal surveillance program. But Senate Majority Leader Mitch McConnell has blocked a Senate bill to distribute an additional $600 million for state election security, and state legislatures historically have been stingy in funding efforts. Florida's Republican governor, Ron DeSantis, said in June that he'd identified $5.1 million to fortify cybersecurity. The state spends more on citrus research and animal control, according to its 2019 budget.

The state's Republican senior U.S. senator, Marco Rubio, says it makes sense that hackers would continue to target his state. "If you wanted to conduct influence operations in this country by undermining people's confidence in our election system, Florida would be on the top of your list," he says. "We're a large state. We're a diverse state. We're politically competitive."

Russians infiltrated two unnamed Florida counties in 2016, but state officials had no idea the counties had been breached until after the election, when they were informed by federal agents, according to officials close to the investigation who asked not to be identified. Federal authorities aren't releasing the names of the counties to stave off embarrassment and to encourage local governments to be forthcoming if additional flaws are discovered.

In Illinois, election authorities are at odds with DHS over how successful Russian hackers were in breaching the state's system. Illinois officials say Russian cybersleuths gained access for almost three weeks, secretly downloading and attempting to alter more than 200,000 registration records before they were caught. They barraged the system with so many commands that the registration site stopped working, says Matt Emmons, who's overseeing the state's election security effort. "The general consensus is they wanted us to know what they had done and where they had been." DHS staff told the Senate Intelligence Committee that the attackers could have done far more damage and maybe did, according to the panel's report. The differing accounts suggest continuing friction between states and the agency, potentially creating an intelligence gap as the 2020 election approaches.

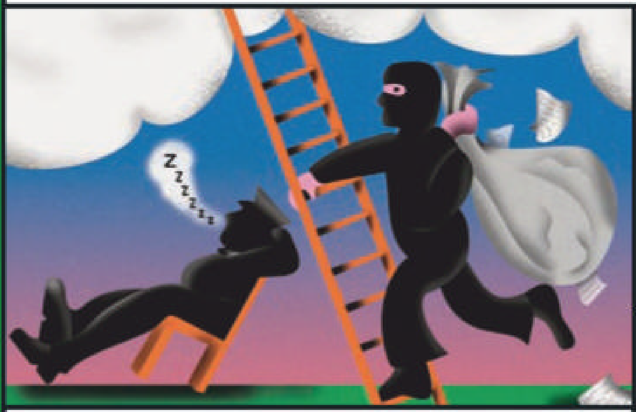
Officials in Illinois are resorting to some old-school techniques to bolster security at their strip mall headquarters. When European government officials visited in July to determine how U.S. election systems differ from theirs, the state required them to undergo background checks. It was an acknowledgment that preparing for another 2016-style attack isn't enough. "We're constantly telling our clients that it's no longer a matter of 'if' you'll be attacked, but rather a matter of 'when,'" says Haiyan Song, vice president and general manager of Splunk Inc., a San Francisco-based cybersecurity firm. "That certainly applies to governments in election security, as well." *—Kartikay Mehrotra and Alyza Sebenius, with Jonathan Levin and Daniel Flatley*

THE BOTTOM LINE Illinois is spending millions to safeguard its voting systems for the 2020 presidential election, but it might not be enough as the number of nations committing data breaches multiplies.

Q&A

Advice From a Former Con Artist

Frank Abagnale was a notorious impostor. He wrote *Catch Me If You Can* about his exploits. After doing time he became a security consultant to the U.S. government. His book *Scam Me If You Can: Simple Strategies to Outsmart Today's Rip-off Artists* is out this month. ——*Dimitra Kessenides*



The cybersecurity battle can seem like a losing one—is it?

Every breach, without exception, happens because somebody in that company did something they weren't supposed to do or somebody failed to do something they were supposed to do—hackers don't cause breaches, they take advantage of them. Equifax [Inc.] didn't fix its tech, it didn't update patches, so the hackers got millions of pieces of data.

So this falls mostly on companies to fix?

It falls squarely on the company that is not putting proper procedures in place and not training its people. Companies must do a better job of educating employees and making sure they understand that the most important job they have is keeping the information entrusted to them by their clients, customers, and citizens safe, whether they are the CEO or the janitor.

Isn't technology part of the problem?

Yes, but that's also companies not doing what they're supposed to. Most of the technology that goes through to consumers, the companies never follow through—they want to get it out fast. Most don't develop a device—like the voice-activated assistants—and then say, "Now, before we put this in the marketplace, how do we build it to block hackers?"

How would you try to persuade Americans suffering from hacking fatigue to protect themselves?

We've all had our identity stolen. I have. I mean, more than 1 billion IDs have been stolen in the U.S., and there are only 240 million people—so we know hackers have the data. Will they ever get around to using it? Maybe not. Many scams are ones you can prevent by just knowing what to listen and look for. In every scam, no matter how sophisticated or how amateur, there are two red flags: I'm going to ask you for money—*wire me the money immediately*—or I'm going to ask you for information—*what's your Social Security number?* Knowing this can prevent a lot of scams.

What's one thing we should be doing but aren't?

Until last September, only eight states allowed you to freeze your credit for free. It had become costly and timely, especially for seniors. Congress passed a law prohibiting the credit-monitoring companies from charging to freeze credit. That's not going to stop a hacker from getting your information from Capital One [Financial Corp.], but it will keep scammers from getting your name and using it to open a bank account in your name, get credit in your name, buy a car in your name, get a mortgage in your name, get medical treatment in your name, get a job in your name, or commit a crime in your name.

Who's most vulnerable?

Statistically, millennials fall for more scams, but seniors lose more money. Most scams, when we look at the statistics, aren't reported. The smartest people in the world are scammed, so it's nothing to be ashamed of. If you don't tell anybody—a senior might think, I don't want to tell my daughter, because she'll take away my independence—nothing will be done, and it doesn't help.

Total security is a fantasy, right? Is it possible?

It's not, and the reason is because you cannot have convenience and security at the same time. People tend to want convenience, and they don't want to give it up.

Scams have changed a lot since your con man days. What's one of the biggest changes?

You know, in the old days, the con man, the con woman, had a little bit of compassion. Today, no emotion enters into it because con artists never see their victims—it's data on the internet. I was 16 when I started as a con man, I had no fear. But as I got older, my conscience started to bother me. I used to walk into the bank and cash a forged check. Then, as I got older, I'd say, "I hope the teller won't lose her job," and that started to bother me. If I had been doing that today, over the internet, never seeing them, I don't think I would have felt that way.

ILLUSTRATION BY MOLLY ROSE DYSON

400 MILES TO THE NEAREST PSYCHIATRIST

BY MONTE REEL
PHOTOGRAPHS BY IAN BATES

In all of eastern Montana, the state with America's highest suicide rate, there's exactly one practitioner. Rural America has a mental health care crisis

1 THE MENTAL HEALTH UNIT INSIDE THE Glendive Medical Center is dark, and when Jaime Shanks declares that a light switch surely must be around here somewhere, a faint echo chases the words down an empty hall.

"Here it is," she says. The lobby flickers into clear view. "As you can see, everything is state-of-the-art, and it's just a gorgeous facility." She approaches a window and motions to the greenery beyond. "And isn't this beautiful? A little courtyard you can look out on." She admires it for a moment. "They didn't want an atmosphere that felt too institutionalized. The colors all around, if you notice, are very warm."

Behind a nurses' station, a dry-erase board says that today is March 30. It's actually late June. For three months the unit has been dormant, lights out. Shutdowns are hardly unusual; sometimes they last years. Since its grand opening in 2002, this unit—the only place in eastern Montana where a person with a mental health emergency can be admitted for inpatient care—has languished in a state of desertion more often than not.

The problem isn't a lack of demand; Montana is cursed with the highest suicide rate in the nation, and it's higher in this predominantly rural part of the state than in any other region. During the rare times when the unit is up and running, the supply of incoming patients is predictably, and sometimes frantically, consistent. The problem here is staffing. Administrators can't find anyone to run the place. ▶

Big Sky just outside Glendive, Mont.

◀ Last fall, after years of fruitless recruiting drives and ad placements, the center finally snagged a recently graduated psychiatrist to oversee the unit. This spring, not long after the local newspaper celebrated her arrival, she quit. "I think maybe it was just a little too much for someone without experience to take on, and I don't blame her," says Shanks, who as marketing director is part of the recruitment team. "There's such a huge need out here, and I can see the burnout in mental health providers that comes out of that."

In much of America, and especially in places like Glendive, mental health care is a profession defined by severe imbalances. Overall demand for psychiatric services has never been higher, yet the number of providers has been falling since the 1960s. Psychiatrists are generally paid less than other medical doctors, they're reimbursed by insurance companies at lower rates for many of the same services, and they absorb more mental stress than practitioners in most specialties. There's been a slight uptick in psychiatric residencies in the past five years, but more psychiatrists are leaving the profession than entering it, and about 60% are over the age of 55, according to the Association of American Medical Colleges.

This is coming to a head at a terrible time. Suicide rates across all demographics in the U.S. are rising dramatically. Since 1999 the overall national rate has jumped 33%, and the spike has been especially sharp in rural counties—52% compared to about 15% in urban areas. Rural Americans are twice as likely as their urban counterparts to kill themselves, and many of the stresses they face are getting more intense. In the past year, farm incomes have dropped, and debt levels have risen at rates not seen since the farm crisis of the 1980s. Even so, today about two-thirds of all rural counties in America lack a psychiatrist, and nearly half lack a psychotherapist.

A woman who's as intimately familiar with these dynamics as anyone in the U.S. lives a half-block from Glendive's abandoned psych unit. Her name is Dr. Joan "Mutt" Dickson, and she was the unit's founding director. After four years on the job, she hit her limit. Every single night, she says, she'd get at least two calls from emergency rooms or law enforcement agencies scattered across the region's 17 counties, and she'd be expected to help them handle and harbor a troubled citizen who seemed truly suicidal.

"I'm tired now," she told the *Billings Gazette* when she resigned in 2006.

After taking almost a year off to drive across the U.S. and clear her head, she returned to Glendive and opened a dual-specialty private practice—she's a general family practitioner and a psychiatrist. She also works 20 hours a week as the regional psychiatrist for the Veterans Administration, and she serves—for a salary of $1 a year—as the medical director for the Eastern Montana Community Mental Health Center, a network of clinics.

"If you look at a map of the United States," she says, "I am the only psychiatrist between Bismarck, North Dakota, and Billings, Montana." That's 400-plus miles. It's like having one psychiatrist between New York City and Akron, Ohio.

DICKSON

2 GLENDIVE IS IN A STRING OF

old railroad towns that cling to the banks of the Yellowstone River. The Burlington Northern still comes through daily, rattling past wheat fields and layered clay hills as it hauls coal from Wyoming to North Dakota. Just outside of Glendive, these hills undergo dramatic contortions, erupting into fossil-studded buttes, natural bridges, and gumbo pedestals. These are the badlands.

Most small towns here conform to a template: a hardware store, a Stockman Bank branch, a thrift shop, a casino (a bar with slot machines), and a local history museum of some sort. Glendive, with 5,000 residents, is bigger than most and commensurately curated: It has two full-time museums, the Frontier Gateway Museum, built around a collection of dinosaur fossils found nearby, and the Glendive Dinosaur & Fossil Museum, which presents paleontology within a Biblical, creationist perspective.

Follow Glendive's main street past the museums, and you'll come to Dickson's office in the center of town. Her five-room suite shares the second floor of a 19th century building with a stationery store, a tattoo parlor, and the office of a public defender. The plush carpet softens the footfalls of Jemma, a 6-year-old black lab mix. Dickson doesn't work with a nurse, an assistant, or a secretary. It's just her and the dog.

Dickson, who's 60, walks through the office with a short and choppy stride. Her hair is cropped and simply styled, and her uniform is likely to consist of a T-shirt, jeans, and dusty New Balance sneakers. If anyone calls her "Dr. Dickson," the words never fail to clank in her ear. She much prefers people to call her Mutt, and almost everyone does. It's a nickname with familial roots: Growing up, she was as short as her older brother was tall, so as kids they were always Mutt and Jeff, like the two mismatched friends from the old comic strip.

She recently picked up a microwave for $5 at an estate sale. Earlier, she'd picked up a TV for just a little more. Sometimes she keeps such finds, but more often she gives them away to friends. Two days ago, at another estate sale, she paid $5 for a giant mess of agate, a type of quartz that's found in local river bottoms—two 5-gallon buckets, one coffee can, and a couple plastic bags full of rocks. She donated the lot to her friend Skinny, who wears a Make America Great Again hat and who likes polishing and cutting stone. Several times during her career, in lieu of payment for her medical and psychiatric services, Dickson has accepted turkeys and pies. Colleagues affectionately speak of her idiosyncrasies as if they're a feature of the local landscape, as particular to the region as the peculiar rock formations outside of town.

"I think some people can't figure me out," she says. "But I'm just not one of those people who's motivated by money."

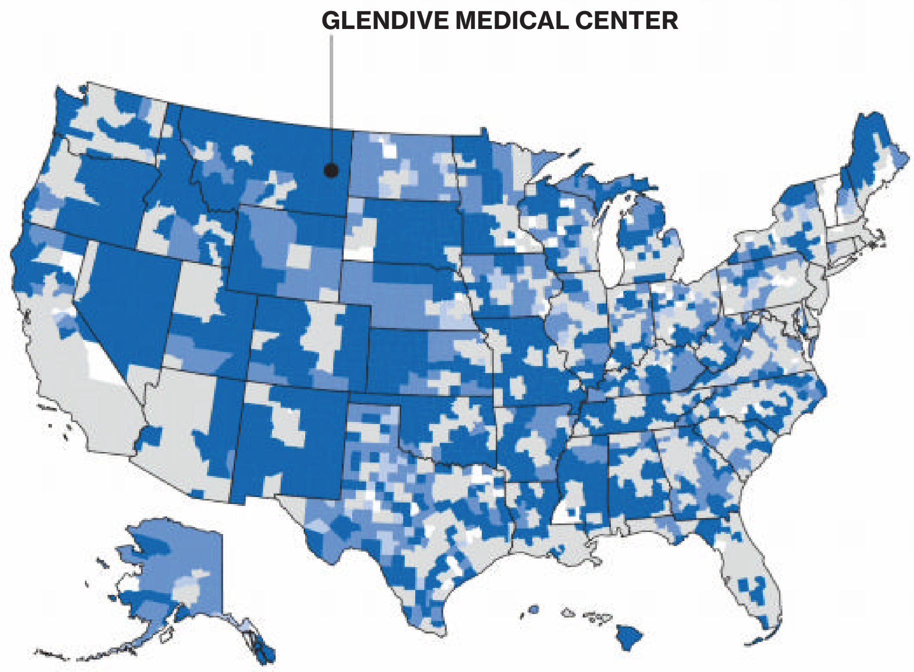
To narrow down exactly what did motivate her, she underwent years of far-flung self-exploration. She grew up in Scobey, a town of 1,000 about 20 miles from the Canadian border. She was salutatorian of her high school class, which in those days meant an automatic free ride to a public university in Montana—and that threw her career path off-kilter before it even began. "I really wanted to go to Wahpeton, North Dakota, to become a plumber," she says. Instead she dutifully attended Montana State University at Bozeman for two years, until they made her declare a major. She promptly dropped out and went to work in New Mexico for a summer as a framer-finisher carpenter. Next came a stint driving trucks for a road construction outfit in Minnesota, where she took her first paramedic class.

She moved to Las Vegas to become an emergency medical technician. The 1980 MGM Grand hotel fire that killed 85 people happened on her second day on the job. She stayed on for seven years before curiosity—"I felt I just needed to know more about medical care"—drove her to enroll in nursing school. After holding down a full-time job while completing the course load, she became a registered nurse for the county trauma unit, and that led to a position in the medical unit at the federal government's nuclear test site in Nevada. She eventually found herself on the medical crew of a Department of Energy ship that traveled to the South Pacific to drill core samples into the craters left by nuclear bomb tests in the 1950s. In the Marshall Islands, she mixed with the locals, liked them, and

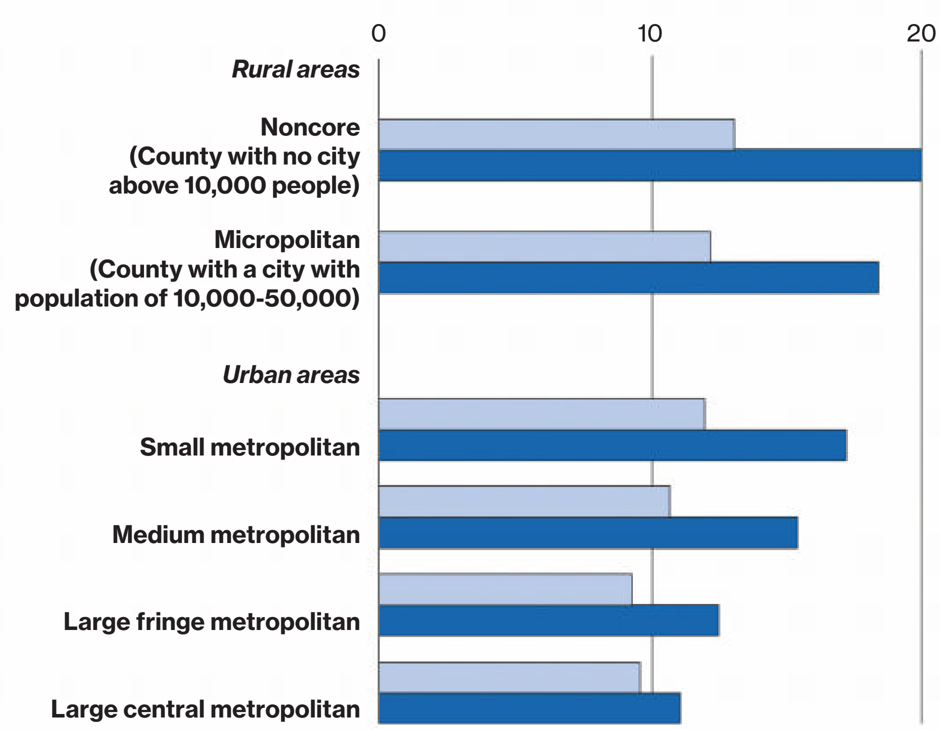
FEW PROVIDERS, MUCH DESPAIR

Some 13% of the U.S. population lives in rural counties with a shortage of psychiatrists. The U.S. Health Resources and Services Administration assigns counties a score* that measures the severity of the shortage. Higher scores mean more unmet need.

NON-RURAL COUNTY | 0 SCORE | 1 TO 10 | 10 TO 15 | 15+



SUICIDES PER 100,000 PEOPLE BY METRO AREA TYPE | 1999 | 2017



took a job as a nurse for a company that had a health-care contract with the Marshallese government. She stayed three years, doing everything from stitching up cuts to treating malnutrition to delivering babies and was, in everything but title, a full-fledged doctor. She made it official by returning to the U.S. to enroll in medical school at the University of Washington. She graduated in 1997.

She envisioned herself as an old-fashioned small-town doctor, like her family's beloved Doc Norman in Scobey, who, during a house call years before, had stitched up her bleeding left elbow at the kitchen table. But the deeper she got into her studies and the more she talked with her teachers and colleagues, the more she realized that psychology was an ▶

*COUNTIES GET HIGHER (WORSE) SCORES FOR MULTIPLE FACTORS: FEW MENTAL HEALTH DOCTORS, A HIGHER SHARE OF POOR RESIDENTS, AND LONG TRAVEL TIMES TO CLINICS.
DATA: U.S. HEALTH RESOURCES AND SERVICES ADMINISTRATION

◀ unspoken component of every general practice: "Somebody comes in, and they say, 'Doc, I'm tired all the time, and I'm gaining weight, I'm not sleeping well, and I just don't feel good.' When you talk to them, it's clear they have depression."

For some doctors, coaching patients through personal crises can seem a waste of the specialty they studied. For others, prescribing behavioral medicines can strain their own nerves. "They just don't have the confidence," Dickson says of colleagues who refer their patients to her for prescriptions they could easily handle. "They don't want to touch it."

Dickson embraced the dualities inherent in the profession by completing a double-residency in general practice and psychiatry. In a small town like Glendive, this gives her an enormously broad window into the lives around her, and sometimes it can seem as if she knows everything about all of her neighbors. She's got a pretty good handle on who was abused as a child, whose marriage is on the rocks, who's flirted with an addiction to painkillers, who's skittering through a mid-life crisis. It's the sort of knowledge that can apply pressure on a person. She has no colleagues to talk with about possible treatments, no one to commiserate with over coffee. The American Psychiatric Association used to have a special committee dedicated to rural mental health providers, and she belonged to it, but the group disbanded a few years back. "There weren't enough of us," she says.

The absence of professional models means that she has been forced to create her own makeshift code of professional standards, because the ones her urban counterparts follow simply don't apply. "The ethics of psychiatry are very strict, as far as you shouldn't be doing business with someone who's a patient of yours, for example," she says. "Well, if that were the case, I wouldn't be able to have my car fixed, buy my espresso in the morning, have a hamburger at lunch...."

It's a Monday morning, post-espresso, and she's sitting at her desk. The dog is tirelessly angling for her attention, dropping a squeeze ball in front of her on the desk, staring at her expectantly. Without looking away from the screen, Dickson tosses the ball into the waiting room; Jemma chases it, brings it back. Dickson absently humors the dog as she reads her screen, tossing the ball again and again, until her phone rings.

She says hello and instantly recognizes the male voice that comes through the speaker—a longtime client, one of hundreds who's unafraid to call when life seems to be taking an unhealthy turn. "Oh," he says, drawing a deep breath, "am I glad to hear your voice. I'm kinda jammed up here." She takes him off speaker, and her first informal consultation of the week begins.

3 DICKSON RECENTLY SURVEYED

her patients to see why they thought this region, out of all the places in America, had become a hot zone in the suicide epidemic. Many blamed the Native American reservations, which they associate with addiction and despair. Those populations do, it's true, have unusually high rates of

THE BILLINGS CLINIC

depression and suicide, but Dickson challenged the answer as insufficient; even if you excluded those areas, the state's suicide rate would still be among the nation's highest. Montana's Department of Public Health and Human Services last year reported a 2017 survey that suggested about 15% of all seventh- and eighth-grade students in the state had attempted suicide one or more times in the preceding 12 months. (Among Native American students, the figure was slightly higher, at 18%.) It's a frighteningly high number and helped spur new outreach programs in the schools, but the suicide problem is even worse among adults. The average suicide victim in Montana is a middle-aged white male.

It's impossible to pin down a primary cause, or even a set of them, but rural isolation is often fingered as a culprit. Suicides are worse here in the winters, supporting the hypothesis: For several months of the year, the region is gray, snowy, and bitterly cold, and the social pulse, metabolically subdued even in the summer, slackens noticeably. But isolation is nothing new here. Way back in 1893, a writer for the *Atlantic Monthly* observed that the "silence of death" cloaked the desolate landscape west of the Dakotas, and that "an alarming amount of insanity" haunted the pioneers who chose to homestead there.

When Dickson asked one of her longtime family practice patients why he thought there was so much mental illness in the area, he dismissed the notion outright. "First, you gotta believe that mental illness is a thing," he told her. "And I don't. You just get over it and move on." It was a succinct distillation of the "cowboy up" gospel—a local creed that reveres

rugged self-reliance. Although the mindset certainly has its virtues, Dickson has learned that few of them intersect with the world of mental health care. The prevalence of the attitude is one reason her office is in a multi-use building and not a standalone structure, so her patients can park their cars outside without giving away that they're seeing a shrink. It's also why the Glendive Medical Center psych unit, during those rare times when it's operational, allows outpatient clients to enter through the back door, where their friends and neighbors are less likely to spot them. "Most people I know would tell people they have chlamydia before they'd tell someone they had a mental illness," Dickson says.

The man who said he doesn't believe in mental illness was a farmer, the line of work that still drives eastern Montana's economy. The region doesn't get much rain—10 to 15 inches a year, about a third of the national average—making agriculture a nerve-shredding business. "It's tough," Dickson says. "People tend to drink a fair amount of alcohol when you don't have many other sources of entertainment. Everybody has guns. You get the stress of a poor crop, of tariffs, and you can't sell your wheat for what it costs to put in the ground. Cattle prices may or may not be good. The bank's knocking at your door. Your kids are moving away because of brain drain. So people a lot of times tend to deal with it with a single bullet."

Money is always high on the list of mental stressors, and more often than not, when people list possible causes for the spiking of the suicide rate, the economy dominates the discussion. Since the Great Recession of 2008, the nation's economic recovery has been concentrated in what the Department of Commerce defines as metropolitan areas—counties with a central city of at least 50,000 and the neighboring counties that are economically dependent on them. According to David Swenson, an economist at Iowa State University who specializes in analysis of the rural economy, these urbanized zones make up about 36% of all U.S. counties, but they enjoyed almost 99% of all job and population growth from 2008 to 2017.

"There's more and more farm stress, and imagine if that's your livelihood," says former Democratic Senator Heidi Heitkamp, who represented neighboring North Dakota from 2013 to 2019. "It may be something you've been doing for your whole life—it's not like you can just go out and look for another job running another farm." Heitkamp this year co-founded the One Country Project, which aims to increase political engagement with rural communities, and she believes rural mental health, particularly among seniors who feel isolated and alone, has become a crisis. "There's the stigma, but the solution to that is to embed mental health into health care," she says. Offering basic behavioral health services at community health centers is one way to do that, she says. "And more primary-care physicians are starting to be trained to do more behavioral health."

It's not just doctors. Across rural America, agricultural extension offices have begun providing basic mental health training to rural lenders, farm-equipment dealers, and other agricultural professionals to teach them to recognize and respond to symptoms of depression among their clients.

The internet might collapse distances and make the world smaller, yet sometimes it feels like the opposite applies in a place like Glendive. About a century before Amazon.com, the Sears, Roebuck catalog was a retail lifeline for rural America. But throughout most of those decades, small, far-flung communities generally could depend on at least a few local retail outlets to provide the basics. That's not always true today. In 2017, Glendive's last department store, a Kmart, closed, part of a nationwide constriction blamed on the rise of internet retailing. That closure meant the closest general retailer was a Shopko in Sydney, about 50 miles away. In June, Shopko Stores Inc., a discount chain with stores in 24 states, went bankrupt, abandoning all of its locations.

The day after Shopko folded, a few of the therapists in Glendive's branch of the Eastern Montana Community Mental Health Center—where Dickson serves as medical director—speculate that the news would add a little more stress to the lives of the people they see. "All the Shopkos are going down," says Pam Liccardi, the clinic's substance abuse counselor, shaking her head. "Every one of them."

"So now we don't have a place to go to buy clothes," observes Al Heidt, a retired therapist whose wife, Cindy, still works at the facility. "You can't buy underwear in Glendive."

"Well, yeah, you can," Liccardi says. "At the hardware store. If I was willing to wear men's boxers, I'd be in business."

There's still Amazon, of course, and a resale shop downtown. But consider the added pressure the closures put on ▶

◀ Sam Hubbard. He's the vice president in charge of operations at the Glendive Medical Center, which means he's in charge of filling the vacancies in the psychiatric department. Here's the job advertisement his hospital sent out to the wider world after its psychiatrist quit this year:

> Welcome to Glendive, Montana! Outdoor enthusiasts will thrill to almost limitless possibilities around Glendive. Imagine watching the Milky Way nightly and counting shooting stars as you fall asleep; quiet so deep you can hear your soul relax; hunting or just having a staring contest with wildlife. The Yellowstone River, the nation's longest untamed river, starts in Yellowstone Park and flows through the heart of Glendive. It's a great source of recreation, agate hunting, and paddlefishing … ."

How could it be so hard to attract mental health professionals to such a place? When I asked a version of that question separately of Dickson and Shanks, the hospital's marketing director, their instant responses were word-for-word copies: "Because it's 70 miles to a Walmart."

4 WHILE THE GLENDIVE UNIT

remains unstaffed, anyone in eastern Montana who is suicidal and needs inpatient mental health care will likely be sent to the Billings Clinic. For the towns tucked into the farthest corners of the region, that's a five-hour drive.

"We're hanging by a thread some nights," says Melinda Truesdell, who runs the 6 p.m. to 6 a.m. shift at the clinic's Psychiatric Stabilization Unit. "It's all these little towns." The clinic regularly admits 20 to 25 patients a night. The task is mental triage—guiding patients toward something resembling equilibrium, so they might be released in 24 hours or so to seek other, longer-term solutions. "It's a revolving door," she says. "We bring people in, and we'll get them propped up and stabilized. But once they leave our doors, they're going right back out there."

The suicide problem in Montana has caught the attention of its lawmakers. At both the state and federal levels this year, they've introduced bills to start more prevention programs in schools and community centers. But last year, the state legislature cut funding for exactly the sort of case management the patients who are released from the Billings Clinic depend on. This year, Governor Steve Bullock, who's also a candidate for the Democratic presidential nomination, restored some of that funding, but mental health advocates in Montana say the fallout has lingered.

"We have people who are admitted to us who say they've been trying to get on waiting lists to be seen by case management for weeks," Truesdell says. It's a common complaint across the country: Hospital emergency departments have been forced to bear the brunt of the escalating shortage of psychiatric services. The number of patients admitted for psychiatric services jumped 42% during a recent three-year period, according to the Association of American Medical Colleges.

Truesdell is from Glasgow, Mont., one of the little towns her unit absorbs when the Glendive facility is down. She's a mental health nurse practitioner, which means she has the authority to prescribe medications. This makes her a particularly valuable regional asset. She says no one near Glasgow—150 miles from Glendive—is willing or able to prescribe antidepressants or other mental health medications, so she takes it upon herself. Every month, the Eastern Montana Community Medical Health Center flies Truesdell to Glasgow to spend a couple days prescribing medications for the locals.

The clinics can afford the flights, which are government subsidized and cost less than $50 each way. But Truesdell knows that even such a modest expense could someday be targeted by cost-cutters. "Everyone's answer to these sorts of problems is tele-psych," she says, referring to the practice of treating patients remotely, via internet-based video consultations. "But it's a Band-Aid. It's treated as this panacea on a grand scale for rural medicine, but it's falling way short when it comes to mental health."

A growing body of evidence shows that televisual consultations between rural patients and doctors can be effective—or, at least, significantly more effective than no treatment at all. But Truesdell and others who've administered such treatments are quick to identify their shortcomings. "You don't feel the energy of that person, you don't know the demographics, you don't know the families—it's just not enough," she says.

DOWNTOWN GLENDIVE

Even so, tele-consultations are beginning to transform mental health care throughout rural America. Dickson spends 20 hours a week providing psychiatric services at the local VA office, where about 85% of her sessions are done remotely. Inside her windowless office at the VA, a large monitor that's propped up on packages of printer paper sits behind her regular computer screen. "Let's see who's on my list," she says on a recent Monday, scanning her schedule of appointments. She's to see one patient from Bozeman, another from Great Falls, and another from Helena.

The case file of the woman in Helena indicates that she's bipolar and developed PTSD after being sexually abused while in the military. The woman hasn't been on her meds since she moved to Montana from another state about a year ago, and in her session she asks Dickson to restore her previous prescription. Dickson would love to, but the medication isn't listed by the Montana VA as a first-line drug. She'd have to prescribe a different, less costly, generic. Dickson says she and the patient most likely will wait for the drug to fail to work, and then they'll try to get approval for the drug of choice, which they know effectively treats her.

The woman on the other end of the video call, like everyone else who undergoes a remote consultation, isn't seeing Dickson from her home. She's had to travel to a clinic to access a nurse-supervised computer—the only kind approved for tele-health consultations. A patient Dickson treats through the VA travels 110 miles to reach the nearest supervised computer screen.

5

DICKSON COULD SPEND ALL OF her time seeing psychiatric patients if she wanted to. But that's what she was doing in 2006, when she burned out and had to spend a year on the road to clear her head. So she's more selective in her private practice. It's important, she says, to guard some of her time for herself—for hiking in the badlands, for dinners with friends, for treasure-hunting at auctions.

For general, family-practice consultations, she charges a flat rate of $40 for a half-hour session; for psychiatric work, the rate is $200 for a first-time customer and $100 for a follow-up. She doesn't accept insurance plans for either type of service, because she says she'd spend all of her time fighting for reimbursement if she did. She'd have to hire an employee just to deal with the paperwork.

Meiram Bendat, a California attorney who specializes in helping mental health patients litigate claim disputes with insurers, empathizes with her. "No sane provider who has better options would want to participate in an insurance company network under the way these services are being rationed in 2019," he says. The situation is so dire for mental health providers, he says, that even in areas where there are plenty of practitioners, patients needing services often end up on long waiting lists. "We hear all the time from patients in Northern California that even in San Francisco they can't see psychotherapists or psychiatrists, and I can assure that there is no shortage of practitioners in those areas," Bendat says. "What there is, though, is a shortage of people willing to participate in insurance company networks and panels, and that's largely driven by the paltry reimbursement rates that insurers are willing to pay for mental health services."


TRUESDELL

Dickson likes to cast her decision to keep insurance companies at arm's length as a part of a self-care routine, one she emphasizes is a key reason she's still in the business while so many colleagues have left the field. She's seen how occupational pressure can undermine the mental health of rural providers, and monitoring her own well-being has been a priority from the very beginning of her career, thanks to an extremely painful lesson in her third year of medical school.

Her older brother—the Jeff to her Mutt—was a physician, too, and the job was everything to him. "That was his identity, completely," she says. After practicing in Oregon, he returned to Montana to open a rural practice in Glasgow, the community Truesdell now visits once a month by plane. There, his life unraveled.

After a rough divorce, he began to self-medicate and became addicted to prescription drugs. The state board of medicine busted him for writing prescriptions to himself. "He'd already lost his marriage, his relationship with two kids, was on the verge of bankruptcy, and when his identity as a doctor was threatened, well...." The state board, she says, confronted him on a Friday, giving him the option of losing his license or undergoing treatment. Then they left him alone for the weekend. On Monday morning, he didn't show up for treatment. "He suicided," Dickson says.

Last year her sister, the only other surviving member of her family, was diagnosed with leukemia. Dickson considered temporarily moving to Colorado to take care of her. She didn't want to abandon her patients in eastern Montana, but she felt strongly that neither she nor her patients should be under the illusion that she's personally responsible for the mental health of a 48,000-square-mile swath of the rural West.

Dickson had vowed to avoid falling into the trap of getting wrapped up in her own professional identity, even if she was the only person in eastern Montana left in that profession. So early last year, the last psychiatrist moved away. In an email explaining her departure to her patients, she wrote, "Being a doctor is what I do, but it's not who I am."

She'd always known it would be a temporary relocation, and she returned six months later, after her sister's health improved. When she reopened her office, demand for her services was as high as it had ever been, as was her conviction that she was exactly where she needed to be. She guesses she'll probably live and work in Glendive until the day she dies. Ⓑ

Gaza Needs Cement to Rebuild

Israeli-Palestinian politics hamper the pace of recovery in the territory

Mohamad al-Assar at his rebuilt factory

Israel Dominates The Market

By David Rocks and Yaacov Benmeleh

Photographs by Mohammed Zaanoun

Mohamad al-Assar was asleep when his factory was bombed. On a steamy night in August 2014, he was awakened not by the explosion but by a phone call from the security guard at the plant. The concrete-mixing factory, 2 miles north of his home and adjacent to the only highway in the Gaza Strip, had been attacked in the final days of the seven-week war between Israel and Islamist militants. When al-Assar got there at dawn, he saw nothing but devastation. Two neighbors were dead. The offices had been reduced to rubble. The storage silos were heaps of metal. An 18-wheel concrete-pumping truck had been thrown across the road. "I just sat in the ruins and cried," al-Assar says, scrolling through photos of the destruction on his phone.

He knew he had to open again; the plant provided a living for al-Assar and his 40 workers. But building any kind of factory requires tons of cement. In al-Assar's case, about 100 tons. Problem is, sales of cement are strictly regulated in Gaza, and al-Assar had little time. Buying cement legally would have required detailed plans and myriad approvals,

Al-Assar's destroyed factory in 2014

and he had customers who needed to rebuild. So in January 2015 he did what almost everyone in Gaza has gotten accustomed to after decades of Israeli occupation and blockade: He went to the black market. He paid about double the going rate of just over $100 per ton, but he managed to restart production by that March. "I needed to get things moving," he says in the factory's crowded control room, where an ancient computer monitors the combination of ingredients to make concrete.

Gaza needs concrete, and lots of it. In the 2014 war, some 11,000 housing units were destroyed, and an additional 160,000 sustained some damage, according to the Gaza Chamber of Commerce—affecting more than a quarter of the families in the territory. Today, five years after the fighting ended, some 16,500 people remain in temporary housing, according to the United Nations. Gaza's streets are lined with half-built structures, where a handful of floors are occupied but the rest are windowless shells. Older buildings are pockmarked and crumbling from decades of neglect or damage in various conflicts. It's common to see groups of men clambering over piles of debris, breaking up slabs of concrete to recycle what they can. To repair war damage, carry out normal upkeep, and build planned projects over the past five years, Gaza needed at least 6 million tons of cement, the chamber says. It's gotten less than half that.

Like just about everything having to do with Palestinian-Israeli relations, supplying cement to Gaza is intensely political. The market is dominated by Nesher Israel Cement Enterprises, which gets about a third of its revenue from contractors who build homes for Jewish settlers on occupied land in the West Bank and controls almost three-fourths of legal sales in Gaza. Deliveries are governed by the Gaza Reconstruction Mechanism, or GRM, the complex set of rules al-Assar faced. That system monitors so-called dual-use materials—things needed by civilians that also have potential military applications. Israel restricts shipments of more than 100 broad categories of goods, ranging from smoke detectors and glues to precast concrete sewage conduits and iron reinforcement bars.

The biggest and most contentious commodity is cement, something that's rarely, if ever, been considered a dual-use material. It's easy to confuse it and concrete. The former is the builder's equivalent of glue, the stuff that binds the sand and gravel that make up the bulk of concrete, which is used in just about every structure in the industrialized world. Making cement isn't complicated—the recipe hasn't changed appreciably in two centuries—but it requires vast amounts of energy and facilities the size of a small city. Ideally, a cement factory will be located adjacent to a limestone quarry. The limestone is crushed, combined with clay and small amounts of additives such as ash or iron ore, and heated to 1,500C (2,700F). What comes out the other end is called clinker—a dark, rocky substance that looks something like charcoal briquettes. The clinker is mixed with a bit of gypsum or limestone and ground into a powder that becomes cement.

The driving force behind the GRM was a Dutch diplomat named Robert Serry, who was the UN's chief peace negotiator in the region. In September 2014, just a few weeks after the fighting ended, Serry met with Israelis and Palestinians in the West Bank to broker an agreement to speed reconstruction. With international donors expected to pledge more than $5 billion in aid at a conference in Cairo that October, someone needed to monitor shipments of supplies to building sites. "It would have made no sense without some sort of mechanism to get goods into Gaza," Serry recalls. "Everybody started to look to the UN for a solution."

What many in Gaza still call "the Serry Plan" faced intense skepticism. Israeli military brass were especially concerned about keeping Hamas—the Islamist group that rules Gaza, deemed by the U.S., the European Union, and Israel to be a terrorist organization—from getting its hands on materials that could be used to build tunnels for sneaking into Israel. But by late September, the two sides came to an agreement. While the GRM has seen millions of tons of cement enter Gaza from Israel in the past five years, many Gazans say the plan slowed reconstruction and helped ignite a black market for goods smuggled

COURTESY MOHAMMED AL ASSAR

“I just sat in the ruins and cried”

through tunnels under the border with Egypt. “The goal was to keep Hamas from getting cement,” says Maher al-Tabbaa, an official with the Gaza Chamber of Commerce. “But cement from Egypt was available to anyone, Hamas or not.”

Cement sales highlight the push-me-pull-you relationship between Israelis and Palestinians. The two sides hate, they fight, they kill, they cooperate—then the cycle begins again. And it’s getting more complicated as other Middle East players wade in. Many Gazans buy cement from a factory owned by the Egyptian military that sends significant quantities despite Egypt’s opposition to Hamas. Companies from Turkey, a perennial champion of Palestinian rights, have entered the Israeli market with cheap cement that today is even being used to build a concrete wall around Gaza. And the UN, once broadly trusted as a neutral force, has been put on the defensive as Palestinians increasingly perceive it as an enforcer of Israeli policy via the GRM.

The GRM rules are strict, and punishments for even minor violations can put contractors and suppliers out of business for weeks or months. At al-Assar’s sun-baked plant, wedged between watermelon fields and an abandoned gas station south of Gaza City, clerks must log every 50-kilogram (110-pound) sack that comes in the gate. Walking through the rebuilt factory, al-Assar points out the dozen or so security cameras he had to install—on the front gate, on the storage shed, by the truck lot, on a light pole overlooking piles of gravel. Inside he curses as he passes two video-monitoring systems that run 24 hours a day. In Gaza, the only thing reliable about the electricity is frequent blackouts, so he had to buy a pair of battery backups to ensure a steady stream of power; if the lights go out, the internet connection fails, or a storm knocks out a camera, he risks being shut down under GRM rules. Flipping through a book of permits and receipts he must show UN inspectors anytime he makes concrete, al-Assar says the restrictions amount to “a new occupation of Gaza.”

Under the GRM, proposed projects require documents describing what will be built, for what purpose, and the quantities of materials that will be needed. That’s uploaded via a website to Israeli and Palestinian Authority officials, who check it for accuracy. When a project is greenlighted, the owner of the building gets a permit to purchase cement. At an approved store in Gaza, the buyer presents his ID and orders the material. Then he arranges transportation—typically a couple of palettes with a ton or more of cement in 50kg bags—to a concrete factory such as al-Assar’s.

In a barren upstairs office at al-Assar’s plant, two UN inspectors sit around smoking hand-rolled cigarettes, waiting for the grinding equipment to kick into gear. When al-Assar wants to make a batch of concrete, they scrutinize the paperwork and approve the blending of the cement with sand, gravel, and water. “The engineers stick their nose into every ▶

Rubble in Gaza

“Israel has monopolized the reconstruction”

◀ tiny corner of your business,” says al-Assar, who says he’s been shut down more times than he can remember. “How much concrete, where it’s going, the license number of the truck, the driver—on and on and on.”

Israel contends the restrictions are needed to rein in militants affiliated with Hamas, which has controlled Gaza since elections in 2006. After the vote, most of the international community cut off aid to Gaza, and Israel moved to isolate the territory, including a ban on sales of cement. Hamas, which long advocated the destruction of Israel, is widely known to have constructed a concrete-lined labyrinth beneath Gaza to store munitions and provide shelter for its fighters. And it built some 30 tunnels—also concrete—into Israel. On six occasions, armed men managed to get under the border and have killed 24 Israeli soldiers and kidnapped three others. Israel says Gaza militants have used metal, fertilizer, and even everyday household items such as ammonia and sugar to build homemade rockets that they launch at Israeli towns and cities. After militants murdered a trio of Israeli teenagers in 2014, Israel launched what it calls “Operation Protective Edge,” the third such conflict in a half-dozen years. “There is no more just war than this one,” Prime Minister Benjamin Netanyahu said as the bombs fell in the summer of 2014. “We will not complete the operation without neutralizing the tunnels, the sole purpose of which is the destruction of our civilians and the killing of our children.”

Gaza’s 1.9 million residents long had a standard of living higher than in Palestinian areas of the West Bank. In the 1980s and ’90s, many Gazans commuted daily into Israel for work, and Palestinians abroad invested in projects aimed at making the territory’s wide, sandy beaches a tourist destination. The framers of the 1994 Oslo Accord even envisioned the 25-mile-long sliver of land along the Mediterranean as a Hong Kong or Singapore of the Middle East. But around 2000, after the start of the Second Intifada—the Palestinian uprising punctuated by a wave of suicide bombings in Israel—the Israelis began cutting off access to Gaza.

The economy has been in a tailspin since 2013, when Egypt started shutting down the 1,000-plus tunnels used to smuggle everything from cigarettes and chocolate to cars and cement into Gaza. In recent months, the situation has deteriorated as tensions between Hamas and the Palestinian Authority, combined with continuing disagreements with Israel, have sharply curtailed money transfers into the territory. The roads are potholed and rutted. The wastewater plant is overloaded, so it often dumps raw sewage into the waters along the beach. The number of Palestinians dependent on food aid from the UN has increased to almost 1 million, from about 80,000 in 2000. Unemployment stands above 50%, and among young people it’s almost 70%. At midmorning, the streets are eerily empty. Few people have any reason to get out of bed.

The GRM was conceived as a temporary measure; five years later it's still in place, and there's growing pressure to reconsider the system and Israel's controls on dual-use goods. The World Bank says that difficulties getting approvals for supply shipments have slowed construction of a water treatment plant by at least four years and that relaxing the dual-use limits could boost the Gaza economy 11% by 2025. If anything comes of the Trump administration's so-called Deal of the Century to promote investment and eventually peace in the region, there will be even greater need for a more streamlined approach.

In January, the UN, the Palestinian Authority, and the Israelis agreed to modifications aimed at making the GRM more transparent. Gazans who are sanctioned under the system or whose plans are rejected can now lodge an appeal. Projects must be approved or blocked within 45 days (before there was no time limit, and a response sometimes took months). And there's a clear catalog of dual-use goods, making it easier for Palestinians to know what they can and can't request. The UN says that since the changes, the average time for a decision on dual-use shipments has been cut in half, to 18 days. "It's much more user-friendly, transparent for donors and beneficiaries, and accountable," says Nickolay Mladenov, the UN special coordinator for the Middle East peace process.

For many Palestinians, the pain of the restrictions is compounded by the source of the materials. Although the GRM doesn't require purchases from Israel—as many in Gaza believe—most goods pass through the country, giving its companies a strong advantage. Mohamad Abu Qammar, who sells goldfinches and canaries from his ground-floor apartment a few hundred yards from the Israeli border fence, felt he had little choice but to buy his supplies from the same people who destroyed his home.

Early in the 2014 war, most of his neighbors decamped for safer ground, but Abu Qammar had no place else to go, and he figured the Israelis would only attack militants, not civilians. Two weeks into the conflict, his building was hit by a shell. Abu Qammar, his wife, and five children were taken to a hospital, where they were treated and released the following day. The family moved to a UN shelter, where they would stay for six weeks. When Abu Qammar finally got back to his home, it was still standing, but barely. He cleared away the rubble and moved back in to the damaged flat. A year and a half ago, the UN showed up with plans to rebuild. He's happy with the reconstruction—there's room for his songbird shop—but it stings that it was done with Israeli materials. "Israel is destroying," Abu Qammar says, sitting in the shade of the building on a hot summer afternoon with a circle of friends, repairing a broken fan, "and Arabs are paying."

Abu Qammar's cement came from Nesher, which for decades had a monopoly on cement production in Israel, helping build everything from kibbutzim to Tel Aviv's Bauhaus masterpieces to the walls that divide the West Bank. In the past 20 years, though, Israel has abandoned its socialist roots, and today it needs ever more concrete for its superhighways, high-speed trains, and luxury apartment towers. With the economy booming, the government in 2015 sought to boost competition by forcing Nesher to sell off a production facility. As imports from Greece and Turkey have grown, Nesher's market share in Israel has fallen to 55% from 85% three years ago. But in Gaza it remains dominant. "Israel has monopolized the reconstruction," says Mkhaimar Abusada, a political science professor at Al-Azhar University in Gaza. "There's no doubt that Nesher is making money from the rebuilding."

Nesher had been cut off from Gaza for the better part of a decade by Israeli restrictions on cement sales there, but the GRM opened it again. With its monopoly in Israel unwinding, the company hired a former military governor of Gaza to help boost its business in the territory, which now accounts for 10% of the Israeli cement market. But Miro Amiel, Nesher's


Abu Qammar

sales chief, calls the GRM "bullshit" and says it's created a secondary market among people with GRM IDs who charge an extra $15 per ton to buy cement and deliver it to anyone, no questions asked. That makes his cement more expensive, tilting customers toward Egypt. "Why do you think Israel is building a wall around Gaza?" Amiel says. "Nobody really knows where the cement is going."

Fifty miles south, through the Israeli checkpoints and across the concrete wall, fence, and barbed wire surrounding Gaza, al-Assar agrees with Amiel—and says that's why it's time to scrap the GRM. In addition to his office at the mixing plant, he has a space up two flights of rough concrete stairs in an unfinished Gaza City building surrounded by rubble. A glass door leads to the marble-clad suite, the only occupied floor in the otherwise empty shell. Al-Assar says the incomplete building highlights the lack of materials and the economic struggles of Gazans under the GRM. "From the beginning we opposed Serry's plan," he says, raising his voice to be heard over the street noise pouring in through a window propped open to catch a breeze. "We knew it would destroy our economy, but in the end we had to work with it." B —*With Saud Abu Ramadan*

If the student loans don't *break you*, the rent WILL

Dominique Lopez, a senior studying nutrition, in her apartment in Austin

Sabrina Martinez, a senior studying journalism, in her Austin apartment

Luxury developers are driving up housing costs around public university campuses

By Ali Breland **Photographs by Bobby Scheidemann**

In 2015, Sabrina Martinez got into the University of Texas at Austin, the UT system's flagship campus and its most selective. She was thrilled. Her parents, not so much. "They were just like 'Nope. You can't afford it. You shouldn't go. Loans are ridiculous.' " They encouraged her to go to the cheaper University of Texas at El Paso, to which she could commute while living at home. "But I clicked 'accept' on my admission anyway," she says, figuring that attending UT Austin's lauded journalism school would lead to more internship opportunities and, ultimately, a job after she graduated.

Martinez's parents are divorced. Her mother works as a teacher and receives child support from her father, who works in the oil fields of West Texas. Her family always had money for necessities, Martinez says, but with her two younger siblings to take care of, there usually wasn't much left over for luxuries. That meant paying for college fell squarely on her shoulders.

Even with student aid, a $5,000-a-year scholarship, and some income from a part-time job on campus, Martinez has had to take on far more debt than she expected. She's hardly alone: Average student debt has climbed from about $11,000 in 1990 to around $35,000 in 2018. The cost of tuition at public colleges roughly tripled in that time, to $10,270, but that's far from the only expense forcing students to take on loans. In a 2015 analysis, the U.S. Department of Housing and Urban Development found that "housing costs [are] likely a significant portion" of individual student debt. At UT Austin, the median annual rent in the neighborhoods closest to campus exceeds the annual in-state tuition—about $11,000 for the coming academic year—even without including other costs such as utilities and groceries.

Martinez chose to live in a dorm her freshman year at a total cost of more than $10,000, which included a meal plan. As at many public universities, UT Austin's enrollment vastly exceeds its housing capacity, so most students opt to live off campus after their first year. The closest student neighborhood is West University—West Campus to locals—which would have been a 10-minute or so walk from most of Martinez's classes. In 2017, the year she was apartment hunting, median gross rent, which includes the cost of utilities, in West Campus was about $1,200 per month, according to U.S. Census Bureau data, far more than she could afford. Instead, she moved to East Riverside, which is farther from campus but where the median gross rent was a comparatively reasonable $862 per month.

UT Austin says it doesn't keep exact numbers on students living in East Riverside, but it's popular enough that the city runs a direct bus route between the neighborhood and the university. The bus operator, Capital Metro, estimates that more than 2,400 UT students live in the neighborhood. On a good day, Martinez's commute to campus is about 25 minutes, but during rush hour it can take an hour or more. "Around 5 p.m. is when people usually get out of class, and that's a heavy time for traffic," she explains one morning as the bus crawls along a clogged I-35. "You can never find a seat, so people usually fight to be first on the bus. It's pretty rough."

Median gross rents in West Campus in 2017 were 37% higher than in 2009, a sharp increase compared with East Riverside, where the rents were roughly flat for the period. From 2000 to 2017, Austin's population climbed about 45%, according to the Census Bureau and the city, as demand for housing contributed to a 72% surge in average rents. West Campus median gross rents outpaced the city as a whole, rising more than 87% in the same period.

Population growth is almost certainly part of that increase. But the dramatic rise in rents also coincides with national developers starting to eye the areas around public universities as a growth market. Real estate companies bulldoze aging buildings to put up the kinds of amenity-rich, luxury apartments that might appeal to upper-middle-class parents looking for a safe, comfortable place for their student to live but which students from lower-income families such as Martinez's couldn't possibly afford.

What counts as "luxury" is subjective, but these kinds of developments offer a standard of living largely unseen by students in previous decades. "The rise of luxury student housing can have perverse, unintended consequences," says Thomas Laidley, a doctoral candidate in New York University's sociology department who's researched urban stratification and inequality. These pricey apartments force less wealthy students farther away from campus, and longer commutes can hurt students' grades and chances to graduate, according to research cited by HUD.

The result is to divide student populations along lines defined by family wealth. Those who fall on the wrong side feel the difference. "I would probably go to more events on campus or join more groups, because I wouldn't have to rush home or take an hourlong bus ride home," says Martinez, who estimates she'll graduate with $75,000 in student debt. "If there's an event at 7, and I get off at 5, I'm not going to want to wait two hours. I feel cut off from the UT experience."

The phenomenon isn't limited to Austin. The areas around the University of Michigan in Ann Arbor, the University of Minnesota, Twin Cities, and Colorado State University at Fort Collins have all seen luxury options proliferate and affordable ones disappear. Often the companies behind them have been structured as real estate investment trusts, or REITs—properties or mortgages that are bundled and sold in shares to investors, reducing the developer's corporate tax burden.

The pioneer of building luxury student housing at scale is Bill Bayless, co-founder and chief executive officer of American Campus Communities. ACC is headquartered in Austin, about a 40-minute drive from West Campus, where it owns more than a dozen properties. When Bayless started his company in 1993, his model seemed risky. By then-conventional wisdom, college students were fickle and irresponsible and guaranteed to leave in four years, give or take, forcing ▶

◀ landlords to find new renters. It seems obvious now, but Bayless was among the first to realize that there will always be more students to replace those who leave. Over the next two and a half decades, ACC put up luxury student housing and renovated existing properties in dozens of cities. ACC went public in 2004 and by 2018 had acquired $5.9 billion of property.

"ACC is definitely one of the grandfathers of this industry," says Ryan Tobias, a founding partner at Triad Real Estate Partners, a brokerage company that specializes in "premier" private student housing and multifamily real estate. A wave of similarly styled companies focusing squarely on high-end student housing followed. Two of ACC's biggest competitors, Education Realty Trust, or EdR, and Campus Crest Communities, went public in 2005 and 2010, respectively. EdR was acquired by Greystar Real Estate Partners in 2018.

The rise of ACC and its imitators tracks with an overall increase in student housing costs. Around the 1980s, state funding for higher education stopped keeping up with inflation. This left universities without enough cash to fund new-housing construction, or even sometimes to keep up with basic maintenance on existing units, according to a 2015 report by HUD. "Universities used to see developers as competition," says Robert Silverman, a professor in the University at Buffalo's urban planning department. "Now they see them as a solution." From 1989 to 2017, the estimated cost of on- and off-campus room and board at a four-year public university climbed more than 82%, adjusted for inflation, according to numbers compiled by the College Board. Rents across the entire U.S. climbed only about 19% in the same period, also adjusted for inflation.

How much responsibility REIT and luxury developers bear for driving up rents depends on whom you ask. Developers and their allies say they're simply offering more places for students where there are few options. But a Bloomberg analysis of rental rates based on census data shows a correlation between the arrival of luxury student housing development and rising rents near UT Austin and the University of Michigan, each of which has particularly well-defined student housing areas.

Real estate management company CWS Capital Partners LLC was one of the first to build large-scale luxury apartment buildings in Austin's West Campus neighborhood. From 2000 to 2010, the company built enough units to house 2,000 students; in that time, median gross rents in West Campus shot up more than 56%, to $1,040 per month, more than double the 24% increase in Austin as a whole during the period. In another nearby neighborhood, North University, which saw no new luxury construction, rents rose 32% in that period. CWS did not return requests for comment. ACC began acquiring those properties in 2012. It now houses as many as 34% of the students in West Campus and as much as 13% of UT Austin's undergraduate population.

The data from Ann Arbor paint a similar picture. Most luxury housing near the university was built from 2010 to 2016; in that time, Ann Arbor census tracts that include REITs and luxury apartment buildings have seen their median gross rents rise 37%, to more than $1,400 a month. Rents in Ann Arbor generally have increased about 18%. In one census tract adjacent to the University of Michigan, median gross rents rose more than $1,200 a year in 2011, 2012, and 2015, coinciding with luxury projects hitting the market built by ACC, EdR, and a couple of local developers. Rents were flat in 2013 and 2014.

The areas around campuses are basically a constantly replenishing seller's market. When a large number of people all want to live in the same place, developers can name their prices. Many universities, in trying to solve their funding shortfalls, have inadvertently exacerbated the problem by admitting larger numbers of out-of-state students, who pay more in tuition but who all need somewhere to live—and who are likelier to come from wealthier families and able to afford fancier housing. When student housing developments rent by the bed, they can usually squeeze more money out of a space than if they rented by the unit, which can further inflate real estate prices in the area.

In Seattle, which is already dealing with vertiginous rents, ACC owns three properties near the University of Washington campus and plans to build at least one more. From 2016 to 2017, rents in the so-called U District, a popular student neighborhood, rose 15%; rents in Seattle as a whole increased 6.3% in that time. ACC also built a student residence featuring a "state-of-the-art fitness center" and "gaming lounges" next to the University of California at Berkeley, where affordable housing is in severely short supply. UC Berkeley disputes that the ACC building is a luxury facility; the UW declined to comment.

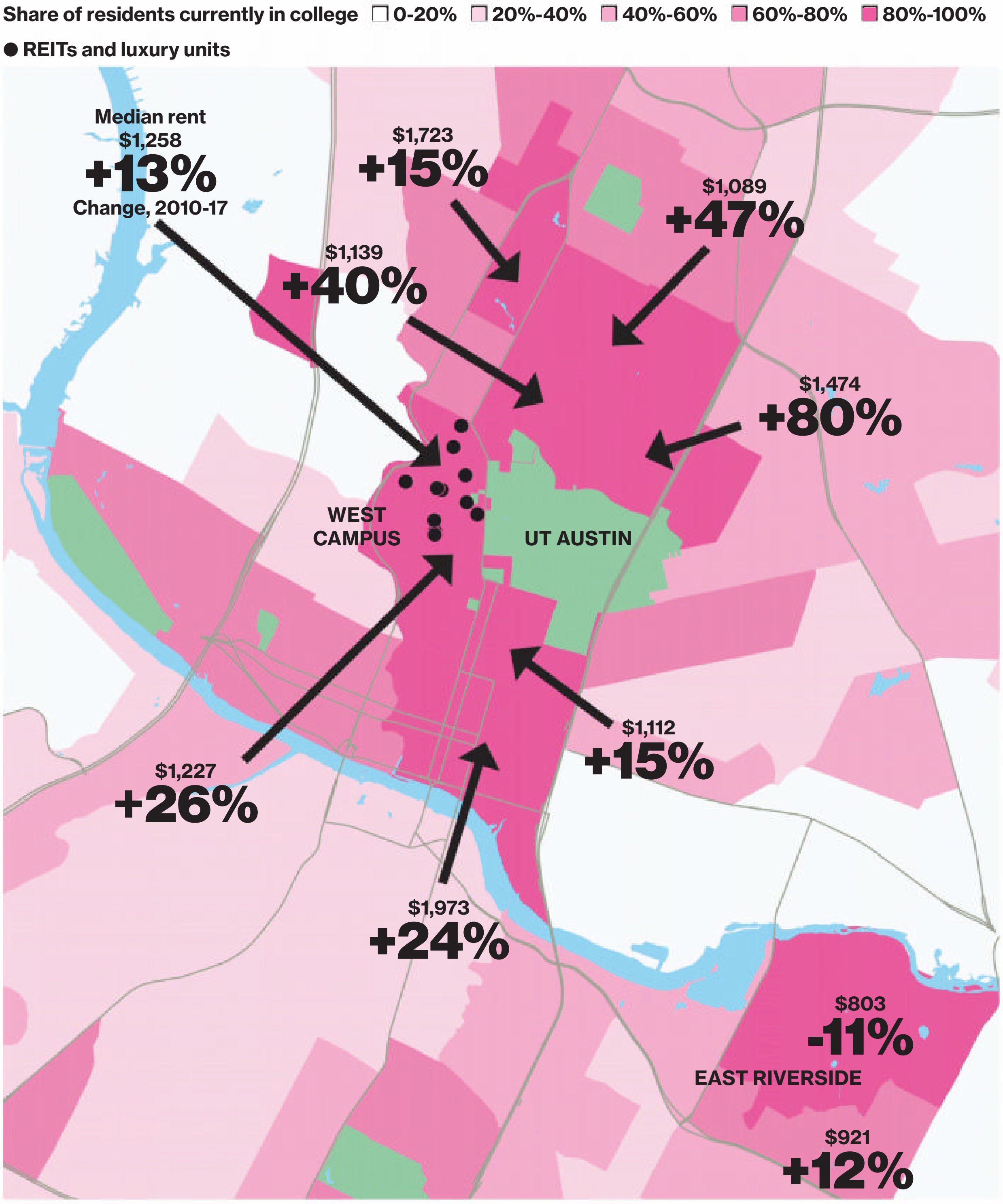
Tonie Miyamoto, director of communications for student affairs at Colorado State University, says the school has a "housing master plan," which involves new construction of affordable on-campus options. J.B. Bird, a spokesman for UT Austin, said in an emailed statement that housing affordability for students is "of serious concern for the university" and that the school has "plans in the works to extend aid for living expenses."

"The university hears often from students about the challenges of finding affordable housing in Austin," Bird said. "The university is evaluating different steps to improve the situation for students while working closely with people and businesses in neighborhoods nearby."

In the meantime, many UT students, especially those in East Riverside, are frustrated. "It just seems wrong for us to pay as much as we do in tuition, and then if we want to be able to be near campus, we have to pay even more," says Mary Okon Itrechio, another UT Austin student who lives in Riverside. "You have to come from a rich family, basically, if you want to have the luxury of living near campus and interacting with other students more."

The University of Michigan declined to comment for this story, and

In Austin, the Off-Campus Rent Is Too Damn High



DATA: U.S. CENSUS BUREAU

EdR didn't acknowledge multiple comment requests. ACC spokeswoman Gina Cowart disputed the term "luxury" as applied to the company's properties, saying ACC provides "quality communities designed for longevity and the student experience at competitive prices." She also said students can apply to be resident assistants at ACC properties for a 25% reduction in rent as part of the compensation. Nationwide, Cowart said, the company had raised rents annually by a "very modest" 2.6% on average since the company's 2004 initial public offering. In markets where student housing is harder to find, however, ACC has hiked rents by much higher percentages. From 2013 to 2017, rents at the company's Austin properties went up 24%; in Ann Arbor, ACC raised rents in one building by 26% from 2012 to 2017.

Bayless says his company offers more affordable options than do his competitors, which often focus exclusively on luxury units. "We have always focused on what we refer to as building for the masses, not the classes," he says, adding that ACC's shared rooms bring down the price of housing for individual students.

For students with limited means, living in an expensive unit closer to campus isn't necessarily better. One of Sabrina Martinez's friends, Dominique Lopez, works a total of 20 hours a week at two part-time jobs, in addition to being a full-time student, to be able to pay for her roughly $1,000-a-month West Campus apartment in a building that CWS built in 2014. Her rent is slightly lower than others' thanks to a citywide affordable housing program, which helps some individuals from lower-income backgrounds live in higher-end buildings.

Lopez's parents pushed her to live within walking distance of her classes, because they said it would help her grades, she says. She's not sure if it's been worth it. "I had been in several clubs, including the Pre-Physician Assistant Society. I had to drop that, though, after I started working to be able to afford to live near campus," she says. "I feel like it's hurt me professionally. It's affected my ability to volunteer, be involved, and make a more competitive application for grad school." Lopez says her parents help as much as they can, but she's taken out loans that she'll have to pay back after she graduates. "I had a breakdown as I was re-signing my lease," she says, because of the pressure of paying for another year of rent. "But my parents talked me through it."

Kathie Tovo, a member of the Austin City Council whose district includes West Campus, winces when she hears about Lopez's rent. "That's a lot. That's a lot of money," she says. Tovo has floated various ideas to make student housing more affordable but says she faces substantial resistance from developers. Mike McHone, a local real estate agent who represents some developers in the area, helped create the affordable housing program in West Campus that Lopez relies on, which allows developers who put in affordable units to build taller buildings. He dismisses the notion that nonmarket-based types of aid such as rent control are necessary to help students find better options. "Commodify all the commons," McHone says.

More units haven't benefited students such as Lopez and Martinez, who have to struggle to afford to live in them. "It's a double-edged sword because, on one hand, you're building housing for students which has been in short supply in a lot of places," says NYU's Laidley, the doctoral candidate. "But when you have shareholders, all they care about is how much money they're making. It's not their business to care if students get safe, fair housing." Ⓑ *This article was reported in partnership with Type Investigations.*

IF I GIVE MY CHILD MONEY AM I ENABLING THEIR ADDICTION?

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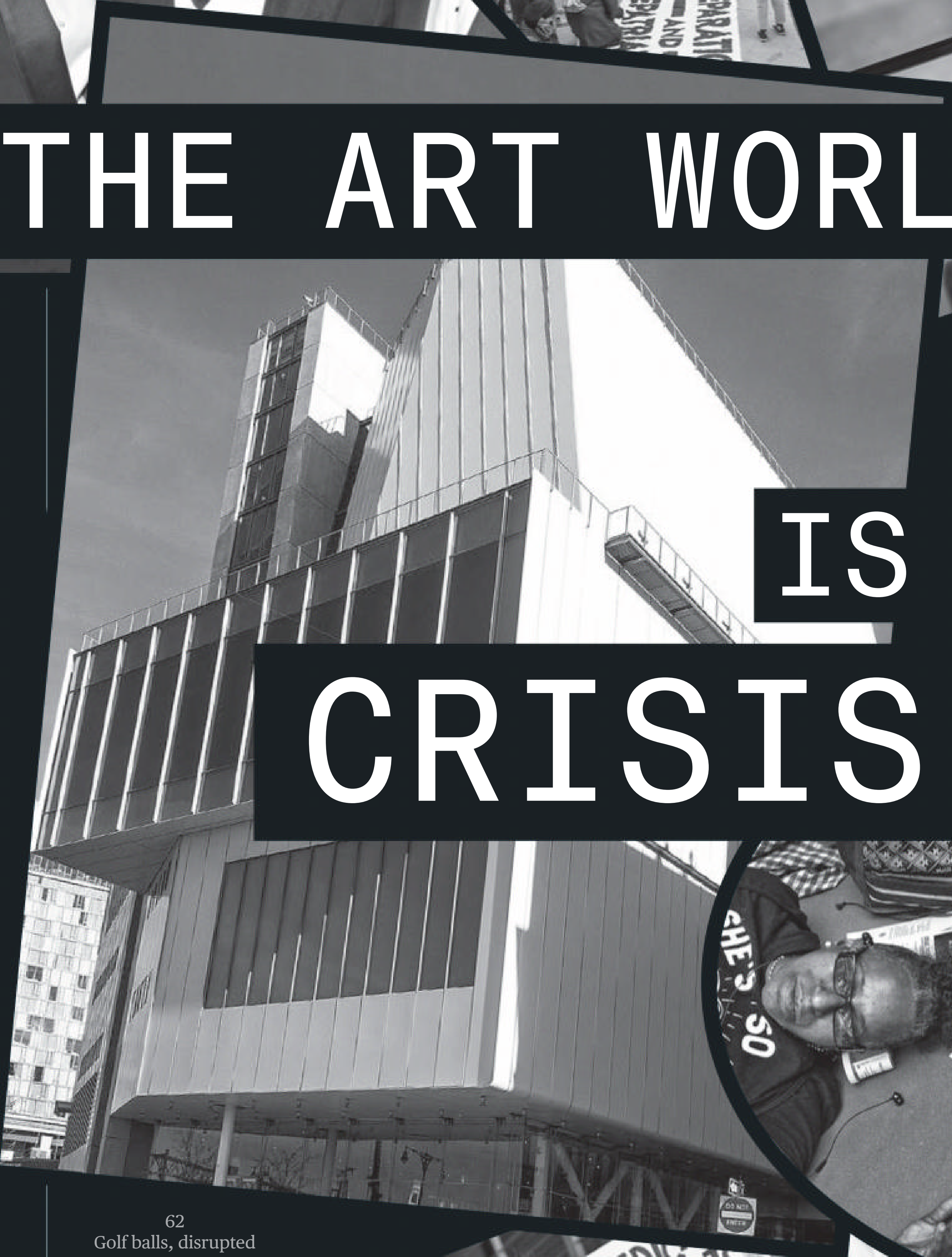
THE ART WORLD IS IN CRISIS



August 19, 2019

Edited by
Chris Rovzar

Businessweek.com

WHY YOU CAN'T QUITE GET THE "DIRTY" MONEY OUT OF MUSEUMS. BY JAMES TARMY

Most art world squabbles never make it past the echoes of white-walled galleries, but a recent series of scandals and protests have spilled into the mainstream, plunging some of the world's greatest museums into a crisis that hasn't been seen since the furor of the 1980s culture wars.

Back then it was a group of senators attempting to defund the National Endowment for the Arts. This time, it's private philanthropy that's in the crosshairs. And it's not politicians leading the charge but the artists themselves.

The latest head to roll is Warren Kanders, who stepped down from the board of the Whitney Museum of American Art on July 25 after a monthslong campaign against him. The reason: Kanders is chairman and chief executive officer of Safariland LLC, a manufacturer of tear gas that was purportedly used against migrants at the U.S.-Mexican border.

As a response, the group Forensic Architecture partnered with Academy Award-winning filmmaker Laura Poitras to make a video critical of Kanders's businesses that went on view in the museum's Whitney Biennial (through Sept. 22). Another group called Decolonize This Place unfurled banners on the museum's facade. Four artists requested that their work be removed from the museum because they refused "further complicity with Kanders and his technologies of violence." About 100 Whitney staff members signed an open letter calling for Kanders to quit. In his resignation letter, Kanders cited "the targeted campaign of attacks against me and my company."

At the same time, photographer Nan Goldin has led an assault on donations from the Sackler family, whose name is on the walls of institutions including the Metropolitan Museum of Art in New York, the Louvre in Paris, and the Harvard Art Museums in Cambridge, Mass. The family's fortune is partially derived from the opioid OxyContin, and after a series of demonstrations this year, the Guggenheim and the Met in New York as well as the Tate in London announced they would no longer accept donations from the family. (The Louvre has since removed the Sacklers' name.)

The increased scrutiny on the source of museum trustees' wealth, augmented by the heightened activism in response, comes at a time when arts institutions are struggling to stay solvent at all. The American Folk Art Museum had to vacate its flagship space in New York in 2011; in 2015 the Museum of Biblical Art in New York closed altogether; earlier this year the Newseum in Washington, D.C., announced the sale of its building to Johns Hopkins University.

American cultural institutions, starved of public support, need to fundraise. But an aging donor base, changes in the tax code that inhibit charitable giving, and a younger generation that prioritizes environmental and political causes over the arts have forced museums to fight for donations. This isn't about capital campaigns or new buildings—it's about keeping the lights on.

Previous page, clockwise from top left: Kanders; protesters at the Whitney; the Sackler wing at the Met; protesters at Harvard; the facade of the Whitney

Goldin (left) at the Louvre to protest Sackler donations; a die-in at Harvard

Admission fees represent about 16% of the Met's total $297 million revenue, according to its most recent annual report. Funds generated by philanthropy (both from the endowment and gifts) represented more than 50%. At the Whitney, admissions represented 11% of its almost $90 million total revenue last year—there, too, contributions and grants made up about 50%. "The business of a museum is to serve the public, and those programs cost more to deliver than they earn," says Amy Kaufman, a museum consultant whose clients include the Studio Museum in Harlem and Storm King Art Center in Cornwall, N.Y. "As long as we choose not to [publicly] fund the majority of our cultural organizations, we'll still be investing huge sums into fundraising year after year."

Only now, fundraisers must reconcile the current "cancel" culture with the fact that massive wealth is inevitably controversial, which means it's almost impossible to predict which trustee might become the next flashpoint. "Just think, three years ago, would Mr. Kanders have even been challenged?" says Diana Duke Duncan, a Washington, D.C.-based museum management consultant who's worked with the Smithsonian Institution, the Dallas Museum of Art, and the Barnes Foundation. "That's how rapidly things have changed."

Since their inception, most of America's museums have relied on patrons, many of whom made their money in ways that some might find unsavory. The Art Institute of Chicago was spearheaded by Charles Hutchinson, whose Midwestern meatpacking facilities predated those described by Upton Sinclair when he wrote *The Jungle*, his exposé on the industry. Before steel baron Henry Clay Frick founded his museum in New York, he achieved notoriety for firing 3,800 striking steelworkers, then hiring Pinkertons, a private police force, who shot into the crowd. There might be blameless American fortunes, but you wouldn't know it from looking at a register of the country's founding museum trustees.

And yet for more than a century, these very museums have often been champions of a decidedly critical

PREVIOUS PAGE: GETTY IMAGES (2), SETH WENIG/AP PHOTO, TAMARA RODRIGUES REICHBERG (2). THIS SPREAD: GOLDIN: DENIS ALLARD/REA/REDUX PICTURES. HARVARD: TAMARA RODRIGUEZ REICHBERG

avant-garde. Diego Rivera famously inserted Marxist imagery in his fresco "homage" to Ford Motor Co. at the Detroit Institute of Arts in the 1930s: Forty years later artist Hans Haacke installed a piece at New York's Museum of Modern Art that asked, "Would the fact that Governor Rockefeller has not denounced President Nixon's Indochina policy be a reason for you not to vote for him in November?"—when Rockefeller was on MoMA's board.

In 2011 artist Andrea Fraser wrote an influential text that stated "many of our patrons are actively working to preserve the political and financial system that will keep their wealth, and inequality, growing for decades to come." The takeaway, she continued, is that "what has been good for the art world has been disastrous for the rest of the world." Five years later Fraser was given a solo show at the Whitney.

Museums argue they cannot afford to be too choosy about whose gifts they will accept, given the paucity of major givers across the board. "Historically, this country made a decision, politically and economically, that cultural institutions, hospitals, and universities would be primarily supported by private philanthropy," says Daniel Weiss, president and chief executive officer of the Met. "We've taken the view that the people who support us should be honorable people doing upstanding things. But we don't subject them to scrutiny like, 'Did they make their money in areas that some of us might find politically objectionable?' " he continues. "If the money is being put to good use, and serves the museum's best interest, and if the donor made those funds legally, we're satisfied."

This month, *New York* magazine published a list ranking the city's "most toxic museum boards" and put the Met at the top, mostly because of its trustee emeritus David Koch, an aggressive backer of right-wing efforts. Almost every major museum in the city made the list: MoMA for Larry Fink, CEO of BlackRock Inc. (a large shareholder in two companies that contract with U.S. Immigration and Customs Enforcement); the American Museum of Natural History for Rebekah Mercer, investor in Cambridge Analytica.

A solution, says Duncan, is for museums to preempt criticism by diversifying boards in advance. "Change the makeup and points of view on the board so that there's some self-checking going on," she says. "If you become too reliant on one point of view, that's where you get in trouble."

Weiss says the Met is open to change. "It may well be that in the coming years there will be pressure to do things differently, and we'll be open to that discussion. But for the moment, we feel comfortable that what we're doing is sensible, ethical, and strategic."

But as long as museums rely on private funds, Duncan says, there isn't much they can do—and the protests will keep coming. "It's impossible to replace a major philanthropic component of your operating budget with someone who has no [negative] exposure at all." B

Any Way You Slice It

Golf-ball startups are chipping away at a $5 billion market. *By Michael Croley*

Unless you're developing a fertilizer, you probably don't expect to disrupt the golf industry from the spare room of a sewage company. But that's where Dean Snell found himself four years ago, holed up in an office with a single computer. "In the mornings, we were walking past the trucks that pump out the port-a-johns," he says with a laugh.

It wasn't what Snell envisioned when he decided to start his own company. He'd been an engineer in the golf-ball business for 25 years—first with Titleist and then with TaylorMade Golf Co., where he worked with such pros as Dustin Johnson and Jason Day and was instrumental in developing the Tour Preferred line. His name is on dozens of patents, including one for the original Titleist Pro V1, the most popular ball on the tour. (Gary Woodland played with it for his U.S. Open victory in June; Brooks Koepka used the Pro V1x when he won this year's PGA Championship.)

COURTESY ONCORE

But Snell figured he could bring his knowledge of materials, patents, and processing to the public and "eliminate big tour contracts" that pay pros handsomely to use specific products. His premium ball would have the performance characteristics of market leaders while passing the savings back to the consumer. The base rate for a 12-pack of Snell's new MTB-Xs is $33; a dozen Pro V1s cost $52.

Snell Golf is among a handful of companies that have disrupted the golf-ball market—valued by Golf Datatech at $420 million out of a total $5 billion golf-equipment industry—by following a direct-to-consumer model that rewards volume shoppers. Vice Golf was started by a pair of German lawyers who met while surfing. "We weren't the typical golfers coming at this wanting to turn our favorite sport into a business," says co-founder Ingo Düllman.

Instead, after seeing the success of Dollar Shave Club, Harry's, and other consumer brands, they set out to give golf-ball marketing a makeover with cheeky commercials you'd expect from Old Spice or Geico. Vice sells a dozen balls for anywhere from $34 down to $11, if you buy in bulk. They come in lime green, neon red, and traditional white, or you can mix and match all three. And you can pair the brand's logo—which rides the line between edgy and gaudy—with a picture of your own or a rival's face. The company also sells flat-bill caps, golf bags, and waffle-knit towels and has teamed up with the NBA so basketball fans can tout their favorite team on the fairway.

Another competitor, Buffalo-based OnCore Golf Technology Inc., is taking a more technological approach. Its first ball had a hollow metal core, which helps drives stay straighter, and eventually forced the U.S. Golf Association to rewrite its rulebook. Its Genius ball, making its debut in the second quarter of 2020, will have an internal GPS to measure shot velocity, spin rate, total distance, trajectory, and apex, all while telling you how far you are from the green. Brokerage founder Charles Schwab joined as a shareholder in January, and the brand was renewed in April as the official ball of the New York State Golf Association. Its premium Elixr sells for $35 per dozen, but buying in bulk can drop it to $30.

If you lose four or five balls a round, like Cut Golf founder and Chief Executive Officer Sam Uisprapassorn does, you might need a cheaper substitute. He started Cut under the assumption that if he could get people hooked on the ball, they'd also pony up for $80 polos down the line. "The golf ball was a way to build a loyal following," he says. In two and a half years, Cut has carved out a discount niche, selling its balls for less than $20 per dozen.

Most modern premium golf balls have the same three elements: a rubber core, one or two (or even three) additional layers, and the dimpled cover. But Sam Robinson, senior director for product testing at the independent review site MyGolfSpy, says consumers have a misconception that premium golf balls are all the same. The distinctions are just hard to measure, because everyone hits differently. Tested using a robot that makes the same swing each time, Snell's MTB-X ball had a slightly higher ball speed on average and hence traveled a few yards farther than almost every other ball on the market. OnCore and Vice didn't lag far behind.

Even though most golfers determine their brand loyalty by how far the ball goes, Snell believes a better test is to start 125 yards from the green and then work your way in, because that's where you take most shots. After you've found a ball you like, he says, use it when you're looking for a new driver, which is the opposite of how most golfers shop. "The ball is the only piece of equipment you will use on every single swing," he says. "If you can't tell a difference between them, then go buy the one that's most affordable." B

ILLUSTRATION BY CARI VANDER YACHT

Craft Beer for Nondrinkers

Taste-testing the best of the healthy "low-and-no" category

By Tony Rehagen

Just before noon at the O'Fallon Brewery O'Bar in Maryland Heights, Mo., the pub begins to fill with workers from nearby office parks. Scattered among the usual burgers and build-your-own flatbreads are more than a few pints of beer. This is a brewery, after all, in a suburb of St. Louis, the ancestral home of Anheuser-Busch.

A closer look at these midday libations, however, yields surprises. Among the standard lagers and India pale ales, the bar serves a Hellraiser dark amber to patrons who want to stay clear for the drive and alert for the afternoon—or just save a few calories. Although it looks and tastes like a craft ale, it contains barely any alcohol. The beer is one of four brews created in this building by the upstart WellBeing Brewing Co.

Opened in 2016, WellBeing says it's the first North American brewery dedicated solely to the making of nonalcoholic, or NA, beer, a minuscule but fast-growing sector of the American craft beer industry. Younger consumers know of the bodily damage drinking causes; aging drinkers find that alcohol doesn't mix with medications. *Beverage Daily*, a trade publication, has found that 84% of people who drink are looking to drink less.

Even though NA (0.5% alcohol by volume and below) and low-alcohol beers (2.8% ABV) constitute 5% of U.S. beer consumption, the "low-and-no" category overall grew at 5.2% from 2010 to 2016, says GlobalData Plc, an analytics firm—while the craft beer boom has slowed. Anheuser-Busch InBev SA/NV, the world's largest brewer, predicts that low-and-no beer will grow from the current 8% of its sales to 20% by 2025.

Traditionally there have been two ways to make no-alcohol beer: either halt the brewing process before the sugars ferment, cutting short the period when beer develops its taste profile; or boil the alcohol off a finished batch, essentially scorching the flavor. Either way, what's left is just plain skunky, too sweet, or too watery—have you actually ever tried an O'Doul's? Enter Jeff Stevens, a marketing rep and recovering alcoholic who founded WellBeing after he grew tired of being the buzzkill at bars by ordering Diet Cokes.

Stevens brews his NA beer differently. In 2015 he found researchers at the University of Munich who'd developed a method of vacuum-distilling beer that lowers its boiling point, preserving the flavor. The result was an almost booze-free drink that had the texture and, most important, something approaching the taste of beer. He consulted with the brewers at O'Fallon, a regional craft mainstay known for a wide range of styles and experimental flavors, to formulate recipes and rented out a corner of its 39,000-square-foot factory. He ordered a vacuum distillation machine (they retail for about $800,000) and set to work.

Since then, Stevens has been joined by breweries such as Bravus Brewing Co. in Newport Beach, Calif., which does a nonalcoholic oatmeal stout akin to Guinness; Athletic Brewing Co. in Stratford, Conn., which markets its Upside Dawn golden ale to the marathon-running, Michelob Ultra crowd; and Partake Brewing in Toronto, whose blond is one of the few lagers in this space. Nirvana Brewery, in London, opened in 2017 as the U.K.'s lone craft supplier of low-alcohol pub draughts.

Some, like WellBeing, use vacuum distilling to remove the booze, whereas others, such as Bravus, manipulate the yeast to produce less ethanol. As with magicians, most brewers refuse to divulge their proprietary secrets.

Stevens's flight is among the tastiest. At 68 calories per 12-ounce can, his flagship Heavenly Body golden wheat (0.2% ABV) is crisp, with the frothy texture of a Blue Moon. The Hellraiser (0.3%) could stand in for a Fat Tire based on how it maintains the malt and nuttiness of a dark ale. His Intrepid Traveler Coffee Cream stout (0.4%) won't make anyone forget what a Samuel Smith's tastes like, but it's a robust treat with only 7 grams of sugar. Victory has enriched its citrus wheat (0.19%) with electrolytes.

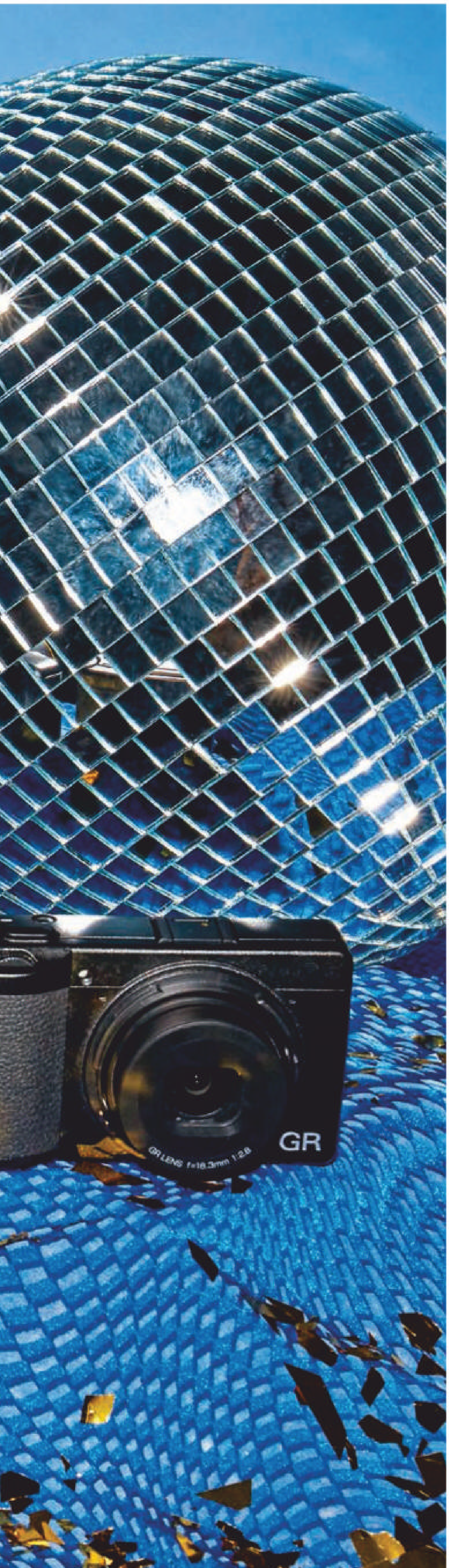
WellBeing's beers are already available in stores, and because the company isn't bound by the interstate shipping restrictions placed on alcohol, it can mail its beers practically anywhere. The goal is to get retailers to move WellBeing off the NA shelves—what Stevens calls the "sad space." Having conquered the basics of brewing, he now faces an arguably harder job: changing perception. B

The Belle of the Ball

The point-and-shoot camera makes
an unlikely comeback as a party accessory

By Evan Ortiz

Photograph by Jessica Pettway



With the advent of the smartphone, the point-and-shoot camera would seem redundant. The whole idea, after all, is a device that's small enough to fit in a pocket and requires you only to "point and shoot." The category is nonetheless having a creative renaissance after years of declining sales. At the two most recent Met Galas, musician Frank Ocean and model Kendall Jenner brought along their '90s-era Contax T3s to document the festivities. Think of the new point-and-shoot as Gen Z's version of the vintage Polaroid, but one that's lighter, can take high-definition video, and elevates the quality of your images in the quickest and most space-effective way. Many new models can even be paired with phones, so you can have your shot and Instagram it, too. We road-tested the latest offerings from Ricoh, Fuji, and Panasonic—plus a few classics of the genre—and present six compact cameras that deliver, whether it's for a splash-prone pool party or a gala of your own.

1. The Status Purchase

When the **LEICA C-LUX** came out in 2018, it bridged the gap between an accessible, easy-to-use compact and one that still retains the brand's prestigious analog aura. A touchscreen quickly gets you to the camera's functions, and the body, though small, still has solid heft. It also offers an impressive zoom ranging from 24mm (very wide) to 360mm (very tight), but with a pedigree like this, the real fun is in the act of shooting. *$1,050*

2. The Road Tripper

In addition to portability and 4K video, Panasonic's **LUMIX ZS200** has impressive zoom capabilities that don't sacrifice image quality. It has the same range, basic dimensions, number of megapixels (20), and weight (12 ounces) as the Leica C-Lux but at a lower price. Consider it for your safari vacation or the next U.S. Open—situations when you'll want to zoom in without actually moving. *$798*

3. The Rough-Terrain Handler

Waterproof down to 82 feet, able to sustain falls from almost 6 feet, and functional in temperatures as low as 14F, the **FUJI FINEPIX XP140** works well enough in places it's designed for—that is, underwater and extreme environments. Other cameras can capture higher-quality images, but rather than risk your phone or an expensive digital single-lens reflex (DSLR) camera, you can stick this small model, which came out in March, in your pocket before you dive into the pool or scale that mountain. *$260*

4. The Powerful Street Magnet

Don't underestimate its cuteness: The little **RICOH GR III**, also new this March, is a powerhouse of speed and resolution, which makes it best for outdoor events and capturing flurries of activity. If you want to "dabble" in street photography but don't want to carry around a larger DSLR, the Ricoh slips into a shirt pocket. It doesn't come with a built-in flash, though, and the lens is fixed, so, no, you can't zoom. *$900*

5. The Hypercompetent Do-It-All

Elegant and rounded, the **SONY CYBER-SHOT DSC-RX100** comes with image stabilization and a 10-frames-per-second continuous shooting mode to capture a scene fast. Don't expect to zoom far with this camera, but it can go up to 100mm for a tighter shot. And the pictures look so gorgeous, you'd think it's a DSLR. Add in superior on-the-go video capabilities, and it's a no-brainer multitasker. *$448*

6. The Nostalgic-for-the-'90s Play

If vintage inspires you, grab a **CONTAX T3**. This camera shoots 35mm film—yes, the kind from "back then"—which you have to get developed. It's so old, it's not in production anymore; you'll need to track down an owner on EBay or another secondhand site. But among film-based point-and-shoots, it's quite simply the best. Its Carl Zeiss lenses produce vivid images, and a built-in flash can light up the scene from more than 7 feet away. *From $1,500*

Squeezing Off The Weight

A soothing massage procedure has become a hit among the Instagram set for its rapid, slimming side effect

By Mark Ellwood

It was about six months ago when Dr. Ryan Neinstein noticed an unexpected uptick in the number of patients making appointments—not for the usual nips and tucks but rather for prods and pulls. They were requesting lymphatic drainage massage, a procedure the Manhattan liposuction specialist normally offers to patients recovering from invasive procedures. It eases postoperative swelling by coaxing fluid out of soft tissues.

"These were people we've never operated on requesting our masseuses to work on them," he says. The jump in new patients was caused by a simple thesis: Lymphatic drainage massages could work as a slimming shortcut—a cosmetic upgrade that doesn't require a single incision. As it wicks away some of the water in your tissue, a lymphatic facial can sharpen your cheekbones and a full-body treatment can help you drop 5 or 6 pounds almost overnight.

Neinstein's new patients have celebrity role models. Cate Blanchett, Kris Jenner, and the Duchess of Sussex all have used lymphatic drainage for a cosmetic boost, if we believe their facialists' interviews and social media accounts. When Kim Kardashian West and Eva Chen, Instagram's director of fashion partnerships, wanted to tone their body for the pink carpet at the Met Gala in May, they opted for the treatment. Scroll through the social media feed or stories of any celebutante—think Hailey Rhode Bieber (née Baldwin), Selena Gomez, or Shay Mitchell—and you'll likely find them gushing about the instant, Insta-friendly effect.

How does it work? The body can hold as much as 1.3 gallons of unneeded water in the soft tissues, Neinstein says. He likens that liquid to "a pool at the side of the road, stagnant and not serving any purpose." A professional drainage will prompt the lymph system to release that water. It tidies up the body, like a biological janitor, and purges that liquid through the skin and the urinary system. Now slightly dessicated, the patient will be visibly slimmer. Neinstein compares it to waking up hung over, but without the headache. "Bodies look slimmer and tighter because the dehydration rids the body of excess water."

Neinstein is unusual in offering such a process from his swanky Upper East Side office, as most such magic workers in the U.S. operate under the radar. (In London, counterpart Nichola Joss focuses on lymphatic facials.) Many masseuses draw clients via social media, especially Instagram. Two of the most respected are Camila Perez (@camilaperez.mt), who calls her process "high definition massage," and Flávia Lanini (@flavialanini), who claims to have created the "massage effect." They list their WhatsApp numbers for appointments and visit clients where they live. (Lanini says she's opening a studio in New York, but there's no confirmed date.)

Perez and Lanini, like many practitioners, are originally from Latin America. The technique was finessed as a slimming treatment in the numerous plastic surgery offices of such cities as Bogotá and São Paulo. It's no crackpot New Age conceit; the medical bona fides of lymphatic drainage date back almost a century. In the 1930s, Danish doctor Emil Vodder championed its benefits, such as reduced swelling and improved circulation. Indeed, credentials from his namesake school in Austria or its satellite campus in Canada are the sole assurance that any Instagrammer offering such treatments is qualified.

At Neinstein's office, where a one-hour session costs $300, the treatment is surprisingly painless, at least when carried out by his on-staff masseuse. Unlike Swedish or deep-tissue massage, it's aimed at the small blood vessels and soft tissue right below the skin's surface. After an ultrasound to the abdomen to prep the soft tissue, the masseuse begins kneading the muscles. It feels as though she's trying to make bread, either on or perhaps with your belly fat. Then she works the whole body in firm, clenching motions, grabbing me by the scruff of the neck the way an old man might greet his grandson. The only awkward moment is when she reaches in to press key points on the groin and murmurs a smiling apology.

The next day my pants feel looser and my six-pack-less stomach looks somewhat flatter. But that could be an effect of the power of suggestion—and hope.

Patients are clearly convinced, though. Irani Makimoto-Domino of New York's IMD Beauty Spa has added five more rooms for treatments in the past 12 months. Neinstein anticipates that his business will grow as well—so much so that he's planning to build a permanent lymphatic massage salon attached to his practice when he expands later this year. B

PHOTO ILLUSTRATION BY BEN GILES; PHOTOS: GETTY (2)

From Dusk ’Til Yawn

Create a better wake-up routine with a smarter, more soothing alarm. *Photograph by Will Anderson*

Modern life’s ability to disrupt our circadian rhythms—whether with blue light from our devices or jet lag—has spurred a cottage industry of alarm clocks that aim to provide inconsistent sleepers with a measure of control. Philips’s touch-sensitive SmartSleep light ($200) mimics natural light patterns to ease you into and out of a restful state. To simulate dawn, LEDs glow from red to orange to yellow over the course of 30 minutes, culminating in your choice of FM radio, nature sounds, or ambient music that gradually increases in volume. At night, a sunset setting reverses the color range to prepare you for bed. A connected version works with the companion SleepMapper app with a built-in sensor to track humidity, temperature, and sound and light levels.

THE COMPETITION

• Lumie’s Bodyclock Active 250 ($125) uses an incandescent bulb to mimic sunrise and sunset for 15 to 90 minutes. It has sound effects, a lamp that can be dimmed, power backup, and a display that shuts off completely.

• In January mattress industry disruptor Casper introduced the $129 Glow, which skips the display entirely. An internal gyroscope adjusts its brightness based on whether you twist, wiggle, or shake the device.

• The $99 Illumy is an app-controlled sleep mask with integrated lights that lets you create your own sunrise or sunset. It also has a feature using light pulses to help shift brain waves into a more relaxed—or alert—state.

THE CASE

Remarkably simple to use, SmartSleep light provides a wide range of options to customize your nightly routine. Touch the home button, and it opens up into five icons, which include ones for an alarm bell, brightness, and sound. Even better, you can set the strength of the wake-up light to your preferred intensity of dawn. And though most “smart” gizmos that come with a ton of settings are anything but, this one will actually get your devices out of the bedroom, making it easier to rest easy. If not, you can snooze for nine more minutes by tapping the top. *From $200; usa.philips.com*

At almost 9 inches tall, it stands higher than your average alarm

R&D Spending May Be China's Achilles' Heel

By Shuli Ren

In its bid for technological supremacy, China has one small problem: Its research and development spending, at a little more than 2% of gross domestic product, is dwarfed by that of Israel, Japan, and even the U.S. A global behemoth like Huawei Technologies Co. can still wow the world with its tens of thousands of active patents, but most Chinese companies don't invest nearly enough in cutting-edge technology to compete.

That's because excessive R&D spending can hamper Chinese businesses' ability to go public. Unlike in the U.S., China's stock exchanges require companies to be profitable for at least three years before making an initial public offering. R&D spending shows up on income statements as an operating expense and thus keeps young companies in the red for longer.

Starting in late July, technologically ambitious companies can list on a new Nasdaq-style platform: the Shanghai Stock Exchange's Science and Technology Innovation Board, colloquially known as STAR, where profitability doesn't matter. Among the 20 or so industrial and tech companies that have listed there so far, R&D spending averages 12.8% of their 2018 sales, more than double that of their counterparts on the more established exchanges.

STAR stocks gained 140% on the board's first day, but the enthusiasm may not last. Chinese investors tend to like plain-vanilla consumer brands, especially after waves of corporate scandals this year taught them to fear complicated accounting. Han's Laser Technology Industry Group Co., a supplier of smartphone parts to Apple Inc., was such a market darling that it was valued in April at more than 30 times earnings. In July state media reported that the company, instead of building a 1 billion-yuan ($142 million) research center as it claimed, was developing a five-star hotel near a ski resort in the Swiss Alps. Han's Laser is now being investigated for possible misuse of funds (the company says there was no misappropriation), and the stock is worth only half of its 2019 peak of about 45 yuan.

Intangibles are difficult to value everywhere, but that's particularly true in China, where banks refuse to accept intellectual property as collateral for loans. Last year, as China's trade war with the U.S. bit into corporate profit, listed companies wrote down more than 10% of their 1.3 trillion yuan worth of goodwill assets.

It's laudable that Beijing is trying to bring China Inc. into new fields such as automation and 5G technology, but it has to teach its companies better governance as well. Otherwise they'll be stuck chasing their competitors' success—or worse, sitting on a pile of worthless assets and bad debt once the market moves on.

STAR stocks are shining now, but chances are that many of them will fade quickly. Chinese stockholders risk falling into the same trap as investors in the U.S., which still lags behind many of its economic competitors, in viewing "R&D" as code for "pet projects that will never generate value." Ⓑ *—Ren is a markets columnist for Bloomberg Opinion*

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