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# THE WALL STREET JOURNAL.

DOW JONES | News Corp \*\*\*\*

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WSJ.com

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Last week: DJIA 25309.99 ▲ 90.61 0.4% NASDAQ 7337.39 ▲ 1.4% STOXX 600 381.16 ▲ 0.1% 10-YR. TREASURY ▲ 2/32, yield 2.871% OIL \$63.55 ▲ \$2.00 EURO \$1.2298 YEN 106.87

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### Business & Finance

**I**nvestors borrowing record sums to buy stocks exacerbated this month's selloff after they were hit by margin calls. A1

◆ **Blackstone** and other companies have been galvanized into assessing their exposure to gun-related issues, as calls for action grow on social media. B1

◆ **Apple** will begin storing Chinese customers' encryption keys, alarming privacy specialists. B1

◆ **A probe** by the Manhattan DA's office into Newsweek has widened and is looking at possible advertising abuses and ties to a college in California. B1

◆ **American companies** are shipping more coal to Europe and Asia, helping to stop the decline in U.S. mining jobs. A3

◆ **Berkshire Hathaway** recorded a \$29 billion windfall from Trump's legislative overhauls. B2

◆ **Analysts** are scouring past periods of weakness for clues as to what might happen next after the dollar's recent slide. B10

◆ **Airbus, Delta** and Sprint kicked off an initiative to enhance internet access on airliners. B4

◆ **Gucci** is in the midst of a boom shadowed by the threat of fickle shoppers. B3

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◆ **Trump's lawyers** are considering ways for him to testify before Mueller. A1

◆ **China's Communist Party** prepared constitutional changes that would allow Xi to serve as president indefinitely. A1

◆ **The Supreme Court** will hear a lawsuit seeking to strip unions of the power to bill collective-bargaining costs to employees who don't want to pay. A1

◆ **Mexico** and the U.S. canceled a meeting over disagreements about the funding of the border wall. A6

◆ **Florida's governor** asked the state's law-enforcement commissioner to investigate the response to the Parkland school shooting. A3

◆ **Lawmakers return** to Washington to find guns taking priority over spending and immigration. A4

◆ **North Korea's delegation** at the Olympics said Pyongyang is "fully willing" to talk with Washington. A5

◆ **The Syrian regime** continued to bomb Eastern Ghouta, posing a challenge to the U.N.'s call for a nationwide cease-fire. A6

◆ **Britain's Labour** Party will announce a strategy to force the government to maintain economic ties with the EU after Brexit. A9

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## Next Stop for the Winter Olympics: Beijing in 2022



**WAVING THE FLAG:** Thomas Bach, president of the International Olympic Committee, took part in the handover ceremony for the 2022 Games to China. As the Pyeongchang Games concluded Sunday, North Korea's delegation said it is open to talks with the U.S. A5, A14

## Margin Bets Fueled Selloff

Stock traders borrow a record \$642.8 billion, stirring fears volatility will be more common

By MICHAEL WURSTHORN AND CELSEY DULANEY

Investors borrowing record sums to bet on stocks exacerbated this month's sell-off, after they were hit with calls to reduce those obligations and forced to sell

shares to raise cash.

If that debt, known as margin loans, continues to rise at the current pace, analysts warn that big selloffs and sudden bouts of volatility in the stock market could become more commonplace.

Retail and institutional investors have borrowed a record \$642.8 billion against their portfolios, according to the Financial Industry Regulatory Authority, as they try to pocket bigger gains by ramping up their exposure to stocks.

But they were left vulnerable when the Dow Jones Industrial Average rapidly tumbled more than 1,000 points during two separate sessions earlier this month. Money managers say the penalties these investors faced from their brokers for trading on margin helped deepen the rout.

Joe Diaz, a trader who lives in Yuma, Ariz., watched as his portfolio fell as much as \$25,000 in early February, forcing him to add more

money into his account to satisfy a margin call as the stocks he bought using margin, such as Wells Fargo & Co., Nvidia Corp. and Intel Corp., tumbled alongside the broader indexes.

Using a margin loan, an investor like Mr. Diaz would pledge all or part of a portfolio of stocks and bonds as collateral to buy other securities. If the value of the collateral shrinks enough, which tends to depend on the mix of investments that are pledged,

Please see MARGIN page A10

## China Moves To Extend Xi's Rule

By CHUN HAN WONG

BEIJING—China edged closer to a return to one-man rule as the Communist Party prepared constitutional changes that would allow Xi Jinping to serve as president indefinitely.

A proposal to eliminate presidential term limits, announced on Sunday by state media, would abolish an institutional check introduced after Mao Zedong's death in 1976 and risks a return to internecine power struggles that hobbled China during past leadership successions.

Mr. Xi has accumulated essentially unrivaled authority in recent months, a hold on power he now appears likely to retain after his second terms as Communist Party chief and president expire in roughly five years.

The scrapping of language that limits a president's time in power to two terms is part of a set of constitutional amendments lawmakers are expected to rubber stamp at their annual parliamentary session, which starts in a week—a formality in Mr. Xi's march toward dominance.

While the presidency wields no executive powers, lifting the 10-year cap on Mr. Xi's role as head of state would allow him to retain indefinitely a post he has used to champion China's resurgence as a

Please see XI page A6

◆ Apple to store encryption keys in China ..... B1

## To Stay on the Land, Farmers Take Extra Jobs

Drop in agricultural income means side work funds food production

By JACOB BUNGE AND JESSE NEWMAN

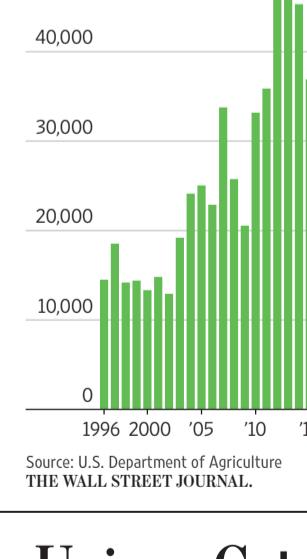
Craig Myhre, a farmer in western Wisconsin, is trying to make a living off 600 acres of crops and a small herd of beef cattle. He also hires himself out to harvest other farmers' fields, earning money to make payments on his combine.

It's still tough to make ends meet, despite putting in 12- to 16-hour days. In 2015, he added yet another job, as a mail carrier.

"We're constantly doing something around here to keep things moving," said Mr. Myhre, who is 50 years old. His wife is a physician's assistant, and sometimes climbs into the seat of a combine herself. Together,

### Farm Income Down

Revenue minus production costs



they are raising five children and trying to maintain a farm in Wisconsin's rolling hills that has been in Mr. Myhre's family since 1952. Sometimes, that means missing his sons' high-school football games, and staying home while friends in town take vacations. "I struggle to pay myself sometimes," he said.

Most U.S. farm households can't solely rely on farm income, turning what was once a way of life into a part-time job. On average, 82% of U.S. farm household income is expected to come from off-farm work this year, up from 53% in 1960, according to the U.S. Department of Agriculture.

Off-farm work has become

Please see FARMS page A10

## Public-Sector Unions Get a Court Test

By JESS BRAVIN

WASHINGTON—Public-employee unions face a reckoning Monday when the Supreme Court hears a long-anticipated lawsuit seeking to strip them of the power to bill collective-bargaining costs to employees who don't want to pay.

The case arrives at the court as a dispute between a state employee in Springfield, Ill., and the union that represents his bargaining unit over a \$45 monthly payroll deduction. The stakes are much

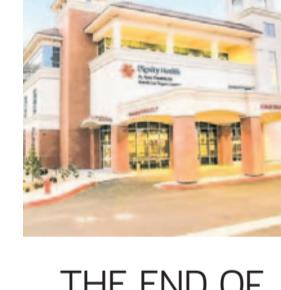
higher: A ruling for the plaintiff would sap the strength of public-employee unions in states where they have been a pillar of the Democratic Party coalition.

The politics are reflected in the support behind each side. The Trump administration is backing the employee, as are an array of conservative politicians and organizations. The union is joined by a range of left-leaning groups, labor organizations and Democratic political figures, including the mayors of New York, Los Angeles and Chicago.

Under federal law, states hold significant discretion to decide the degree of power organized labor can exercise in the workplace. They can decide whether private businesses and labor unions can include in contracts "union-security" clauses that require hires to join a union or pay it an "agency fee" for representation in collective bargaining.

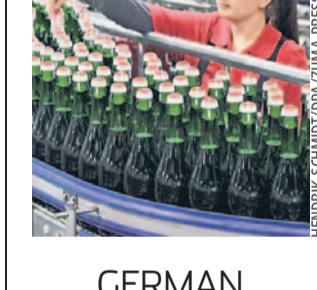
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## INSIDE



### THE END OF THE HOSPITAL AS WE KNOW IT

JOURNAL REPORT, R1-R8



### GERMAN ECONOMY FAILS WOMEN

WORLD NEWS, A9

## Trump's Lawyers Mull Options for Testimony

By PETER NICHOLAS

President Donald Trump's lawyers are considering ways for him to testify before special counsel Robert Mueller, provided the questions he faces are limited in scope and don't test his recollections in ways they say could unfairly trap him into perjuring himself, a person familiar with his legal team's thinking said.

Mr. Trump's legal team is weighing options that include providing written answers to Mr. Mueller's questions and having the president give limited face-to-face testimony, another person familiar with the matter said. "Everything is on the table," this person said.

Mr. Mueller is investigating whether Mr. Trump's campaign colluded with Russia in the 2016 elections and whether the president obstructed justice

Please see TRUMP page A2

◆ Congress returns, with gun issues taking priority ..... A4

◆ Trump, key Democrat spar over FBI memo ..... A2

## U.S. NEWS

THE OUTLOOK | By Bob Davis

## Authoritarianism Is China's Edge in AI



China made enormous economic strides in the past quarter-century by manufacturing everything from toys to tires inexpensively and exporting them overseas. To become a truly wealthy nation, it must move beyond its role as a low-cost manufacturer and become an economic innovator itself.

Can a repressive state, led by a central government specializing in five-year plans and surveillance of its own people, make such a leap? The odds against success look steep. Economic history includes few examples of authoritarian states becoming innovative business leaders. But China aims to make that jump in artificial intelligence—or high-level machine learning—with an unusual approach that can't be dismissed.

Beijing is bankrolling a big effort in AI, in part, to keep better track of homegrown individuals it considers criminals and dissidents, and to intimidate would-be opponents. That work involves fundamental research in image recognition, data collection and sorting that could have commercial spinoffs in the software used to run complex

systems. A city with millions of self-driving cars, for instance, would need data analysis and the ability to recognize, say, that a ball bouncing across the street might be followed by a child chasing it.

"What gives China an edge is there is more of a sense of urgency," says Paul Triolo, a technology research manager at Eurasia Group.

Last summer, China's central government published a comprehensive plan for artificial intelligence development that aims to make the nation "the world's primary AI innovation center" by 2030.

In China such plans aren't simply blueprints, but indications of central government priorities, which work down to localities, state-owned firms and entrepreneurs. So far, local governments, looking to turn themselves into software centers, have pledged about \$7 billion in funding for AI development, estimates a congressional panel that focuses on China.

Mix that with genuine enthusiasm for the technology among Chinese scientists and companies—and world-class talent—and you have a formidable force, say U.S. researchers who have studied China's AI program. "There's an en-

## Two Tech Titans

Share of total global R&amp;D spending



\*Estimate

Source: R&amp;D Magazine

THE WALL STREET JOURNAL.

thusiasm for AI and culture of dynamism that we don't see as much in the U.S., at least outside of Silicon Valley," says Massachusetts Institute of Technology researcher Erik Brynjolfsson.

Among the most innovative—and threatening—of the Chinese research involves surveillance. The Wall Street Journal has detailed how Beijing has turned its western Xinjiang region into a warren of facial scanners to track millions of Uighur minorities. A new twist: mobile facial-recognition units mounted on

eyeglasses that police use to search crowds for fugitives, among other uses.

Artificial intelligence works by the collection of vast amounts of data used to "train" computer software to recognize patterns and reach conclusions, precisely the kind of skills needed to track a small number of dissidents among a sea of Chinese faces.

"A repressive state can be an engine of innovation," says Robert Atkinson, president of the Information Technology and Innovation Foundation, a tech policy center.

In the past, Chinese efforts to innovate have stumbled over the state's desire to centralize control, denying researchers and companies the freedom to follow their own ideas. Beijing is trying another approach in computer chips, putting together a massive government fund, but the U.S. has blocked China's efforts to acquire advanced Western technology.

AI may be different, say U.S. technology researchers. China's AI effort is being joined by globally competitive internet powerhouses including Tencent Holdings Ltd., which is focused on medical imaging, and Alibaba Group Holding Ltd., which wants to help create smart cities that use sensors, cameras and

computers to manage traffic. So far, the government is following their lead, AI researchers say.

Chinese researchers may not have political freedom, they say, but they have the economic freedom to chart their own course. And the Chinese government doesn't throw up roadblocks to the technology on the grounds of privacy, as occurs in the West.

"Freedom is very important," says Mr. Brynjolfsson. "But there is more freedom in China to do startups than most people realize."

Becoming an innovator in high technology and making a business success of those innovations in international markets is something that only a few countries have done, says Loren Graham, an emeritus MIT science historian.

"All of them—so far—are open, democratic societies in which government companies do not dominate," he said.

He says China's push in AI represents a great economic experiment.

"Can a country like China with lots of money combine repression, creativity and economic success based on that creativity? If the answer is yes, then we will have to rethink everything."

## ECONOMIC CALENDAR

**TUESDAY:** Federal Reserve Chairman Jerome Powell is set to testify on monetary policy before the House Financial Services Committee, his first appearance on Capitol Hill since he was sworn in as the new leader of the U.S. central bank this month. He is scheduled to testify before the Senate Banking Committee on Thursday.

**WEDNESDAY:** Official and private **purchasing managers index** figures from China on Wednesday and Thursday will provide an early glimpse into the condition of the Chinese economy in February. Economists said growth momentum may lose some steam as the Lunar New Year, falling in February this year, led to a shutdown of factories and services ahead of and during the holiday.

The **U.S. Commerce Department** publishes its second estimate of fourth-quarter **GDP**. The initial reading, released in January, showed the economy finally picking up steam after an unexpectedly slow expansion since 2008. Synchronized global economic growth and renewed investment spending by U.S. firms helped the country's economy accelerate in recent quarters.

**THURSDAY:** The U.S. Commerce Department releases **personal income** data for January. Analysts will be watching for further signs of ramped-up wage and price growth that could raise the possibility of faster-than-expected monetary policy tightening by the Fed.

## UNION

*Continued from Page One*  
who benefit from union-won contracts while burdening more altruistic co-workers with overhead costs.

The plaintiff in the case, Illinois child-welfare-office worker Mark Janus, argues the agency fees infringe on his First Amendment right to freedom of speech.

The fees are akin to "the government forcing individuals to support a mandatory lobbyist or political advocacy group," Mr. Janus, represented by the National Right to Work Legal Defense Foundation, argues in his Supreme Court brief.

The American Federation of State, County and Municipal Employees, the union named in the lawsuit, says it represents 1.6 million members nationwide. Afscme says its Illinois division, Council 31, has 75,000 members; about 10% of represented employees decline membership and must pay an agency fee amounting to around 80% of full union dues, which are set by individual locals.

In defending its agency-fee laws, the state of Illinois, represented by its Democratic attorney general, Lisa Madigan, calls Mr. Janus's argument a "radically overbroad constitutional claim...that everything a-

Republican Gov. Bruce Rauner issued executive orders abolishing agency-fee provisions and filed suit to set aside state laws that authorized them. After a court ruled that the governor lacked standing to bring the challenge, Mr. Janus was recruited to replace him as plaintiff, Mr. Rauner said in an interview.

"At the core, there are two issues here," said Mr. Rauner—the power public-employee unions exercise in the political sphere and the burdens they place on individuals they represent. Mr. Rauner considers public employee unions pernicious because, he says, unlike those in the private sector, they can help choose their negotiating partners through political activity.

The unions disagree. "We advocate and negotiate for wage increases and better benefits," but also "for those who are disenfranchised, those who don't have a voice, those who are in the shadows of our society, because those are the people we come into contact with," said Stephen Mitton, a child-welfare investigator in Chicago and president of Afscme Local 2081.

The Abood decision distinguishes between a union's core function of representing employees in collective bargaining, for which states can authorize contracts requiring employees to pay their share, and other things organized labor might do, including political campaigning or lobbying, which workers can't be forced to subsidize.

Additionally, the court generally has given states more authority over their own employees than over the public at large, reasoning that it should have more managerial discretion, including the ability to place some restrictions on speech, when it acts as an employer than it does when enforcing the laws against the general public.

But in 2012 and again in 2014, the court's conservative majority ruled against public-employee unions in opinions that, while dealing with more limited disputes, suggested sympathy for broad First Amendment arguments.

Anti-union groups scrambled to develop a test case that could overturn the Abood decision, and after arguments in January 2016, the court seemed poised to do just that. Those hopes faltered, however, after Justice Antonin Scalia died the next month and the court divided 4-4 to leave the precedent in place.

Senate Republicans blocked President Barack Obama from filling the vacancy. After Donald Trump won the presidency, the Illinois case, Janus v. Afscme, quickly was teed up to offer his appointee, Justice Neil Gorsuch, a chance to cast the fifth vote against the

precedent.

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precedent.

Both sides have leverage they can use, legal experts say.

A subpoena from Mr. Mueller compelling Mr. Trump to testify

## Leaders Spar Over Democrats' Memo

BY PETER NICHOLAS

WASHINGTON—A feud flared over the weekend between President Donald Trump and the top Democrat on the House Intelligence Committee over the release of a Democratic memo defending federal investigators' handling of surveillance of a former Trump campaign adviser.

Rep. Adam Schiff of California accused the White House of delaying the memo's release until the weekend to minimize news coverage, while the president said Mr. Schiff leaks information from the committee and is a "bad guy."

The back-and-forth followed the release Saturday of a memo written by Mr. Schiff that rebutted an earlier Republican memo alleging federal officials improperly relied on Democratic-funded research to get a warrant to spy on the former Trump adviser, Carter Page.

Democrats had wanted the memo to be released side-by-side with the GOP memo on Feb. 2. A week later, Mr. Trump, citing national security concerns, delayed the release while committee Democrats and FBI

and Justice Department officials negotiated over redactions. That process ended late last week, clearing the way for the memo's release on Saturday, White House officials said.

Mr. Trump, on Twitter Saturday, cast the memo as a "bust."

Mr. Schiff said that releasing the memo over the weekend "is not the kind of thing you do with information you're eager to get out there or is a 'bust.'"

The GOP memo said Mr. Page was improperly surveilled on the basis of information from former British spy Christopher Steele, whose work was being funded through Democratic Party intermediaries. It said Mr. Steele's research became "an essential part" of the application for court-approved surveillance.

The Democratic memo said the FBI had an "independent basis" apart from the Steele research for wanting to look into Mr. Page's conduct.

The Democratic memo said the Justice Department made clear in its warrant application that Mr. Page had been on the FBI's "radar" for years before Mr. Steele wrote his dossier.

Mr. Page hasn't been accused of any wrongdoing.

## TRUMP

*Continued from Page One*  
cuse the Trump campaign of assisting that effort.

Lawyers for Mr. Trump hold different views on whether he should testify and under what conditions.

One member of the Trump legal team said Sunday that Mr. Trump's testimony could set a bad precedent for future presidents, eroding their powers.

This person also questioned whether an interview is necessary given all the information that the White House has shared with Mr. Mueller.

Mr. Mueller's office, the member of the legal team said, "has all of the notes and memos of the thoughts and actions of this president on all subjects he requested in real time without reservation or qualification, including testimony from his most intimate staff and eight lawyers from the White House Counsel's Office. Any question for the president is answered in these materials and testimony."

This person added that, "It would be a travesty to waste his (Mr. Trump's) time and to set a precedent which would cripple a future president."

If Mr. Trump offers an interview under specific terms, it is unclear whether Mr. Mueller would agree; Mr. Mueller's office declined to comment.

"The sooner they make the president available to submit to an interview, the faster that Bob Mueller can get to the finish line and be over and done," said Robert Ray, who served as independent counsel in the White-water investigation that examined former President Bill Clinton's conduct.

Negotiations could break down should Mr. Mueller insist on conditions Mr. Trump finds unacceptable, and the president's lawyers are prepared to launch a court fight to shield him from testifying, people familiar with the matter said.

Both sides have leverage they can use, legal experts say.

A subpoena from Mr. Mueller compelling Mr. Trump to testify

could increase pressure on the president to answer questions.

"The American people really want him to cooperate with this investigation," said Alberto Gonzales, who was attorney general under former President George W. Bush.

Should Mr. Trump face a subpoena, he could try to quash it, setting in motion a lengthy legal proceeding that could deprive Mr. Mueller of an interview any time soon. Guy Lewis, a former U.S. attorney in Florida who has worked with Mr. Mueller in the past, said, "If that's not two years of delay and litigation, up and back to the Supreme Court, then I don't know what is."

To avoid a protracted court fight, Mr. Mueller might prefer to strike an agreement on the interview's scope, he said. "You're playing chess here, and both sides are smart chess players," Mr. Lewis said.

Whether Mr. Trump winds up talking to Mr. Mueller is one of many lingering questions surrounding the Russia investigation, which has shadowed this presidency from the start.

The probe's latest turn came Friday when Richard Gates, a former Trump campaign aide previously indicted by Mr. Mueller, pleaded guilty to two charges, making him the fifth person to publicly admit to criminal misconduct, and the third Trump associate to cooperate with Mr. Mueller's team.

Samsung Electronics Co., with a 22% share of the smartphone market worldwide, leads No. 2 Apple Inc., which holds 15%. A graphic with a Business & Finance article on Saturday about Huawei Technologies Co. incorrectly switched the labels for the world market shares for Samsung and Apple.

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be careful in saying no more than needs to be said, I might let my client go ahead and testify."

If Mr. Trump were to face detailed questions involving dates and times, his legal team may be reluctant to have him participate, the person familiar with his team's thinking said. As an example, this person said, general questions about what the president was thinking when he ordered the firing of Mr. Comey might be acceptable, as opposed to what action he took on a specific date and time.

Lawyers for Mr. Trump have studied a 1997 federal court ruling that could be the basis for delaying or limiting the scope of an interview, or perhaps avoiding one altogether. In that case, a federal appeals court ruled that presidents and their closest advisers enjoy protections against having to disclose information about their decision-making process or official actions.

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## U.S. NEWS

# Shooting Puts Sheriff On the Defensive

State will investigate responses to incident that took lives of 17; claim of incompetence

Broward County Sheriff Scott Israel is fighting to save his job as questions mount over his department's response to the deadly Feb. 14 shooting at a Parkland, Fla., high school and its handling of warnings about the alleged gunman before the crime.

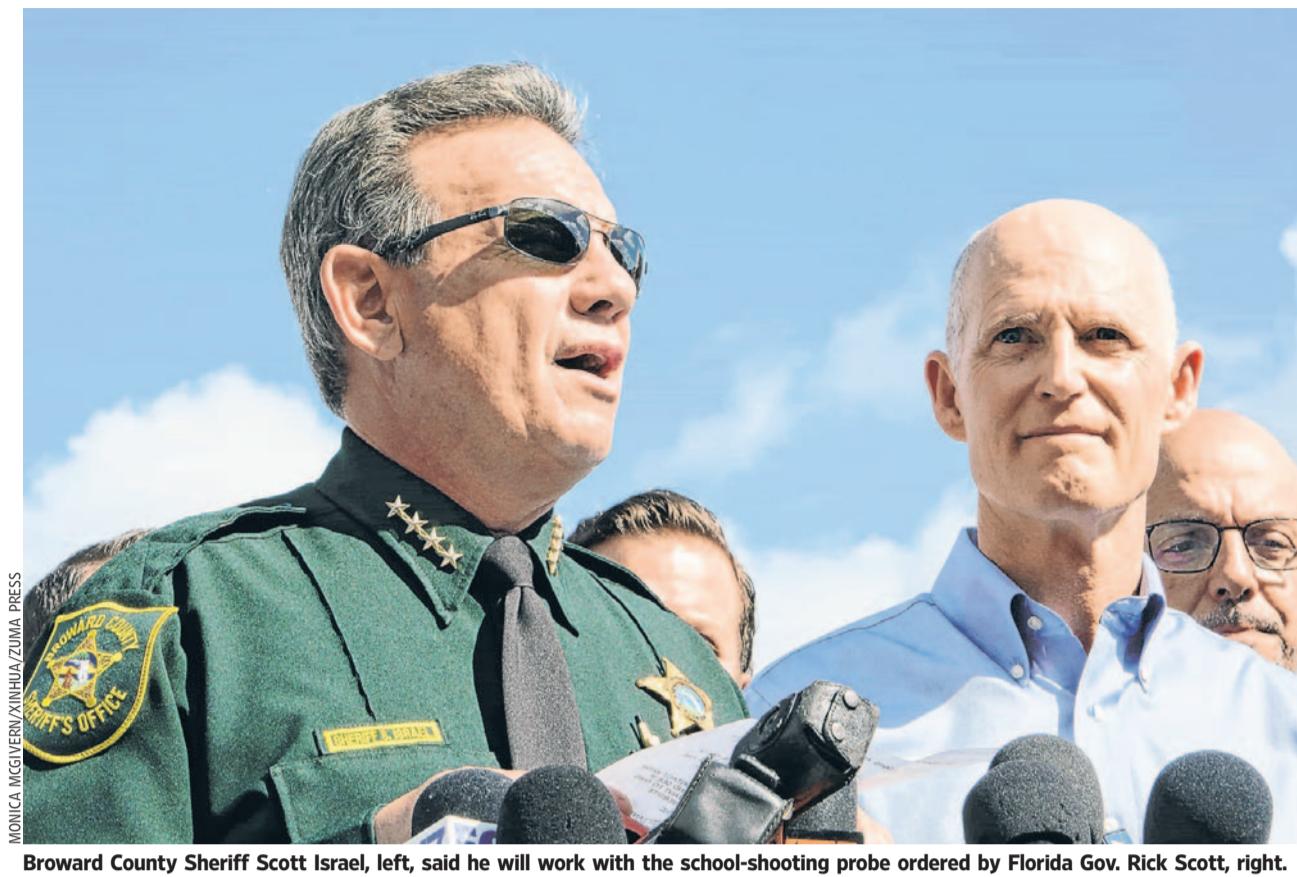
*By Zusha Elinson,  
Joseph De Avila  
and Arian Campo-  
Flores*

Florida Gov. Rick Scott asked the state's law-enforcement commissioner Sunday to immediately investigate the response to the shooting, which claimed the lives of 17 people.

In the past few days, Florida's Speaker of the House, Richard Corcoran, along with more than 70 other GOP lawmakers, have called on Mr. Scott to suspend Mr. Israel for incompetence and dereliction of duty.

In a letter to Mr. Scott, Mr. Corcoran cited numerous interactions the Broward County Sheriff's Office had with the alleged shooter, Nikolas Cruz, as well as phone calls from individuals warning such an event was possible, and the failure of a deputy stationed at the school to enter the building during most of the shooting attack.

The sheriff's office has said it received 23 calls related to Mr. Cruz and his family dating back to 2008. In the most recent call, at the end of November, the caller said Mr. Cruz was collecting guns and knives and believed he was a school shooter in the making, according to a log of the calls provided by the sheriff's office.



Broward County Sheriff Scott Israel, left, said he will work with the school-shooting probe ordered by Florida Gov. Rick Scott, right.

The deputy who handled the call told the caller that Mr. Cruz no longer lived in Broward County, Sheriff Israel said in a letter sent Saturday to Mr. Scott. That deputy told the caller to notify the local law enforcement agency that Mr. Cruz was now living in Palm Beach County, the letter said.

Mr. Corcoran's letter also noted that the governor has the power under the state constitution to suspend a sheriff for "malfeasance, misfeasance, neglect of duty or incompetence."

"Sheriff Israel's fundamental duty is to keep the peace and protect the citizens of Broward County," Mr. Corcoran wrote. "As a result of Sheriff Israel's failures, students and

teachers died."

Sheriff Israel said Sunday his office would fully cooperate with the probe that will be led by Florida Department of Law Enforcement Commissioner Rick Swearingen.

But Sheriff Israel also signaled he won't leave without a fight. "The day you can beat LeBron at basketball, that's the day I'll resign," he said in an interview.

The son of a homicide detective for the New York City Police Department, Sheriff Israel, 61 years old, began his career in law enforcement with the Fort Lauderdale Police Department, where he worked as a road patrol officer, in the narcotics division, and as SWAT commander.

When he was first elected

as sheriff in 2012, running as a Democrat, rank-and-file deputies

were happy to have a leader who had worked as a police officer, said Jeff Bell, the union representative for Broward County deputies. "We have a lot more respect to someone who's done the job rather than just a politician," said Mr. Bell.

They said they weren't as pleased with Sheriff Israel's emphasis on de-escalating tense situations rather than using force in response to nationwide protests over the shooting of unarmed black men.

The sheriff faced a big test in January 2017 when a gunman opened fire at the Fort Lauderdale-Hollywood International Airport, killing five and

wounding six innocent bystanders.

In that shooting, deputies quickly approached the gunman, but the sheriff's office was criticized for poor communication and for failing to set up a unified command, leading to confusion about who was in charge, according to a report released last year.

Sheriff Israel said he disagreed with the findings, adding that law enforcement agencies worked together well. He said the biggest lesson learned from the airport shooting was that emergency responders shouldn't rush to the scene in disorganized fashion once the killer was caught.

◆ Firms review gun-industry ties after shooting.....B1

## Teacher Doesn't Want to Be Armed

A teacher who sheltered 65 students in her classroom during the Feb. 14 shooting in Parkland, Fla., said Sunday she opposed President Donald Trump's call to arm school personnel.

Ashley Kurth said on ABC that she worries students could find a way to get their hands on the firearms.

"I have a 7-year-old, and I would not feel comfortable with him going into a classroom knowing that there could be a potential weapon in there," she said.

Mr. Trump has called for at least some school personnel to be armed to stop would-be attackers. He reiterated his position Saturday on Twitter, while also saying such decisions should be left up to states. National Rifle Association spokeswoman Dana Loesch said Sunday on ABC that arming educators is a decision that should be up to the teachers and parents.

Teachers do have guns in some schools in the U.S., but the call to widely arm educators has been strongly opposed by many school officials as well as an organization that represents school-based law enforcement officers.

The National Association for School Resource Officers warned that arming teachers would make it more difficult for police to respond to shootings because they could mistake the teacher for the assailant. Police also get more training and are better at deciding whether to shoot or hold fire in a crowded school, the group said.

—Zusha Elinson

## A Talisman of Solidarity Given to Attack Survivors

BY VALERIE BAUERLEIN

It has been driven across the country in a snowstorm, prayed over and presented in ceremony after ceremony from Columbine, Colo., to Newtown, Conn., and, most recently, Townville, S.C.

It is the gift no school wants to receive.

It is a 19-year-old dreamcatcher in a poster-size frame, a talisman that has been passed among communities bound together in tragedy, handed to schools that have endured fatal shootings.

Among Native American cultures that make them, a dreamcatcher is a wood hoop strung with a net or mesh. The object is believed to filter dreams, allowing in good ones and keeping out the bad.

Next month, the memorial dreamcatcher will be brought to Parkland, Fla., and to the list on its back will be added the name Marjory Stoneman Doug-

las High School, where a former student killed 17 people on Valentine's Day. It will be delivered by hand by its most-recent custodian.

"It is a face-to-face, heart-to-heart kind of connection," said volunteer Stephanie Hope Smith, who handles logistics for a "dreamcatcher family" of school-shooting survivors.

The tradition started in 1999, when a group of students in a program for Native Americans at a school in Muskegon, Mich., wanted to send something meaningful to Columbine High School, where 12 students and a teacher had been killed in April of that year by two gunmen who also died at the scene.

They asked their teacher, medicine woman Debra Gutowski, to make the dreamcatcher because of its supposed protective powers. A Muskegon school administrator took it to Colorado.

"Our prayer was for this to stop," Ms. Gutowski said. "It



Caleb Smith, 10, left, and Courtney Oakgrove, 11, center, from Minnesota hold the dreamcatcher.

LINDSEY WASSON/THE SEATTLE TIMES/ASSOCIATED PRESS

had to stop. But it didn't stop."

The dreamcatcher was held

for a time in Red Lake, Minn., where a former student killed a security guard, a teacher and five students at a high school on the Indian reservation there in 2005.

"In the spirit of healing, we pass on this dreamcatcher," reads an inscription on the back. "May it never travel again!"

But it did travel again. A delegation from Minnesota took it to Newtown, where some of them attended the funerals of children killed in the 2012 Sandy Hook Elementary School massacre.

Then the dreamcatcher was taken from Newtown to Marysville, Wash., in 2014 after a student killed four other students at Marysville-Pilchuck High School.

"We've become part of a fraternity that no one wants to be a part of," said Ray Hauser, a Marysville School District ad-

ministrator. "But there are people who understand."

Now, Joanne Avery—a superintendent in a rural South Carolina school district where a former student killed a 6-year-old outside Townville Elementary in 2016—plans to take it to Florida. She hopes it will be its last stop.

## U.S. Coal Jobs Get Boost From Exports

BY KRIS MAHER

Miners in Indiana and other states are getting a small lift from global markets: American companies are shipping more coal to Europe and Asia, helping to stop the yearslong drop in the number of U.S. mining jobs.

The latest job increase runs counter to the long-term decline in coal used to generate electricity in the U.S., as coal-fired power plants are closed in favor of plants that burn cheap and cleaner natural gas.

Exports of U.S. thermal coal used by utilities rose 117% to 42 million tons last year. That more than offset the 11-million-ton decline in coal used at U.S. power plants, which fell to 667.5 million tons last year, from 678.6 million tons in 2016. Coal accounted for 30% of U.S. electricity generation in 2016, compared with nearly 34% for natural gas.

The stronger export market is translating into a bump in coal-mining jobs. Last year, coal companies added about 1,200 jobs, a trickle compared with

"We are seeing actual coal-fired generation power plants being built in other countries," Alliance's CEO Joe Craft told analysts recently. "So we're expanding."

The export opportunities come from a tightening of global supply, attractive pricing in Western Europe and greater coal use in developing countries like India, where imports of U.S. thermal coal jumped to 6.8 million metric tons last year, from 2.4 million metric tons a year earlier.

By contrast, the loosening of environmental rules by the Trump administration, while welcomed by the coal industry for boosting confidence, has had little direct effect on domestic coal usage or exports, industry experts say.

Mines in the Illinois coal basin, which includes parts of Illinois, Indiana and western Kentucky, are benefiting the most for several reasons. The mines there tend to be lower-cost operations than in more heavily mined areas in Appalachia.

Mining companies in the Midwest also can ship coal by

river and export it through the Gulf of Mexico, while ports on the East Coast are often congested and politicians and environmental groups have blocked coal shipments from the West Coast.

Other companies say they also expect exports for thermal coal to remain strong in 2018. Exports of metallurgical coal used to make steel were up 35% last year, buoyed by an improving global economy.

The number of coal miners rose to 83,840 last year, from 81,879 a year earlier, according to the Mine Safety and Health Administration. The figures include contract miners as well as direct employees.

The latest mine openings are likely to be partly offset by the expected closure of a few mines this year, one employing 370 miners in Greene County, Pa., south of Pittsburgh.

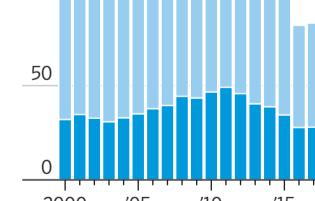
Murray Energy, the largest underground coal-mining company in the U.S., said it would export more coal this year, about 22.5 million tons, compared with 15 million tons last year.

### Digging Out

Employment at U.S. coal mines has stabilized after years of losses

Contractors Direct employees

150 thousand



Source: Mine Safety and Health Administration

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## U.S. NEWS

# Gun Issue Adds to Congress's Full Plate

After a one-week recess, lawmakers also face deadlines on spending, immigration

BY KRISTINA PETERSON  
AND NATALIE ANDREWS

Lawmakers return to Washington on Monday to find a familiar contentious issue—guns—taking a priority over spending and immigration legislation that were expected to preoccupy their time for the next several weeks.

The Feb. 14 school shooting in Parkland, Fla., and President Donald Trump's subsequent calls on Congress to take action are expected to reboot an effort to tighten the national firearm-purchase background-check system. While no bills are assured of moving forward, even debating and voting on gun legislation will be politically fraught for many lawmakers of both parties just eight months before midterm elections.

Congress is most likely to consider a measure from Sens. John Cornyn (R., Texas) and Chris Murphy (D., Conn.) that would encourage states and federal agencies, including the military, to submit criminal-conviction records to the National Instant Criminal Background Check System, or NICS. Those records are required by law to be uploaded, but they can slip through the cracks.

The Cornyn bill passed the House in December, but it was paired with legislation that would enable gun owners who legally carry concealed firearms in one state to carry them in the other 49 states—a major expansion of gun rights. Critics of the concealed-carry reciprocity bill say it would trample on the prerogative of



JIM BOURG/REUTERS

**As legislators return to the Capitol, gun-legislation proposals are expected to steal attention from other issues, including immigration.**

states to set their own gun standards.

The most immediate question is whether Senate Majority Leader Mitch McConnell (R., Ky.) will bring up the bill—known as “Fix NICS”—on its own, without the concealed-weapons provision. On Monday, Florida’s two senators, Republican Marco Rubio and Democrat Bill Nelson, plan to try to bypass Senate procedures and pass the bill with the unanimous consent of all 100 senators.

That route faces potential hurdles from at least two Republican senators, Mike Lee of Utah and Rand Paul of Ken-

tucky, who have said they are concerned about how individuals flagged under the background check system would be able to appeal.

If the bill passes the Senate, GOP leaders will have to decide whether they are willing to bring it up on its own in the House, without the concealed-carry reciprocity bill. That could face backlash from conservatives, aides said.

So far, House GOP leaders have shown little appetite to take up gun-control legislation. On Friday, House Majority Whip Steve Scalise (R., La.), who was seriously injured in a shooting last year, said on the

Fox Business Network that the Florida shooting instead revealed shortcomings in law enforcement’s handling of tips warning the gunman posed a threat.

Rep. Leonard Lance of New Jersey, who represents a swing suburban district, on Friday sent a letter signed by 18 other House Republicans urging House Speaker Paul Ryan (R., Wis.) to bring the “Fix NICS” bill up for a stand-alone vote this week. Before the recess, Mr. Ryan told reporters that if the background-check bill passes the Senate, the two chambers would negotiate a compromise.

Most Democrats support the bill, though they have pressed for Congress to do more.

“Any step in the direction of preventing this kind of violence from happening, we’re going to be there,” said Rep. Tim Ryan (D., Ohio).

The activism from young students from Marjory Stoneman Douglas High School, the site of the shooting, has boosted Democrats’ optimism.

“This feels so different and I’m so proud of those young people,” Rep. Brenda Lawrence (D., Mich.) said. “Every time we bring up this discussion, we’re squashed.”

Many lawmakers and congressional aides remain skeptical that Congress would pass any changes to the nation’s gun laws. Continued pressure from a Republican president, however, could persuade GOP lawmakers to take modest steps aimed at preventing more gun violence.

On Sunday, Sen. Pat Toomey (R., Pa.) touted a bill he crafted with Democratic West Virginia Sen. Joe Manchin in the wake of the 2012 Newtown, Conn., elementary school shooting. The bill would expand background checks to all online sales and sales at gun shows. Currently, the checks are needed only for sales by federally licensed dealers. In 2013 the bill failed to win 60 votes needed to pass the Senate.

Among the possible hurdles to any gun bill getting 60 votes in the Senate is the fact that many Democrats from conservative-leaning states are up for re-election this year.

Since the Florida shooting, Mr. Trump has made multiple posts on Twitter on the matter, held meetings with victims, state and local officials at the White House and discussed his proposals at length on Friday before a crowd of conservative activists.

Amid the revived gun debate, lawmakers have until March 23 to draft spending legislation that will fund the government through the rest of the fiscal year.

The spending bill could also be a place where lawmakers tuck in any extension of an Obama-era program that has prevented the deportation of the so-called Dreamers, young undocumented immigrants brought to the country by their parents.

—Peter Nicholas contributed to this article.

## Rich Democrats Hit the Trail in Primaries

BY REID J. EPSTEIN

From northern Maine to southern California, Democrats in at least 40 primary elections for House, Senate and governor find themselves choosing between millionaires and those with middle-class economic backgrounds.

The fleet of wealthy candidates comes as Democrats are energized against President Donald Trump yet don’t have a large bench of recruits to seek federal office, having seen the party’s slate for state legislators wiped out in recent elections. The party lost about 1,000 state legislative seats during President Barack Obama’s presidency.

Yet there is a danger for the rich running for Congress: It isn’t always easy to relate to the voters whose support they’ll need to win.

“In this era of antielitism, Democrats are often wary of fielding a candidate who can come across as out of touch,” said David Wasserman, the House Editor at the Cook Political Report.

Republicans, who have long proposed tax cuts for the wealthy and policies friendly to businesses, take less issue with rich candidates, and are supportive of Mr. Trump, himself a billionaire.

### ILLINOIS: J.B. PRITZKER



Andy Thorburn, left, has spent \$2.34 million on his campaign, while Sara Jacobs, center, has spent \$1.07 million and Gil Cisneros, right, has spent \$1.35 million.

### California's Parade Of Millionaires

With a half-dozen tossup seats in Congress, there are more millionaire Democrats seeking office in California than anywhere in the country.

In the Orange County district being vacated by GOP Rep. Ed Royce, Gil Cisneros, a Navy veteran who won \$266 million in the California lottery in 2010, has spent \$1.35 million on his

campaign, according to federal filings, while insurance executive Andy Thorburn has poured \$2.34 million into his. In another held by GOP Rep. Dana Rohrabacher, four Democrats have invested at least \$220,000 each.

And Sara Jacobs—the granddaughter of Irwin Jacobs, founder of chip maker Qualcomm Inc.—has spent \$1.07 million in her effort to win the San Diego County-based seat being vacated by GOP Rep. Darrell Issa.

Ms. Jacobs, who worked as

a State Department contractor and as a foreign policy aide to Hillary Clinton’s 2016 presidential campaign, is worth between \$12.6 million and \$56.9 million, according to her financial disclosure documents.

Ms. Jacobs emphasizes her youth, not her wealth.

“There aren’t a lot of people in Congress who look like me,” the 28-year-old said in a video announcing the launch of her campaign. “But maybe there should be.”

—Reid J. Epstein

Biss released five years of tax returns showing he and his wife together earned between \$32,568 and \$69,341 annually.

“We have to decide whether we want to have an election or if we want to have an auction,” Mr. Biss said. “The question is, should Democrats line up to participate in a system in which you are eligible for political office based upon your wealth, and the answer is no.”

Mr. Pritzker’s campaign argues that his wealth is necessary to put Democrats on par in a contest against billionaire GOP Gov. Bruce Rauner in what is expected to be the most expensive race for any nonpresidential election.

“This election is about values and I’ve been fighting for progressive Democratic values my whole life,” Mr. Pritzker, 53, said in a statement provided by his campaign.

The Illinois Democratic primary for governor also includes Chris Kennedy, the 54-year-old son of Robert F. Kennedy, who has donated \$1.2 million of the \$4.8 million his campaign has raised, and three other candidates.

Ben Joravsky, who hosts a liberal political talk-radio show in Chicago, said Democratic voters in Illinois may like Mr. Biss’s populism but are drawn to Mr. Pritzker’s ability to finance his campaign

and free up money for down-ballot races.

Mr. Joravsky said Illinois Democrats are forgoing political purity tests to calculate which candidate can best beat Mr. Rauner in November. “They say, ‘Yeah this is an important point, but I want to get the governor’s seat back,’” he said.

### PENNSYLVANIA: SCOTT WALLACE

Scott Wallace, whose grandfather was President Franklin Roosevelt’s third-term vice president, is running to represent his childhood home in the Philadelphia suburbs of Bucks County after living outside the district for nearly 40 years.

Mr. Wallace in 2016 wrote an online column with the headline “Why I Am A Patriotic Millionaire” that featured a photo of himself and his wife on a boat in Antarctica. Until last year he was registered to vote in Maryland, though his

voter card directed absentee ballots to be mailed to his home in Cape Town, South Africa, where he ran the family’s foundation, the Wallace Global Fund. Mr. Wallace said he last cast a vote in the congressional district he now seeks to represent in 1978.

Mr. Wallace, 66 years old, said his family’s wealth hasn’t left him disconnected from middle-class constituents. “I inherited money much later,” Mr. Wallace said of his youth. “I’ve had the ordinary jobs that regular people do” like waiting tables and pumping gas.

His opponent in the Democratic primary to take on first-term GOP Rep. Brian Fitzpatrick is Rachel Reddick, a 33-year-old Navy veteran who has served as a legal advocate for local domestic violence victims. She said she has a better understanding than Mr. Wallace of the anxieties middle-class people face.

Ms. Reddick earned \$55,911 as a Navy lieutenant in 2017 and has between \$100,000 and \$250,000 in law-school debt, according to her federal financial disclosure report. Mr. Wallace has yet to file his financial disclosure report.

“I know what it’s like to look at my student loan balance and feel anxiety, I don’t know that he’s ever felt that,”

Ms. Reddick said.

Mr. Wallace, who pledged to match contributions made by people from the congressional district, said that isn’t true. “I categorically reject the silver-spoon accusations,” he said.

### MAINE: LUCAS ST. CLAIR



Jared Golden Lucas St. Clair

The Democratic primary to face northern Maine’s GOP Rep. Bruce Poliquin pits Lucas St. Clair, whose mother sold the Burt’s Bees cosmetics company to Clorox for \$925 million in 2007, and Jared Golden, a Marine veteran who worked as an assistant manager of a dental office to supplement his salary as a Maine state representative.

Mr. St. Clair, 39 years old, became known in Maine during a five-year campaign to establish Katahdin Woods and Waters National Monument on 87,000 acres of land his family purchased and donated to the federal government.

A lot of people are responding to my personal story, growing up in a cabin in northern Maine without running water,” he said. “Not until I was a grown-up and moved out of Maine did my mom sell the company.”

Peter Navarro, an economist who helped shape Donald Trump’s 2016 protectionist campaign platform, will be named an assistant to the president, according to a person familiar with the matter.

Mr. Navarro began Mr. Trump’s presidency with broad influence and regular access to the Oval Office but his role was limited after he clashed with the aides who oppose his views on trade deficits and multilateral trade agreements.

The move to elevate Mr. Navarro comes as the White House is nearing decisions on several trade matters.

The administration faces an April deadline on whether to impose broad-based steel and aluminum tariffs in the name of national security. Officials also are completing an investigation on complaints that China improperly forces U.S. companies to turn over valuable intellectual property.

Mr. Navarro’s promotion is likely to give him a more regular role in trade debates at the White House, according to the person familiar with the matter, a trade expert who has discussed the move with White House officials. “This gives Peter a more formal seat at the table when trade and manufacturing policies are discussed,” this person said.

The appointment would make Mr. Navarro one of about two dozen “assistants to the president” in the Trump administration.

Mr. Navarro, reached by phone Friday, declined to comment.

“We have no personnel announcements to make at this time,” a White House spokeswoman said Saturday.

Mr. Navarro’s new role was first reported by the publication Inside U.S. Trade.

—William Mauldin contributed to this article.

## Economist Navarro to Get Bigger Trade Role

BY JACOB M. SCHLESINGER

WASHINGTON—The White House plans to promote an adviser known for his hawkish views on trade policy, giving economic nationalists a stronger voice in internal debates as the Trump administration nears decisions on high-profile trade issues.

Peter Navarro, an economist who helped shape Donald Trump’s 2016 protectionist campaign platform, will be named an assistant to the president, according to a person familiar with the matter.

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—William Mauldin contributed to this article.



J.B. Pritzker Daniel Biss

Nowhere is the wealth disparity between Democrats being litigated so publicly as in the March 20 Democratic primary for Illinois governor. Front-runner J.B. Pritzker, whom Forbes estimates is worth \$3.4 billion, has poured \$56 million into his campaign, according to state filings—much of it in TV ads that have saturated the state’s airwaves since May.

Behind Mr. Pritzker in the polls but gaining in recent weeks among the field of six candidates is Daniel Biss, a 40-year-old state senator who, in his own ads, touts the fact that his children attend public schools and calls himself the “middle-class governor.” Mr.

CHICAGO SUN-TIMES/AP



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## WORLD NEWS

# North Korea 'Fully Willing' to Talk to U.S.

Overture reflects apparent policy shift as general, South Korean president meet

By ANDREW JEONG

PYEONGCHANG, South Korea—North Korea's delegation at the Winter Olympics said Pyongyang is "fully willing" to talk with Washington, officials in South Korea said. The message came just hours after the North's state media said it would "never have face-to-face talks" with the U.S.

The conflicting signals on Sunday came as Kim Yong Chol—a North Korean general who isn't related to leader Kim Jong Un—met with South Korean President Moon Jae-in for about an hour in the South Korean ski resort of Pyeongchang, where the closing ceremony was held.

Pyongyang's overture, as relayed by Seoul, appears to indicate a shift in the North's attitude toward dialogue with the U.S., and comes not long after Pyongyang backed out of a planned meeting between Vice President Mike Pence and Kim Jong Un's sister at the Games, according to the White House.

"The North Korean delegation said that North Korea is fully willing to talk to the U.S. and agreed that North-South Korean relations cannot be separated from North Korea-U.S. relations," South Korea's presidential Blue House said.

The White House on Sunday said it would wait to see if Pyongyang's statement was genuine. "We will see if Pyongyang's message today, that it is willing to hold talks, represents the first steps along the path to denuclearization," it said. "In the meantime, the United States and the world must continue to make clear that North Korea's nuclear and missile programs are a dead end."

North Korea's outreach came as the Trump adminis-



Gen. Kim Yong Chol, back right, President Moon Jae-in, bottom left, and Ivanka Trump, bottom right, watched Sunday's closing ceremony.

## Seoul Tries Mix Of Carrots, Sticks In Pyongyang Policy

The administration of President Moon Jae-in, the first liberal South Korean government in a decade—was elected last May on a platform that included a North Korea policy aimed at mixing engagement and pressure.

U.S. officials have privately complained that Moon administration officials have been less communicative about Seoul's North Korea policy than their predecessors and they are concerned about the potential for the North to drive a wedge between Seoul and Washington.

On Sunday, a U.S. State Department spokesman said Washington and Seoul were in close contact about "our unified response" to North Korea.

"As President Moon stated, 'the improvement of relations between North and South Korea cannot advance separately from resolving North Korea's nuclear program,'" the spokesman said, quoting Mr. Moon.

—Andrew Jeong and Gordon Lubold

tration has ramped up its policy of "maximum pressure" on Pyongyang—while also signaling openness to preliminary talks with the North.

The U.S. on Friday unveiled new sanctions against North Korea. U.S. presidential adviser Ivanka Trump, visiting South Korea for the Olympics, reinforced that message in Seoul, telling Mr. Moon that the U.S. remains committed to putting economic pressure on the North.

Ms. Trump, the daughter of President Donald Trump, told reporters on Friday that the U.S. sought to "reaffirm our bonds of friendship and partnership" with South Korea and

"our commitment to our maximum pressure campaign to ensure that the Korean Peninsula is denuclearized."

The White House said in a separate statement on Sunday

while Secretary of State Rex Tillerson said the U.S. is ready for discussions that precede formal talks.

Mr. Moon, Ms. Trump and Kim Yong Chol all shared a VIP

U.S. the following morning, according to a pool report.

Although Washington and Seoul have repeatedly said the two allies share a unified front against North Korea, North Korea's peace overtures this year have stirred muted disagreement between the U.S. and South Korea concerning North Korea policy.

Kim Yong Chol's arrival in South Korea has split the South's public opinion.

The North Korean general is suspected to have ordered two separate military strikes against South Korea in 2010, killing a total of 50 people—all but two of them members of South Korea's military.

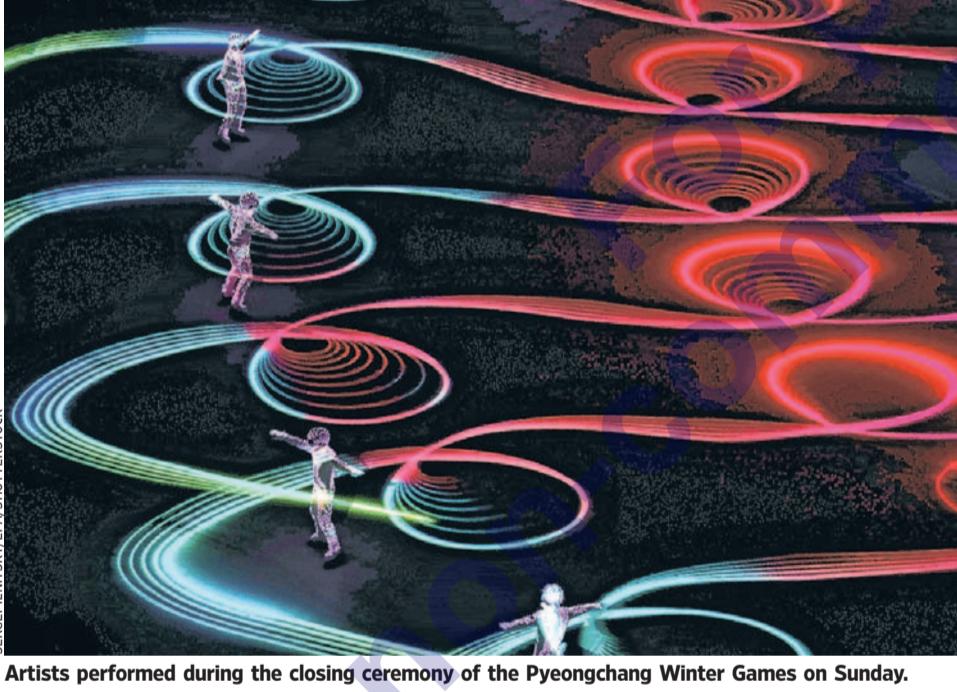
### 'North-South Korean relations [can't] be separated from North Korea-U.S. relations.'

**South Korea's presidential Blue House, quoting North Korea**

that "denuclearization must be the result of any dialogue with North Korea."

Mr. Pence said this month that Washington is considering pursuing talks, without dropping its pressure policy,

box to view the Olympic closing ceremony Sunday evening. The U.S. delegation had "no interaction" with the North Koreans, according to a senior administration official, and Ms. Trump departed for the



Artists performed during the closing ceremony of the Pyeongchang Winter Games on Sunday.

## Olympics Put a Tech Gloss On Blend of Sports, Politics

By JONATHAN CHENG

PYEONGCHANG, South Korea—The Winter Olympics wound down much the way they opened: With plenty of high-tech razzle-dazzle and a dose of geopolitical intrigue.

North Korea, and the stand-off over its nuclear-weapons programs, loomed large over the Games, hosted in this ski resort just 50 miles south of the demilitarized zone that divides the Korean Peninsula.

Seoul used the 16-day showcase to display the widening economic and technological gap it has opened over its communist rival.

At the same time, it sought to preserve those gains with sports diplomacy—reaching out to Pyongyang after a year of threats and warnings that seemed to suggest the possibility of looming conflict.

A high-ranking North Korean delegation—which expressed a willingness to start talks with the U.S.—attended Sunday's closing ceremony, as did U.S. presidential adviser Ivanka Trump.

The North Korean presence in Pyeongchang—complete

with top political figures, a 229-member cheerleading squad and 22 athletes who failed to come anywhere near a medal—held global attention in the early days of the Games.

Two weeks ago, at the Opening Ceremony, U.S. Vice President Mike Pence pointedly ignored Kim Yo Jong, the sister of leader Kim Jong Un, and Kim Yong Nam, North Ko-

rea's ceremonial head of state, who were visiting the South for the Winter Games.

South Korean President Moon Jae-in met with Ms. Kim, who extended an invitation from Kim Jong Un for him to visit Pyongyang as soon as possible. Mr. Moon hasn't yet committed to a trip, but says he hopes to create the conditions conducive for a summit.

As the glow of the Olympics

fades, Mr. Moon will face renewed challenges in navigating relations between the two adversaries. Seoul is set to hold military exercises with the U.S. Pyongyang has demanded they be stopped, threatening to scuttle the fragile detente between the two Koreas.

As the Games came to a close on Sunday, however, the Closing Ceremony allowed the South to revel in its technological prowess, flex its cultural muscle and enjoy some optimistic scenes of intra-Korean unity.

The show featured performances by CL, one of South Korea's biggest pop stars, as well as the boy band EXO.

Hours earlier, at a figure-skating gala event, North Korean pair Ryom Tae Ok and Kim Ju Sik took the ice immediately after South Korean Choi Da-bin skated to Arirang, a traditional Korean folk song regarded as a de facto anthem on both sides of the DMZ.

Ms. Ryom and Mr. Kim danced to the North Korean song "Nice to Meet You," a staple of the country's cheerleader troupe at the Games.

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## WORLD NEWS

# Another Mass Kidnapping Stuns Nigeria

A week after a raid by Boko Haram militants, 110 schoolgirls remain unaccounted for

BY GBENGA AKINGBULE  
AND JOE PARKINSON

DAPCHI, Nigeria—Garba Sule was preparing for evening prayers when heavily armed Boko Haram jihadists rode into town last week in pickup trucks, firing hundreds of rounds into the air and demanding directions to the local girls' school.

The camouflage-clad militants loaded up dozens of students from the Dapchi Government Girls Science and Technical College and drove them into the surrounding scrubland, according to eyewitnesses, schoolteachers and local officials. Among them: Mr. Sule's 13-year-old daughter, Zara.

A week after the Feb. 19 attack, 110 schoolgirls from this remote town in northeastern Nigeria remain unaccounted for, stunning Africa's most populous nation and rekindling memories of Boko Haram's seizure of 276 girls from Chibok Government Secondary School in 2014.

That earlier attack, initially ignored by Nigeria's government, ultimately prompted a global activist movement—#BringBackOurGirls. About half of the kidnapped Chibok schoolgirls either escaped or were ransomed; 112 remain missing. At least 13 are presumed dead. Boko Haram continues to hold thousands of abducted boys and girls.

The latest episode has sparked outrage across Nigeria, where public anger has focused on authorities who initially refused to acknowledge the incident and then incorrectly claimed to have rescued the girls.

"We are in deep pain. We've hardly eaten," said Mr. Sule, a 45-year-old researcher at the local hospital. "The government has lied to us, like they did with the Chibok girls."



Sandals were strewn at the Government Girls Science and Technical College in Dapchi, where a mass abduction rekindled painful memories of a similar 2014 raid.

Over the weekend, President Muhammadu Buhari said in a tweet that the kidnapping was a "national disaster" and pledged to mobilize all the government's resources to locate the girls. On Sunday, Nigeria's air force confirmed it was assisting in the manhunt.

But anger is swelling in Dapchi, where parents are gathering daily to protest. The governor of Yobe state was whisked from town on Thursday as crowds pelted his motorcade with rocks. Nigeria's main opposition PDP party on Sunday accused Mr. Buhari's government of a coverup and demanded an explanation for the security breach.

The Dapchi attack demonstrated Boko Haram's residual capacity to launch headline-grabbing assaults. The militant group has ridiculed the government's repeated claims to have "techni-

cally defeated" it after an eight-year insurgency that has spread into neighboring Niger, Cameroon and Chad and sent millions fleeing from their homes. After losing hundreds of square miles of territory to government forces, the jihadists have increased their attacks in the past year, sending more than 90 children strapped with bombs into public places. Kidnappings have continued.

The Dapchi attack, according to testimony of eyewitnesses, school employees and local officials, bore the hallmarks of a well-planned military operation.

At around 6:30 p.m. on Feb. 19, shortly before the sundown call to prayer, the militant convoy rumbled into town and the crackle of their gunfire sent terrified residents running for their lives.

An attack had been feared for years in Dapchi, a town of 15,000 people about a three-



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a group of red-roofed buildings on the town's western edge, has more than 900 students from across the state.

Yari Ari, the school cook, was saying evening prayers in the staff quarters when she saw armed militants enter the school compound and head toward the dormitories.

"I started hearing gun shots and after that, three gun trucks drove into the school premises," said Ms. Ari, who has worked at the school for 15 years. "I hid in a nearby bush, but I could see what was happening. It was Boko Haram members who were dressed in military fatigues."

Ms. Ari said she watched as dozens of students ran screaming from the compound or scaled the perimeter fence. Her daughter Zarau also fled into the woods and they were reunited several hours later.

"I'm among the lucky ones,"

Ms. Ari said.

In the school's overcrowded dormitories, Boko Haram commanders told students they were government soldiers deployed to safely remove them from the area, said eyewitnesses and local officials. It was an exact replay of the strategy used to kidnap the Chibok students four years earlier.

As the militants entered the compound, 14-year-old Mariyam Garba—one of Mr. Sule's daughters—who was at the school's mosque praying with 50 others, immediately ran for her life.

Ms. Garba's sister, Zara, who was fasting that day and relaxing in the dormitory, wasn't so lucky.

The people who had escaped into nearby bushland watched as dozens of girls were led from the school buildings, loaded onto trucks and driven away into the night.

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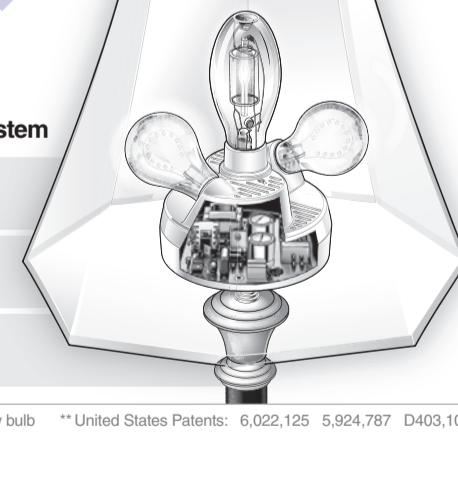
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## WORLD NEWS

# German Economy Leaves Women Behind

Despite a long boom, female workers are paid less and risk retirement insecurity

BY NINA ADAM  
AND ANDREA THOMAS

In the past five years, Germany's expanding economy has created so many jobs that it has made unemployment almost a thing of the past.

But one group has been left by the wayside: women.

In a country governed by a female chancellor for more than a decade, women remain comparatively underemployed and underpaid, a trend economists say is already holding back the country's growth, exacerbating its skill shortages and leaving some scrambling to make ends meet in retirement.

Germany has "an inglorious leading position when it comes to the discrimination of women on the labor market," said Marcel Fratzscher, the head of the DIW, an economics think tank in Berlin.

In overall terms, women in Germany make up a relatively large proportion of the workforce compared with those in other countries, and this proportion has risen over time.

But while men dominate in well-paid full-time jobs, women are over-represented in lower-paid part-time jobs.

While German women are at least as qualified as their male counterparts, government statistics show, their take-home pay is often lower and their career prospects dimmer.



A worker fixes electrical cables to a Mercedes-Benz S-Class car at a plant in Sindelfingen, Germany.

One consequence is that women's pension entitlements are—and will likely remain—lower than men's, putting them at higher risk of falling into poverty in old age.

Germany has one of the largest pension gaps by gender in the developed world, according to Christian Geppert, an economist at the Organization for Economic Cooperation and Development, with women pensioners receiving on average about 45% less than the benefits paid to men.

"It is paramount that women in Germany work more—both in terms of weekly hours and years—or they risk being poor in retirement or dependent on their spouse," Mr. Geppert said.

So what exactly is driving so many German women away from full-time employment?

Motherhood is one main factor.

The scarcity of child care in Germany plays a crucial role in limiting women to part-time work, since there is more demand than supply for kindergarten spots for toddlers and the school day for elementary-age children tends to end at 1:30 p.m.

Even well-meaning laws designed to boost Germany's birth rates are keeping women at home.

An entitlement to generous parental leave, for instance, creates an incentive for young mothers to take long, career-damaging breaks, experts say.

Another factor is taxes. Married couples are taxed jointly and pay less than their nonmarried counterparts, partly because of the system's steep progressivity.

But this discourages a family's second earner—usually the wife—from working more because any additional income is subject to higher tax rates.

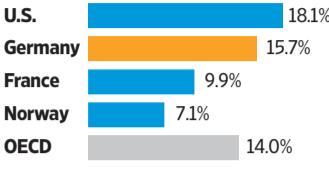
Ending joint filing could increase the time married women spend working by around 280 hours a year, according to a study led by Nicola Fuchs-Schündeln, an economics professor at the University of Frankfurt.

But would German women, even with more encouragement, really want to work more?

## The Pay Canyon...

Women in Germany earn considerably less than men do on average.

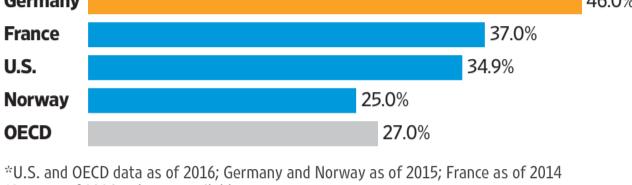
### Gender wage gap\*



### ...and the Pension Valley

Women in Germany face a much greater risk of old-age poverty than their male partners as benefits are tied to earnings and labor time.

### Gender pension gap†



\*U.S. and OECD data as of 2016; Germany and Norway as of 2015; France as of 2014

†Data as of 2014 or latest available

Source: OECD

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help finance the country's expensive welfare state as more people retire.

Just cutting the gap between male and female labor rates by a quarter would add \$83 billion to Germany's gross domestic product between last year and 2025, according to calculations by the International Labor Organization.

But hiring more women faces obstacles. In manufacturing-heavy Germany, some businesses say they struggle to find female candidates with the qualifications they need.

"Female engineers are hard to come by," said Christian Thiele, spokesman for machine-tool maker Paul Horn GmbH, adding that the company was shifting its focus toward hiring more women.

# ECB Pulls Plug on Latvian Lender

BY PATRICIA KOWSMANN

FRANKFURT—A major Latvian bank facing U.S. sanctions for allegedly helping North Korea will be wound up under local laws after the European Central Bank declared it "failing or likely to fail."

In a statement early Saturday, the ECB said ABLV Bank's liquidity had deteriorated significantly, making it unlikely to pay its debts.

Following the ECB's decision, which also included the bank's subsidiary in Luxembourg, Europe's banking resolution authority decided the banks didn't represent a systemic risk for their countries or the region and should be wound up by local authorities rather than be "bailed in" under European Union rules.

ABLV, Latvia's third-biggest bank, was a lead player in an industry that has been a boon for the former Soviet state: helping shell companies in and around Russia bring their money into the EU. Earlier this month, the U.S. Treasury declared the bank's practices a form of money laundering.

On Saturday, ABLV said it would be liquidated. In four days, the bank claimed, it had raised enough capital to meet all its depositors' demands and keep functioning.

"Due to political considerations the bank was not given a chance to do it," it said in a statement.

The resolution authority "concurred with the ECB's assessment and concluded that there are no available supervisory or private-sector measures which could prevent the failure of the banks," it said in a separate statement.

Deposits of as much as €100,000 are protected under Latvian and Luxembourg laws.

On Friday, Latvia's chief banking regulator tried to assure the country's depositors that ABLV posed no risk to the system and was on track to receive as much as €480 million in emergency aid from the national central bank.

The ECB's move to wind up the lender suggests it didn't receive the aid.

ABLV's quick fall follows a move by the U.S. Treasury to block its access to U.S. dollars, accusing it of "institutionalized money laundering." ABLV said it isn't guilty of money laundering and has invested heavily in compliance systems.

# Migration Stirs Italian Politics as Vote Nears

BY GIOVANNI LEGORANO  
AND MARCUS WALKER

UMBERTIDE, Italy—Armando Paolucci, an itinerant butcher from this rugged town in central Italy, voted for left-wing parties all his life. Once, he even ran as a Communist candidate for the local council.

But on March 4, besides celebrating his 65th birthday, he will vote for the anti-immigration Lega (League) party in Italy's national elections. The country's center-left incumbents, he said, have lost touch with ordinary people and are devoting too many resources to support migrants.

"We who are from here are worth less to them than the new arrivals," Mr. Paolucci said, standing beside his van where he sells porchetta roast pork at Umbertide's weekly market.

Immigration has become a central battleground in Italy's election, along with fear of crime, a battered economy, and disgust with political incumbents. Parties of the right are pledging to kick out hundreds of thousands of undocumented migrants.

The governing center-left, which argues there are no simple solutions, is struggling to prevent an erosion of its vote—even in bastions such as Umbertide, a town once so solidly left-wing that local cynics called it "little Stalingrad."

Italy is at the forefront of Europe's migration crisis, now

that the Balkans and other paths to Europe have become less passable for people from the poor and war-torn regions nearby. More than 750,000 migrants have reached Italy's shores since 2011, most of them rescued from rickety boats while trying to cross the Mediterranean from Africa.

A survey by research institute Demos & Pi in November found that 43% of Italians think immigrants represent a danger to public order and people's safety, up from 33% in 2015. Italian authorities argue the angst is overblown: Crime rates in Italy have dropped by 17% in the past two years, according to the Interior Ministry. But the fears are dominating the election.

Italy's vote is the latest in a series of major European elections that have pitted nativist movements and other anti-establishment insurgents against governing centrists.

The result, as in many other European countries, is likely to be a fragmentation of the political landscape, making stable governments hard to form. Left-of-center parties in particular are struggling to respond to a cocktail of economic and identity fears among working-class voters.

Opinion polls suggest the likeliest outcome is a hung parliament, with no party or alliance winning a majority. But outright victory for a right-of-center alliance is also possible. That alliance, led by



Armando Paolucci switched to the anti-immigration League after a lifetime of leftist allegiance.

*Across Europe, nativist movements have opposed governing centrists.*

on immigration.

The 5 Star Movement, an eclectic anti-incumbent group, has around 28% support in polls, while the ruling center-left Democratic Party trails

former Prime Minister Silvio Berlusconi's Forza Italia and including the Lega, has risen to 38% support in surveys, thanks partly to its tough line

with around 23%.

Some parties dialed up their anti-immigrant rhetoric this month after a far-right gunman shot and wounded six African migrants in a city in central Italy before giving the fascist salute.

Lega leader Matteo Salvini condemned the shooting by a former local candidate from his party, but suggested migration was the real problem. "Out-of-control immigration brings chaos, hatred, social disputes...drug dealing, rape, robberies and violence," he said. Mr. Berlusconi said irregular migrants "represent a social bomb ready to explode."

A few days after the Feb. 3 shooting, Mr. Salvini launched

the Lega's election campaign by visiting Umbertide, an industrial town of 17,000 people in the hilly Umbria region, where the construction of a large Islamic cultural center and mosque has sparked a fierce debate. Visiting the building site, Mr. Salvini promised to block its completion if his party wins power.

He declared Islam "a law, not a religion" and "incompatible with our values, our rights and our freedom."

"We are in a democracy so everybody can express his opinion, but I think some politicians have wrong ideas about Islam," said Chafiq El Oqayl, head of Umbertide's Islamic association.

# U.K. Labour Party Sets Brexit Stand, Favors Strong EU Ties

BY JENNY GROSS



Jeremy Corbyn at the Labour Party Conference in September.

LONDON—The opposition Labour Party is poised to announce a new strategy aimed at forcing Britain to maintain close economic ties with the European Union after it leaves the bloc.

After months of sitting on the fence on the issue, Labour leader Jeremy Corbyn was expected to put forward in a speech Monday a program intended to ensure a defeat in Parliament for the Brexit strategy of Prime Minister Theresa May's government, which would precipitate an early general election. The vote is next scheduled for 2022.

Mrs. May has repeatedly said the U.K. plans to leave the EU's single market of common regulation and its customs union. Doing so would allow it to set standards and regulations of products and services on its own while also developing

a trade policy independent of the EU.

Mr. Corbyn will indicate that Labour will back staying attached to the EU's customs union, which allows tariff-free trade internally and imposes a set of common external tariffs on goods coming in from the outside.

"Every country that is geographically close to the EU without being an EU member state, whether it's Turkey, Switzerland, or Norway, has some sort of close relationship to the EU, some more advantageous than others," he was expected to say, according to an excerpt from his speech. "Britain will need a bespoke relationship of its own."

A number of lawmakers from Mrs. May's Conservative Party back remaining part of a customs union with the EU, suggesting that when the issue is put to a vote in Parliament, the government could lose.

Lawmakers now expect that vote to be held in May. Adding to the pressure on Mrs. May, 80 senior figures in the Labour Party signed a letter published over the weekend demanding that the government back staying in the EU's single market, which allows trade to carry on almost without checks. The Labour Party will negotiate tariff-free access to the EU's single market and uphold the bloc's standards and protections, Mr. Corbyn was expected to say in his speech.

—Valentina Pop in Brussels contributed to this article.

## IN DEPTH

## FARMS

*Continued from Page One*  
more important since a slump in prices for corn, wheat and other farm commodities over the past five years has cut total U.S. farm income in half. Last week, the USDA said income from farming is expected to fall further over the next decade. Now, picking up work in construction or truck driving is required for many farmers to fund seed and fertilizer purchases, and keep current on loan payments for tractors and land.

"Most farmers are still on their land today because of their off-farm jobs," said Dan Kowalski, head of research at CoBank, one of the largest U.S. agricultural lenders. "Without these jobs, these farms would be consolidating at a faster rate."

U.S. food producers as a result are increasingly exposed to economic forces far beyond the fields. Many farms have become reliant not just on sales of crops and livestock, but on the health of rural businesses such as trucking companies and manufacturing plants. Those jobs have been slow to bounce back from the 2008 financial crisis. As of mid-2016, the number of jobs outside of metro areas remained 3% below their pre-recession peak, while those in metro areas had grown 5%, according to federal data.

Rural manufacturers such as Iowa's Pella Corp. and Hy-Capacity Inc., which rebuilds tractor parts, increasingly support agricultural production by hiring smaller-scale farmers.

At Pella, a maker of windows and patio doors, Tom Comstock is one of dozens of farmers who squeeze in field work before and after shifts at the plant. Farmers take time off when forecasts show stretches of dry weather ahead and put in early vacation requests for planting and harvest. Production manager Shannon Arthur said farmers' empty seats on clear spring and autumn days sometimes are noticeable, so Pella cross-trains employees so they can fill in for one another.

Mr. Comstock, 53, who farms 325 acres and raises around 80 cows and calves near Sheridan, Iowa, has worked at Pella for 22 years. He said his paycheck helps his family get by. From time to time he has borrowed money from his company-funded retirement account to help fund livestock purchases and other expenses.

## Long days

On a recent winter day, Mr. Comstock checked the freight slip for a window shipment bound for New Jersey. He had waked before dawn to chop a hole in a frozen pond so that his cattle could drink. Some days get long, he said, but "I definitely wouldn't still be in farming if I didn't have a full-time job."

Farmers say their independence and satisfaction from growing a crop keeps them holding down other jobs while working the land. For many farmers who work at Pella, expanding their farms to a size that could provide a complete family income is out of the question. An acre of Iowa's rich, black soil in the area sells for \$4,000 to \$8,000, and the state's average is four times



Craig Myhre, who farms 600 acres and has a small herd of beef cattle in western Wisconsin, also does harvesting for other farmers and works as a mail carrier, in an example of how the majority of farm households can no longer rely solely on farm income.



ACKERMAN + GRUBER FOR THE WALL STREET JOURNAL (2)

what it was in 2000, according to Iowa State University. Land rental rates in the state have more than doubled in that time.

Other expenses have steadily climbed. For an average corn farmer, the cost for an acre's worth of seeds has nearly quadrupled in the past 20 years, while fertilizer has more than doubled, according to the USDA. But corn yields grew only 36% over that time, and the price received for the sale of a bushel of corn gained about 31%.

"If you look at ag commod-

ity prices over time, they haven't kept up with inflation," said CoBank's Mr. Kowalski. "Farmers need to produce more from their land, which they have. But in many cases, that's not enough."

About half of 1,062 U.S. farm families surveyed relied on health insurance from an outside employer, according to research published this year by the Agricultural & Applied Economics Association.

Brian Briggeman, an agricultural economist at Kansas State University, said most farmers couldn't repay the debts they

incur to run their farms without an outside paycheck.

Farmers can secure financing totaling tens of millions of dollars each year from a vast web of creditors including commercial banks, Farm Credit institutions, government agencies, co-ops, suppliers, credit cards and family members.

Crop supplies are often purchased in the fall, with loans paid off after the following year's harvest. Some farmers use 30-day lines of credit from co-ops or farm suppliers, and others lease millions of dollars of machinery from equipment dealers.

Galen Rozenboom, who raises crops on about 140 acres near Sully, Iowa, keeps track of his farm's expenses in lined notebooks, along with the dates he fertilizes his fields, sprays for weeds and harvests his corn and soybeans. By Dec. 1 each year he has bought the next year's seeds, chemicals and fertilizer, and he sets out a price target at which he will sell his crops—soybeans typically pay for seeds and chemicals, while his corn will cover unexpected equipment repairs and other expenses. Mr. Rozenboom, 58, says he mainly relies on the accounting skills he learned in his high school Future Farmers of America courses: "Two and

two still make four."

Larry Stenger, regional president at First Mid-Illinois Bank & Trust in Sullivan, Ill., said farmers in his region often use their trucking fleets for off-farm work in winter months, transporting grain for nearby elevators or hauling goods for other trucking firms.

Some larger-scale farmers, who dominate U.S. food production, plow some crop profits into trucking or supply companies to diversify income and insulate themselves from agriculture's price swings.

Dave Nelson, who farms 5,000 acres near Fort Dodge, Iowa, invested in a group of equipment dealerships, selling construction and farm machinery. He and a partner also acquired an e-commerce site to peddle parts and farming gadgets online.

"When the farm economy is down, what's up? The consumer economy, and building," said Mr. Nelson. "The farmer of tomorrow has got to be highly skilled as a businessman."

Technology makes much part-time work possible.

Larger, satellite-guided tractors and high-speed planters let farmers sow fields in days, compared to weeks in decades past. Wireless-enabled equipment streams data on seeds planted and crop yields to farmers' tablets and computers, helping to automate record-keeping.

## Two jobs at once

J.D. Myers, 42, a farmer near Humboldt, Iowa, does double duty from the seat of his GPS-enabled combine. Behind the wheel—largely steered by satellite—he can harvest his own grain while calling and messaging pork producers, to whom Mr. Myers sells confinements and equipment.

Wearing a noise-canceling Bluetooth headset, Mr. Myers chats with customers as he looks up price quotes on his Android tablet and makes notes in Google Docs.

"I can talk as I'm farming and not really miss a beat," said Mr. Myers.

Still, outside work can hurt the ability to take on more

acres. Some farm management companies, which often act as middlemen between absentee landowners and the farmers who grow crops on the rented land, prefer farmers who can devote all their time and attention to raising crops throughout the growing season and aren't splitting time with another job.

Chris Morrow, a farmer in northwestern Missouri, rises four mornings a week at 4:30 and drives an hour to his outside job at Herzog Railroad Services Inc., in Falls City, Neb. He works a 10-hour shift inspecting inbound railcars in need of repairs.

Six months out of the year, he then drives home, climbs into the seat of a tractor or combine, and tends the 350 acres of corn and soybeans he farms with his father-in-law until well past dark. He spends weekends planting or harvesting, and last year, he used eight of his 10 vacation days to do field work or manage his small cattle herd.

"From February to May, there's not much family time," said Mr. Morrow, 32. "From October to mid-November, it's go, go, go."

During the growing season, he passes up shopping trips to Kansas City with his wife, Meagan, and skips trout fishing with friends. But he tries hard never to miss the baseball, basketball or football games of his 14- and 9-year old sons.

He said he would like to quit his day job and farm full time. But his half of the \$14,000 the farm netted last year isn't nearly enough to support the family, even when added to his wife's income from a job in town. Much of that profit will be plowed back into the farm, hopefully reducing the size of the loan he needs from the bank to plant

**Most farmers are still on their land because of their off-farm jobs, one lender says.**

crops this year, he said. Some will go to repairing the porch on the family's century-old farmhouse.

Mr. Morrow figures he would need to grow crops on 1,000 to 1,500 acres to make ends meet through farming alone. But there's little land available nearby, and when acres come up for rent, they are typically snatched up by bigger, better-capitalized operations able to pay higher rates.

He and his wife recently put pencil to paper to determine whether the farm and railroad income was enough for Mrs. Morrow to quit her job as director of food service for nearby schools. It wasn't. "The boys are like garbage disposals," he said. "They like to eat."

For now, Mr. Morrow said, he is content—he doesn't like to sit still and thinks farm life teaches his sons good values and a strong work ethic.

He also knows other farmers who have long worked multiple jobs that now look decades older than they are. He said if farming alone can't support his family in five years he may give up all but 100 acres to farm for fun. "Hopefully we don't have to do that," he said. "In 15 to 20 years you'll see big, corporate farms and you won't see very many, if any at all, little farmers."

**MARGIN**

*Continued from Page One*

the bank can demand repayment. If the margin call isn't met, the securities backing the loan are sold, and the borrower is responsible for any remaining balance.

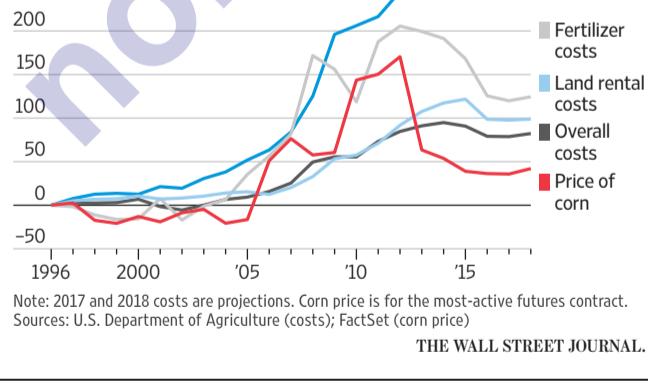
So-called net margin debt was worth 1.31% of the total value of the New York Stock Exchange last year, according to Goldman Sachs data stretching back to 1980, eclipsing the previous peak of 1.27% reached in the buildup to the tech bubble in 2000.

"I was so bullish that I went all in," said Mr. Diaz. Confident that markets would recover, he deposited \$2,500 into his account to satisfy a margin call on Feb. 8. "The next day, the market ripped higher and I breathed a sigh of relief," he said.

This month's pullback erased the gains major stock indexes accrued in January, but the Dow and S&P 500 sit

## Price Pressure

The costs of growing corn have risen more sharply than the sale price, cutting into profits.



Note: 2017 and 2018 costs are projections. Corn price is for the most-active futures contract.

Sources: U.S. Department of Agriculture (costs); FactSet (corn price)

THE WALL STREET JOURNAL

on double-digit returns from the two previous years, which kept many investors' portfolios flush through the correction.

Some are still rethinking their use of margin loans, which can amplify gains and losses, because they fear jittery markets are here to stay as central banks around the world begin to withdraw stimulus and global interest rates move higher.

"My confidence level isn't as high as it was a week ago or a few weeks ago," Mr. Diaz said earlier this month. "A lot of investors have gotten used to buying the dip, but I think that's going to come to an end."

Lending against securities is a profit center for brokerages, as firms charge interest on the money that is used and say they have found they better retain clients who take on the debt. These loans can also factor into brokers' compensation, incentivizing many to extend money to clients whether they need it or not.

Margin debt has been on the rise for years and is generally considered a gauge of investor confidence. The long-running stock rally has helped push debt levels higher since investors tend to be more willing to take loans against investments that are rising in value. However, it can also precipitate a steep market downturn as it did before the burst of the dot-com bubble and the financial crisis of 2008.

The growing loan balances have caught the attention of Wall Street's watchdog, Finra. In January published an investor alert after the total value of margin loans broke \$600 billion for the first time, saying investors may be underestimating the risks of trading on margin and may not understand how margin calls work.

"It's an important revenue stream for [brokerages], but when you have a week [like earlier this month], it's a jolt to re-examine lending across the spectrum," said Devin Ryan, a brokerage analyst with

## JMP Securities.

Many of the hardest-hit investors were those who had used exchange-traded products to wager that low volatility would persist and stock prices would remain stable.

Harvey Hajiyan, a 35-year-old financial adviser who lives in Toronto and has been investing for more than a decade, assumed stocks would continue to grind higher this year, similar to the gains the Dow and the S&P 500 had posted for much of the past two years without a pullback.

"All of the strategists agreed the market would go up," said Mr. Hajiyan.

At the end of January, he placed an ill-timed bet and used only margin to fund a large position in the

## ProShares Short VIX Short-Term Futures

exchange-traded fund, which rises as long as stock prices remain stable. When the S&P 500 fell into correction territory to erase one of its best starts in years, Mr. Hajiyan's investment in the ProShares fund

## Debt Deluge

Margin debt has reached record levels in recent months, stirring concern among regulators and analysts that investors are overexposed to a potential downturn.

\$700 billion

600

500

400

300

200

100

0

2011 '12 '13 '14 '15 '16 '17

Source: Financial Industry Regulatory Authority

THE WALL STREET JOURNAL

tracking expected market swings was nearly wiped out, forcing him to liquidate hundreds of thousands of dollars of securities to answer the margin call.

"I was in denial," said Mr. Hajiyan after he realized he lost about 600,000 Canadian

dollars (US\$472,260) worth of his C\$1.1 million investment portfolio.

Some brokerages have taken steps to protect investors who use margin debt from investing in highly risky strategies that contributed to steep losses. Bank of America Corp.'s Merrill Lynch, for example, had already instituted a ban on allowing its customers to invest in exchange-traded products that track swings in volatility. E\*Trade Financial Corp. recently decided to raise the margin requirements for clients who invest in the iPath S&P 500 VIX Short-term Futures exchange-traded note, essentially requiring clients to use their own cash to trade.

Despite losing a sizable portion of his wealth, Mr. Hajiyan says the experience hasn't soured him on using margin debt. "If I wasn't using margin, I wouldn't be at this level," Mr. Hajiyan said of his profits before the pullback. "As my money grows, I'll limit the amount of margin I use."

# GREATER NEW YORK

## Push for Gun Law Like Connecticut's

By JOSEPH DE AVILA

Connecticut U.S. Sen. Richard Blumenthal called for a federal law Sunday allowing law-enforcement officials to take away people's guns if a judge rules they are a threat to themselves or others.

Connecticut passed such a law in 1999 following a shooting at the Connecticut Lottery Corp. in which a gunman killed four people.

The proposal from Mr. Blumenthal, a Democrat, comes after a 19-year-old gunman allegedly shot and killed 17 people in Parkland, Fla., on Feb. 14 following numerous interactions with law-enforcement, social services and school officials. The gunman charged in the case was able to legally purchase and possess the AR-15 rifle he allegedly used in the attack despite warnings to authorities that he could be a school shooter in the making.

Under the law, about 20 gun removals a year were carried out in Connecticut from 1999 to 2006, according to a Duke University School of Law study. After a shooting in 2007 at Virginia Polytechnic Institute and State University, that number increased to about 100 cases a year and reached a cumulative total of 762 by the end of June 2013, the study found.

Connecticut allows law-enforcement officials to obtain a court warrant to remove guns from people found to pose an

imminent risk of harming themselves or others. The judge must take into account recent threats or acts of violence and recent acts of cruelty to animals. Indiana, California, Oregon and Washington have similar laws.

"There is no conclusive way to say that this measure or any other would surely have prevented this mass shooting in Parkland," Mr. Blumenthal said in an interview. "But there were very serious alerts and facts that could have been brought to the attention of a judge to take away this shooter's firearms and perhaps persuade him to seek psychiatric help."

The National Rifle Association, which has opposed such laws at the state level, didn't respond to a request for comment. When Oregon passed its law in August, the NRA said the protection orders "strips the accused of their Second Amendment rights" and will only be "based on the brief statement of the petitioner."

Mr. Blumenthal said he expects to introduce the federal legislation in the coming weeks.

The Connecticut law passed before the Sandy Hook Elementary School shooting in 2012, when a gunman killed 26 people in Newtown. In that attack, a troubled 20-year-old man used an AR-15 rifle owned by his mother. The Connecticut law couldn't have addressed the shooting because the gunman wasn't the gun's registered owner.



New York City Councilman Jumaane Williams is challenging Lt. Gov. Kathy Hochul for the Democratic nomination to the office. If Mr. Williams, an adversary of Gov. Andrew Cuomo, wins the primary, he would join the governor on the ticket in the general election.



L-R: DENNIS NEFF/AP; MARK SAGLIOCCHI/GETTY IMAGES

## Critic of Cuomo Gains on His Ally

By MIKE VILENSKY

If Lt. Gov. Kathy Hochul loses to New York City Councilman Jumaane Williams for the office of New York lieutenant governor, Gov. Andrew Cuomo could be forced to run with an adversary in November.

Mr. Cuomo has faced little friction in his Democratic primary run for re-election for New York governor, but his lieutenant governor, Ms. Hochul, is fending off a liberal insurgent winning early support—before she even hits the campaign trail.

Ms. Hochul, who is allied with Mr. Cuomo, labor unions and legislative leaders, will be tough to topple as the incumbent. But since Mr. Williams officially declared his campaign for lieutenant governor earlier this month, some elected officials and advocacy groups have bucked party leaders by backing Mr. Williams over Ms. Hochul, who has said she will run for re-election.

The race comes amid a wave of heated Democratic primaries in New York this year from young, liberal insurgents—many of them former supporters of Sen. Bernie Sanders' (I., Vt.) 2016 presidential primary run—looking to topple the

### Two Paths to Power For the Candidates

New York City Councilman Jumaane Williams and Lt. Gov. Kathy Hochul hail from different parts of the state and rose to power in Democratic politics through different routes.

A lifelong Brooklyn resident, Mr. Williams, 41 years old, ousted a Democratic incumbent in 2009 to become the councilman representing the borough's

Flatbush area and quickly earned a reputation as an ally to New York City's liberal activists on issues including police accountability and affordable housing.

Ms. Hochul, 59, won an Erie County congressional seat in 2011 that was traditionally held by Republicans but lost the seat amid conservative pickups during President Barack Obama's first term. As Mr. Cuomo's lieutenant since 2014, she has helped push his agenda.

Democratic establishment and pull the party to the left.

Ms. Hochul is "an extraordinary woman," said Assemblywoman Rodneyse Bichotte, a Democrat defying the party establishment to back Mr. Williams, "but unfortunately she's meshed in with the current government, and people are crying out for change."

Lieutenant governors run on a ticket with their party's gubernatorial candidate in the November general election but run independently in the September primaries.

A Williams victory in the

2018 lieutenant governor primary would be a blow to Mr. Cuomo and could install a gubernatorial adversary in a po-

sition more typically used to promote the governor's agenda.

Mr. Williams has been critical of Mr. Cuomo on a number of issues and has said that as a Cuomo lieutenant he would provide more of an oversight role than a cheerleading one.

"Historically people have seen the lieutenant governor's role as parroting whatever the current governor says, cutting ribbons, what have you," Mr. Williams said in an interview. "Someone needs to say the emperor has no clothes on."

Ms. Hochul's chief of staff,

Jeffrey Lewis, pointed to her work helping Mr. Cuomo pass liberal policies including a minimum-wage increase and push-

ing to codify abortion access in state law.

Mr. Lewis questioned Mr. Williams's ability to organize voters outside of New York City, where he is less known. "We are confident in our abilities to galvanize statewide," Mr. Lewis said.

A Cuomo spokeswoman, asked about the prospect of Mr. Cuomo sharing a ticket with Mr. Williams, pointed to the governor's recent remarks in which he said of Ms. Hochul: "I think she's enjoying what she's doing. So she is my choice for lieutenant governor."

Ms. Hochul faced a 2014 primary from law professor Tim Wu, who ran with Zephyr Teachout, the liberal candidate who challenged Mr. Cuomo. Ms. Hochul won with some 60% of the vote.

"My advice to him is to understand he is fighting the machine," said Mr. Wu, who has been in touch with Mr. Williams, "but it's a noble undertaking."

Unlike Mr. Wu in 2014, Mr. Williams has some early support from some elected officials and organized advocacy groups.

The race this year hasn't yet been publicly polled, and campaign finance filings haven't yet been posted.



U.S. Sen. Richard Blumenthal puts his arm around Mark Barden, of Sandy Hook Promise. The senator plans to introduce a gun bill.

## New Bowie Extravagance: \$2,500 for a Ticket

By CHARLES PASSY

If you are planning on attending the much-anticipated "David Bowie is" exhibition at the Brooklyn Museum, be prepared to open your wallet.

The museum is dispensing with its usual pricing—a suggested \$16 contribution for adults—and charging a mandatory \$20 on weekdays and \$25 on weekends. The show about the late rock star runs from March 2 to July 15.

And for those who want special perks, the cost can go much higher.

At the extreme end, the mu-

seum has a \$2,500 "Aladdin Sane" ticket—the name comes from a Bowie album—that offers the buyer and one guest private access to the exhibition, along with a range of other benefits.

Brooklyn Museum President and Chief Operating Officer David Berliner said the institution has previously had a mandatory fee for certain prominent exhibitions, such as a Georgia O'Keeffe one last year. "We charge...when the cost of the exhibition demands additional revenue," he said via email.

Mr. Berliner said this was the first time the museum has

offered a slate of what it is calling "special" exhibition tickets, such as the \$2,500 one, with different perks.

Most of New York's major museums, such as the Metropolitan Museum of Art, the Museum of Modern Art and the Whitney Museum of American Art, don't have a separate fee for major exhibitions.

The Met, for example, didn't charge museumgoers anything beyond its suggested \$25 adult general admission to see its recent Michelangelo show, one of its most high-profile exhibitions in recent years. The museum will soon

start requiring non-New York State adult residents to pay a mandatory \$25 admission.

The Brooklyn Museum's pricing policy on the Bowie exhibition isn't sitting well with some of the institution's regulars. The museum has built its reputation of late as an institution with programs that target the sort of hip, young demographic associated with the borough.

"I think it's unfortunate they don't seem to be living up to that" with the Bowie exhibition, said Henry Hayes, a film director who lives in the borough.



A print of a self-portrait by the late rock star David Bowie.

### Pricey Privileges

Some of the perks that come with the \$2,500 'Aladdin Sane' ticket:

◆ Private access to the show for ticket buyer and guest

◆ Pre- or post-visit talk with a Bowie guide

◆ One-year Groundbreaker membership to museum, which includes curator-led tours and invitations to exclusive events

◆ Museum parking pass

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## GREATER NEW YORK

# New Office Space Created in Retail's Tumult

By KEIKO MORRIS

Normandy Real Estate Partners found what it viewed as the perfect spot for a high-end Manhattan office development: the upper floors of the ABC Carpet & Home building, a retail industry landmark.

Last year, Normandy closed on a \$133 million deal for the upper portion of ABC Carpet's flagship store in the Union Square and Flatiron District neighborhoods, with plans for a \$40 million conversion of several floors of retail space into office space.

As online shopping reshapes retailing, it is reordering the real-estate market as well. Selling merchandise on floors above street level once made sense for retailers such as department stores and, in some cases, was preferred over less glamorous office use. Normandy's project is an example of office space edging into territory that once was retail's domain.

"Many larger-format retailers such as department stores and furniture stores are reworking their concepts to maximize their retail footprints," said Amira Yunis, executive vice president in the retail group at real-estate-services firm CBRE Inc. "Retailers still want to showcase their goods, but due to the changing retail environment and high occupancy costs, many are finding they no longer need this much space."

In other parts of the city, retailers with multiple floors have been condensing their store operations. At Macy's downtown Brooklyn store, developer Tishman Speyer is redeveloping the top four floors of the building, integrating those levels with 10 new office floors it plans to build above a portion of the store. Lord & Taylor plans to reduce its store at its Fifth Avenue flagship, which parent Hudson's Bay Co. is selling to co-working giant WeWork Cos. WeWork's headquarters and other



The ABC Carpet & Home building on 888 Broadway. The upper portion of the store was sold and will be redeveloped into office space.

office space will occupy most of that building.

Retailers have been under pressure to scale their selling space to the way consumers are shopping today. Some have opted to create separate entities to tap the value of excess retail space and invest those proceeds into the business, said Michael Brown, a partner in the retail practice of global strategy and management consultant A.T. Kearney.

"The trend that has been driving this is private equity and activist investors' involvement in retailers creating this new practice of monetizing the value of real estate," Mr. Brown said.

In the case of Normandy's investment, the shift among retailers to smaller store sizes combined with the growing demand for office space in Mid-

town South neighborhoods helped shape the decision to convert to office space, said Paul Amrich, a vice chairman at CBRE. He and partner Neil King are leading the team marketing and advising the project.

"Retail is decreasing its footprint because of technology, at the same time office occupancy in that area is growing and maturing, and therefore rents are rising," Mr. Amrich said.

Normandy, which is the lead investor in the project, plans to create top-tier office space on the third to sixth floors of 880-888 Broadway, expecting rents above \$100 a square foot, Mr. Amrich said.

ABC has been a pioneer of sorts over the past several years, adapting to shifts in the retail landscape with enhancements to its shopping experience. The retailer added three

restaurant concepts on the lower levels in partnership with well-known chef Jean-Georges Vongerichten. The store's Deepak HomeBase features discussions and events hosted by Deepak Chopra.

**\$40M**  
Cost of planned conversion of part of ABC Carpet's flagship store

ABC's partners and investors sold the upper portion of the building and intend to continue operating the store on the ground floor, lower level, mezzanine and second floor, while the retailer's corporate offices also will remain in the building.

The property, which consists of two connected buildings, is in the heart of Midtown South, a Manhattan submarket favored by technology, advertising and media tenants, including Google parent Alphabet Inc. and Facebook Inc. More recently, high-end financial firms and technology divisions of financial-services companies have snapped up new or like-new office space in Midtown South.

Even as Manhattan office rents have remained relatively flat because of the addition of office space, new or redeveloped offices in Midtown South frequently fetch rents above \$100 a square foot, rivaling trophy buildings in the city's traditional office markets.

The rate of available space in Midtown South is the lowest of Manhattan's three submarkets, at 10%, according to CBRE.

## GREATER NEW YORK WATCH

## CONNECTICUT

## Sentencing Awaits Man Tied to Art Heist

A reputed mobster who authorities believe is the last surviving person of interest in the largest art heist in history is facing sentencing in an unrelated weapons case.

Robert Gentile, 81 years old, is set to be sentenced Tuesday in federal court in Hartford.

Federal prosecutors have said they believe the Manchester resident has information about the still-unsolved 1990 heist at the Isabella Stewart Gardner Museum in Boston. Thieves stole an estimated \$500 million worth of artwork, including works by Rembrandt and Vermeer.

Mr. Gentile has denied knowing anything about the caper.

He pleaded guilty in the weapons case and faces three to six years in prison.

Authorities say they seized firearms and ammunition from his home that he wasn't supposed to possess because he is a felon.

—Associated Press

## BRONX

## Dates Turned Into Robberies, Police Say

Several people have been robbed when showing up to meet someone they had been communicating with on a dating site, police said.

The New York Police Department said five men were lured to a Bronx building in December and January. They each told authorities they had gone there to meet a woman, and instead were faced with two or three men who stole their belongings, including phones, bank debit cards and cash.

Police said two men have been arrested in connection with the robberies and a third is being sought. Authorities are also looking for a 16-year-old girl linked to the accounts used in the dating profiles.

—Associated Press

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The herbal supplement Nin Jiom Pei Pa Koa at a store in Manhattan, alongside other products.

## Herbal Tonic Stirs Interest, Caveats

By MICHAEL ROVNER

If there's one thing New Yorkers love more than discovering a new secret remedy, it's telling other New Yorkers about it.

"I'd been super sick for a week and half and couldn't stop coughing," said Alex Schweder, an architect and professor of design at Pratt Institute.

That's when his girlfriend gave him a bottle of Nin Jiom Pei Pa Koa, an "herbal dietary supplement with honey and loquat," according to the label.

"This started working in 15 minutes," said Mr. Schweder. "I've probably gotten about five people to try it, but I've told many more."

The remedy, often referred to simply as Pei Pa Koa, is sold both in cough-drop form and more commonly in 10-ounce bottles in Chinese markets and Chinese pharmacies.

Taking herbal supplements can involve health risks, including when they are used with medicines, consumed in excess or taken instead of prescription medication, said Dr. Keith Brenner, specialist in pulmonary medicine at Columbia University Medical Center at the New York Presbyterian Hospital.

"I think people that use these things may not even disclose them to the physician, and it's a problem," he said. "There's been well-established interactions between herbal

and prescription, and the doctor can pick up on it if the patient discloses it."

The Food and Drug Administration advises consumers to speak to a health-care provider before taking a supplement and to be wary of any product claims that sound too good to be true. The agency doesn't have the authority to review dietary supplements for safety and effectiveness.

**The FDA advises consumers to be wary of claims that sound too good to be true.**

The Nin Jiom Medicine Manufactory began producing Nin Jiom Pei Pa Koa in Hong Kong in 1946. The company began marketing it to mainland China, North America, and Europe in the 1980s.

"All of a sudden, everybody is talking about it," said Ching Weh Chen, owner of Pearl River, a Chinese market in New York City where the syrup is sold for \$7.80. "Chinese people have known about it for a long, long time. It goes back to Qing dynasty, but now it's Caucasian customers coming in and asking for it."

Sue Decottis, a physician in internal medicine at New York University Langone Medical Center who also has a private practice, says herbals can have some value and she will, on occasion, recommend them to her patients. She hasn't prescribed Pei Pa Koa. "There's also the placebo effect with anything like that, but there's no real money behind it to do big studies," Dr. Decottis said.

"With respect to influenza, the most critical time to get attention is when the virus hits because antivirals like Tamiflu need to be administered within the first 48 hours if they're going to be effective," added Dr. Brenner.

"If herbals are the first line of defense, we'd lose that window, especially if someone has other medical problems, and there's a higher risk the flu virus will lead to hospitalization or even death."

New York State Department of Health Commissioner Howard Zucker urged everyone to get a flu shot and said anyone with flu symptoms should see their health-care provider.

Poet Max Blagg, who learned about Pei Pa Koa from an acupuncturist in Chinatown, said he was a little apprehensive about taking it. "If you look on the label, there's a thousand herbs you've never heard of."

Mr. Blagg passed the recommendation along to painter James Gilroy, who had the flu for three weeks. "He showed me a bottle with some crazy Chinese writing on it and I thought no, I'm going to go to a doctor," said Mr. Gilroy.

# LIFE & ARTS



ILLUSTRATIONS BY JON KRAUSE

## TURNING POINTS | By Clare Ansberry

# Is that Lenten Diet For God or For You?

Lent has evolved into a self-help program for many people who give up candy, carbs or alcohol for 40 days before Easter. Do selfish motives violate the spirit of sacrifice?

**CECILIA ESCOBEDO**, a mother of five, gave up refined sugar for Lent and hopes to lose 10% of her body weight in the process.

There is no reason, she says, to feel guilty about wanting to improve herself or shed pounds in a season focused on self-denial. The body is as important as the mind and soul, she says.

"I have an obligation to take care of myself. I'm 42 and have a two-year-old. I need to be on my game for years to come," says Ms. Escobedo, who has struggled with pregnancy-related weight gain and weighs 161 pounds. She started a Facebook group, Catholic Fit Moms for Life, and invited others to join her in a Lenten six-week challenge to lose weight, encouraging them through emails and exercise tips.

About 50 women, including one in Ireland, have joined the challenge.

"Everyone thinks Lent is for suffering. I used to think like that, too," says Ms. Escobedo, who lives in Diamondhead, Miss.

Lent, the period between Ash Wednesday and Easter Sunday, is a time for people of many Christian religious traditions to fast, pray and serve others in preparation for Easter.

Different churches suggest different practices but many involve giving up something that you enjoy, which makes any sort of reward—be it losing weight, feeling healthier, saving money—feel slightly wrong for some people.

"You should not give up food if your motivation is to lose weight or improve your health. Then it's about you and not about God," says Frank Senn, a retired Lu-



theran pastor, in Evanston, Ill. That doesn't mean, he says, that you can't feel good about yourself during Lent.

He and his wife don't eat meat except on Sundays and keep lunches to a simple broth and cheese sandwich. The first week is hard but then he feels healthier and more energetic. "You start with the idea of doing it for God but as you go along, you find it's also doing good things for you," he says.

Research shows that self-denial strengthens self-control and enhances the ability to savor and appreciate things. In one 2013 study, students who were not allowed to eat chocolate for a week reported higher levels of happiness when given a piece of chocolate at week's end than those who could have as much chocolate as they wanted. Another study found that

self-control is linked to greater life satisfaction because people aren't torn by competing and often conflicting interests.

Fasting doesn't always have to be about food, says Pete Burak, director of i.d.9:16, a youth ministry. He came up with a short video listing 18 things young people could give up during Lent, some whimsical, some not. Among them: eye rolling, extra guacamole, snacking after 10, holding grudges, ear buds in public, and porn. He knows many people hope to lose weight by cutting back on snacks. "That's not useless, but there's so much more to Lent," Mr. Burak says. He and his wife love meat and are giving it up for Lent because they realized they needed to make more healthy choices to take care of the bodies they were given.

Katie Fraser went vegan two

Lents ago in hopes of losing weight and shedding her food obsession. "I thought if I can do this for God during Lent, maybe that would give me the extra motivation I needed to stick to a diet," she says.

It didn't work. She cheated because she wasn't getting the protein she needed. Last year, the 27-year-old youth minister in Cleveland gave up dating, which included checking out dating apps, because she was too focused on finding the perfect match and not enough on others and God.

This year, she is giving up shopping for anything other than groceries and gas because her spending had gone out of control and she needed to save money. She also is trying to stop checking social media in front of others.

"I am the worst," she says. "I will be on Facebook and Instagram in front of my friends all the time." Saving money and being a better friend will benefit her personally, she says, but they also help her be a better person for God.

Megan Sutker, who works as an interfaith minister and attends an Episcopal church in Bucks County, Pa., says people shouldn't judge whether others are giving up things for selfish reasons or for God.

"All of us are at a different place in our faith journey," she says. What appears as a small step to others—giving up potato chips—may be part of the beginning of something bigger. But she also doesn't like to see Lenten fasts trivialized by forgoing what you don't like. In eighth grade, she read something about algae being in chocolate milk and gave it up for

### Forty Days of Fasting, Prayer and Penance

Lent, which comes from the Anglo-Saxon word meaning spring, is the Christian season of preparation before Easter. This year, Easter Sunday, which celebrates the resurrection of Jesus Christ, falls on April 1 for most religions; Eastern Orthodox churches celebrate it a week later.

The 40-day period of Lent, often marked by fasting, prayer and penance, dates back to 325 A.D. It mirrors the 40 days that Jesus spent in the desert, fasting and praying before starting his public ministry. (In fact, there are 46 days between Ash Wednesday and Easter Sunday, but Sundays are considered free from fasting obligations.) Many Christians see Lent as a time to grow closer to God. It's an austere season: Many churches remove flowers from the altar and cover crucifixes and statues with purple cloths.

Fasting, prayer and alms-giving—offering time and money to those in need—are pillars of the season for most Christians.

Most churches suggest that individuals choose their own Lenten observance and decide what they want to give up, but encourage spending more time in prayer, reading the Bible or attending special services such as the Stations of the Cross.

Certain religions prohibit particular foods. Some Christians don't fast but observe Lent by adding a spiritual practice, such as going to church more often or performing community service.

The Church of England this year urged Christians to give up "single use" plastics—including plastic cups and bags—during Lent to help the environment and care for God's creation. In years past, it encouraged levity, to make the season less somber, and suggested its members slow down and not be in such a rush.

Evangelical churches generally don't observe Lent, but many encourage members to use the time before Easter to reflect on how they can improve their lives.

—Clare Ansberry

Lent. Everyone thought it was virtuous, Ms. Sutker says, but "I knew I was giving it up because I had learned something gross about it."

Fr. Mike Schmitz, who heads Catholic Campus Ministry at the University of Minnesota-Duluth, doesn't think anyone needs to feel guilty about feeling better about themselves or being healthier as a result of Lenten practices. He notes that people feel good when they do acts of charity or spend time in silent prayer.

But it can be hard to be honest about our motives, he says. "Are we giving up something out of love of God or because we would like to lose some weight?"

When students talk about giving up refined sugar or going on a Keto diet for Lent, he says that's fine, but reminds them that Lent is about more than self-improvement. The key, he says, is if what we do "helps us to be a better person not just for ourselves but for others and God."

For Lent, he is adding 30 minutes of silent prayer to his day and also giving up beer. When students invite him out, he has sparkling water or a diet soda.

### HEALTH

## AT THE DOCTOR'S, EXPECT MORE RELIABLE FLU TESTS

BY PETER LOFTUS

**DETERMINING IF YOU HAVE THE flu isn't always easy—even with a trip to the ER.**

Doctors often skip the type of diagnostic tests that can deliver results within minutes of a nasal swab, believing they're unreliable. More accurate tests take longer to return results, and doctors sometimes prefer to prescribe antiviral drugs or other treatment based on symptoms rather than wait.

New regulations from the U.S. Food and Drug Administration are designed to change that, raising standards and requiring manufacturers to stop selling older rapid flu tests that don't meet the new standards by Jan. 12. The deadline was set in early 2017, well before the current flu season emerged as the most severe in nearly a decade.

The main problem with the older tests: Too many false negatives. The tests diagnose the flu by identifying viral proteins called antigens, but they can't detect lower levels of viral material as well as more advanced diagnostics.

This means many patients who have the flu might not get the right treatment, prolonging the illness and, at times, leading to complications such as pneumonia or bronchitis.

The 2009-10 flu pandemic, when a new virus led to more than 60 million cases of flu in the U.S., highlighted the ineffectiveness of the rapid antigen tests because of the sheer number of suspected cases missed, according to the FDA. The agency's new standard for rapid antigen tests is that they can give false negatives in no more than 20% of tests.

New diagnostics are starting to become available. Earlier this month, the FDA cleared Quidel Corp.'s QuickVue Influenza A+B test, the company said. Abbott Laboratories' Alere unit and Becton, Dickinson & Co. also say they have antigen-based tests that meet the raised standards.

Some companies have also introduced another rapid flu diagnostic they say is more accurate: molecular-based tests, which detect viral nucleic acid in patient specimens.

Roche Holding AG's diagnostics unit

Please see FLU page A13



New FDA rules raise rapid flu test standards. Above, a test is given in Loxahatchee, Fla., on Jan. 24.

## LIFE &amp; ARTS

## WHAT'S YOUR WORKOUT

# Contortion That's No Circus Act

A New York lawyer finds an extreme-flexibility workout that pushes limits; 'like yoga on steroids'

BY KARI PAUL

**WHEN OLIVER HERZFELD** did his first training session in a Manhattan athletic studio with contortion instructor Jonathan Nosan in 2016, it didn't go quietly.

"Jonathan pushed me through a lot of scary screaming that made some of the heads in this building turn with shock," Mr. Herzfeld said. "But he knew exactly when to listen to my scream and when he could push further."

The mild-mannered 54-year-old attorney comes into the gym once a week for Mr. Nosan's signature "Contorture" extreme-flexibility training, squeezing his body into shapes he previously thought impossible. With about a year of yoga training under his belt, Mr. Herzfeld had set out to find a more grueling workout in November 2016 and settled on contortion. Since then, he has spent hundreds of hours pushing his body up into handstands, refining his backbends, and bending forward into a tight fold with the help of Mr. Nosan, as well as with the assistance of weights at home.

"I was looking to stretch my limitations and I couldn't think of anything more extreme than this," he said. "It is like yoga on steroids. It is something that pushes you to go beyond what you think you are capable of doing."

He already had a growing interest in contortion when his wife sent him a video of Mr. Nosan on the television show "America's Got Talent," where the veteran contortionist showed off his skills to a standing ovation from all four judges. He emailed Mr. Nosan that week and, when he found he was also based in New York City, quickly set up one-on-one classes with the coach, who had an opening.

Mr. Nosan trained under Lu Yi, a master acrobat in San Francisco, more than 20 years ago. In 2003, he founded Contorture, a class that incorporates traditional contortion, circus acrobatics, and yoga stretching.

Soon Mr. Herzfeld was practicing every day at home in addition to taking a weekly personalized class for \$175 an hour. His wife says she regrets sending Mr. Herzfeld the video that led to his interest in Mr. Nosan's class, worrying for his health. "She hates it," he said. "Every time she sees me [exercising], she says 'God didn't intend for you to put 45-pound weights on your back, why do you do it?'"

Mr. Herzfeld says the thrill of pushing his limits keeps him going. When he began, he couldn't do a handstand, and now he holds one for 30 seconds. The progress he's made has translated to his work in law, he says, where he

feels more calm, energized, and in control.

The practice is as much mental as it is physical, relying on intense breathing exercises, Mr. Nosan says. "The sooner we get into this relaxed breathing pattern, the sooner we can get into deeper stretches."

Mr. Nosan says everyone has a personal extreme. "My expertise is an ability to know and read bodies to get clients to achieve and exceed their goals," he says. "A main focus from both sides as trainer and trainee is that Contorture is a very slow and gradual art form of fitness in both body and brain."

## The Workout

Mr. Herzfeld starts each day with a contortion workout. He warms up using foam rollers and then delves into hip-flexer stretches, knee lifts, and front splits. Throughout his routine he does a series of handstands. He also attends a class by Yoga to the People every day after work.

Once a week, Mr. Herzfeld meets with Mr. Nosan in his studio. They start with "flying frogs," a strength pose similar to a crow pose in yoga, then moving into a handstand. Mr. Nosan assists Mr. Herzfeld through this and other poses to strengthen and stretch the hip flexors before moving into splits, straddles, and backbends. The process takes about an hour. Although he practices every day, he says it is still just a hobby.

"I do not have an aspiration for quitting the law and becoming a circus performer," he said. "I'm doing it for its own aesthetic and own benefit."

## The Diet

Mr. Herzfeld doesn't drink alcohol or coffee and rarely eats red meat. He only drinks water and naturally flavored seltzer. On weekdays, he sticks to a consistent diet: raw peppers, baby cucumbers, and a banana for breakfast, followed by a mid-morning snack of unsalted almonds, cashews, walnuts, peanuts, pumpkin seeds and raisins. For lunch he eats a salad of arugula, fresh basil, avocado, red cabbage, grape tomatoes, hearts of palm, sliced almonds, fresh lemon, and light balsamic vinegar, with wild pink salmon, eggs or chicken for protein, followed by an apple as a snack. He includes dairy for dinner, such as a cheese omelet



and pizza with a side of fruit.

## The Gear & Cost

For his at-home work, Mr. Herzfeld bought Jonathan Nosan's Contortion Training DVD for \$180. There is also an option to pay \$250 to stream it anywhere, for people who train outside the home. He uses a fitness "power tower" for chin-ups, pull-ups, dips and knee lifts every day. For precision alignment, he uses a wooden dowel rod given to him by Mr. Nosan. They

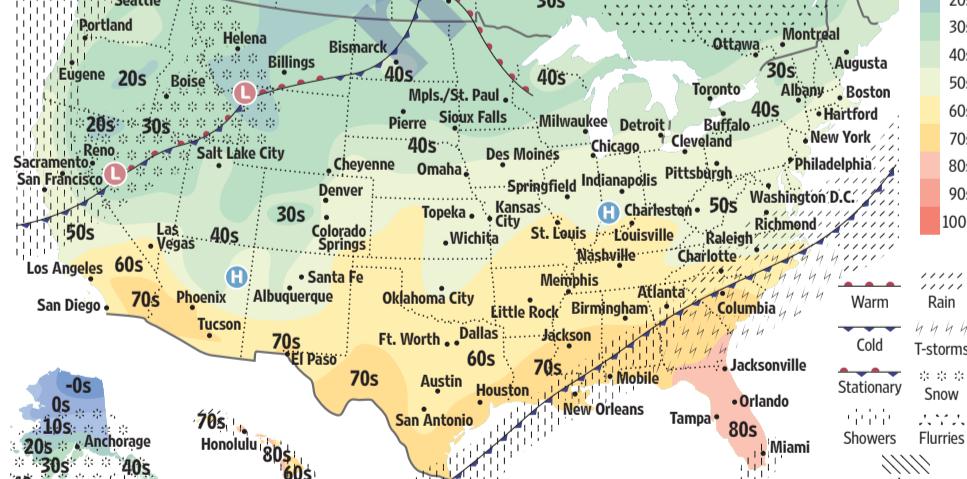
Clockwise from top: Oliver Herzfeld holds a handstand during a session with coach Jonathan Nosan; a straddle with a 45-pound weight that Mr. Herzfeld uses for at-home workouts; Mr. Herzfeld warms up with a stretch.



retail for \$13 for a pack of 25. He uses a foam roller to loosen his muscles and warm up his body for his daily workout. A 12-pound body bar is used for a standing forward fold and a hanging back bend. He uses a yoga wheel roller to support his backbends at home

and a baseball or softball to roll over his sore muscles. When practicing at home without Mr. Nosan to assist, he uses a 35-pound grip plate to push his body down for butterfly stretches and a 45-pound weight to push his back down for straddles.

## Weather



## U.S. Forecasts

s...sunny; pc...partly cloudy; c...cloudy; sh...showers;

t...storms; r...rain; sf...snow flurries; sn...snow; L...ice

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## LIFE &amp; ARTS

## ART REVIEW

# Pictures Fit for a Pope

BY CAMMY BROTHERS

**Boston** THE PAINTINGS of Fra Angelico (c. 1400-1455) are easy to walk by. They tend to be small, and viewed from more than a few feet away they look like a lot of other 13th-, 14th- and early 15th-century paintings: devoted to religious subjects, covered in large swaths of gold with blue and red accents. Move closer, though, and you will see some of the most refined, subtle and sophisticated paintings ever made. It is hard to believe, but paintings of this era were long known as "primitive" and considered inferior to the High Renaissance works of Leonardo, Michelangelo and Raphael.

That term has fallen from favor, but the after-effects continue; early Renaissance painters are less often exhibition headliners than their later counterparts. A small gem of a show at the Isabella Stewart Gardner Museum offers a welcome corrective, presenting works by Fra Angelico, building out from a gorgeous painting in the museum's own collection, "The Dormition and Assumption of the Virgin" (1433-34). In an age of all-inclusive exhibitions, this is a study in curatorial restraint: just 13 objects, all meriting rapt attention.

The show, assembled by associate curator Nathaniel Silver, reunites four exquisite painted reliquaries related to the life of the Virgin Mary and made for the sacristy of Santa Maria Novella in Florence, not seen together for over 200 years. They were held in cabinets and brought out exclusively on Feast Days and for important visitors. Here they are assembled with other paintings from Italian and American museums.

Three of the reliquaries now belong to the Museo di San Marco in Florence, home to a magnificent suite of frescoes Fra Angelico painted for monks' cells.

The other was procured for the avid Boston collector Is-

abella Stewart Gardner by the critic and connoisseur Bernard Berenson. The sacristy doubled as the pope's private chapel during his visits to the city, so the show allows visitors to see the panels as only a visiting pope would have: together and up close.

Despite the somber subject of the Gardner panel, Fra Angelico injects the figures with enormous dynamism; they almost dance. Paintings like this encourage quiet contemplation, but their surfaces are *noisy*: There are jam sessions among the angels, in ecstasy with their lutes, harps, and horns.

The Gardner's painting stands out for its exceptionally good condition. The sensation, as a result, is of opening a manuscript and seeing a page that has been unseen for 500 years.

Fra Angelico, in fact, began his career as an illuminator

of manuscripts from a prior generation, such as Ambrogio and Pietro Lorenzetti and Simone Martini.

When Leon Battista Alberti blazes onto to the scene in the 1430s with his treatise "On Painting," disdaining rich materials in favor of artistic skill, advocating unity of composition and the use of single-point perspective, this continuity with the past is lost, and Florentine painting takes a turn toward the future with naturalism. But with the rise of naturalism comes the loss of a vital form of abstraction.

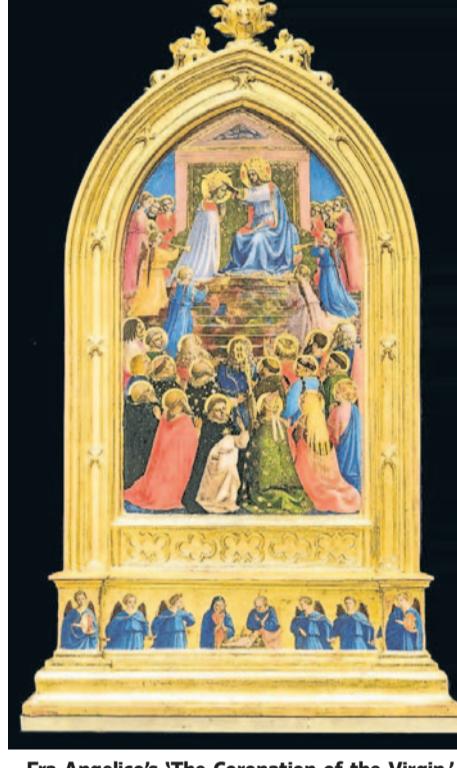
Abstraction in these paintings operates on multiple levels: in the spatial arrangements, which have more to do with celestial hierarchy than earthly gravity, and in passages that resemble Abstract Expressionist vignettes. In the "Coronation of the Virgin," the center of the panel is occupied by a monumental stairway

made up of passages of pure color: presumably intended to imitate precious marbles, but also a time-bending leap into color field painting.

Our view of Fra Angelico has largely been shaped by Vasari, who saw him as a saintly and spiritual painter. By contrast, this exhibit shows him as an intellectual and a great storyteller. In one unusual work, originally a silver chest (the "Armadio degli Argenti," c. 1450-52), 12 compact scenes illustrate the relationship between the Old and New Testaments, a theme that took Michelangelo the entire Sistine Ceiling to show.

Another painting, a predella from the Annalena Altarpiece (1437-40), resembles a comic strip or graphic novel: It is all about the narrative, represented in distinct vignettes. Among the fascinating and occasionally gruesome scenes: Ss. Cosmas and Damian, doctors known for their acts of healing, are shown falling off a cliff and being rescued by angels, their figures shown twice to communicate the narrative sequence.

Exhibits like this are a reminder of what the Gardner is for, what it has always ex-



Fra Angelico's 'The Coronation of the Virgin,' above, and 'The Dormition and Assumption of the Virgin,' right

nator of manuscripts, and the extraordinary attention he applies to every inch of a painting's surface reflects this training. Look, for instance, at any face of an angel or saint, and you will find a portrait in miniature. In other ways, too—such as their prodigious use of the costly materials of gold and ultramarine blue—Fra Angelico's paintings have much in common with those of Si-

nator of manuscripts, and the extraordinary attention he applies to every inch of a painting's surface reflects this training. Look, for instance, at any face of an angel or saint, and you will find a portrait in miniature. In other ways, too—such as their prodigious use of the costly materials of gold and ultramarine blue—Fra Angelico's paintings have much in common with those of Si-

celled at being: an oasis providing a moment to go beyond daily strife, to meditate and to look. There is no better artist to accompany one on this journey

than Fra Angelico.

**Fra Angelico:**  
**Heaven on Earth**  
Isabella Stewart Gardner Museum, through May 20

Ms. Brothers is a visiting associate professor at Harvard University and the author of "Michelangelo, Drawing and the Invention of Architecture."

## FLU

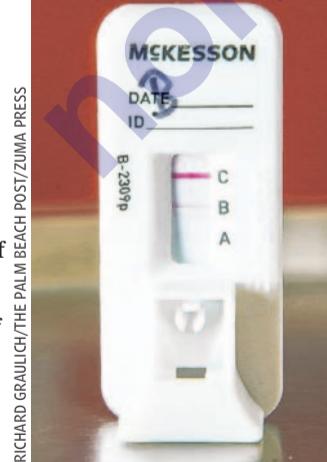
Continued from page A11  
launched the cobas Liat test in 2015, and Abbott's Alere i test was introduced in 2014.

Jesse Papenburg, a pediatric infectious-disease specialist at the Research Institute of the McGill University Health Centre in Montreal, and his colleagues analyzed studies of various rapid flu tests and found the molecular-based tests missed fewer flu cases than the older antigen-based tests. The analysis, published last year in the *Annals of Internal Medicine* journal, was funded by a Canadian health agency and Becton, Dickinson.

While there is a recognition within the medical community that the new tests are more accurate, diagnostics makers still face challenges.

Rapid molecular tests take between 15 and 30 minutes, while rapid antigen tests generally take less than 15 minutes for results. (Tests typically housed in laboratories can take several hours or longer.) The tests are also more expensive. Manufacturers sell the rapid antigen tests to physicians and hospitals for about \$10 to \$15 per test, while molecular-based tests cost about \$25 to \$50, according to Jack Meehan, a diagnostics stock analyst at Barclays.

Misdiagnoses associated with the older antigen tests, meanwhile, have left many doctors uncomfortable making treatment decisions without a confirmed diagnosis, particularly if the flu is known to be



A flu test shows a positive result. Companies are producing more accurate rapid tests.

circulating in the community.

The U.S. Centers for Disease Control and Prevention says doctors don't need a flu test confirming infection to decide whether to prescribe antivirals, and that doctors can make decisions on signs, symptoms and epidemiologic factors. Patients hospitalized with suspected flu complications should be tested with molecular-based tests because they are more accurate, said Tim Uyeki, chief medical officer of the CDC's influenza division. Starting patients on antivirals within two days of getting sick could shorten the illness by about one or two days and reduce complications, according to the CDC.

"You don't need a rapid or positive test to treat influenza if you suspect an individual has influenza," said Dr. Pedro Piedra, professor of molecular virology, microbiol-

ogy and pediatrics at Baylor College of Medicine in Houston.

Still, some doctors say rapid and more accurate tests can be useful, noting that relying on symptoms alone can lead to incorrect diagnoses in patients who have other infections.

In a clinical trial of a flu drug recently approved in Japan, drugmaker Shionogi & Co. found that 55% of 590 American participants, whose doctors had just diagnosed them with the flu, actually tested negative for the virus when they were tested using the more accurate, longer test.

Treating patients who don't have the flu with antiviral drugs like Tamiflu can expose them to gastrointestinal problems, skin reactions and other side effects. To help prevent those kinds of misdiagnoses, companies are also introducing rapid diagnostics that test for multiple pathogens. Danaher Corp.'s Cepheid unit received FDA clearance last year for its Xpert Xpress Flu/RSV, which can detect flu as well as respiratory syncytial virus, or RSV. Cepheid said the test can deliver results in 30 minutes or less.

BioMerieux's BioFire Diagnostics unit sells a molecular-based test to detect flu and several other viral and bacterial pathogens. It introduced a rapid version of the test in 2016, which delivers results in about one hour, said Wade Stevenson, senior vice president of global marketing.

—Preetika Rana contributed to this article.



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## PYEONGCHANG 2018

TEAM USA AT THE GAMES

## The Good, the Bad and the Ugly

BY RACHEL BACHMAN

PYEONGCHANG, South Korea—If the medal count were an Olympic event, the United States would finish these Winter Games off the podium.

Team USA's fourth-place finish in Pyeongchang, with 23 medals, was its lowest at a Winter Games since Nagano 1998, when it finished sixth with 13 medals. Norway's 39 medals set an Olympic record for the Winter Games.

Canada won 29 medals and Germany 31.

The U.S. medal total is down from 28 in Sochi four years ago, a drop of nearly 18%, and a nearly 38% drop from its all-time high of 37 at the 2010 Vancouver Games.

The question for the U.S. is, to borrow a phrase from Alabama football coach Nick Saban, How good do you want to be?

"We always want to do better," said Alan Ashley, the U.S. Olympic Committee's chief of sport performance. He said he would examine Norway's approach in the wake of the Games—and that he plans to meet with athletes and coaches across all sports to seek improvement. He also noted that dozens of American athletes finished in fourth to sixth place.

"I'm actually probably more encouraged now than I've ever been," he said. "Because even though people can say, 'Well, you didn't hit your medal count, you didn't get to the right level,' look at the depth of our team."

The U.S. did have spectacular performances to celebrate. The women's hockey team claimed gold for the first time since 1998 in a shootout over Canada. The men's curling team, exuding dad-bod charm, won the sport's first American gold.

Snowboarders Chloe Kim and Shaun White showed their mastery of the halfpipe, where the U.S. won six medals. Nearly half of all U.S. medals came in freestyle skiing and snowboarding.

Americans showed their range, winning events in 11 of 15 sports—a record for any nation at the Winter Games, according to Olympic historian Bill Mallon. That included their first gold in cross-country skiing.

Yet in a few sports the U.S. once closely contested, Americans have atrophied.

U.S. speedskaters, once among the most decorated winter sports athletes, have won one medal in the past two Olympics, a bronze in the women's team pursuit in Pyeo-



Above, athletes from Team USA, including skier Lindsey Vonn, during the Closing Ceremony. Below, U.S. flag bearer and cross-country skier Jessica Diggins.



ngchang. U.S. short-track speed-skaters have won two, and just one in these Games.

The U.S. women's figure skaters finished 9th, 10th and 11th, their worst-ever showing at the Winter Olympics. Russian teenagers took gold and silver.

"I thought of today as my 'Dancing with the Stars' audition," American Mirai Nagasu said after a summation widely decried for its seeming lack of ambition. She later said thinking about the show

was a tactic to calm her nerves.

Mikaela Shiffrin, 22, won a gold and a silver, and Lindsey Vonn a bronze on a starry women's Alpine ski team. Yet with 33-year-old Vonn calling these her last Olympics, the team has little proven talent going forward besides Shiffrin. The U.S. men failed to win a medal for the first time since 1998.

"Medals, they're not necessarily what the Olympics are all about," Vonn said. "The Olympics are a unifying event, one that has pro-

found impact on the entire world."

The nations that finished ahead of the U.S. in Pyeongchang all made radical changes in the wake of subpar performances at previous Winter Games.

Norway formed Olympiatoppen, its sports-performance organization, after single-digit medal counts in 1984 and 1988. Its success is partly owed to a funding structure that provides more resources for poorer, less accomplished sports. Top-performers like cross-country skiing receive ample support in coaching and sports science.

At these Olympics, Norway won 16 more medals than the U.S.—with half the athletes.

Canada's Own the Podium sports-funding program was born of the embarrassment of hosting two Olympics without winning a gold medal. It yielded 14 golds at Vancouver 2010 and a record medal haul of 29 in Pyeongchang.

The Wall Street Journal's medal prediction of 36 wound up being unrealistic for the U.S., but not ambitious enough for Norway, which eclipsed our 36-medal projection.

To be sure, some nations benefited from the absence of a number of top athletes from Russia,

who were banned from the Games for doping sanctions. The team competing under penalty as neutral Olympic Athletes from Russia finished with 17 medals.

Team USA has four years and another long trip to Asia—Beijing 2022—to plan its Winter Games response.

—Louise Radnofsky, Sara Germano and Ben Cohen contributed to this article.

## Medal Count

COUNTRY	G	S	B	TOTAL
Norway	14	14	11	39
Germany	14	10	7	31
Canada	11	8	10	29
U.S.	9	8	6	23
Nether.	8	6	6	20
S. Korea	5	8	4	17
OAR*	2	6	9	17
Switz.	5	6	4	15
France	5	4	6	15
Sweden	7	6	1	14
Austria	5	3	6	14

\*Olympic Athletes from Russia

More at: [WSJ.com/Olympics](http://WSJ.com/Olympics)

INTERNATIONAL OLYMPIC COMMITTEE

## RUSSIA REMAINS SUSPENDED FOR CEREMONY

The IOC signals Russia will likely be reinstated soon despite two recent doping violations

BY SARA GERMANO

PYEONGCHANG, South Korea—Russia remained suspended from Olympic competition for the Closing Ceremony, the International Olympic Committee ruled Sunday, though the organization signaled the country would likely be reinstated soon despite two recent doping violations by Russian athletes at the Games here.

The decision meant Russian athletes weren't allowed to march under their country's flag for the Closing Ceremony, just as they were prohibited in the Opening Ceremony.

Speaking at a meeting of IOC membership on the final day of the Winter Olympics, President Thomas Bach said the committee recommended Russia's reinstatement if and when antidoping authorities can ascertain that no other Russian athletes incur doping violations at these Games.

Russia's reinstatement would likely again prompt criticism that the IOC could have been tougher on an international sporting power that allegedly engaged in a massive state-sponsored doping scheme four years ago in Sochi.

"I feel like there's been a loss in faith of the athletes at these Games, of all Games, because of the offenses that have occurred," said Elana Meyers Taylor, a U.S. bobsledder who won silver in the women's event in Pyeongchang.

The IOC has grappled for years with how to resolve and adjudicate one of the most elaborate alleged doping schemes in sports history, culminating with a decision in December to ban Russia from having an official presence in Pyeongchang. Instead, Russian athletes were permitted to compete at the Winter Games as "Olympic Athletes from Russia," and only after what the IOC described as stringent vetting.

But two positive doping tests here—involving a curler whose bronze medal was later revoked, and a bobsledder who finished in 12th place—tripped up efforts by the unofficial Russian federation to re-enter the IOC's good graces. The committee's decision now further strains the complex relationship between the global sports organization and one of its most powerful members.

Mark Adams, a spokesman for the IOC, had said on Saturday that the IOC didn't regret its decision to include athletes of Russian origin at these Games, citing the "incredibly detailed" process by which the Olympic Athletes from Russia were vetted. "I think we would say, as you'd expect, that we're always extremely disappointed when there is a doping control from whichever nation it may come from," he said.

Following its initial decision to suspend the Russian Olympic Committee for its alleged state-sponsored doping at the 2014 Winter Olympics in Sochi, the IOC stipulated that readmission would be contingent on several factors. Those included the performance and behavior of the Olympic Athlete from Russia delegation at the Pyeongchang Games; payment of \$15 million in restitution; and progress of continued dialogue



An Olympic flag was hoisted instead of the Russian flag during a medal presentation at Sunday's Closing Ceremony.

with ROC leadership.

It remains unclear if the fine has been paid. Adams said that "all behavior and everything that's taken place here," including the doping positives, were to be included in the IOC executive board review of the suspension.

Meanwhile, the continued scandal is roiling specific sports. The U.S. Biathlon team said Saturday it "could not in good conscience participate" in the sport's final World Cup event next month, scheduled to take place in Tyumen, Russia.

Holding the World Cup final in Russia now sends an outrageous

message of antidoping indifference to the world," the team said, citing continued noncompliance with the World Anti-Doping Agency code, among other reasons.

On the penultimate day of these Winter Games, ripple effects of the Russian scandal played out in Pyeongchang, as two Norwegian curlers were awarded the bronze medal in mixed doubles following their upgrade from the Russian suspension. The IOC said the athletes, Kristin Skaslien and Magnus Nedregotten, flew back to Pyeongchang to receive their medals.

Also on Saturday, the first gold

medal was awarded to an Olympic Athlete from Russia, as Alina Zagitova collected her prize for winning the women's figure skating event. On Sunday afternoon, the heavily favored Russian men's hockey beat Germany 4-3 in overtime. In a reflection of the tensions at play, the Russian fans inside Gangneung Hockey Center sang Russia's anthem even as the Olympic rings were hoisted and the Olympic anthem was played during the medal ceremony.

—David Gauthier-Villars, Rachel Bachman and Andrew Jeong contributed to this article.

## OPINION

## How to Get Rich Quick in Mexico

AMERICAS  
By Mary Anastasia O'Grady

Former Mexico City Mayor Andrés Manuel López Obrador is leading in the polls for Mexico's July presidential election. Given his reputation as an antemarket extremist, this may seem surprising in modernizing Mexico. But he has been helped by the backing of Monterrey tycoon Alfonso Romo, whom the candidate has named chief of staff of his proposed cabinet.

The Romo endorsement aims to reframe López Obrador as a moderate who will befriend capitalists as long as they haven't cheated to get ahead. Mr. Romo talks a good game. In a November interview with television journalist Carlos Marín, he said that Mexico needs to be "reconstructed" because "there is a lack of ethical values and morals."

Yet it isn't clear that Mr. Romo is the best spokesman for ethical entrepreneurship. At least one business transaction, in which he made a killing, left lingering doubts about his commitment to transparency and fiduciary responsibility.

In 2002 Mr. Romo was chairman and CEO of the Mexican conglomerate Savia. He was also chairman and CEO of a company called Seminis, which produced seeds and was 75% owned by Savia and traded on the Nasdaq stock exchange.

The seed company had engaged in rapid expansion through acquisitions. This created financial stress that might have been overcome using the capital markets. Instead, in December 2002, Savia signed a

nonbinding letter of intent to sell the company to the California-based private-equity firm Fox Paine. Bernardo Jiménez, a spokesman for Mr. Romo, told me by phone from Mexico that Fox Paine had shown interest in the company for several years and that Mr. Romo saw this as "the best option" for dealing with Seminis's heavy debt load.

The initial offer from Fox Paine was \$3.40 a share. The Seminis board of directors had contemplated a price north of \$4 a share for public shareholders. So on Dec. 17, 2002, it formed a special committee to study the offer, discuss "modifications," and reach an agreement. The final deal offered public shareholders \$3.78 per share and \$3.40 per share to Savia. Mr. Jiménez describes it as the outcome of negotiation.

The value of the transaction, according to a June 2, 2003, company press release, was more than \$650 million. Savia took a 2003 loss in pesos equivalent to approximately \$224 million, according to financial statements.

Shareholders would never find out what the market was willing to pay for the company. "Savia expressed an unwillingness to enter into any transaction other than the one contemplated by the letter of intent and therefore the Seminis board of directors did not empower the special committee to initiate, solicit or accept alternative proposals with respect to Seminis," according to the Seminis proxy statement dated Aug. 8, 2003, asking shareholders to approve the deal. Mr. Jiménez said the company had already tried "the major players. They had been hit by the controversy

over GMOs"—genetically modified organisms—"and had no interest."

The proxy notes that the "principal purpose of the merger and related transactions [was] to enable Fox Paine and the participating Romo affiliates to own all the shares of Seminis common stock." Public shareholders weren't permitted to retain ownership. They

### A top backer of the front-runner for president has a murky business history.

had to be content with a price that was 50.6% above the market price the day before the letter of intent was released—though the stock had traded as high as \$3.99 a share earlier that year. Only Mr. Romo and his affiliates were to be "continuing shareholders."

Mr. Jiménez said the idea was "to take the company private, restructure it and sell it." After completion, according to the Seminis Securities and Exchange Commission filing dated March 11, 2004, Mr. Romo and affiliates owned at least 41% of the fully diluted common stock and may have had up to 52% control through parties acting on Mr. Romo's behalf. Fox Paine had the balance.

The over-indebtedness occurred on Mr. Romo's watch. Yet he was retained as CEO and president, awarded a \$1 million annual salary, and given the right to name a majority of the new board for up to five years. Mr. Jiménez, who had been chief financial officer of Savia, became CFO of Seminis.

Savia took it on the chin. But it had another reason for dismay. The Fox Paine deal closed on Sept. 29, 2003, and on Jan. 22, 2005—some 16 months later—Mr. Romo and Fox Paine signed an "agreement and plan of merger" with Monsanto. An SEC filing dated Oct. 11, 2005, valued the Monsanto transaction at \$1.5 billion in cash and assumed debt plus a performance bonus of up to \$125 million payable to a company called Marinett, which Mr. Jiménez told me was owned by affiliates of Mr. Romo.

The first meeting with Monsanto, according to Mr. Jiménez, was in October 2004; a letter of intent was signed in December 2004. That implies that Mr. Romo, his affiliates and Fox Paine began negotiating the Monsanto sale roughly a year after buying Seminis. With a gain of \$950 million, they more than doubled their money—a tidy return from a company that went for a song in Mr. Romo's 2003 fire sale. Fox Paine did not respond to requests for comment.

Mr. Jiménez explains the bonanza by saying Seminis was restructured and the GMO controversy receded, "greatly revaluing agricultural and seed companies." Still, it's a tale that naturally raises the question of whether CEO Romo upheld his fiduciary responsibility as chairman to execute a fair and transparent deal. That's the very definition of ethics.

The answer matters in the election, not the least because Mr. Lopez Obrador's trademark in politics is crony corporatism. Before Mexicans make him president, they ought to know a bit more about his backers.

*Write to O'Grady@wsj.com.*

BOOKSHELF | By Richard Adams Carey

## Requiem For a Paper Mill

### You Had a Job for Life

By Jamie Sayen

(University Press of New England, 283 pages, \$24.95)

Once upon a time—and for a very long time, in fact, before its last gasp in 2007—there was a paper mill on the banks of the Upper Ammonoosuc River, in the little northern New Hampshire town of Groveton.

One of the many voices heard in Jamie Sayen's "You Had a Job for Life," the story of this former company town, belongs to Pete Cardin, who in 1971, at the age of 21, came home from Vietnam to a job at the Groveton Paper Co. He began as a machine operator and rose over the decades to production manager.

"When the demolition of the mill began late in 2012, Pete often drove over to the old parking area to watch and to grieve," Mr. Sayen writes. "His marriage broke up, and his health deteriorated. In May 2015, at age sixty-five, he died. His death certificate may have said otherwise, but the cause of death was a broken heart."

On the evidence of this oral history, such a determination seems justified. Mr. Sayen's book—which began as an assignment in a graduate ethnography course at Plymouth State University—touches only glancingly on the alchemy of converting wood fiber into paper. That's too bad. Yes, this is



a book about people, not machines, and properly so, but there is a sort of magic to a paper mill's combination of chemistry, engineering and huge, intricate machines—and to the genius that keeps it all in balance, tuned and running.

In Groveton it was a collaborative genius, one drawn as much from knowledgeable machine operators as from top management and ownership. The mill was built in 1891 and had a number of owners along the way, but during its golden years it was run by three generations of the Wemyss family, most notably James C. Wemyss Sr. ("Old Jim"), the son of a paper magnate who bought the mill in 1940, and James C. Wemyss Jr., who continued to run the operation after Groveton Paper merged with Diamond International in 1968.

These were hands-on bosses, gifted engineers in full command of the magic. The younger Mr. Wemyss once came upon a crew about to drain a stock tank into which a hose had fallen and become tangled in an agitator. Instead "Young Jim," a scuba diver, took off his bow tie, coat and shirt, dove to the bottom of the great tank with a knife, and cut the hose into pieces. "Let's start this goddamned place up," he said, surfacing.

Young Jim, who grew up in Connecticut, dominates the stage in this story. As an infantryman in Europe during World War II, he became close to the coal miners and steelworkers in his outfit. "I had never been exposed possibly to the real America that was fighting this war," he told Mr. Sayen, "and seeing how people were poor, as poor as they were . . . I started to understand there was another world, and it affected me greatly."

**The genius of the Groveton Paper Co. was a collaborative one, drawn from a knowledgeable workforce as much as from top management.**

Groveton millworkers had unionized in 1905, and a 1917 strike involved horsewhips, gunfire and arson. There were more strikes to follow, but during Young Jim's three-decade reign, there were only two brief strikes and a work stoppage. "Young Jim was no pushover during negotiations," Mr. Sayen writes. "However, his war experience, the zeitgeist, and his carousing with many of the younger mill workers in the post-war years ensured that contract negotiations never degenerated into the sorts of battles his grandfather and father fought with the unions."

Jim Wemyss Jr. wielded enormous economic and political power in Groveton. Some of the voices in this history paint him as a bully, and occasionally ruthless on behalf of the mill as a business. But others applaud his acumen and basic decency. And because he lived in Groveton, the welfare of the town and his workforce—i.e., his next-door neighbors—weighed strongly in the calculus of his business decisions.

This sort of calculus was abandoned, however, with corporate raider Sir James Goldsmith's 1981 attack on Diamond International. That inaugurated a quarter-century of absentee ownership—Goldsmith, then Virginia-based James River Corp., then Wisconsin-based Wausau Paper—that coincided with soaring energy and shipping costs, shrinking demand, and the general effects of globalization.

This latter part of Mr. Sayen's history is heartbreaking. Young Jim remains involved, helping to avert a strike in 1993, until driven out four years later. Remarkable feats of Yankee ingenuity are achieved to cut costs and produce paper even more efficiently. In the mill's last years, Mr. Sayen writes, "Groveton was earning a 7.5 percent return on investment—a respectable profit . . . after factoring in all the other benefits it provided the community." The directors and shareholders of Wausau, however, demanded 15%.

In 2007 Groveton made the brilliant red interleaf paper for the last of the Harry Potter books. But Wausau, without consulting local management, had already decided to sell. When at last the complex was shut down, it was done so with a covenant in its deed that it could never serve as a paper mill again.

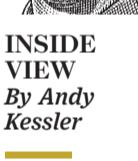
This was the cruellest blow. "A gross injustice to the community," said Groveton manager Roger Caron. "I think they [Wausau] were afraid of the competition because of the nature of the people that work here . . . an excellent workforce [with] a can-do attitude."

Nowadays only a quarter of the storefronts in Groveton house active businesses. "Another quarter are gone, replaced by vacant lots," writes Mr. Sayen, "and the remainder are empty."

The mill itself is among those vacant lots. Mr. Wemyss, now 92, has scant enthusiasm for free trade and globalization, but in his mind these were not the pathogens that killed his hometown. Rather it was the speculative capitalism practiced by financiers such as Goldsmith. "These people in Wall Street have been disgraceful," he told Mr. Sayen. "What they've done in the last fifty years in this country."

*Mr. Carey is the author, most recently, of "In the Evil Day," the story of the aftermath of a violent crime in Colebrook, N.H., 26 miles north of Groveton.*

## Elon Musk's Uncontested 3-Pointers

INSIDE  
VIEW  
By Andy Kessler

I have a suspicion that Stephen Curry and Elon Musk are the same person. First,

as was said of Michael Jackson and Diana Ross, you never see them in the same room together. More important, they both dislike crowded spaces.

Mr. Curry, a two-time NBA most valuable player with the Golden State Warriors, has mastered the art and science of shooting 3-pointers. But a closer look at his stats reveals that he really likes to shoot uncontested 3s. Who wouldn't? Making uncontested baskets is a lot easier.

Mr. Curry often takes shots from several feet behind the 3-point line. Defenders, figuring no one would be stupid enough to shoot from that far away, leave him open. And he makes baskets with surprising accuracy. At one point in 2016, he made 35 out of 52 shots from between 28 and 50 feet. Uncontested indeed.

Elon Musk's business strategy isn't so different: Go far enough into the future that there are no other competitors. Mr. Musk's first success was X.com, an email payment

company. It merged with Peter Thiel's Confinity to form PayPal—and avoid competition. They had the market to themselves for a long time because fraud, especially from Eastern Europe, was so rampant on early internet payment platforms. They solved the fraud problem and enjoyed an uncontested market, eventually selling for \$1.5 billion to eBay.

Then Mr. Musk headed further into the future. He took the nine-figure payout from PayPal and pushed ahead with SpaceX, Tesla and Solar City. Literally his last \$20 million went to Tesla in 2008. "I was tapped out. I had to borrow money for rent after that," he later recalled. Private space launches, electric cars and rooftop-solar financing were all huge Muskin pushes into the future, where no one else dared play. Today, Tesla is worth around \$60 billion. SpaceX raised money last summer at a \$21 billion valuation. Mr. Musk is no longer borrowing to pay his rent.

Quite impressive, even though I find all the handouts offensive. When I see someone driving a Tesla I greet him with, "You're welcome." When he inevitably asks for what, I roll out the long list of subsidies: a \$465 million Energy Department loan in 2009, a \$7,500-a-car income-tax credit

from the feds, \$1.3 billion in incentives from Nevada for a factory, and more. Removing competition by racing to the future is one thing. Seeking special treatment to boost your advantage is cheating.

Mr. Musk still pushes the boundaries. Some ideas will work and some will go up in flames, maybe literally. Work is progressing on the sonic-speed Hyperloop transportation system. The Boring Co.

### What does the Tesla and SpaceX founder have in common with Stephen Curry?

which Mr. Musk founded in 2016 to undertake the project, proposes to dig tunnels under cities fast—and to reduce costs by a factor of 10. For some reason, the Boring Company recently presold 20,000 flamethrowers at \$500 each, complimentary fire extinguisher included. The entrepreneur is even funding a "neural lace," a still theoretical brain-to-computer interface. Is a holodeck next? All these ideas are far-fetched, but they're mostly uncontested.

In his 2014 book, "Zero to One," Mr. Thiel badmouths competition. "Tolstoy opens

Anna Karenina by observing: 'All happy families are alike; each unhappy family is unhappy in its own way.' Business is the opposite. All happy companies are different: each one earns a monopoly by solving a unique problem. All failed companies are the same: they failed to escape competition." Google founder Larry Page agrees. "If you're not doing some things that are crazy, then you're doing the wrong things." I agree, as long as there are market forces to allow competition from anyone who dares.

The future is almost always uncomfortable for everyone except the leading risk taker. What's the catch? Even an innovator has to be right in betting that there's a market for his innovations. Sometimes there is no competition because the risk takers are dead wrong. But Mr. Musk has been right, as have Messrs. Thiel and Page.

Mr. Page reportedly once told a venture capitalist, "You know, if I were to get hit by a bus today, I should leave all of it to Elon Musk." He later explained to Charlie Rose he liked Mr. Musk's idea of going to Mars "to back up humanity." Good luck with that. But then again, I would love to see them try. Like Mr. Curry's 3s, it will certainly be uncontested.

In his 2014 book, "Zero to One," Mr. Thiel badmouths competition. "Tolstoy opens

in precision medicine. Restricting access to cutting-edge molecular testing would stifle growth in precision medicine at approved testing sites nationwide. The limits could prevent desperately needed innovation, setting back progress in genomic testing and oncology by at least a decade.

The CMS proposal is another example of faulty government regulation in health care, this time at the expense of cancer patients. This government intervention is more than a regulatory nuance in a reimbursement issue. It's a matter of life and death.

*Mr. Elemento is director of the Caryl and Israel Englander Institute for Precision Medicine at Weill Cornell Medicine and a co-director of the Genetics, Epigenetics and Systems Biology Program in the Sandra and Edward Meyer Cancer Center.*

differ from one patient to the next. NGS tests enable oncologists to prescribe and administer customized, highly targeted drug therapies. The technology limits patients' exposure to unnecessary toxic drugs and helps doctors make

### Washington may impose needless limits on genetic testing.

vital treatment decisions. Hundreds of thousands of cancer patients have already received NGS testing.

The proposed new CMS policy would abruptly change the way NGS testing is regulated and administered. It would drastically limit insurance coverage by requiring that tests be approved by the Food and Drug Administration. Current NGS tests are

conducted at accredited clinical laboratories and premier academic medical centers under strict regulation. They are as accurate and reliable as FDA-approved testing. There is no evidence that restricting reimbursement to FDA-approved tests would improve care.

Under the proposed policy, only one of hundreds of laboratories that currently offer NGS testing would meet all the new reimbursement requirements. The policy would force clinicians and institutions to send all NGS testing to a single vendor, Foundation Medicine.

This is unfair to cancer patients. The proposal would result in a monopoly, allowing price manipulations, decreasing quality, and potentially contributing to market failure.

It would turn the entire genomic-testing industry upside down. The FDA is already unable to keep up with advances

in precision medicine. Restricting access to cutting-edge molecular testing would stifle growth in precision medicine at approved testing sites nationwide. The limits could prevent desperately needed innovation, setting back progress in genomic testing and oncology by at least a decade.

*Mr. Carey is the author, most recently, of "In the Evil Day," the story of the aftermath of a violent crime in Colebrook, N.H., 26 miles north of Groveton.*

## OPINION

## REVIEW &amp; OUTLOOK

## Democrats for Eavesdrop Abuse

The House Intelligence Committee on Saturday released the long-awaited Democratic response to allegations the FBI abused its surveillance powers during the 2016 election. Committee Chairman Devin Nunes owes ranking Democrat Adam Schiff a thank you for assisting his case.

The 10-page Democratic memo begins by declaring that "The FBI and DOJ officials did not 'abuse' the Foreign Intelligence Surveillance Act (FISA) process, omit material information, or subvert this vital tool to spy on the Trump campaign." Yet the facts it lays out show the opposite.

In particular the memo confirms that the FBI used an opposition-research document paid for by the Hillary Clinton campaign and Democratic National Committee as part of its application to surveil Carter Page, who was associated with the Donald Trump campaign.

Democrats dispute the degree to which the FBI relied on the dossier created by opposition-researcher Christopher Steele in applying for its FISA court order, but that's beside the point. If the FBI had as much "compelling evidence" and "probable cause" as the memo asserts, it would not have needed to cite the Steele document. And the Democrats do not dispute that the Steele dossier was the FBI's only source in its initial FISA application for its allegation that Mr. Page met with suspect Russians in Moscow in July 2016.

The Democratic memo makes no attempt to rebut the widely reported news that former Deputy FBI Director Andrew McCabe told Congress that the FBI would not have sought a surveillance warrant without the dossier. Democratic Rep. Jim Himes claimed on "Fox News Sunday" that Mr. McCabe never said that, but then why not put that in the memo?

The Democratic memo also confirms that the FBI withheld from the court the partisan provenance of the dossier. Democrats even provide, for the first time in public, the precise language the FBI used in its initial application in a long, obfuscating footnote.

Democrats say the FBI told the FISA court that a "law firm" [Clinton/DNC firm Perkins Coie] hired "an identified U.S. person" [opposition research firm Fusion GPS co-founder Glenn Simpson] to "conduct research regarding Candidate #1's ties to Russia." The "identified U.S. person" then hired "Source #1" [Mr. Steele] to do the research. The footnote ends: "The FBI speculates that the identified U.S. person was

likely looking for information that could be used to discredit Candidate #1's campaign."

Speculates? Likely? Could? The dossier was paid for by actors whose overriding purpose was to defeat Mr. Trump. Nowhere do Democrats say the FBI used the words "political" or "partisan" or "campaign," much less Clinton or Democratic National Committee.

The Democratic memo claims the FBI acted "appropriately" in not "revealing" the name of an "entity" in a FISA application, but this is laughable. The FBI sometimes masks identities to preserve sources and methods, but the Steele dossier was a pastiche of gossip and rumor based on Mr. Steele's contacts. Disclosing his partisan funders would have betrayed no important intelligence sources but would have given the court reason to ask the FBI for more credible information before granting an eavesdrop order.

Messrs. Steele and Simpson briefed their media friends in September and October about their dossier, despite FBI prohibitions. The FBI nonetheless falsely told the court that Mr. Steele wasn't the source of a Yahoo News article that it used as additional evidence in its application. While the Democratic memo repeatedly refers to Mr. Steele's reporting as "reliable" and "credible," it confirms that the FBI fired Mr. Steele after it found he hadn't told the truth about his media spinning.

The Democratic memo devotes considerable space to smearing the hapless Mr. Page, as if he's some kind of master spy and the Rosetta Stone of the Trump-Russia story. Yet no one has offered proof that he colluded with the Russians, and he hasn't been indicted.

Democrats also make much of the fact the FBI started looking into the Trump campaign in July 2016 but didn't receive "Steele's reporting" until "mid-September." So what? The issue here is the fairness and honesty of the FISA application in late October (not the investigation), and what matters is that the FBI didn't move on the FISA application until after it received the dossier.

\* \* \*

The only definitive evidence of political "collusion" so far is that the Clinton campaign paid Mr. Steele to troll his Russian sources for dirt on Donald Trump. The FBI then used this dirt as a reason to spy on Mr. Page and anyone he was communicating with. Imagine how the press would be playing this story if the roles were reversed?

## Charlie Baker and the Boston Teamsters

Teamsters Local 25 endorsed Charlie Baker last week, the first time in two decades the union has backed a Republican candidate for Massachusetts Governor. More surprising, Mr. Baker enthusiastically accepted despite the Teamsters' terrible reputation in Boston. "I am proud to have the Teamsters Local 25's endorsement for re-election and look forward to our ongoing work with their leaders and members" on labor, infrastructure and economic issues, Mr. Baker said.

Bad call. Last summer Local 25 members escaped extortion convictions because of a legal loophole that permits otherwise criminal behavior if it's done while carrying out "legitimate union business." Host Padma Lakshmi of the "Top Chef" cable TV show described in court how one Teamster showed up on her set in 2014 and threatened to "smash your pretty little face."

That member, identified by the Boston Globe as John Fidler, was welcomed back to Local 25 after stints in prison. He had stabbed several people in 1985, supplied an M-1 infantry rifle, a 9mm handgun and other

## The Massachusetts Governor embraces a pariah union.

weapons for a crew that planned to rob an armored car in 1998, and sold cocaine at a work site in 2004.

Other Teamsters were caught on camera harassing "Top Chef" staffers with racist and sexist epithets, and a truck driver said he'd received a bomb threat. Local 25's behavior was so egregious that Maura Healey, a Democrat who was then running successfully to become the state's attorney general, returned the union's campaign contributions.

President Trump has won over many union workers, but unions like Teamsters Local 25 are dangerous to embrace. The "Top Chef" incident was no outlier, and the union deserves pariah status for its long history of extortion and racketeering.

Mr. Baker's enthusiasm is all the more baffling given that he doesn't need Local 25's support as he runs for re-election. According to a Morning Consult poll this month, Mr. Baker has a 69% approval rating and is the most popular incumbent Governor running this year. A chummy relationship with the Boston Teamsters won't help.

## Xi Jinping, President for Life

China will amend its constitution to allow Presidents to serve more than two terms, the state-run news agency Xinhua announced Sunday. The change is momentous because it confirms Xi Jinping has become the country's most powerful leader since Mao Zedong. He is abolishing term-limit rules and other norms that Deng Xiaoping created in the 1980s to prevent a repeat of Mao's disastrous rule.

After taking power in 2012, Mr. Xi used an anticorruption campaign to purge rivals and concentrate power in his hands, breaking the post-Mao convention that power should be shared among a group of leaders loyal to different factions. China's elite politics has since reverted to a winner-takes-all contest, as Deng feared. Mr. Xi has created a Mao-style cult of personality, most recently granting himself the title of *lingxiu*, a term for a supreme leader not used in four decades.

According to Xinhua, the decision to allow Mr. Xi to stay on after 2023 was made at a Communist Party meeting last month. The fact that it was not announced in the official report at the end of the meeting suggests the move is controversial and there is still resistance to Mr. Xi's power grab. This week the Party's Central Committee will meet again

## China's supreme leader abolishes term limits so he can stay in power.

to pick which officials will serve in important posts weeks before the country's rubber-stamp legislature is due to meet and appoint them, again a sign of infighting.

It's still not clear what effect Mr. Xi's increasing power will have on economic policy. Reformist adviser Liu He was promoted to the Politburo last

October and is now tipped to become a vice premier as well as governor of China's central bank. Mr. Liu is also due to visit Washington this week to discuss tensions over the lack of reciprocity in economic relations.

But it's worth remembering that Mr. Xi broke his previous promises to restart economic reforms over the last five years. His political drive to increase control over all aspects of society overrode Mr. Liu's worthy agenda of giving greater scope to market forces. As the state takeover of Anbang Insurance last Friday shows, dangerous imbalances have built up in the financial system due to stimulus policies that require excessive debt, endangering China's economic development.

Xinhua claims that Mr. Xi is leading China into a new era of prosperity and strength. But behind the facade of unity, political struggles continue. By making himself essentially President for Life, Mr. Xi has made Chinese politics more volatile and unpredictable.

**BING OLBUM**  
Pittsburgh

## LETTERS TO THE EDITOR

## Russian Meddling Didn't Decide the Election

Of course the Russians' strategic goal with their machinations in the 2016 election was to "sow discord in the U.S. political system" ("The Russian Indictments," Review & Outlook, Feb. 17). But in no way did they contemplate that the election of Donald Trump would result in such a triumph as provided to them by the Democratic-media axis and its unrelenting "collusion" hysteria. Little mentioned, or not at all, in most media coverage of the indictments was the fact that Russian operatives also supported the primary campaign of Bernie Sanders.

Why? Because the Russians could read the polls as well as anyone and assumed Hillary Clinton would win both the nomination and the general election. After any election discord is generally found among the losing party, and the Russians wanted to generate as much discord as possible among Trump and Sanders supporters; i.e., the odds-on favorites to lose.

The Russians were as shocked as everyone else that Donald Trump won but are now undoubtedly ecstatic that the loser Democrats have done their job of sowing discord infinitely better than they could ever do themselves. The fact that Russian agents fomented both pro- and anti-Trump rallies after the election shows that discord, not a Trump victory, was their only goal all along.

**DON CUZZOCREA**  
Trabuco Canyon, Calif.

Rather than condemn Russian President Vladimir Putin for trying to interfere with the 2016 presidential election, we should thank him. The Russian machinations exposed how easy it was to manipulate a rabidly partisan, unreliable media and biased or inept governmental agencies, as well as a noncritical public whose insatiable need for the fodder of social media exposed how easy it was to undermine our fragile democracy.

**RICHARD CARCHMAN**  
Columbia, Va.

What's all the excitement about the Russian government trying to interfere with our election? After all, we are their adversary. On the other hand, our own government under the Obama administration actively interfered with the election process of our best ally, Israel, by making statements against Benjamin Netanyahu and sending \$300,000 of taxpayers' money to OneVoice, an organization trying to replace the Netanyahu government.

**ELI LITMAN**  
Las Vegas

What is the practical impact of these indictments? It seems unlikely that any of those indicted will stand trial, so the charges will stand unrefuted but also unproven. To my jaundiced eye this appears to be more an effort to make it look

**GERALD B. ZELENOCK**  
Ann Arbor, Mich.

If Russia did successfully meddle in our election, and "steal" it from Hillary Clinton, what does that say about Barack Obama's presidency?

**MICHAEL J. DiSTEFANO**  
Jamestown, R.I.

The media and the deep state just don't get it. The various agencies and officials have regularly done an excellent job of discrediting themselves with no need of help from the Russians.

**JOUKO M. JAAKKOLA**  
Wellington, Fla.

## Are Central Banks Moving To Become Hedge Funds?

In "Congress Flirts with Disaster on Bank Leverage Ratios" (op-ed, Feb. 13), Sheila Bair skillfully details her concerns about relaxing the bank leverage ratio. One effect of doing so, she notes, is that commercial banks will be more likely to park money at central banks. Any cursory review of global central-bank balance sheets will reveal that they are now the owners of trillions of dollars of government, corporate and even some junk bonds, stocks and real-estate investment trusts. Major U.S. exchanges have special rebate programs specifically targeted to attract central bank trading of futures and options. Central banks are arguably becoming hedge funds. Do we really think it is a good idea for central banks, which regulate commercial banks, to be changing regulatory standards to encourage more central bank deposits?

**JAMES LOVELY**  
Lakeland, Fla.

## Where Are the Legislators?

Regarding Marcus A. Winters's "There's One Thing Worse Than Paying Bad Teachers Not to Work" (Cross Country, Feb. 10): Would I be correct in assuming that the unions unilaterally could not have imposed the Absent Teacher Reserve on the city of New York? If so, somewhere along the line politicians agreed to this ridiculous situation and therefore deserve a good share of the blame for its enactment.

**FREDERICK BUTZEN**  
Kenosha, Wis.

## Pepper ... And Salt

THE WALL STREET JOURNAL



"The important thing is, you were generous to donate your body. So what if science rejected it."

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# Protect the News From Google and Facebook

David Chavern

The news business is suffering, but not because people don't want news. They do—more than ever. The problem is that the money generated by news audiences flows directly to Google and Facebook, not to reporters and publishers who produce excellent journalism.

The Duopoly now captures 83% of digital ad revenue growth and 73% of digital advertising, according to a CNBC report. As a result, news media's online audience growth does not produce revenue to match. According to data from Pew, newspaper

partial exemption from trust laws would help publishers and readers.

Advertising revenue fell from \$22 billion in 2014 to \$18 billion in 2016 as web traffic for the top 50 U.S. papers increased 42%.

Local news is most at risk. As circulation declines, community publishers have the hardest adapting to the ever-changing winds of Facebook and Google algorithms. We think of "fake news" as a national phenomenon, but in the absence of a workable news business model, wild rumors and conspiracy theories could become more influential at the local level, too.

Such savvy, digital-only publishers are also struggling. BuzzFeed CEO Jonah Peretti said in December that Google and Facebook are "paying content creators far too little for the value they deliver to users," and that it puts high-quality creators at a serious disadvantage, and favors shysters of cheap media."

Google and Facebook have become primary and de facto regulators of the news business, and governments around the world are starting to recognize the danger. British Home Secretary Theresa May announced earlier this month that her government would review the economics of internet news consumption. Regulators in Germany, Israel and South Korea are investigating Google's business practices have adopted the media market and favored publishers and consumers. Regulators, on the other hand, rarely looked into Google or Facebook—and never at their influence in the news marketplace.

Some voices on the left and right are calling for Google and Facebook to be regulated as utilities. But there is an easier solution: exempt news publishers from certain aspects of antitrust regulation.

U.S. antitrust laws, designed to promote fair competition and prevent consolidation, actually make it harder for traditional news outlets to compete with Silicon Valley giants. Under current law, for instance, news publishers cannot get together and agree to withhold their product unless they receive a return on their investment. To start by changing that simple rule. News publishers should be allowed to use their collective leverage in negotiations with big tech.

Rep. David Cicilline, top Democrat on the House Judiciary Antitrust Committee, is expected to introduce a bill to do that next week. The Sherman Competition and Preservation Act of 2018 is a low-regulation, pro-market way to unleash the industry's negotiating power. If antitrust enforcers can't protect society from the outsize influence of pension funds, the least the government can do is get out of the way as publishers protect themselves and their readers.

David Chavern is president and CEO of the News Media Alliance, a trade association representing some 2,000 papers in the U.S. and Canada.

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Rupert Murdoch  
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Gerard Baker  
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W. J. Murray Karen Miller Pensiero  
Managing Editor

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# How Billy Graham Changed My Life

By George W. Bush

**B**illy Graham was, with C.S. Lewis, one of the 20th century's most influential figures in evangelicalism. I never had the honor of meeting Lewis, but I did know Billy, who died last week at 99. He changed my life.

I first met him on my grandmother's porch in Kennebunkport, Maine, in 1985. In her 80s, she was frail but sharp. They sat together and Billy held her hand while talking about the Bible. Later she described it as one of the most peaceful days of her life.

Soon after, I had my own personal encounter with Billy. As I wrote in "Decision Points," he asked me to go for a walk with him around Walker's Point. I was captivated by him. He had a powerful presence, full of kindness and grace, and a keen mind. He asked about my life in Texas. I talked to him about Laura and our little girls.

Then I mentioned something I'd been thinking about for a while—that reading the Bible might help make me a better person. He told me about one of the Bible's most fundamental lessons: One should strive to be better, but we're all sinners who earn God's love not through our good deeds, but through His grace. It was a profound concept, one I did not fully grasp that day. But Billy had planted a seed. His thoughtful explanation made the soil less hard, the brambles less thick.

Shortly after we got back to Texas, a package from Billy arrived. It was a copy of the Living Bible. He had inscribed it and included a reference to Philippians 1:6: "And I am certain that God, who began the good work within you, will continue his work until it is finally finished on the day when Christ Jesus returns."



Lunch with the Rev. Billy Graham at the White House.

'the God of all comfort, who comforts us in all our troubles.' He comforted a nation that day through a very special servant.

In a difficult moment, Bill minded me—and us all—wherever we can find strength. And he helped us start to heal by offering three sons: the mystery and reality of our need for each other, and hope for the present and future. "A Christian," Graham said at the service, "I have hope, not just for this life, but for heaven and the life to come."

A final story: One night while I was away on a trip during his presidency, mother and I had dinner at the White House. Eventually we got to talking about religion and I gets to go to heaven. I made the point that the New Testament clearly that to get to heaven we must believe in Christ. Mother asked about the devout who don't believe in Jesus but do God's work by helping others. She then took advantage of one of the benefits of being a lady. She picked up the phone and asked the White House operator to call Reverend Graham.

It wasn't long before his recognizable Southern voice was on the line. He told us, as I recall, "Barbara, George, I believe what is written in the New Testament. But don't worry, God. He decides who goes to heaven, not you." Any doctrinal certitude I had way to a calm trust that God had figured out better than I did.

Those of us who were blessed to know Billy Graham benefited from his deep convictions and personal example, his wisdom and humor, his grace and purity of heart. We knew that his life was a gift from the Almighty. And I rejoice that he is now in the company of God, where he loved so much and served so well.

Mr. Bush was the 43rd president of the United States.

God's work within me began in earnest with Billy's outreach. His care and his teachings were the real beginning of my faith walk—and the start of the end of my drinking. I couldn't have given up alcohol on

**I met him in 1985. His care and his teachings began my faith walk—and helped me quit drinking.**

my own. But in 1986, at 40, I finally found the strength to quit. That strength came from love I had felt from my earliest days and from faith I didn't fully discover until my later years.

I was also fortunate to witness Billy's remarkable capacity to minister to everyone he met. When I was governor of Texas, I sat behind Billy

at one of his crusades in San Antonio. His powerful message of God's love moved people to tears and motivated hundreds to come forward to commit themselves to Christ. I remember thinking about all the crusades Billy had led over the years around the world, and his capacity to open up hearts to Jesus. This good man was truly a shepherd of the Lord.

Perhaps his most meaningful service came on Sept. 14, 2001. After the 9/11 attacks, I asked Billy to lead the ecumenical service at Washington National Cathedral. It was no easy task. America was on bended knee—frightened, angry, uncertain. As only Billy Graham could, he helped us feel God's arms wrapped around our mourning country.

"We come together today," he began, "to affirm our conviction that God cares for us, whatever our ethnic, religious or political background may be. The Bible says that he is

## The Supreme Court May Rescue Blue-State Finances

By Daniel DiSalvo  
And Stephen Eide

**B**lue-state Democrats have denounced last year's tax reform as a partisan attack. Thanks to the new \$10,000 cap on deductions for state and local taxes, households in places like California and New York will soon feel the stinging cost of big government. This will make raising taxes more difficult, which is why politicians are lamenting that the cap will limit their fiscal flexibility.

The U.S. Supreme Court may soon ride to the rescue. On Monday the justices will hear arguments in *Janus v. American Federation of State, County and Municipal Employees*. If the court rules against government labor unions, as most observers expect, state and local politicians will gain much more control over their budgets, and they will be under less pressure to toe the union line.

The question in *Janus* is whether it is constitutional that government employees who have decided not to join a union are still required to pay "agency fees." Under federal law, workers cannot be forced to join a union. But laws in 22 states say that nonmembers must nonetheless pay unions a fee to cover the cost of collective bargaining and contract administration. The difference usually isn't much. The agency fee at issue in *Janus* totals 78% of full union dues.

The unions justify agency fees with the dubious premise that what they do at the bargaining table is somehow apolitical, even though their negotiations cover everything from the structure of retirement benefits to teacher tenure. "The problem is that everything that is collectively bargained with the government is within the political sphere, almost by definition," Justice Antonin Scalia remarked during oral arguments in a 2016 case.

This line of reasoning leads to the conclusion that imposed agency fees violate the First Amendment—

that employees who oppose the union's goals cannot be compelled to support speech with which they disagree.

In that 2016 case, *Friedrichs v. California Teacher Association*, the justices seemed set to strike down agency fees. But Scalia died and the court split 4-4. Now, with Justice Neil Gorsuch on the bench, the court seems likely to deem agency fees unconstitutional. The ruling in *Janus* will probably come in June.

If so, big changes could be in store for the blue-state model of governance. Without the ability to charge agency fees, public unions will lose members and millions of dollars in revenue each year. Over time this will weaken their ability to fund candidates for office, lobby elected officials, and campaign for ballot measures.

The public unions' money machine has made them the strongest special interest in state and local politics, able to block serious pension reforms and push through tax increases. In California, two recent ballot initiatives that enacted a "temporary" income tax hike—and then extended it for 12 more years—were supported by tens of millions of dollars from the California Teachers Association and other government unions. In Illinois the union-backed House speaker, Democrat Michael Madigan, held a two-year budget standoff with Republican Gov. Bruce Rauner, which ended with a tax increase last year.

The unions justify agency fees with the dubious premise that what they do at the bargaining table is somehow apolitical, even though their negotiations cover everything from the structure of retirement benefits to teacher tenure. "The problem is that everything that is collectively bargained with the government is within the political sphere, almost by definition," Justice Antonin Scalia remarked during oral arguments in a 2016 case.

This line of reasoning leads to the conclusion that imposed agency fees violate the First Amendment—

Connecticut has raised its income tax three times since 2009. New Jersey's new governor, Phil Murphy, pledged during last year's campaign to follow suit.

The federal tax reform means these state levies will weigh more heavily on taxpayers than they otherwise would have. Consider tax filers who make more than \$200,000 a year.

**A ruling against the unions in *Janus* could break their exorbitant grip on Illinois, California and New York.**

In 2015 their federal deduction for "taxes paid" averaged \$64,771 in California, \$84,964 in New York, and \$61,997 in Connecticut. When they file their returns in 2018, those sums cannot exceed \$10,000.

But just as raising taxes becomes harder, *Janus* may give blue states a whole new range of fiscal choices. Wisconsin's experience shows the potential. In 2011 Gov. Scott Walker signed Act 10, which eliminated most collective bargaining in the public sector. Then in 2015 the state passed right-to-work legislation that eliminated agency fees. Together these laws have caused membership in government unions to drop by over 60%. The state has also trimmed spending on health benefits and retirement programs for

public workers, saving billions.

Those reforms were more far-reaching than the *Janus* decision could possibly be. Still, if blue states take only a share of Wisconsin's savings, it would go a long way toward stabilizing their budgets.

The principled defense of the blue-state model, with high taxes and strong unions, is that people who prefer big government should have the right to pay for it. But the choice is being short-circuited by government unions that can extract agency fees even from workers who oppose their agendas. In red states, the rising costs of health and retirement benefits for government workers is already crowding out other spending. Public unions steadfastly oppose any effort to rein in costs.

That makes *Janus* about more than speech in more ways than one. A ruling against the unions would prevent them from using their influence and money, derived in part from agency fees, to drown out other voices in state capitals and city halls. When the bite of high taxes is felt in April 2019, maybe lawmakers in Sacramento, Albany, Springfield and elsewhere will at last hear the screams of overtaxed families.

Mr. DiSalvo is a senior fellow at the Manhattan Institute and an associate professor of political science at the City College of New York. Mr. Eide is a senior fellow at the Manhattan Institute.

## Safety From Hackers—and Trial Lawyer

By Brian E. Finch

**C**ompanies that are victims of cyberattacks increasingly find themselves also targeted by plaintiffs' lawyers, who bring lawsuits alleging their security measures were negligent. Anthem Inc. last year agreed to pay \$115 million to customers affected by an attack believed to have been perpetrated by a foreign government. Computer chip manufacturers have faced dozens of lawsuits based on the mere prospect that consumers will suffer damage from hacking.

Such lawsuits are more than a costly nuisance. They paralyze security innovation and expansion. Fortunately Sen. Steve Daines of Montana has introduced a bill that can stem this tide by clarifying that an existing federal liability-management law applies specifically to cyberattacks.

The Support Anti-Terrorism by Fostering Effective Technologies Act of 2002, known as Safety Act, is one of the most successful post-9/11 anti-terror measures. Companies voluntarily submit information to the Department of Homeland Security in order to demonstrate that their security products or services are safe, well-constructed, regularly updated, and effective.

Once an applicant has passed the department's rigorous examination process, it is eligible to have any civil culpability for "contributing to the success" of an attack limited to a set dollar figure. That creates an incentive to develop effective security products and services, ranging from bomb-sniffing dogs to exquisitely

**A simple legislative fix would shield cybersecurity innovators from costly nuisance lawsuits.**

prepared security plans. All have received Safety Act protections over the past 15 years.

But cybersecurity vendors are sorely underrepresented in the list of Safety Act awardees. There is little mystery why: Federal courts can allow the use of Safety Act protections only after the Homeland Security Secretary has formally declared that an "act of terrorism" has occurred. Vendors misunderstand that and assume the act has to be committed by a recognized terrorist group such as al Qaeda or Islamic State. But in fact it's the *act*, not the *actor*, that defines terrorism.

Mr. Daines's proposal would tip the point by giving the homeland security secretary the authority to trigger the Safety Act after a "cyber incident"—no reference to terrorism required. That small change would overcome an unfounded and harmful belief.

Making the Safety Act's provisions apply explicitly to cybersecurity is consistent with its purpose: ensuring the widespread availability of affordable and effective security. Mr. Daines's language in place, thoroughly vetted companies would be available to help build cybersecurity programs without worrying about endless, pointless litigation.

The Cyber Safety Act is a bird in Congress: a virtual non-starter. The cybersecurity community's hesitance to embrace the Safety Act because of an overly broad reading of the term "act of terrorism" cannot continue. If it does, the Safety Act will remain sitting on the virtual sidelines, making the fight against cyberattacks all that tougher.

Mr. Finch is a co-chairman of a cybersecurity practice at Pillsbury Winthrop Shaw Pittman LLP. His clients include companies that support the Cyber Safety Act.



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# BUSINESS & FINANCE

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## Firms Assess Gun Industry Ties

Investing giant **Blackstone Group** LP asked outside fund managers over the weekend to detail their ownership in companies that make or sell guns, according to people familiar with the matter.

By Jenny Strasburg,  
Miriam Gottfried  
and Vanessa  
Fuhrmans

The urgent request—Blackstone gave the managers about a day to answer—reflects the snowballing pressure on companies to cut ties with the firearms industry in the wake of

this month's school shooting in Parkland, Fla.

American corporations have generally stayed away from politically sensitive debates, although that has been changing as some high-profile CEOs waded into immigration and gay rights discussions. But many companies have been galvanized in recent days into assessing their exposure to gun-related issues, as calls for action grow on social media.

Companies including insurer MetLife and **Delta Air Lines** Inc. have scaled back ties with the National Rifle Association. Eric Dezenhall, a Wash-

ton-based crisis consultant who has advised firms on boycotts and public-safety issues, said that among companies he has recently spoken to, "there is a feeling that there is a sea change, a generational change that has to be addressed" regarding gun control.

Even so, companies need to differentiate between the "media and cultural noise at the moment" and the extent to which it translates into consumer support for businesses taking action, he said.

The online backlash to companies severing ties with the NRA was swift from gun sup-

porters and others who don't like companies getting involved in public policy debates.

Thomas Moore, an NRA member and retired electrical engineer in Buffalo, Wyo., said he has sent letters to rental car-companies Enterprise Holdings, Hertz Global Holdings as well as Delta Air Lines to register his disgust with their decisions to end discount programs offered to NRA members. Though he says he's been a loyal customer to those companies, he now will consider their competitors instead.

"They're making a hasty re-action to try to smooth some

of the anger that people have about what went on in Florida," he said.

Financial firms, especially those who lend to or invest in gunmakers, are contending with the issue. Bank of America Corp. said it was "joining other companies in our industry to examine what we can do to help end the tragedy of mass shootings" and would "engage the limited number of clients we have that manufacture assault weapons for non-military use to understand what they can contribute to this shared responsibility."

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ABHILASH BHATEKAR/HINDUSTAN TIMES/GETTY IMAGES

## Possible Successor Emerges at JPMorgan

BY EMILY GLAZER

When **JPMorgan Chase & Co.** tried last month to clarify the question of when Chairman and Chief Executive James Dimon would step down, the firm got a lot more questions about who could fill one of the most powerful roles on Wall Street.

One of the most intriguing: What about Marianne Lake?

JPMorgan's 48-year-old chief financial officer, Ms. Lake is one of the most senior women on Wall Street and has been on the bank's short list of possible successors for years, people familiar with its board say. January's announcement by the bank of executive moves makes her an even more likely contender.

In one respect, Ms. Lake would be a historic choice, the

Please see LAKE page B8

## Newsweek Inquiry Widens

Two years ago, a loan application from the parent company of Newsweek raised the suspicions of an employee at a small Minnesota bank.

By Lukas I. Alpert,  
Mark Maremont  
and Rebecca Davis  
O'Brien

The bank staffer's misgivings helped trigger what has become a wide-ranging fraud probe by the Manhattan district attorney's office, people familiar with the matter say, and has touched off an unraveling of one of the most storied brands in American media. The probe has expanded from an inquiry into suspected bank fraud to a look at possi-

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### KEYWORDS

By Christopher Mims

## Leveraging Web Gains To Aid the Poorest

One of the internet's most important qualities is that it slices transaction costs to a bare minimum. What has followed is a remarkable development: It is becoming cost-effective, even profitable, to serve the world's poorest two billion people—whether they are online or not.

Entrepreneurs are devising new services to provide neighborhood-scale renewable energy and clean water, gas cooking stoves, microloans for consumer goods and insurance against natural disasters. The enablers are mobile money, the Internet of Things, data science, even satellite imaging—all now remarkably cheaper and more accessible.

One thing that isn't necessarily required: a smartphone. While the narrative from U.S. tech giants such as Google and Facebook implies that economic development comes from directly connecting people to the internet, billions of people can't afford smartphones, and many might never get them. Innovators must think around that barrier.

The global poor often pay more per unit for what they consume, be it energy, consumer goods or bandwidth, precisely because they can't afford to buy these things in the volumes that wealthier people do. They also appear to be credit risks, because they are short on assets.

"When microfinance ap-

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## Wave of 5G Services to Jolt Tech World



ANGEL GARCIA/BLOOMBERG NEWS

ON TRACK: Wireless companies are setting deadlines for the rollout of 5G service as soon as this year, and their plans will dominate much of the agenda at the Mobile World Congress in Barcelona. On Sunday, attendees examined smartphones and other devices. B5

### INSIDE



## Apple Puts iCloud Keys in China

By ROBERT McMillan  
AND TRIPP MICKLE

When **Apple Inc.** next week begins shifting the iCloud accounts of its China-based customers to a local partner's servers, it also will take an unprecedented step for the company that alarms some privacy specialists: storing the encryption keys for those accounts in China.

The keys are complex strings of random characters that can unlock the photos, notes and messages that users store in iCloud. Until now, Apple has stored the codes only in the U.S. for all global users, the company said, in keeping with its emphasis on customer privacy and security.

While Apple says it will ensure that the keys are protected in China, some privacy experts and former Apple security employees worry that moving the keys to China makes them more vulnerable to seizure by a government with a record of censorship and political suppression.

"Once the keys are there, they can't necessarily pull out and take those keys because the server could be seized by the Chinese government," said Matthew Green, a professor of cryptography at Johns Hopkins University. Ultimately, he says, "It means that Apple can't say no."

Apple says it is moving the keys to China as part of its effort to comply with a Chi-

nese law on data storage enacted last year. Apple said it will store the keys in a secure location, retain control over them and hasn't created any backdoors to access customer data. A spokesman in a statement added that Apple advocated against the new laws, but chose to comply because it "felt that discontinuing the [iCloud] service would result in a bad user experience and less data security and privacy for our Chinese customers."

Apple's move reflects the tough choice that has faced all foreign companies that want to continue offering cloud services in China since the new law. Other companies also

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Apple says it is moving the keys to China as part of its effort to comply with a Chi-

Please see TURMOIL page B2

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## Berkshire Hathaway Boosted by Tax Bonus

By NICOLE FRIEDMAN

Warren Buffett has one man to thank for **Berkshire Hathaway** Inc.'s \$29 billion windfall in 2017: President Donald Trump.

The Omaha billionaire backed Mr. Trump's opponent Hillary Clinton during the 2016 presidential campaign.

But new tax cuts the president signed into law last December provided Berkshire with the sizable one-time gain that helped inflate annual profit to nearly \$45 billion. Other American corporations like **AT&T** Inc. and **Comcast** Corp. also booked large paper gains as a result of the legislation.

Mr. Buffett, Berkshire's chairman and a Democrat, expressed reservations last year about the need for corporate tax cuts. But he also said any drop in corporate taxes would benefit many of Berkshire's businesses and its shareholders.

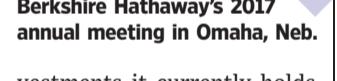
"I got a million shareholders at Berkshire Hathaway. And they would all love to see a corporate tax cut," he said on CNBC in October. But, he added, "we have a lot of businesses, 60 or 70. I don't think any of them are noncompetitive in the world because of the corporate tax rate." When asked on CNBC in January if he would have voted for the new tax law, Mr. Buffett demurred: "I would have had a different bill myself."

The tax changes lowered

Berkshire's estimate of how

much it would have to pay in

taxes if it sells the stock in-



Berkshire Hathaway's 2017 annual meeting in Omaha, Neb.

RICK WILKING/REUTERS

vestments it currently holds.

Berkshire has about \$100 bil-

lion in unrealized gains on equi-

ty investments, Mr. Buffett

has said, and those gains are

now expected to be taxed at a

21% rate, down from 35%.

The immediate net windfall for Berkshire was \$29 billion, which helped push Berkshire's net earnings to \$44.94 billion in 2017 from \$24.07 billion the prior year while offsetting declines in certain businesses.

Berkshire's operating earnings fell 18%, from \$17.6 billion in 2016 to \$14.5 billion in 2017, as

hurricanes and other catastro-

phes caused losses in the com-

pany's insurance operations.

Berkshire's book value per

share rose 23% in 2017, the

company said, compared with a

22% total return in the S&amp;P 500, including dividends. Its

overall net worth increased by

\$65 billion: \$29 billion from

the tax benefits and \$36 bil-

lion from operations.

Investigators discovered

any ownership or lending of

or to "gun manufacturers or gun

sellers," according to people fa-

miliar with the request. One of

the people said the request

went by email to managers at

about a dozen hedge funds in

which Blackstone has a stake.

Blackstone has taken steps over

the years to eliminate its

exposure to guns across its var-

ious lines of business. "We be-

lieve we have next to no direct

exposure to the firearms indus-

try, but it's not surprising that

we would want to confirm," a

spokeswoman for the firm said.

Private-equity firms have

increased their scrutiny of

public and private companies

they invest in or might invest

in, and whether these compa-

nies have exposure to the gun

business and other areas that

bring controversy, and they

have sometimes have steered

clear of placing investments,

industry members say.



Staffers at Newsweek in 1979. The publication was once a leading U.S. news magazine that sold over three million copies per issue.

## TURMOIL

*Continued from the prior page*  
ble advertising abuses and ties between the parent company, **Newsweek Media Group**, and a bible college in California, the people said.

Recent weeks have brought an exodus of nearly two dozen journalists from the publication, including some who say they were fired while attempting to report and write about the probe, and the resignation of at least three top executives. Prosecutors raided Newsweek's lower Manhattan offices in January and have been interviewing former employees about the company's operations, people familiar with the situation said.

A culture that former employees say was geared to chase online views failed to pay dividends. That has led to wide-scale layoffs, missed payrolls and a string of debt and tax liens against the company and its executives.

"It's heartbreaking to see what is happening," said David Alpern, who spent nearly 45 years as a staffer at the publication before departing in 2009. "Institutions like Newsweek are so hard to keep going in this day and age, and it just makes them so vulnerable to practices that don't honor, respect or support what it once stood for."

A spokesman for Newsweek Media Group declined to discuss details of the district attorney's probe or the company's financial situation. The company has denied that it engaged in ad fraud.

Once a leading U.S. weekly news magazine that sold more than three million copies per issue, Newsweek in the late 2000s suffered a steep circulation decline and has undergone several ownership changes. The print publication shut in late 2012 after an ill-fated merger with the Daily Beast.

In 2013, New York-based IBT Media, then a little-known publisher of click-friendly publications like International Business Times, bought Newsweek, boosting the buyer's profile. IBT brought back a print edition and set out to turn Newsweek's website into a traffic magnet. Last year, the company changed its name to Newsweek Media Group, partly to capitalize on the magazine's brand name.

Two weeks later, the chairman and co-founder of Newsweek Media Group, Etienne Uzac, and the company's finance director, Marion Kim, who are married, resigned.

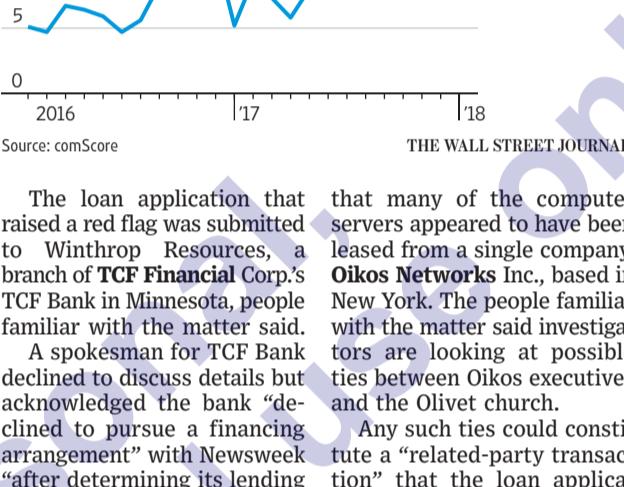
Mr. Uzac and Newsweek Media Group's other founder, Johnathan Davis, have long-standing ties to Olivet University. The company has provided internships to students and alumni. Mr. Davis has taught journalism at the school, and his wife, Tracy Davis, is the president.

Investigators discovered

## Learning Curve

Newsweek's audience grew as it borrowed traffic-boosting tactics from sister outlet IBTimes, which it overtook last summer.

### Monthly unique visitors



Source: comScore

The loan application that raised a red flag was submitted to Winthrop Resources, a branch of TCF Financial Corp.'s TCF Bank in Minnesota, people familiar with the matter said.

A spokesman for TCF Bank declined to discuss details but acknowledged the bank "declined to pursue a financing arrangement" with Newsweek "after determining its lending requirements weren't met."

Investigators reviewing the loan documents found the audited financial statements Newsweek provided didn't make sense, two of the people familiar with the matter said. Nor could investigators verify that the auditor who signed off on the statements, purportedly a small firm on New York's Staten Island, actually existed.

Among the questions investigators are trying to answer is whether Newsweek Media Group applied for multiple loans to lease the same servers over and over, the people familiar with the matter said.

## BUSINESS NEWS

# Tax Law May Spur Market For Used Goods

Expanded deduction improves the value proposition of buying secondhand assets

By RICHARD RUBIN  
AND ANDREW TANGEL

Jamie Knorring, president of commercial shelving maker **B-O-F Corp.**, in the Chicago area, is planning to buy a used factory machine to make clamps as part of a broader plan to boost worker productivity.

Making workers more efficient isn't the only factor that makes it a good purchase for him; buying the equipment can also lower his tax bill.

The new tax law allows firms to claim an immediate 100% deduction when they buy an asset, including purchases of used equipment that already have been written off by previous owners.

"It sweetens the deal," Mr. Knorring said of the tax benefit. The company, which has about 70 employees and took in revenue last year of approximately \$20 million, is planning to buy other equipment, purchases made easier to justify given the new tax incentive, he said.

Tax planners say the market for used equipment—including railcars, airplanes and industrial machines—is likely to heat up in the months ahead as firms try to take advantage of changes in the tax law. It could mean a shuffling of assets by companies purely for tax reasons and mergers and acquisitions that exploit new tax edges.

Before now, smaller companies could fully deduct purchases of used equipment, but larger firms had to spread those deductions over many

years, and faster depreciation schedules applied only to new assets.

Under the new law, one company's gently worn asset could be worth more in another company's hands. That situation creates an incentive for deals that get tax deductions to companies that can use them and income to companies that already have lower tax rates.

Tax lawyers say they are flagging the possibilities to clients. "We might well see the development of a kind of swap meet for slightly depreciated business assets," Chris Sanchirico, a tax-law professor at the University of Pennsylvania.

Tax lawyers said one asset class that could get attention is airplanes.

The tax changes will likely accelerate purchases of new and used aircraft, said Michael Morgan, an investment banker at Burnham Sterling who advises airlines. "It's certainly going to be helpful on the margin and we'll see more acquisition of aircraft because of this," Mr. Morgan said.

Sale-leaseback deals and other transactions that take advantage of the new rules could also make sense in the rail and energy industries, tax lawyers said.

Randolph Smith, a national practice leader at Grant Thornton LLP, said any transactions would likely have to meet a test for having a business reason other than tax avoidance.

"It seems like another of these things that will be industry-specific and it will be relatively easy in some cases based on the idiosyncratic character of certain industries and might be harder or impossible in others," said Ari Glagow, a tax law professor at Ohio State University.



Models wearing Gucci designs last week at Milan Fashion Week. The brand is popular on social media.

## Gucci Aims to Avoid Boom-Bust

By MATTHEW DALTON

MILAN, Italy—Gucci is in the midst of a boom shadowed by the threat of a bust: fickle shoppers falling out of love with the Italian fashion house as quickly as they embraced it.

Gucci has been on a tear since it hired creative director Alessandro Michele three years ago. Sales have risen nearly 80%, hitting €6.2 billion (\$7.6 billion) in 2017. Operating profit has more than doubled to €2.1 billion. Mr. Michele's kaleidoscopic designs—which mix colorful streetwear, historical references and garish animal prints—have been praised by critics.

Last year, Gucci passed Hermès, the fashion house known for its high-price handbags, to become the second-biggest luxury brand by revenue, behind only Louis Vuitton. The brand is flaunted by celebrities and generates buzz on social media.

Yet the boom has led analysts and investors to worry Gucci risks becoming a victim of its own success. As sales continue to grow and other brands increasingly ape Mr. Michele's designs, they fear Gucci could become overex-

posed.

"Consumer loyalty is very fickle," said Luca Solca at Exane BNP Paribas. "There's a scenario down the road that Gucci is seen too much."

Gucci executives say they are taking measures to prolong desire for Mr. Michele's designs. To protect the exclusivity of the brand, Gucci has

logos of the New York Yankees. Others donned knitwear versions of a medieval executioner's face mask. Two carried silicon-and-plaster reproductions of their own severed heads. Photos of the show posted to Gucci's Instagram account garnered hundreds of thousands of likes.

"People started to question the longevity of the growth already 12 months ago," Gucci CEO Marco Bizzarri said in an interview. "We keep improving our business and our success."

Gucci is no stranger to sudden shifts in consumer tastes. The brand ruled the catwalk in the 1990s when designer Tom Ford was at the helm. Revenue grew under his successor, Frida Giannini, but toward the end of her tenure, the brand's sleek styling had lost favor with shoppers.

Under Messrs. Michele and Bizzarri, Gucci rolled out an instantly recognizable look. Mr. Michele's use of pop culture logos has made his designs a favorite for fashion-savvy Instagram users. Gucci "provides Instagram heaven," says Helen David, chief merchant at Harrods, the upscale London department store.

At last week's Gucci fashion show in Milan, Mr. Michele's models wore trench coats and sweaters emblazoned with the

*Analysts have begun to worry about Gucci becoming a victim of its own success.*

ended reduced-price sales in its stores. Discounts are only available in the brand's handful of factory outlets—and only a year after the end of the season in which the clothes first appeared.

But Gucci also is betting that its star designer can develop iconic products that defy fashion's boom-bust cycle. That is how Louis Vuitton and Hermès manage to sell leather goods, even when fashion trends suddenly turn. Execu-

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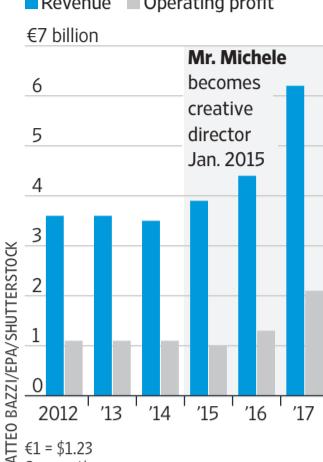
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### Fast Fashion

Gucci has been on a tear since creative director Alessandro Michele joined the Italian fashion house three years ago.

Revenue      Operating profit



## TECHNOLOGY

WSJ.com/Tech

# Firms Push Better In-Flight Web Access

Airbus, Delta, Sprint seek faster, seamless connections to web for airline passengers

BY ANDY PASZTOR

**Airbus SE, Delta Air Lines Inc., Sprint Corp.** and two U.S. satellite-services providers have kicked off an initiative to enhance internet access on airliners, inviting other companies to join voluntary efforts to upgrade global standards for airborne connectivity.

The concept, still in its early stages, likely will require time to gain traction and develop necessary hardware and software changes. It also hinges on technical approvals from government regulators and aviation groups, along with overcoming traditional rivalries between wireless and satellite-services companies.

But if enough carriers, plane makers, communications providers and equipment suppliers eventually sign on, it could usher in an entirely new approach to airborne connectivity: faster speeds plus an improved user experience because passengers wouldn't have to pay separately for broadband services on board.

A group calling itself the Seamless Air Alliance spelled out benefits of the potential changes on Sunday in Barcelona in conjunction with the opening of the Mobile World Congress, the annual gathering of the telecommunications industry. Mobile operators world-wide would be able to extend service directly into airliner cabins, allowing passengers to use their phones,



LUCAS JACKSON/REUTERS

**Under the initiative from the Seamless Air Alliance, passengers wouldn't have to pay separately for broadband services on airliners.**

tablets or other devices to seamlessly connect to the web while airborne.

As envisioned by proponents, connections would be available for a wide array of devices using various mobile networks just the way Wi-Fi hot spots now work on the ground. Connection speeds, rivaling the fastest cable access, would be comparable with those expected with widespread rollout of commercial fifth-generation, or 5G, cellular service across the U.S.

For passengers, extra benefits would be avoiding the time, and sometimes frustration, of having to authenticate devices and use credit cards to

pay for them before logging on during flights.

In addition to Sprint, the No. 4 mobile carrier in the U.S. by subscribers, the alliance includes New Delhi-based **Bharti Airtel Ltd.**, which operates mobile networks in 16 countries across Asia and Africa.

Other early members include **OneWeb Ltd.**, a satellite startup developing a global broadband network; **EchoStar Corp.'s Hughes Network Systems**; and in-flight internet provider **GoGo Inc.** Together, companies already backing the initiative carry 150 million airline passengers and serve 450 million mobile users worldwide.

For years, many airlines around the globe have struggled with persistent user complaints about high prices, low speeds and sometimes-balky systems that offer internet access for passengers. Some carriers have experimented with upgraded satellite connections, while others have opted to make such services free.

If the latest concept takes off, airlines could eliminate the costs and hurdles of certifying and installing customized cabin internet systems, according to Greg Wyler, OneWeb's founder. In an interview, Mr. Wyler said uniform hardware and operating standards are intended to provide out-

standing "service quality that airlines and mobile operators can be proud of."

Mr. Wyler stressed the alliance hopes to persuade many other companies to join, with the long-term goal of simplifying and improving the passenger experience through lower costs and easier use. "There are no smiles included" with current airborne broadband systems, he joked, adding that initial tests of the new approach could take place before the end of the year.

OneWeb, slated to commence service in coming years, would provide part of the satellite component.

Airbus and Japan's **Soft-**

**Bank Group Corp.**, which owns more than 80% of Sprint, both are partners with Mr. Wyler in OneWeb.

In a news release, Gil West, Delta's chief operating officer, said "we are excited to be collaborating" with forward-looking companies, including existing partner GoGo, to develop a system "that not only benefits Delta customers, but the entire airline industry."

Some skeptics, however, question the proposal's ultimate reach and competitiveness. With the largest global satellite fleets marketing as much as four times the capacity they had just a few years ago, prices of existing options for airborne connectivity have dropped sharply, according to industry analyst Roger Rusch. That trend, he said, could make it especially hard for new entrants such as OneWeb's low-Earth-orbit constellation to compete.

Mark Dankberg, chairman and chief executive of satellite operator **Viasat Inc.**, is rolling out higher-speed internet connections to customers, including airlines. In an interview Friday, Mr. Dankberg said Viasat, with roughly 600 airliners in its system, has 1,000 additional aircraft under contract to be connected around the globe. **United Continental Holdings Inc.** and **American Airlines Group Inc.** are among Viasat's customers.

Mr. Dankberg said the upgraded internet connections are poised to benefit passengers flying across the Atlantic, the Caribbean and parts of Latin America. He also said the new system would alleviate capacity issues that can impair passenger connectivity near busy hub airports.

## MIMS

*Continued from page B1*  
peared a few years ago, the big innovation was to be able to offer a loan to a person who had no credit history," says Xavier Faz, head of business model innovation at the Consultative Group to Assist the Poor, part of the World Bank. Now, there is "a very wide variety of lending models which leverage alternative information to assess risk," he says.

These services are still nascent, reaching tens of thousands of households out of a potential market of hundreds of millions.

For **WorldCover**, which offers low-cost crop insurance to farmers in rural Africa, most customers "can't even type a number into a feature phone," says Chief Executive Christopher Sheehan. (A feature phone is any cellphone without a touch screen.) For farmers who don't have irrigation, much less a smartphone, getting access to crop insurance is a potential life-saver.

WorldCover charges a few dollars to insure, say, a bag of harvested maize in Ghana worth about \$25, Mr. Sheehan says. If there is a drought, the farmer gets between 50% and 100% of the bag's value, depending on the severity.

The company sends salespeople into rural villages to explain the service. Afterward, it connects with its customers via people in the village who have simple feature phones and some ability



**In Sri Lanka, loans from Rukula help people buy smartphones and other consumer goods.**

to read. When possible, mobile money services such as M-Pesa are used to collect premiums and make payouts.

**W**ether data from satellites can be used to trigger claims instantly. "When a customer becomes eligible for a claim because a drought situation has been detected, we send them an SMS or voice message alert," says Mr. Sheehan. "Then we transfer the funds directly to their mobile wallet, so they can immediately cash-out or use the funds for relief."

Because M-Pesa was born on feature phones, citizens of many countries in Africa can access mobile wallets without a smartphone.

WorldCover raises money from institutional investors who are used to "catastrophe bond" returns of 5% to 7%. It

charges farmers enough to get an additional margin on top of that.

After Reza Zarook cashed out of Anything.lk, Sri Lanka's first e-commerce company, he decided to tackle a big concern: 40% of the population couldn't buy from his company. These people were so poor, traditional banks wouldn't extend them any credit.

Mr. Zarook wanted to help poor people buy consumer goods they need—a smartphone, a computer, a gas stove—and that typical microfinance loans don't cover.

In 2014, he launched Rukula, which enables vendors of nearly any type of consumer good to sell it to customers on credit. A Rukula staffer evaluates, over the phone, potential customers' creditworthiness in three-to-four-minute interviews.

"We want to know if they have no ties, commitments or stability and they'll just disappear into the night, or are they in very entrenched family units with young kids at school," Mr. Zarook says.

"School is very, very important here even if you move, you don't move schools. So that lets us decide whether this person will pay us back."

Rukula charges 40% interest on a six-month loan. This might sound usurious, but it is typical for microloans, which have relatively higher service costs than loans available in rich countries.

**O**n average, loans are paid back in 15 months. Rukula turned a profit within two years.

People in the world's shantytowns burn solid fuel such as charcoal, wood and

even dung. It is the deadliest environmental problem on Earth, the World Health Organization says, killing between 3.5 million and 4.3 million people a year.

Cooking with gas is cleaner and more convenient, but it is hard to pay \$50 for a canister and \$10 for refills when you live on less than \$5 a day, says Nick Quintong, CEO of PayGo Energy, based in Nairobi, Kenya.

PayGo's solution is an internet-connected canister that meters small amounts of gas, automatically charging customers through mobile money system M-Pesa.

While someone in the household needs access to a phone, the service doesn't require users to be online: PayGo canisters have their own cellular connections.

Catalyst Fund, supported by the Gates Foundation and JPMorgan Chase, doles out \$100,000 grants—not investments—to companies including PayGo. The fund pays in two installments, at the beginning and end of its engagement. That doesn't mean that WorldCover, Rukula and PayGo are charities, however—all three have received investment from venture capital and other more traditional sources.

## APPLE

*Continued from page B1*

have complied, including **Microsoft Corp.** for its Azure and Office 365 services, which are operated by **21Vianet Group, Inc.**, and **Amazon.com Inc.**, which has cloud operating agreements with **Beijing Sinnet Technology Co.** and **Ningxia Western Cloud Data Technology Co.**

Amazon Web Services and Microsoft, which serve businesses in China, declined to say where encryption keys will be stored for businesses using their security tools there.

Privacy specialists are especially interested in Apple because of its enormous customer base and its history of championing customer privacy.

"For many years, we have

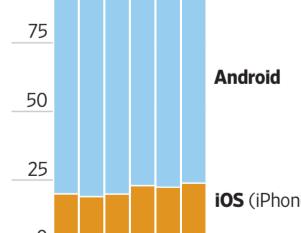
used encryption to protect our customers' personal data because we believe it's the only way to keep their information safe," Apple Chief Executive Tim Cook said then in a letter to customers explaining its decision.

Apple said it will provide data only in response to requests initiated by Chinese authorities that the company deems lawful and said it won't respond to bulk data requests. In the first half of 2017, Apple received 1,273 requests for data from Chinese authorities covering more than 10,000 devices, according to its transparency report. Apple said it provided data for all but 14% of those requests.

Greater China is Apple's second-most-important market after the U.S., with \$44.76 billion in revenue in its latest fiscal year, one-fifth of the total. Some previous steps to

### Behind the iCloud

Share of smartphone market in urban China



Source: Kantar Worldpanel

THE WALL STREET JOURNAL

comply with Chinese laws have been controversial, including removing apps from its China store for virtual private networks that can circumvent government blocks on websites. Apple has said it

follows the law wherever it operates and hopes that the restrictions around communication in China are eventually loosened.

Jingzhou Tao, a Beijing-based attorney at Dechert LLP, said Chinese iPhone users are disappointed by Apple's changes to iCloud data storage because privacy protection in China is weak. However, he said users there "still consider that iPhone is better than some other pure Chinese-made phones for privacy policy and protection."

Apple's cloud partner in China is **Guizhou on the Cloud Big Data Industry Co.**, or Guizhou-Cloud, which is overseen by the government of Guizhou province. Apple plans to shift operational responsibility for all iCloud data for Chinese customers in China to Guizhou-Cloud by Feb. 28. Customer data will

migrate to servers based in China over the course of the next two years. The company declined to say when the encryption keys would move to China.

Apple began notifying iCloud users in China last month that Guizhou-Cloud would be responsible for storing their data.

Updated terms and conditions for China users say that Apple and Guizhou-Cloud "will have access to all data" and "the right to share, exchange and disclose all user data, including content, to and between each other under applicable law."

Guizhou-Cloud and the Chinese cybersecurity administration didn't immediately respond to requests for comment.

—Yoko Kubota and Jay Greene contributed to this article.

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The Debentures were assumed by the Company as a result of the merger of the Missouri Pacific Railroad Company and into the Union Pacific Railroad Company on January 1, 1997.

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Jon T. Panzer  
Treasurer

## MOBILE WORLD CONGRESS

# Samsung Bets on Animated Emojis With Galaxy S9

BY TIMOTHY W. MARTIN

**BARCELONA**—Samsung Electronics Co.'s newest flagship phone is betting on animated emojis. But of humans, not animals.

Samsung's Galaxy S9 device, launched Sunday at a Barcelona mobile trade show, looks almost identical to last year's handset: a slim design with an edge-to-edge display and an earphone jack.

But the world's largest smartphone maker saved the big changes for what's loaded onto the device: New video software stores images that automatically can be turned into GIFs for social media and messaging apps. Users can create 3-D emojis of themselves by taking a photo of their face, then as their fake cartoonish self, strike real-life poses captured by augmented-reality software.

The Galaxy S9's camera tricks and emoji push are likely to remind some consumers of Apple Inc.'s iPhone X handset last year. The iPhone X let users make animated emojis of rabbits, unicorns and monkeys that mimic a person's facial expression and head movement.

Samsung mobile chief D.J. Koh said in an interview that he had personally explored early 3-D animations since 2001 on flip phones, while leading the firm's mobile research-and-development team in the U.K. He bristled at any notion Samsung was playing catch-up with Apple, as the human emojis took years of development, he added.

"Their approach and my approach is totally different," said Mr. Koh, cautious not to mention Apple, a rival and components customer, by name. "I do work seriously based off my own roadmap."

♦ Heard on the Street: Prices of smartphones hit a wall ... B10

## Wireless Companies to Offer

# 5G Plans at Mobile Forum

BY DREW FITZGERALD

**BARCELONA**—After a year of promising tests, wireless companies are finally setting deadlines for the rollout of the next wave of technology designed to revolutionize the way that machines reach the internet.

A handful of companies in the U.S. and Asia are expected to start offering commercial fifth-generation, or 5G, service as soon as this year. Their

**THE WEEK AHEAD** plans will dominate much of the agenda at the coming week's Mobile World Congress, the annual confab here where telecommunications companies and their suppliers meet to strike deals and market themselves.

Most 5G services making their debut this year will fall short of carriers' visions of what 5G will ultimately be: cable-quality broadband linking billions of gadgets over the air. Companies such as AT&amp;T Inc., Verizon Communications Inc., Australia's Optus Pte. Ltd. and Finland's Elisa Oyj will start small, using just one element of a package of 5G engineering standards that are still being written. The "fixed wireless" service coming this year

beams broadband service into the home from outdoor antennas instead of bringing it by cable. It won't offer the super-fast connections between mobile phones and other connected devices the new technology is designed to serve, at least to start.

The high-tech holdup owes to basic infrastructure: 5G technology, unlike past network upgrades planned around cellphones, will need millions of new cellular radio antennas that have yet to be installed. That gives an edge to landline companies with access to telephone poles, though it will take time even for them to rig new radios along city streets.

Tests in Australia, China, Finland, Japan and South Korea have led carriers to promise more 5G service by early 2019. Most plans are a far cry from the type of service engineers say is possible in a few years.

New 5G technology is supposed to boost bandwidth, allowing cellphone users to download data at a gigabit per second or more, a speed comparable with the top-tier internet packages that cable companies offer today. The standards also are designed to make networks react more

quickly, which would allow driverless cars and high-tech medical equipment to work online.

Equipment makers still need time to "seed the market" to make 5G devices work, said Ted Rappaport, professor at New York University's Tandon School of Engineering. Until phones and other machines come equipped with capable chips, "fixed wireless is kind of the lowest-hanging fruit."

It is hard to tell which devices will make the best use of 5G technology until chip costs come down, said Michael Murphy, North American technology chief for Nokia Corp. "What's the killer app? Which ones make it and which ones don't, we don't know," he said.

Verizon is among the companies starting at square one. It plans to launch its first 5G service in Sacramento, Calif., after testing the technology around 11 U.S. cities. But it says true mobile service remains a few years down the road.

AT&amp;T said it will offer fixed and mobile 5G service by the end of 2018, though the first customers will likely be using the service as a portable internet hot spot to do things such as hook up laptops.



An autonomous 5G-connected bus with video screens was shown last week at the Winter Olympics.

PERSONAL TECHNOLOGY | By David Pierce

# Camera Provides New Twists



Samsung's new Galaxy S9 is an impressive phone. Its bold, bright screen nearly covers its face, it runs incredibly fast on the newest processors and its camera meets or beats anything else on the market.

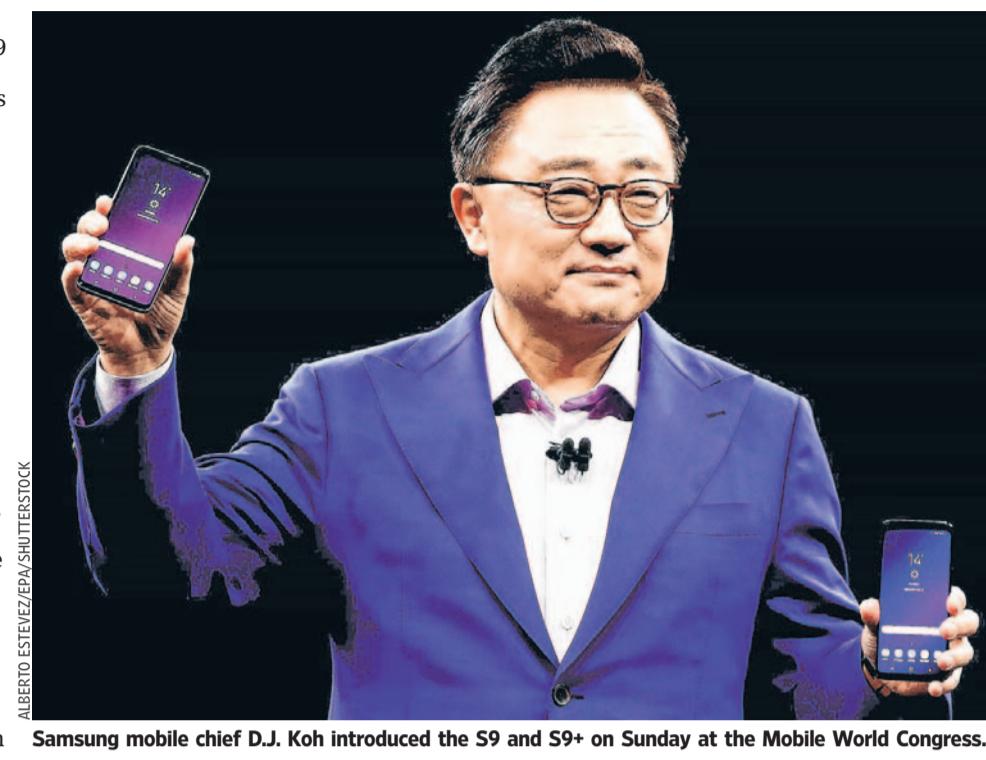
Those are all great things—which were equally true last year. The Galaxy S8 was a phone to be envied, and it sold in huge numbers. Then **Apple**, **Google** and others launched phones with similarly huge screens and impressive cameras. Now what, Samsung?

The answer is, not a whole lot more. When the S9 goes on sale March 16, you may notice small cosmetic changes to the bezel and fingerprint reader, or the springer performance from the upgraded processor. Then again, maybe you won't. The only thing Samsung appears to have aggressively upgraded is the camera.

**P**hotos and video have become central to how humans relate to each other, and cameras are only growing in importance as the key differentiator among smartphones. Apple promoted the iPhone X as an augmented-reality machine, and both Google and **Huawei** recently launched devices focused on AI-powered photography.

**Samsung Electronics** Co. took a kitchen-sink approach with the S9, borrowing the best features from other manufacturers and platforms and adding a few ideas of its own.

The S9, with a 5.8-inch screen, has a single camera on the rear, while the 6.2-inch S9+ has a second lens for optical zoom and better depth perception. Both phones have camera ap-



Alberto Estevez/EPA/Shutterstock

tures users can physically switch between f/2.4 and f/1.5, giving them more control over how much light gets in.

A wider aperture helps enhance that soft-background effect in your images and take better shots in low light, without resorting to cheesy filters or heavy processing.

The camera can shoot slow-motion video at 960 frames a second. In a demo, Samsung portrayed a dog shaking itself dry with the slow grace of a ballet dancer. When you're shooting stills, the S9 can take up to 12 shots every time you press the shutter, combining them into the best possible image.

Many more of the S9's camera features come in the software.

The S9's front-facing selfie camera can take a photo and automatically create a cartoon based on your face, a silly twist on Snap-

chat's bitmoji. It can apply augmented-reality lenses to your face, or turn you into a silly creature, such as a dog or a rabbit, that mimics your movements and facial expression a la Apple's animoji.

In our demo, the effect didn't appear to work as well as it might on an iPhone, however. (Samsung isn't using all the same sensors to capture your whole face.)

Paired with Samsung's Bixby assistant, the S9's camera can translate words on signs or menus, or even help you figure out which shade of lipstick would look best on you. (For me, the redder the better.)

**T**he camera works as a security system, too, though it lacks the sophistication of Apple's Face ID, found on the iPhone X. Samsung combined two existing features, face unlock and iris scanning, into a feature called Intelligent Scan.

But it doesn't use extra sensors to map your face, like Apple's security. Instead, it takes a photo of your face and compares it with its database. Iris scanning is slower but more secure, so you can use it to protect more important stuff.

As if to prove that little has changed, Samsung says it will bring some of this new software to last year's Galaxy S8. It did make one utterly necessary hardware tweak, though: The S9's fingerprint reader sits below the camera on the back of the phone, larger and easier to find than on the S8.

Otherwise, the so-called Infinity Display is slightly brighter than last year's model and the bezel around it has been slightly reduced. The phone's earpiece now doubles as a second speaker, which gives the S9 far better sound output. (It's still a phone, though, so don't expect much.)

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## BUSINESS NEWS



The success of 'Black Panther' is spurring a surge for the industry. The overall box office is up 12.5% from last year, according to comScore.

# 'Black Panther' Races On

Superhero movie rules the box office with \$108 million in sales for its second weekend

Associated Press

**NEW YORK**—“Black Panther” scored one of the best second weekends ever with an estimated \$108 million in ticket sales, putting it on track to rank among the highest-grossing blockbusters ever.

Ryan Coogler’s Marvel sensation is on a box-office course that few films have managed, according to studio estimates Sunday.

It is only the fourth film to earn \$100 million in its second weekend, along with “Star Wars: The Force Awakens” (\$149.2 million), “Jurassic World” (\$106.6 million) and “The Avengers” (\$103.1 million).

Only “The Force Awakens” had a better second weekend than “Black Panther,” which dropped 47% after its opening

## Estimated Box-Office Figures, Through Sunday

SALES, IN MILLIONS

FILM	DISTRIBUTOR	WEEKEND*	CUMULATIVE	% CHANGE
1. Black Panther	Disney	\$108	\$400	-47
2. Game Night	Warner Bros.	\$16.6	\$16.6	--
3. Peter Rabbit	Sony	\$12.5	\$71.3	-28
4. Annihilation	Paramount	\$11	\$11	--
5. Fifty Shades Freed	Universal	\$6.9	\$89.6	-60

\*Friday, Saturday and Sunday Source: comScore

weekend of \$201.8 million.

“Black Panther” has grossed \$400 million domestically and \$704 million world-wide in two weeks. The film, starring Chadwick Boseman and Michael B. Jordan, has held up even better overseas, where it dropped 42% over the weekend. Its release in China, the world’s second-largest film market, is set for March 9.

“Whatever your projections for ‘Black Panther’ might be, just increase them by 20% and you might be on point,” said Paul Dergarabedian, senior

media analyst for comScore. “Now the question isn’t so much if it gets to \$1 billion, but how far beyond that number does it go.”

The results so far put it in the company of “Jurassic World,” which ended up grossing \$1.67 billion world-wide, and “The Avengers,” which ultimately hauled in \$1.52 billion. Both rank among the top five of all time, not accounting for inflation.

“Black Panther” is spurring a surge for the industry. The overall box office is up 12.5% from last year, according to

comScore.

And the movie is doing it with an especially diverse audience. This weekend’s audience was 33% African-American, 37% Caucasian, 18% Hispanic and 7% Asian, according to comScore.

The film’s success didn’t appear to hurt the handful of new releases.

Faring the best was “Game Night,” starring Jason Bateman and Rachel McAdams, from Warner Bros.’ New Line. The comedy, which cost about \$37 million to make and was directed by John Francis Daley and Jonathan Goldstein, made its debut with \$16.6 million, coming in slightly above forecasts.

Though comedies have struggled at the box office in recent years, “Game Night” got a modest boost from good reviews and perhaps from the waves of moviegoers brought in by “Black Panther.”

“It’s that whole ‘a rising tide floats all boats,’ ” said Jeff Goldstein, distribution head for Warner Bros.

## PENGUIN RANDOM HOUSE

### Crown to Publish Michelle Obama

Former first lady Michelle Obama’s memoir “Becoming” will be published globally on Nov. 13 by Crown Publishing Group, just as the holiday gift-giving season is about to begin. The book will be priced at \$32.50 in the U.S.

**Penguin Random House**, which includes Crown Publishing Group, was widely reported in early 2017 to have paid \$60 million for world rights to books by former President Barack Obama and Mrs. Obama.

The memoir will cover “the experiences that have shaped her—from her childhood on the South Side of Chicago to her years as an executive balancing the demands of motherhood and work, to her time spent at the world’s most famous address,” according to a statement issued by her publisher.

It still isn’t known when Mr. Obama’s book will be published. Mr. Obama wrote the 1995 memoir “Dreams from My Father” and 2006’s “The Audacity of Hope.” Both were top sellers.

—Jeffrey A. Trachtenberg

## SHARP

### Suit Against Hisense Over Rights Dropped

**Sharp Corp.** has dropped its lawsuit against Chinese electronics manufacturer **Hisense Electric Co.** in a dispute over rights Sharp granted to its brand name when selling televisions in the U.S., a person familiar with the matter said.

In 2015, Osaka-based Sharp sold Hisense the right to use the Sharp brand on televisions sold in the U.S. for five years. It was one of many steps Sharp took to raise cash during its business troubles before it was acquired in 2016 by Taiwan-based iPhone assembler **Foxconn Technology Group.**

Under its new owner, Sharp has tried to expand the TV busi-

ness to promote awareness of the brand among consumers, and it has sought to terminate the Hisense licensing deal.

Hisense wasn’t immediately available to comment on Sharp’s decision to drop the lawsuit.

Sharp’s move to drop the lawsuit was earlier reported by the Nikkei newspaper.

—Takashi Mochizuki

## VOLKSWAGEN

### Cuts at Flagship Boost Auto Maker

**Volkswagen AG**, the world’s biggest car maker by sales, said Friday that net income more than doubled last year on the back of strong sales of its major marques and the effect of cost-cutting at its flagship VW brand.

The preliminary report lacked detail, but it suggested that earnings in the final three months of the year significantly missed analysts’ targets.

In a preliminary earnings statement, Volkswagen said net income more than doubled to €11.4 billion (\$14.06 billion) last year, up from €5.14 billion the year before. Revenue rose 6.2%, to €230.7 billion as unit sales increased 4.3%, to 10.7 million vehicles.

—William Boston

## MCKINSEY

### Kevin Sneader Elected to Top Job

Consulting firm **McKinsey & Co.** said Kevin Sneader, who leads its Asia-Pacific operations, will take over as global managing partner in July.

Mr. Sneader, a 51-year-old Briton, will succeed Dominic Barton, who has led McKinsey since 2009.

Under the firm’s rules, Mr. Barton was ineligible to run for a fourth three-year term.

Mr. Sneader was elected by senior partners, who number more than 560, to become the 12th partner to lead the firm since its founding in 1926.

—Vanessa Fuhrmans

## ADVERTISEMENT

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## BANKRUPTCIES

UNITED STATES BANKRUPTCY COURT, SOUTHERN DISTRICT OF NEW YORK  
In re WESTINGHOUSE ELECTRIC COMPANY LLC, et al., Chapter 11 Case No. 17-10751 (MEW)  
Debtors.<sup>1</sup> (Jointly Administered)

NOTICE (I) OF APPROVAL OF DISCLOSURE STATEMENT; (II) ESTABLISHMENT OF RECORD DATE; (III) HEARING ON CONFIRMATION OF PLAN AND PROCEDURES FOR OBJECTING TO CONFIRMATION OF PLAN; AND (IV) PROCEDURES AND DEADLINE FOR VOTING ON PLAN

TO PARTIES IN INTEREST:

PLEASE TAKE NOTICE THAT:

1. Approval of Disclosure Statement. By order dated February 22, 2018, [ECF No. 2632] (the “Order”), the United States Bankruptcy Court for the Southern District of New York (the “Bankruptcy Court”) approved the Disclosure Statement for the Joint Chapter 11 Plan of Reorganization (as it may be amended, modified, or supplemented, the “Disclosure Statement”) [ECF No. 2623] filed by Westinghouse Electric Company LLC, Toshiba Nuclear Energy Holdings (UK) Limited, and certain of their affiliates as debtors and debtors in possession (collectively, the “Debtors”) on February 22, 2018, and authorized the Debtors to file the Disclosure Statement to solicit votes from those parties entitled to vote with regard to the acceptance or rejection of the Debtors’ Modified First Amended Joint Chapter 11 Plan of Reorganization dated February 22, 2018 (as it may be amended, modified, or supplemented, the “Plan”);<sup>2</sup> annexed as Exhibit A to the Disclosure Statement.

2. Confirmation Hearing. A hearing (the “Confirmation Hearing”) to consider the confirmation of the Plan will be held on **March 27, 2018, at 11:00 a.m. (prevailing Eastern Time)**, before the Honorable Michael E. Wiles, United States Bankruptcy Judge, in Room 617 of the United States Bankruptcy Court for the Southern District of New York, One Bowling Green, New York 10004. The Confirmation Hearing may be continued from time to time without further notice other than the announcement by the Debtors of the adjourned date(s) at the Confirmation Hearing or any continued hearing or as provided in any notice of agenda of matters scheduled for hearing filed in the Clerk’s Office of the Bankruptcy Court, and the Plan may be modified, if necessary, prior to, during, or as a result of the Confirmation Hearing, without further notice to interested parties.

3. Record Date for Voting. Only parties who are eligible to vote and hold claims against the Debtors as of **February 16, 2018 at 10:00 a.m. (prevailing Eastern Time)** are entitled to vote on the Plan.

4. Voting Deadline. All votes to accept or reject the Plan must be accepted by the Debtors’ solicitation agent, Kurtzman Carson Consultants LLC (the “Solicitation Agent”), by **March 15, 2018 at 8:00 p.m. (prevailing Eastern Time)**. Any failure to follow the voting instructions included with your ballot may disqualify your ballot and your vote.

5. Parties in Interest Not Entitled to Vote. Holders of unclaimed claims and interests not entitled to vote on the Plan are not entitled to vote on the Plan. However, such holders are either a party or are wholly owned by a party, to that certain Plan Support Agreement dated January 17, 2018, who has thereby agreed to support and accept the Plan. If you have timely filed a proof of claim and disagree with the Debtors’ classification of, objection to, or request for estimation of, your claim and believe that you should be entitled to vote on the Plan, then you must serve on the Debtors at the address set forth below and file with the Bankruptcy Court (with a copy to chambers) a motion (a “Rule 3018(a) Motion”) for an order pursuant to Rule 3018(a) of the Federal Rules of Bankruptcy Procedure (the “Bankruptcy Rules”) temporarily allowing such claim in a different amount or in a different class for purposes of voting to accept or reject the Plan. Any Rule 3018(a) Motion must be filed **March 9, 2018 at 4:00 p.m. (prevailing Eastern Time)**; provided that the Debtors file an objection or request for estoppel in the manner set out in Rule 3018(a) of the Bankruptcy Rules (as amended) on or before **March 15, 2018 at 4:00 p.m. (prevailing Eastern Time)**, which motion may file a Rule 3018(a) Motion that are not timely filed and served in the manner set forth above shall not be considered.

6. Objection to Confirmation. Responses and objections, if any, to confirmation of the Plan must:

(a) Be in writing;

(b) State the name and address of the objecting party and the amount and nature of the claim or interest of such party;

(c) State with particularity the basis and nature of any objection to confirmation of the Plan;

(d) Conform to the Bankruptcy Rules and the Local Rules of the Bankruptcy Court;

(e) Be filed with the Bankruptcy Court (a) by registered users of the Bankruptcy Court’s case filing system, electronically in accordance with General Order M-399 (which can be found at <http://nysb.uscourts.gov>) and (b) by all other parties in interest, on a CD-ROM, in text-searchable portable document format (PDF) (with a hard copy delivered directly to the Bankruptcy Court), in accordance with the customary practices of the Bankruptcy Court, or otherwise filed with the Bankruptcy Court under applicable law, or otherwise deemed timely filed under applicable law, shall not be treated as a creditor’s ballot will not be counted except as may be otherwise ordered by the Bankruptcy Court. Creditors may contact the Solicitation Agent by calling (877) 634-7177 (domestic toll-free) or (424) 236-7223 (international) or emailing ([WestinghouseInfo@kccllc.com](mailto:WestinghouseInfo@kccllc.com)) to receive an appropriate ballot for any claim for which a proof of claim has been timely filed and a Rule 3018(a) Motion has been granted. Rule 3018(a) Motions that are not timely filed and served in the manner set forth above shall not be considered.

7. Responses and objections, if any, to confirmation of the Plan must:

(a) Be in writing;

(b) State the name and address of the objecting party and the amount and nature of the claim or interest of such party;

(c) State with particularity the basis and nature of any objection to confirmation of the Plan;

(d) Conform to the Bankruptcy Rules and the Local Rules of the Bankruptcy Court;

(e) Be filed with the Bankruptcy Court (a) by registered users of the

Bankruptcy Court’s case filing system, electronically in accordance with General Order M-399 (which can be found at <http://nysb.uscourts.gov>) and (b) by all other parties in interest, on a CD-ROM, in text-searchable portable document format (PDF) (with a hard copy delivered directly to the Bankruptcy Court), in accordance with the customary practices of the Bankruptcy Court, or otherwise filed with the Bankruptcy Court under applicable law, or otherwise deemed timely filed under applicable law, shall not be treated as a creditor’s ballot will not be counted except as may be otherwise ordered by the Bankruptcy Court. Creditors may contact the Solicitation Agent by calling (877) 634-7177 (domestic toll-free) or (424) 236-7223 (international) or emailing ([WestinghouseInfo@kccllc.com](mailto:WestinghouseInfo@kccllc.com)) to receive an appropriate ballot for any claim for which a proof of claim has been timely filed and a Rule 3018(a) Motion has been granted. Rule 3018(a) Motions that are not timely filed and served in the manner set forth above shall not be considered.

8. Objection to Confirmation. Responses and objections, if any, to confirmation of the Plan must:

(a) Be in writing;

(b) State the name and address of the objecting party and the amount and nature of the claim or interest of such party;

(c) State with particularity the basis and nature of any objection to confirmation of the Plan;

(d) Conform to the Bankruptcy Rules and the Local Rules of the

Bankruptcy Court;

(e) Be filed with the Bankruptcy Court (a) by registered users of the

Bankruptcy Court’s case filing system, electronically in accordance with General Order M-399 (which can be found at <http://nysb.uscourts.gov>) and (b) by all other parties in interest, on a CD-ROM, in text-searchable portable document format (PDF) (with a hard copy delivered directly to the Bankruptcy Court), in accordance with the customary practices of the Bankruptcy Court, or otherwise filed with the Bankruptcy Court under applicable law, or otherwise deemed timely filed under applicable law, shall not be treated as a creditor’s ballot will not be counted except as may be otherwise ordered by the Bankruptcy Court. Creditors may contact the Solicitation Agent by calling (877) 634-7177 (domestic toll-free) or (424) 236-7223 (international) or emailing ([WestinghouseInfo@kccllc.com](mailto:WestinghouseInfo@kccllc.com)) to receive an appropriate ballot for any claim for which a proof of claim has been timely filed and a Rule 3018(a) Motion has been granted. Rule 3018(a) Motions that are not timely filed and served in the manner set forth above shall not be considered.

9. Alternate Relief: Asset Sale Pursuant to Section 363 of the Bankruptcy Code. The Plan provides for the businesses of the reorganized Debtors to be sold to Brookfield WEC Holdings LLC (the “Plan Investor”) in accordance with that certain Plan Funding Agreement dated as of January 12, 2018, annexed to the Plan as Exhibit A (as amended, restated, modified, superseded or supplemented from time to time, the “PPA”). Pursuant to the Plan Funding Agreement, the Plan Investor will provide, among other things, up to \$3,892.5 million in cash in consideration of the PPA, including a grant of a chapter 11 plan process in exchange for the acquisition of (i) 100% of TNEI’s equity interests in Westinghouse Electric Holdings UK Limited, and (ii) the equity interests in reorganized TSB Nuclear Energy Services Inc., both subject to certain excluded assets and liabilities (collectively, the “Transaction”). The Transaction further contemplates the assumption of approximately \$770 million of liabilities, subject to certain adjustments.

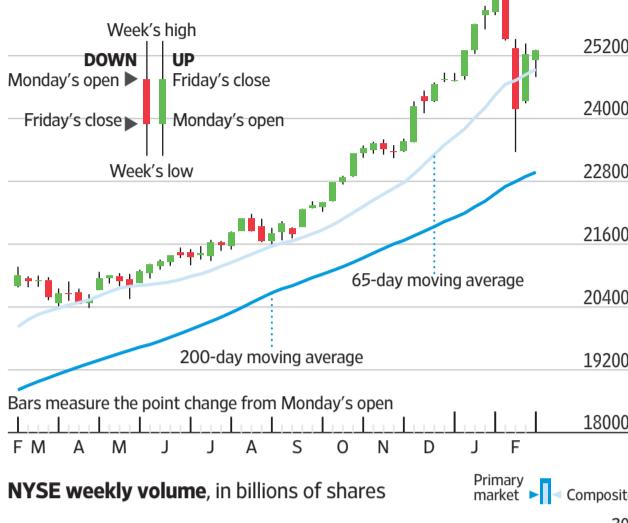
The Transaction is expected to be consummated pursuant to the Plan, however, in the event that timely Plan confirmation cannot be achieved, the P

## MARKETS DIGEST

## Dow Jones Industrial Average

**25309.99** ▲ 90.61, or 0.36% last week  
High, low, open and close for each of the past 52 weeks

Last Year ago  
Trailing P/E ratio 26.47 21.19  
P/E estimate \* 17.02 17.81  
Dividend yield 2.09 2.30  
All-time high 26616.71, 01/26/18



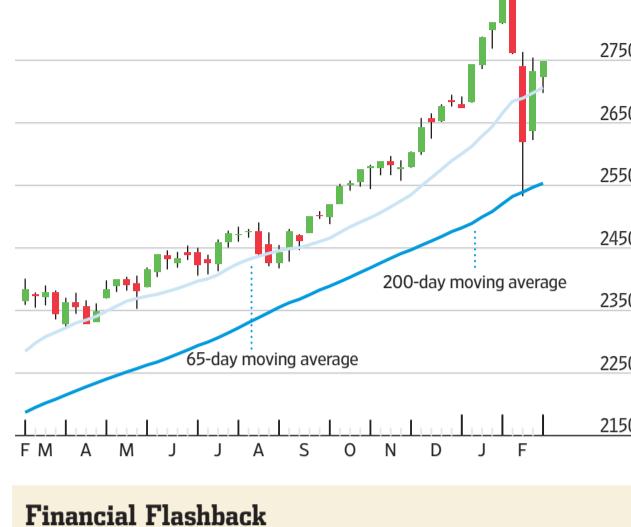
NYSE weekly volume, in billions of shares

\*Weekly P/E data based on as-reported earnings from Birinyi Associates Inc.

## S&amp;P 500 Index

**2747.30** ▲ 15.08, or 0.55% last week  
High, low, open and close for each of the past 52 weeks

Last Year ago  
Trailing P/E ratio 25.49 24.80  
P/E estimate \* 17.49 18.22  
Dividend yield 1.89 2.00  
All-time high 2872.87, 01/26/18

New to the Market  
Public Offerings of Stock

## IPOs in the U.S. Market

Initial public offerings of stock expected this week; might include some offerings, U.S. and foreign, open to institutional investors only via the Rule 144a market; deal amounts are for the U.S. market only

Expected pricing date Filed	Issuer/business	Symbol/primary exchange (mil.)	Pricing Range(\$)	Low/High	Bookrunner(s)
Week of 2/26/18 2017	ProLung Inc Provider of CT scan.	LUNG Nq	7.00 / 8.00	Maxim Grp, Aegis Cptl	

## Lockup Expirations

None expected this week

## IPO Scorecard

Performance of IPOs, most-recent listed first

Company SYMBOL	Friday's close (\$)	% Chg From Offer	1st-day close	Company SYMBOL	Friday's close (\$)	% Chg From Offer	1st-day close
Farmri FEB 16/\$4.00	5.91	47.8	-4.4	Quintana Energy Svcs QES Feb 9/\$10.00	9.85	-1.5	9.4
DFB HealthCare Acquisitions DFBHU Feb 16/\$10.00	10.04	0.4	0.4	Cactus WHD Feb 8/\$19.00	25.20	32.6	24.4
Biofrontier BioFR Feb 14/\$9.98	14.33	43.6	17.7	Evolus EOLS Feb 8/\$12.00	11.60	-3.3	0.9
Motus GI MOTS Feb 14/\$5.00	4.53	-9.4	3.4	Huami HMI Feb 8/\$11.00	11.05	0.5	-1.8
Cardlytics CDLX Feb 9/\$13.00	18.82	44.8	40.8	Mudrick Capital Acquisition MDUS Feb 8/\$10.00	10.04	0.4	0.4

Sources: WSJ Market Data Group; FactSet Research Systems

## Other Stock Offerings

Secondaries and follow-ons expected this week in the U.S. market

None expected this week

## Off the Shelf

"Shelf registrations" allow a company to prepare a stock or bond for sale, without selling the whole issue at once. Corporations sell as conditions become favorable. Here are the shelf sales, or takedowns, over the last week:

Issuer/Industry	Takedown date/Registration date	Deal value (\$ mil.)	Registration (mil.)	Bookrunner(s)
Ring Energy Inc Oil & Gas	Feb. 23 Feb. 6/17	\$75.0	\$500.0	SunTrust, Seaport Global Securities LLC
ClearSign Combustion Corp Technology	Feb. 23 Dec. 29/15	\$11.3	\$30.0	Fortress Biotech Inc
Advaxis Inc Healthcare	Feb. 22 Feb. 10/17	\$20.0	\$250.0	Jefferies, Guggenheim Partners
Ascendis Pharma A/S Healthcare	Feb. 21 March 22/17	\$258.8	\$400.0	JPM, BofA ML, Credit Suisse
Aimmune Therapeutics Inc Healthcare	Feb. 21 Dec. 28/17	\$176.0	...	BofA ML, Cantor Fitzgerald & Co., Piper Jaffray, Credit Suisse, RBC Cptl Mkts
Oil States International Inc Oil & Gas	Feb. 21 Jan. 19/18	\$153.8	...	JPM
OneMain Holdings Inc Finance	Feb. 21 Nov. 7/17	\$130.6	...	MS

## Public and Private Borrowing

## Treasuries

Monday, February 26

Tuesday, February 27

Auction of 13 and 26 week bills; announced on February 22; settles on February 26/announced on February 22; settles on March 1

Tuesday, February 27

Auction of 4 week bill; announced on February 26; settles on March 1

## Public and Municipal Finance

Deals of \$150 million or more expected this week

Final maturity	Issue	Total (\$ mil.)	Rating Fitch Moody's S&P	Bookrunner/ Bond Counsel(s)
Feb. 26 prelim.	California	225.0	N.R. N.R. N.R. M. Stanley/—	
Feb. 26 Nov. 1/2024	Dallas & Fort Worth Cities-Texas	302.4	N.R. N.R. N.R. BoA Merrill/ Bracewell LLP	
Feb. 26 prelim.	Maine State Housing Authority	350.0	N.R. N.R. N.R. Citi/—	
Feb. 26 prelim.	Montana Board of Housing	180.0	N.R. N.R. N.R. RBC Cptl Mkt/—	
Feb. 26 prelim.	Nebraska Invest Fin Auth (NIFA)	578.1	N.R. N.R. N.R. JP Morgan Securities LLC/ Kutak Rock	
Feb. 28 May 1/2036	Wisconsin	286.8	N.R. N.R. N.R. Preliminary/ Foley & Lardner	
March 1 March 18/2019	Baltimore Co-Maryland	491.0	N.R. N.R. N.R. Preliminary/ McKesson Shelton & Henn	
March 1 June 1/2048	Benton (Bentonville) SD #6	198.0	N.R. N.R. N.R. Preliminary/ Friday Eldredge & Clark	
March 2 prelim.	Black Belt Energy Gas Dt	652.9	N.R. N.R. N.R. Goldman & Co/—	
March 2 prelim.	Los Angeles Dept of Airports	375.9	N.R. N.R. N.R. Barclays/—	

Source: Thomson Reuters/Ipro

Closed-End Funds | [WSJ.com/funds](http://WSJ.com/funds)

Listed are the 300 largest closed-end funds as measured by assets. Closed-end funds sell a limited number of shares and invest the proceeds in securities like open-end funds, closed-ends generally do not buy their shares back. They trade at a discount in their trading. Fund share price on a stock exchange. NA signifies that the information is not available or not applicable. NS signifies fund not in existence of entire period. 12 month yield is computed by dividing income dividends paid (during the previous twelve months for periods ending at month-end or during the previous fifty-two weeks for periods ending at any time other than month-end) by the latest month-end market price adjusted for capital gains distributions.

Source: Lipper

Friday, February 23, 2018

52 wk Prem Ttl Fund (\$ym) NAV Close/Disc Ret

52 wk Prem Ttl Fund (\$ym) NAV Close/Disc Ret
BlikRk Int'l Grwth&Inco BGY 6.83 6.32 -7.5 18.3
BlikRk Health Sci BME 35.77 34.85 -2.6 10.2
BlikRk Cosm Comm Str Tr BCO 10.14 9.51 -6.2 18.5
BlackRock Science & Tech BST 29.81 30.34 +1.8 6.1
BlackRock Utilities Infr BUI 20.11 20.12 0.0 8.9
CBRE ClarionGblRlEstmng IGR 8.42 7.44 -11.6 6.1
Sprott Physical Gold CEF 13.28 NA 4.2
ClearBridge Amer Enrgy CBA 7.90 NA -12.6
ClearBridge Enrgy MLP Fd CEM 14.98 NA -4.7
Clearbridge Enrgy MLP TR CTR 11.25 NA -6.6
Cohen & Steers Infr Fd UTG 24.32 21.86 -10.1 13.4
C65 Mpl Incm & Oppn Opp MIE 10.55 10.07 +4.5 -3.8
Cohen & Steers Qual Inc RQI 11.96 11.39 -4.8 -5.9
CohnStrs Cptl RNP 13.52 18.73 -10.5 1.4
Cohen & Steers TR CRF 12.16 11.93 -7.2 1.8
CLSGmng PreTech Gfd STF 21.63 22.02 +1.8 27.4
Duff & Phelps DNP 9.06 10.30 +13.7 3.8
Duff & Phelps Gbl Util Infc DPG 16.48 14.83 -10.0 -3.3
Eaton Vance Eqty Incld EDI 15.33 14.48 -5.5 18.4
Eaton Vance Eqty Incl EOS 16.54 16.04 -3.0 26.6
Etn VncRskMngd ETJ 9.95 9.22 -7.3 6.1
Etn Vnc Mgt Buy-Wrtte BTF 16.05 16.27 +1.4 6.7
Eaton Vance BuyWrite Opp ETW 15.06 15.35 +1.9 9.98
HnckJohn TxAdv TDH 23.82 21.90 -8.1 -1.9
Liberty All-Star Equity USA 6.90 6.31 -8.6 28.0
Eaton Vance Tax-Mng Div ETW 11.57 11.88 +2.7 20.5
EtnVncTxMngDvEqc EXG 9.35 9.16 -2.0 16.1
Fidelity/Cyrr Opp Fd FMO 12.54 12.62 +0.6 -11.2
FT Energy Inc/Growth Fd FEN 23.80 24.16 +1.5 -5.9
FstTrEnrgEqtnLnc FFA 16.73 15.48 -7.5 16.6
First Tr Enrgy Infr Fd FIF 17.34 16.83 -2.9 -5.4
First Tr MLP & Enrgy Inc FEI 13.83 14.34 +3.7 -6.2
Gabelli Hlthr & Well GRW 11.63 10.02 -13.8 2.6
Gabelli Utility Tr GUT 4.90 7.05 +43.9 18.5
GAMCO Gbl NatRscs & Inc GGN 5.13 5.05 -1.7 5.4
Gulf Sachs MLP Inc Opp GMZ 9.02 9.24 -1.9 9.7

Continued on Page B8

## International Stock Indexes

Region/Country Index	Latest Week Close	Net chg	% chg	52-Week Range Low	52-Week Range High	YTD % chg
<b>World</b>	<b>3152.06</b>	<b>10.13</b>	<b>3.6%</b>	2647.00	3323.74	2.1
The Global Dow	3152.06	10.13	3.6%	2647.00	3323.74	2.1
DJ Global Index	405.29	0.31	0.8%	342.26	425.41	2.0
DJ Global ex U.S.	270.71	0.12	0.4%	223.56	285.34	1.5
<b>A</b>						

## BANKING &amp; FINANCE

# BB&T Bounces Back From Service Outage

By CHRISTINA REXRODE

**BB&T** Corp. said Saturday that it had restored online banking and that its systems were "substantially recovered" after technical problems left customers unable to use some of the bank's services.

Starting sometime on Thursday, customers had been unable to use the bank's ATMs, automated phone services and online and mobile banking.

The bank said Friday that ATMs and automated phone services had been restored. It said Saturday that online and mobile banking also had been restored.

However, customer-account information wasn't fully updated after those services were restored, meaning cus-

tomers checking their accounts on Friday and through parts of Saturday didn't see their most recent balances and transactions.

A spokesman for the bank said on Sunday that all customer accounts had been updated.

"We are deeply sorry this has happened and we're committed to making this right for our clients," the spokesman said in a statement. The bank also said it would waive or reimburse any fees that customers incur as a direct result of the outage.

BB&T said the issue was caused by "an equipment malfunction in one of our data centers."

It said it had "no reason to believe this issue is related to cybersecurity."

# Lake

*Continued from page B1*

first female CEO of one of the largest U.S. banks. A single mother of three young children, Ms. Lake already has become a role model for women in finance, juggling a high-profile job and family demands.

In her first year as CFO, 2013, Ms. Lake won praise for her handling of the fallout from the bank's 2012 "London whale" trading loss. She is well known to investors and analysts, a fixture on the bank's quarterly earnings calls who sometimes acts as a diplomatic foil to her outspoken boss.

During one call in October, for example, Ms. Lake tempered criticism Mr. Dimon had levied on the volatile digital currency bitcoin, which he'd recently called a "fraud." After Mr. Dimon deflected follow-up questions, Ms. Lake gave a more measured response, saying the bank is "very open

minded to the potential-use cases...for digital currencies that are properly regulated."

Of course, the palace intrigue about Mr. Dimon's successor is in its early days. And another female executive, Mary Callahan Erdoes, also is a contender.

Even Ms. Lake's supporters said she would have to move into another job leading a business and do well there to create the momentum that would be needed to succeed Mr. Dimon.

A 19-year veteran of the bank, Ms. Lake has mostly held finance-related jobs that don't produce client-driven revenue. Before her appointment as CFO, Ms. Lake led finance for the consumer-banking unit and earlier was the investment bank's global controller.

Other candidates viewed among JPMorgan insiders as possible CEOs of the largest U.S. bank by assets have run divisions that generate revenue. For example, Doug Petro, 52, is head of the bank's com-

mercial-banking business. Ms. Erdoes, 50, leads the asset and wealth-management businesses.

Those two executives and Ms. Lake were mentioned in JPMorgan's January announcement of executive moves. Most important, the bank and its board said in the announcement that Mr. Dimon plans to

**To be sure, Ms. Lake is far from the only contender to succeed Mr. Dimon as CEO.**

the succession race within JP Morgan's C-suite, which has produced years of jockeying by executives, into a real event.

Ostensibly, the front-runners are Gordon Smith and Daniel Pinto. The January announcement featured their promotion to the No. 2 role below Mr. Dimon.

However, the five-year horizon given for Mr. Dimon suggests those two executives may actually be out of the running, people close to the bank said. This is because both will be 60 or older at the end of that period, an age many analysts and investors believe will likely put them out of the running.

Ms. Lake, Mr. Petro and Ms. Erdoes, on the other hand, would be in their 50s, a more common age for a new bank CEO. At the big-six U.S. banks, the current CEOs took over when they were at or between the ages of 49 and 56.

A JPMorgan spokesman said all the executives declined to comment.

stay in his role about five more years.

That marked the first time the bank publicly put a timeline on what is likely to be the length of his tenure. Having become chief in late 2005, Mr. Dimon is the longest-serving CEO of the big-six U.S. banks.

The announcement turned

## Closed-End Funds | WSJ.com/funds

Continued from Page B7

Fund (SYM)	52 wk		52 wk		Fund (SYM)	52 wk		52 wk		Fund (SYM)	52 wk			
	Prem	Ttl	NAV	Close/Disc	Ret	NAV	Close/Disc	Ttl	Ret	NAV	Close/Disc	Yld		
Goldman Sachs MLP Energy GER	6.48	NA	-14.9			John Hancock Pfd Income HPI	21.04	20.17	-4.1	3.1	Japan Sml Cap JOF	13.92	12.46	-10.5
John Hancock Fin.Ops.Fd BTO	38.89	39.20	+0.8	12.5		John Hancock Pfd II HPI	20.75	19.90	-4.1	2.2	Korea Fund KF	46.64	41.39	-11.3
Macquarie Glb Infrastrct MGU	26.20	23.05	-12.0	11.5		JHancock Pfd Inv III HPS	18.50	17.30	-6.5	0.9	Mexico Fund MXF	18.98	16.51	-13.0
Neuberger Berman ML.Plmn NML	9.41	8.98	-4.6	6.8		Morgan Stanley Asia-Pac APF	21.71	18.81	-13.4	26.6	MS China a Shr Fd CAF	29.48	25.25	-14.3
Neubrg Brm.Rl Est.Covd Fd NRO	5.03	4.67	-7.2	4.3		MS China a Shr Fd CAF	29.48	25.25	-14.3	26.6	MS Emerging Fund MSE	21.48	18.95	-11.8
Nuveen Dow 30 Dynamic DIAK	19.19	18.17	-5.3	21.4		MS India Invest IF	35.15	31.76	-9.6	26.9	MS India Invest IF	14.52	13.24	-7.7
Nuveen Core Eq Alpha JCE	15.28	15.08	-1.6	26.3		New Germany Fund GF	22.28	20.13	-9.6	49.8	Swiss Helvetia Fund SWZ	14.12	12.82	-9.2
Nuveen Diversified Inv JDD	12.42	12.34	-0.6	12.3		Templeton Dragon TDF	26.19	23.11	-11.8	38.1	Templeton Emerging EMF	19.19	17.19	-10.4
Nuveen Enrgy MLP Fd JMF	11.43	11.22	-1.8	8.5		Virtus Global Dividend ZTR	11.47	11.67	+1.7	13.0	Virtus Total Return Fund ZTF	11.68	11.20	-4.1
Nuveen NASDAQ Q100 Oppn QQX	24.05	24.74	+2.9	28.0		Virtus Infr Indls & Mtls IDE	16.74	16.16	-3.5	25.9	Wells Fargo Gl Div Opp EOD	6.27	5.79	-7.7
Nuveen Real Est.Incm Fd JRS	10.17	9.90	-2.7	4.8		Wells Fargo Gl Div Opp EOD	6.27	5.79	-7.7	13.1	Wells Fargo Gl Div Opp EOD	6.27	5.79	-7.7
Convertible Sec's. Funds						Alpine Tot Div Inv AOD	10.30	9.43	-8.4	24.1	Alpine Tot Div Inv AOD	10.30	9.43	-8.4
AdventClymrfd AVK	17.39	15.51	-10.8	6.0		Calamos Glb Inv.Chw CHW	9.36	9.32	-0.4	33.0	Calamos Glb Inv.Chw CHW	9.36	9.32	-0.4
Calamos Glb Inv.Chw CHW	9.36	9.32	-0.4	33.0		Calamos Glb Inv.Chw CHW	9.36	9.32	-0.4	33.0	Calamos Glb Inv.Chw CHW	9.36	9.32	-0.4
China Fund CHN	24.87	22.80	-8.3	43.7		China Fund CHN	24.87	22.80	-8.3	43.7	China Fund CHN	24.87	22.80	-8.3
Clough Global Oppd GLO	12.32	10.97	-11.0	21.9		Clough Global Oppd GLO	12.32	10.97	-11.0	21.9	Clough Global Oppd GLO	12.32	10.97	-11.0
MFS Inc Tr MIN	4.27	3.96	-7.3	9.7		Eaton Vance TxAdv.Optd ETG	18.54	17.09	-7.8	19.5	Eaton Vance TxAdv.Optd ETG	18.54	17.09	-7.8
First Trust Dynamic Eur FDEU	19.42	18.74	-3.5	20.4		Eaton Vance TxAdv.Optd ETG	18.54	17.09	-7.8	19.5	Eaton Vance TxAdv.Optd ETG	18.54	17.09	-7.8
Fidelity Fund GDL	11.60	9.65	-16.8	1.9		Eaton Vance TxAdv.Optd ETG	18.54	17.09	-7.8	19.5	Eaton Vance TxAdv.Optd ETG	18.54	17.09	-7.8
India Fund IFN	29.38	25.99	-11.5	25.5		Eaton Vance TxAdv.Optd ETG	18.54	17.09	-7.8	19.5	Eaton Vance TxAdv.Optd ETG	18.54	17.09	-7.8

## Insider-Trading Spotlight

Trading by 'insiders' of a corporation, such as a company's CEO, vice president or director, potentially conveys new information about the prospects of a company. Insiders are required to report large trades to the SEC within two business days. Here's a look at the biggest individual trades by insiders, based on data received by Thomson Financial on February 23, and year-to-date stock performance of the company

**KEY:** **B:** beneficial owner of more than 10% of a security class **CB:** chairman **CEO:** chief executive officer **CFO:** chief financial officer **CO:** chief operating officer **D:** director **DO:** director and beneficial owner **GC:** general counsel **H:** officer, director and beneficial owner **I:** indirect transaction filed through a trust, insider spouse, minor child or other **O:** officer **OD:** officer and director **UT:** unknown **VP:** vice president Excludes pure options transactions

## Biggest weekly individual trades

Based on reports filed with regulators this past week

Date(s)	Company	Symbol	Insider	Title	No. of shrs in trans (000s)	Price range (\$)	\$ Value (000s)	Close (\$)	Ytd (%)
<b>Buyers</b>									
Feb.14 Ra Pharmaceuticals RARX R. Shah DOI 2,500 6.00 15,000 6.74 -20.7									
Feb.20-21 American Assets Trust AAT E. Rady CEOI 94 32.20-32.42 3,043 32.71 -14.5									
Feb.15-20 Zimmer Biomet Holdings ZBH B. Hanson CEO 25 119.38-119.86 3,001 118.85 -1.5									
Feb.20 HCA Healthcare HCA T. Frist B 29 101.07 2,896 100.84 14.8									
Feb.20 Regency Centers REG C. Katzman FOI 1,759 57.56 101,263 59.01 -14.7									
Feb.14 Snap SNAP E. Spiegel CEO 2,676 18.72-19.59 50,082 17.45 19.4									
Feb.15-16 Twitter TWTR J. McKelvey D 4 401.02-401.71 1,545 421.52 1.7									

## MARKETS

# Asian Stocks Recover Ground

BY KENAN MACHADO

Stocks built on recent gains early Monday as Asian markets continued to reverse their start-of-month slump.

Despite strength as February comes to a close, a number of indexes in Asia entered Monday's trading down about 5%—setting the

**WORLD STOCKS** stage for the worst month in a while for many.

Most Asia Pacific stock markets started well, with Japan's Nikkei rising as much as 1.5% early.

But it finished morning trading with a 0.8% gain as the yen jumped to session highs on comments from Bank of Japan Gov. Haruhiko Kuroda.

During an appearance before Japan's parliament, he reiterated there is no plan for another comprehensive review of the central bank's current efforts and that it continues to target getting inflation to 2%.

The yen was widely down about 0.2% against other major currencies early Monday but rebounded. That includes a 0.4% gain against the dollar at ¥106.50.

Amid the dollar's drop, gold and oil futures were up about 0.5%.

Meanwhile, a stronger yen is likely hurting the BoJ's efforts to fuel inflation. Bank of America Merrill Lynch estimates that for every 5% drop

**A stronger yen is likely hurting the BoJ's efforts to fuel inflation.**

for the dollar versus the yen, Japan's core inflation rate is pushed down about 0.1 percentage point.

As such, "any further yen appreciation could pose a downside risk" to the price outlook, the investment bank added.

Stock indexes elsewhere in the region were widely up about 0.5%. But in China, equities jumped at least 1% in Shenzhen.

That came amid prospects of China scrapping its two-term presidential limit.

"By all means, lament the lack of political debate in China," said Rob Carnell, ING's head of Asia research. "But from an investment perspective, there are some upsides," including no interruption to current policies involving deleveraging, flexibility over China's capital account and currency, and implementation of antigrant measures.

—Suryata Bhattacharya and Ese Erheriene contributed to this article.

# Property Purchases Pinch Beijing

Regulators that seized Anbang inherited U.S. real estate that likely has fallen in value

BY CRAIG KARMIN

When Chinese regulators seized control of **Anbang Insurance Group Co.**, they took ownership of more than a dozen luxury U.S. hotels, including New York's famed Waldorf Astoria.

Now, as the Chinese government weighs selling many of these properties, the buildings likely are worth less than what Anbang paid only a couple of years ago, the latest instance of foreign investors rushing into U.S. property only to find the market softening beneath them.

China's insurance regulatory agency said Friday it was assuming control of Anbang to avoid a collapse of the firm after suspected illegal activity by its chairman. In private conversations with hotel brokers and investors, regulators and Anbang have indicated they intend to hold on to the Waldorf, continuing with the insurer's plan to convert more than 1,000 of the hotel's 1,400 guest rooms into condominiums, according to people briefed on the matter.

But Chinese authorities already have started listening to offers for other luxury hotels that Anbang acquired, say people close to the matter. Its portfolio includes the Essex House Hotel overlooking Manhattan's Central Park; Four Seasons Hotels in Austin, Texas, and Jackson Hole, Wyo.; and InterContinental Hotels in Chicago and Miami.

An Anbang spokesman said: "We remain fully committed to our overseas subsidiaries, businesses, and investments, including those in the United States."

Hotel revenue in the U.S. is still growing, although the rate of growth has slowed considerably since peaking a few years ago, according to data tracker STR Inc. Revenue per available room, a metric that measures room rates and occupancy levels, grew by 8.2% in 2014. Growth has slowed each year since to 3% in 2017. STR projects growth of 2.7% in 2018.

Expectations of revenue and profit growth have certainly dampened in the last two years," said Sean Hennessy, chief executive of Lodging Advisors, a New York hospitality consulting firm. "That creates a noticeable decrease in pricing if you're trying to sell a hotel today."

The U.S. property market has long been a favored destination for overseas investors, thanks to a broad mix of office buildings, hotels and retail properties. The market also offers better title rights than faster-growing emerging markets and better growth prospects than in Europe.

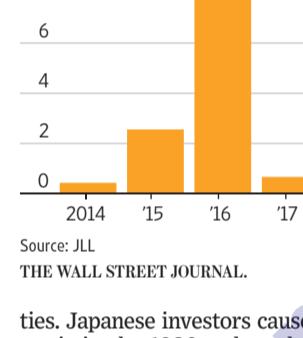
Foreign investment in U.S. hotels and other real estate has been controversial over the years, especially when it involved high-profile proper-



The Four Seasons Hotel in Jackson Hole, Wyo., is among the luxury-hotel properties that Chinese authorities are trying to sell.

## Checked Out

Chinese purchases of U.S. hotels, in dollars



Source: JLL

THE WALL STREET JOURNAL



Anbang Insurance bought New York's Waldorf Astoria in 2015.

nies purchased more than \$9 billion of U.S. hotels, up from only about \$216 million in 2012, according to real-estate firm JLL. Those sales fell to about \$668 million last year after the Chinese government tightened capital controls to prevent companies from moving as much money abroad.

Chinese ownership has caused more unease recently, especially after reports about Anbang's political connections to the Chinese government. President Barack Obama, who had stayed at the Waldorf previously, bypassed it for another hotel during a 2015 visit to New York. While White House officials didn't explain the change, people familiar with the matter cited possible security concerns under Anbang's ownership.

about \$500 million on the fast sale to Anbang, say people familiar with the situation.

In 2016, at the peak of this buying spree, Chinese compa-

ties. Japanese investors caused a stir in the 1980s when they bought trophy assets in the U.S., including Rockefeller Center in Midtown Manhattan and the Pebble Beach golf resort in California. When the property market collapsed, most Japanese investors sold and suffered huge losses.

Chinese buyers have drawn less scrutiny until a few years ago, when their purchases of U.S. properties started to accelerate. Anbang was at the center of a wave of Chinese insurers and other investors that acquired U.S. real estate and in particular high-end hotels, taking advantage of new rules that allowed them to invest abroad more easily.

Many Chinese buyers view luxury hotels in major cities as long-term investments that can provide steady income during a period of low interest rates, real-estate brokers and hotel analysts said. Some said a number of Chinese buyers believe that owning world-famous properties and luxury brands confers prestige on their owners—one reason Chinese investors frequently outbid other buyers.

In 2015, Anbang acquired

the Waldorf for \$1.95 billion, the highest price ever paid for a U.S. hotel. That same year, China's **Sunshine Insurance Group Co.** also purchased New York's Baccarat Hotel for about \$230 million, or roughly \$2 million a room. This made it one of the most highly valued hotels ever by that popular industry metric. The Baccarat hadn't even checked in a single guest when Sunshine agreed to buy it.

Shanghai prosecutors on Friday said they had indicted Wu Xiaohui, Anbang's ex-chairman, for alleged fraudulent fundraising and abuse of power.

As chairman, he once told an audience at Harvard University that he planned to convert Waldorf guest rooms to condos, hinting that there would be an element of exclusivity.

"A potential buyer needs more than money to qualify for our apartments," he boasted to the crowd.

Anbang in 2016 bought a portfolio of luxury hotels from **Blackstone Group LP**. The New York investment firm had bought those hotels less than a year earlier, turning a profit of

about \$500 million on the fast sale to Anbang, say people familiar with the situation.

In 2016, at the peak of this buying spree, Chinese compa-

## Currencies

U.S.-dollar foreign-exchange rates in late New York trading

Country/currency	Fri in US\$	per US\$	YTD chg (%)	US\$ vs Fri
<b>Americas</b>				
Argentina peso	.0501	19.9637	<b>7.3</b>	
Brazil real	.3088	3.2380	<b>-2.2</b>	
Canada dollar	.7916	1.2633	<b>0.5</b>	
Chile peso	.001693	590.50	<b>-4.1</b>	
Ecuador US dollar	1	1	unch	
Mexico peso	.0539	18.5414	<b>-5.7</b>	
Uruguay peso	.03506	28.5200	<b>-1.0</b>	
Venezuela b. fuerte	.00003528960.0001	279273		
<b>Asia-Pacific</b>				
Australian dollar	.7839	1.2757	<b>-0.4</b>	
China yuan	.1578	6.3358	<b>-2.6</b>	
Hong Kong dollar	.1278	7.8230	<b>0.1</b>	
India rupee	.01541	64.907	<b>1.6</b>	
Indonesia rupiah	.0000732	13659	<b>1.3</b>	
Japan yen	.009357	106.87	<b>-5.2</b>	
Kazakhstan tenge	.03124	320.06	<b>-3.8</b>	
Macau pataca	.1241	8.0596	<b>0.2</b>	
Malaysia ringgit	.2552	3.9185	<b>-3.5</b>	
New Zealand dollar	.7294	1.3710	<b>-2.8</b>	
Pakistan rupee	.00904	110.583	<b>-0.1</b>	
Philippines peso	.0193	51.774	<b>3.6</b>	
Singapore dollar	.7580	1.3192	<b>-1.3</b>	
South Korea won	.0009287	1076.80	<b>0.9</b>	
Sri Lanka rupee	.0064437	155.19	<b>1.1</b>	
Taiwan dollar	.03418	29.256	<b>-1.4</b>	
Thailand baht	.03185	31.400	<b>-3.7</b>	
Vietnam dong	.0000438	22740	<b>0.1</b>	
<b>Middle East/Africa</b>				
Bahrain dinar	2.6528	.3770	<b>-0.04</b>	
Egypt pound	.0565	17.6870	<b>-0.5</b>	
Israel shekel	.2871	3.4833	<b>0.1</b>	
Kuwait dinar	3.3318	.3001	<b>-0.4</b>	
Oman rial	.25974	.3850	<b>0.01</b>	
Qatar rial	.2746	3.641	<b>-0.2</b>	
Saudi Arabia riyal	.2667	3.7499	<b>-0.01</b>	
South Africa rand	.0865	11.5541	<b>-0.5</b>	
<b>Europe</b>				
Czech Rep. koruna	.04848	20.626	<b>-3.1</b>	
Denmark krone	.1652	6.0546	<b>-2.4</b>	
Euro area euro	1.2298	.8132	<b>-2.4</b>	
Hungary forint	.003924	254.82	<b>-1.6</b>	
Iceland krona	.009945	100.55	<b>-2.9</b>	
Norway krone	.1274	7.8502	<b>-4.3</b>	
Poland zloty	.2947	3.3939	<b>-2.4</b>	
Russia ruble	.01780	56.166	<b>-2.6</b>	
Sweden krona	.1224	8.1725	<b>-0.2</b>	
Switzerland franc	1.0679	.9364	<b>-3.9</b>	
Turkey lira	.2639	3.7991	<b>-0.1</b>	
Ukraine hryvnia	.0368	27.1700	<b>-3.5</b>	
UK pound	1.3969	.7159	<b>-3.3</b>	

Close Net Chg % Chg YTD Chg

**WSJ Dollar Index** 83.62 0.07 0.08 **-2.74**

Sources: Tullett Prebon, WSJ Market Data Group



Home-improvement retailer Lowe's Cos. is scheduled to report quarterly earnings on Wednesday.

	Monday	Wednesday	Thursday	Friday
New-home sales	AutoZone <b>8.79</b> /8.08	Earnings expected*	Personal spending	
Dec., previous	EOG Res. <b>0.53</b> /(0.01)	Express Scripts	Dec., previous	up 0.4%
Jan., expected	625,000	2.09/1.88	Analogy Devices <b>1.28</b> /0.94	up 0.2%
	Priceline <b>14.12</b> /14.21	Monster Beverage	Lowe's Cos. <b>0.87</b> /0.86	
	Sempra Energy <b>1.42</b> /1.52	Salesforce.com <b>0.34</b> /0.28	Israel Shekel <b>0.37</b> /0.35	
		TJX Cos. <b>1.27</b> /1.03	Worldpay <b>0.95</b> /0.75	
			Initial jobless claims	</td

## MARKETS

## Dollar's Fall Presents Currency Mystery

By CHELSEY DULANEY

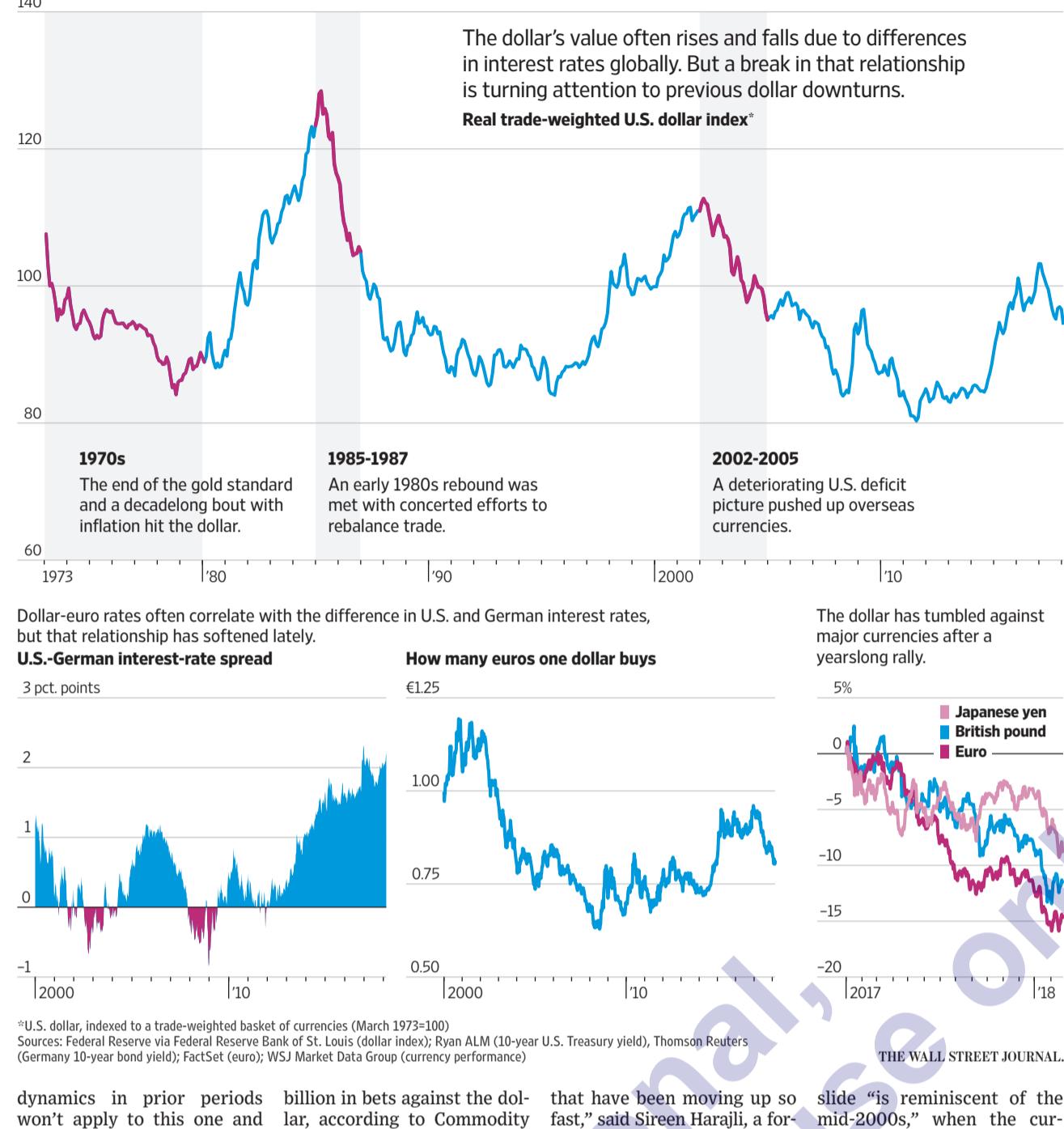
Stumped by a deepening slide in the dollar, analysts and investors are scouring past periods of U.S. currency weakness for clues to what might happen next.

The U.S. currency has slumped 11% since late 2016 against its main trading partners, including a 2.7% decline this year in the WSJ Dollar Index. That is surprising many on Wall Street, where dollar strength has been anticipated as a series of Federal Reserve interest-rate increases has expanded the yield premium on U.S. Treasury notes over comparable securities such as German bonds.

This yield gap typically is one of the strongest determinants of dollar performance, as higher yields tend to draw capital into the higher-yielding government bonds. That frequently pushes up foreign-exchange values in a cycle that often benefits the higher-yielding currency, as was seen in the years after 2011 when the dollar sharply appreciated at a time of improving U.S. growth.

But it isn't working this time around. On Friday, the U.S. 10-year Treasury had a yield of 2.87%, compared with a yield of 0.66% on a comparative German bond. The difference, or spread, between those two yields last week reached its widest since the start of 2017, which was just after the spread hit a record.

Some analysts say the dollar is still expensive relative to other currencies even following its recent decline, while others say economic growth in Europe, Japan and emerging markets appears poised for a larger pickup than in the U.S. Others point to parallels with previous periods of dollar weakness, while stressing that those comparisons are made loosely because many economic, political and market



The dollar's value often rises and falls due to differences in interest rates globally. But a break in that relationship is turning attention to previous dollar downturns.

**Real trade-weighted U.S. dollar index\***

budget and the nation's trade account.

Wider U.S. trade deficits have been a common thread in dollar bear markets. The dollar's sharp decline in the 1970s came as the U.S. moved from a trade surplus to a deepening trade deficit, along with the collapse of the gold standard and a decade-long battle with inflation.

In the 1980s, a seven-year dollar rally again raised concerns about the U.S. trade deficit, which was distorting trade balances in Europe and Japan. The governments of the U.S., Japan, West Germany, France and the U.K. in 1985 signed the Plaza Accord in a bid to weaken the U.S. currency.

There are pluses to the dollar's decline: Its strength in recent years weighed on exports by making U.S.-made goods less competitive abroad, hitting corporate profits at multinational firms. A strong dollar also can threaten emerging market economies by making their dollar debts more expensive to pay back.

"Falls in the value of the dollar oil the wheels of the global financial system, boosting global liquidity by strengthening balance sheets and alleviating currency mismatches," said analysts at Oxford Economics in a research note.

Benn Steil, director of international economics at the New York-based Council on Foreign Relations, thinks comparisons to past dollar bear cycles are of little use because of idiosyncratic factors in each period. Though the link with interest rates has broken down lately, he still believes higher U.S. rates will become a main driver of the dollar this year.

"The markets have been extremely sensitive in the past 10 to 15 years to relative interest rate differentials," he said. "All else being equal, I would expect this to be a good year for the dollar."

dynamics in prior periods won't apply to this one and vice versa.

Whatever the narrative, it is clear that investors expect the dollar rout to get worse. Hedge funds and other speculative investors are holding roughly \$8 billion in bets against the dollar, according to Commodity Futures Trading Commission data, and \$19 billion in bets that the euro will strengthen.

"People are a bit unclear about why the dollar is not benefiting from U.S. yields

that have been moving up so fast," said Sireen Harajli, a foreign-exchange strategist at Mizuho Bank. "I think that's because of concerns about the U.S. budget deficit."

Analysts at Capital Economics say the dollar's current

slide "is reminiscent of the mid-2000s," when the currency fell significantly even as the Fed raised U.S. interest rates. The culprit then, and perhaps now, was that market expectations of increasing deficits in the U.S. government

## HEARD ON THE STREET

FINANCIAL ANALYSIS &amp; COMMENTARY

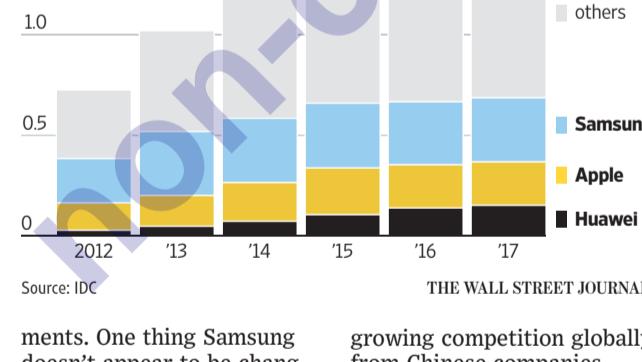
WSJ.com/Heard

Email: [heard@wsj.com](mailto:heard@wsj.com)

## Phone Prices Are Hitting a Wall

## Phoned In

Smartphone unit shipments



ments. One thing Samsung doesn't appear to be changing is the price, which will be in the mid-to-high \$700s. The Galaxy S9 goes on sale next month.

Keeping prices level could help Samsung to get more of its users to buy its latest devices. The same could hold true for Apple if it chooses to follow a similar strategy with its new iPhones expected later this year. Apple and Samsung both face

growing competition globally from Chinese companies such as Huawei and Xiaomi. But combined, the two giants still account for more than one-third of the world's smartphone sales, giving them a significant impact.

That impact was felt last year. According to IDC, about 1.472 billion smartphones sold globally in 2017, a very slight decline from the 1.473 billion sold the year before. That was still the first de-

cline ever by an industry that had averaged about 26% growth over the previous five years.

And that decline came during a year of major enhancements offered up by Apple, Samsung and other device makers. Market-research firm Gartner also reported a 5.6% fall in smartphone unit sales during the typically strong fourth quarter, with analyst Anshul Gupta noting that "high expectations and few incremental benefits" helped weaken demand during the period.

Today's high-end smartphone market is a mature one. That means the market depends far more on upgrades than it does on new customers. And those upgrades will happen less frequently as higher prices keep customers holding onto their phones longer—especially when annual enhancements don't change much about the basic form and function of top-end devices.

Upselling only works when there is something significant to sell. —Dan Gallagher

## OVERHEARD

## Investors Miss Out in Junk Bonds

In years past, if investors wanted to buy junk bonds, they bought U.S. high-yield corporate bonds. There was pretty much no alternative. The high-yield world is now full of companies from rapidly growing parts of the world, yet many investors are missing out.

Take the ICE BofAML Global High Yield index: At the start of 1998, it contained bonds from companies in just 15 geographies, with the U.S. accounting for 87% of the index, notes fund manager Hermes Investment Management.

Now, the index is home to hard-currency debt issued by companies from 81 countries, and only 52% comes from the U.S. Debt from Russia, Brazil, China and Turkey accounts for 13% of the index. The index has grown 10-fold to more than \$2.1 trillion.

Investors should benefit from this shift. They get diversification and faster economic growth, which typically benefits high-yield bonds. Since global growth picked up, emerging-market bonds have beaten U.S. and European peers.

The International Monetary Fund forecasts growth of 4.9% this year and 5% next for emerging-market economies, far above the 2.3% and 2.2% forecasts for the advanced economies.

But popular junk-bond exchange-traded funds, like the SPDR Bloomberg Barclays High Yield Bond ETF and the iShares iBoxx High Yield Corporate Bond, are still heavily concentrated on the U.S. market. With yields extremely low on high-yield bonds, investors are taking lots of risk in the sector. A bit of global diversification might be a good idea right now.

—Richard Barley

## Profits Are Hidden in the Prescription Drug Supply Chain

## Big Earnings

Rate at which drug supply chain converts gross profit into Ebitda<sup>\*</sup>

PBMs	85%
Distributors	46%
Insurers	31%
Pharmacies	20%

<sup>\*</sup>Earnings before interest, taxes, depreciation and amortization

Source: Bernstein

But a closer look shows the business is far more attractive than those low margins would suggest. Included in Express Scripts' revenue is the cost of the underlying

drugs they sell. Thus Express Scripts generated gross profit of just \$1.8 billion on total sales of \$24.7 billion in the third quarter. Gross profit is revenue minus the cost of goods sold, but nothing else.

In general, however, the pharmacy-benefits manager doesn't actually take delivery of the drug. That means these companies don't spend much on fixed assets, which keeps selling and administrative costs, as well as depreciation and amortization charges, very low.

Analysts at Bernstein tried to get a better picture of how profitable these companies are by excluding the cost of

the drugs that are included in their revenue. The analysts compared the rate at which gross profit converts into earnings before interest, taxes, depreciation and amortization for pharmacy-benefits managers and other pieces of the drug supply chain, including drug distributors, insurers and pharmacies.

By this analysis, pharmacy-benefits managers are exceptionally profitable: 85% of their gross profit converted into Ebitda over the past two years. Drug distributors converted 46% of their gross profit, while health insurers and pharmacies achieved about 30%.

The analysts say these

companies benefit from "lack of transparency and misaligned incentives." Historically those dynamics have been great news for shareholders.

But now those dynamics have attracted new competition. Anthem, is starting its own pharmacy-benefits manager. Potential competition could come from other sources, like the announced nonprofit joint health-care venture between Amazon.com, Berkshire Hathaway and JPMorgan Chase.

Pharmacy-benefit managers would only get this attention if their business was attractive. It may not be for much longer.—Charley Grant

# HEALTH CARE

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THE WALL STREET JOURNAL.

Monday, February 26, 2018 | R1

## The Future of Hospitals

Driven by economics, the inpatient institutions we know are radically changing—becoming smaller, more digital, or disappearing completely. The result should be cheaper and better care.



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Smaller hospitals are one change in the industry. Emerus Holdings and Dignity Health joined to open the St. Rose Dominican microhospital in North Las Vegas, Nev., last year.

**T**HE DAYS OF THE HOSPITAL AS WE KNOW IT may be numbered.

In a shift away from their traditional inpatient facilities, health-care providers are investing in outpatient clinics, same-day surgery centers, free-standing emergency rooms and microhospitals, which offer as few as eight beds for overnight stays. They are setting up programs that monitor people 24/7 in their own homes. And they are turning to digital technology to treat and keep tabs on patients remotely from a high-tech hub.

For the most part, the investments in outside treatment are driven by simple economics: Traditional hospital care is too costly and inefficient for many medical issues. Inpatient pneumonia treatment, for example, can cost 15 to 25 times more, yet many low-risk patients who could be safely treated as outpatients are hospitalized, studies have shown.

And being hospitalized carries its own risks: With the rise in antibiotic-resistant bacteria, at any given time one in 25 patients in the U.S. is battling an infection acquired in the hospital, according to the Centers for Disease Control and Prevention—at a cost of \$10 billion annually for the five most common infections.

But patient preferences for how they get care and a national focus on more prevention and wellness are also driving the new models.

"We should be investing in people and processes, not hospitals," says David Feinberg, president and chief executive of Geisinger Health System, which is based in Danville, Pa., and has 13 hospitals in New Jersey and Pennsylvania and a health-insurance plan.

Already, the U.S. has more hospital beds than it needs in most markets, suggests a March 2017 report by Medpac, an independent analysis group reporting to Congress. The average hospital-occupancy rate was just 62% in 2015. There were also more hospital closings than openings over the four years ending in 2015, with nearly half of those converting to outpatient-only facilities. Hospitals have continued to

close their doors, especially in rural areas, and a spate of mergers will speed consolidation.

"If technological and reimbursement trends continue—including large cuts to Medicare—it is likely that the country would need fewer hospitals," says Ken Kaufman, chairman of health-care advisory firm Kaufman Hall.

To be sure, there will always be a need for modern full-service hospitals to care for the sickest patients, perform complex and risky procedures and deal with trauma cases.

"Hospitals aren't going away anytime soon, nor should they," says Jennifer Wiler, executive director of the Care Innovation Center at UCHealth, a Colorado-based health-care system, and vice chairwoman of emergency medicine at the University of Colorado School of Medicine. "But the traditional model of a hospital as the hub of care with a single facility providing every facet of treatment is changing."

Bruce Leff, a geriatrician and professor at Johns Hopkins University School of Medicine predicts, "Hospitals will start to evolve into large intensive-care units, where you go to get highly spe-

cialized, highly technical or serious critical care."

Here's a look at some of the changes coming to the traditional hospital model.

### HELP PATIENTS AT HOME

Studies by Dr. Leff and others show hospital-level care at home for certain conditions can be provided for 30% to 50% less than inpatient care with fewer complications, lower mortality rates and higher patient satisfaction.

New York's Mount Sinai Hospital has developed a hospital-at-home program, HaH-plus, for some patients who show up at the emergency department or are referred by their primary-care doctors. A mobile acute-care team provides staffing, medical equipment, medications and lab tests at home, and is on call 24/7 if a condition worsens.

"For some admissions, we can avoid the emergency department, but for most admissions like pneumonia or dehydration or a skin infection, we evaluate them in the ED and then send them home in an ambulance with an IV in place," says Linda DeCherrie, clinical director of Mount Sinai at Home. The HaH-plus program provides 30 days of care, including referring patients back to primary-care doctors and connecting them to services they need to avoid re-admission.

Mount Sinai estimates that nationally, 575,000 cases each year could qualify for such a program, and treating just 20% of those could save Medicare \$45 million annually.

One patient who saw a benefit from hospital-at-home care was Phyllis Camaratta, a heart-failure patient living in Malden, Mass. After three years in and out of the hospital, the 93-year-old says she didn't want to go back after she became ill again last fall. When a nurse practitioner suggested a Medically Home program offered through her health-care provider Atrius Health, Ms. Camaratta agreed to try it.

At first, she says, she was a little overwhelmed by how many people showed up to provide care, check her condition, set up equipment and perform tests on portable machines. But she was impressed by the care, including a daily video consult via iPad so a doctor could see if her legs had too

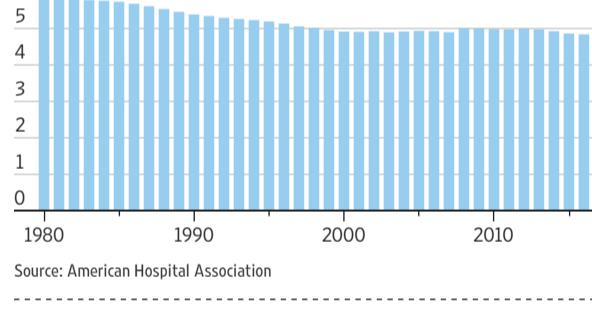
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## HOSPITAL DRAMA

How these facilities at the center of the health-care system are evolving

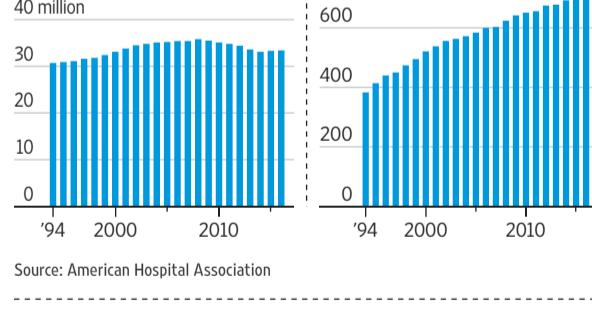
### Full-Service Fade

The number of community hospitals in the U.S. has been in a long-term decline, and hospital closures are expected to continue over the next decade.



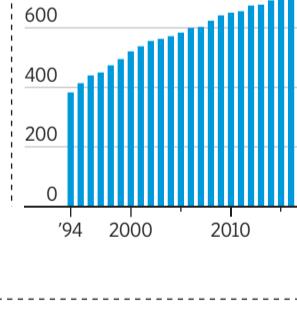
### Fewer Stays

Inpatient admissions to community hospitals have trended down over the past decade.



### More Patients

But outpatient visits have climbed steadily.



### The Cost Benefit

Average savings on these outpatient procedures compared with inpatient settings

	TOTAL SAVINGS	PATIENT OUT-OF-POCKET SAVINGS
Hysterectomy	\$4,505	\$483
Lumbar/spine surgery	\$8,475	\$320
Gallbladder removal	\$11,262	\$924
Angioplasty	\$17,530	\$1,062

Note: 2014 data

Source: Blue Cross Blue Shield Association

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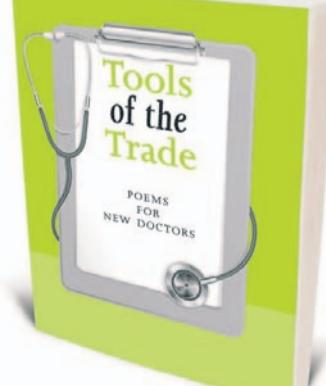
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Startups say the microbiome varies from person to person—and so should the most effective menu

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## JOURNAL REPORT | HEALTH CARE

# Physicians, It's Time to Listen More

OurNotes makes it easier for patients to share thoughts with their doctors

BY BARBARA SADICK

FOR THE PAST six years, doctors across the country have been using an online system to share their medical notes with patients. Now researchers want to take the idea a step further—and let patients share their own notes with doctors.

Under the new plan, called OurNotes, patients not only can see their doctors' notes before appointments, but they can also correct mistakes, ask questions and let doctors know what they want to talk about during their visit. Doctors can then review what the patients wrote so they can spend less time asking questions and checking records during the session.

Researchers say there are technical bugs to iron out, and both doctors and patients have to learn some nuances about communicating with each other. But they hope that eventually this new system will bring a big change in the management of health care.

"My dream: The patient will have more skin in the game, they'll lift some burdens from exhausted doctors, and both will engage more actively and get more accomplished," says Tom Delbanco, a faculty member of Harvard Medical School and Beth Israel Deaconess Medical Center in Boston, who co-founded OurNotes with his colleague Jan Walker.

## A step forward

The system currently in place, called OpenNotes, was launched as a nonprofit effort at Beth Israel Deaconess with backing from large foundations. The system has achieved a wide reach: Almost 21 million people have ready access to the notes their doctors write about them through online portals.

But some creators of OpenNotes believe the initiative should give patients more of an active role in managing their care. So, together with several new researchers, they are developing the OurNotes system to let patients comment on their caregivers' observations and raise concerns.

Pilot studies for the new system will begin in the spring at Beth Israel Deaconess in Boston, Dartmouth Hitchcock in New Hampshire, the University of Colorado in Denver and two University of Washington sites.

OurNotes is also a nonprofit effort, with studies sponsored by the Commonwealth Fund, and will be free to use. In many cases, it will



Jameson Doig (left) uses OurNotes to update his physician, Stephen Liu, on his health status. Dr. Liu says that allows for more time at appointments 'on discussion, counseling and shared decision-making.'

DAVE WHITE FOR THE WALL STREET JOURNAL

work like this: The doctor's office sends an email through a secure portal notifying the patient of a forthcoming visit and asking the patient to check the doctor's notes for accuracy, document what has occurred since the last visit and indicate what the patient wants to discuss. The patient sends notes that are automatically added to the doctor's records.

Matthew Germak, a primary-care internist and pediatrician at Beth Israel Deaconess and one of the developers working on OurNotes, thinks the new system alleviates some of the pressure patients can feel when asked questions in person. It also leads to greater accuracy in patients' records, says Thomas Payne, an internist at the University of Washington and a co-investigator of OurNotes.

But perhaps the biggest advantage, many advocates of the system say, is that it makes doctors and patients alike more invested in care.

When patients contribute to writing their notes, it allows "for more time during the visit for both doctor and patient to be truly present and engaged instead of staring at a computer screen trying to enter the information as quickly as possible," Dr. Payne says.

Adds Dr. Germak: "As patients begin to feel more invested in their care, they tend to develop increased awareness and more of an ability to self-manage."

The system can also identify patient concerns that might otherwise be neglected. Joann Elmore, a

professor of medicine at the UCLA David Geffen School of Medicine and an early evaluator of OpenNotes, tested OurNotes at the University of Washington's Harborview Medical Center. One patient wrote that she was concerned about an emergency-room CT scan that showed "lumps on her lungs."

The findings were benign, Dr. Elmore says, "and as physicians, we would not have brought up the topic." But because "this was very concerning to her," she made sure to reassure the patient.

"When patients type information into the previsit notes, we learn about their concerns and are able to sometimes alleviate any stress or worry," Dr. Elmore says.

## Looking at conversations

Still, the system has a number of challenges to overcome. Digital medical records must be made more secure from hackers, and at the same time easier for patients and doctors to access. Also, for the system to work well, doctors should help patients understand how to present information. For example, Dr. Elmore says, lengthy notes aren't helpful. "I am a better doctor when my patients' comments are prioritized and organized."

Patient knowledge is also an issue. "I would also like our medical records to someday have easy-to-use links for our patients, so they can quickly obtain definitions of medical words from a trustworthy source, instead of searching on the web," says Dr. Elmore.

For their part, doctors must learn to be careful about how they

use certain phrases and abbreviations. For example, abbreviations such as SOB and BS are used for shortness of breath and bowel sounds, but can be misunderstood. It's also important to avoid loaded terms such as obese, disheveled and unkempt, says Stephen Liu, a general internist at Dartmouth Hitchcock Medical Center and an OurNotes tester.

## On the agenda

Dr. Liu has already seen results from OurNotes. Jameson Doig, a research professor of government at Dartmouth, has been a patient of his for a couple of years. Dr. Doig says he gets email alerts from Dr. Liu's office three to six days before an appointment, and sends emails back with the health issues and concerns he wants to discuss at the appointment.

"By writing down what my health concerns are, I have the opportunity to reflect upon my health and determine which issues bother me the most, while truly feeling like part of a team," says Dr. Doig.

Many of the emails between him and Dr. Liu focus on balancing drugs to alleviate recurring leg pain. The process, says Dr. Liu, means they don't have to spend appointment time catching up.

"OurNotes allows for more time on discussion, counseling and shared decision-making," and also improves patient engagement, Dr. Liu says.

**Ms. Sadick is a writer in New York. Email reports@wsj.com.**

# WHY BABIES MIGHT BENEFIT FROM LOOKING LIKE THEIR DADS

BY ALINA DIZIK

Looking like your father could be good for your health. At least for the first year of your life.

A new study found that when a baby lives only with the mother, fathers who see a resemblance to themselves spend more time with the infant in the first year, which corresponds with better health at the child's first birthday compared with babies whose fathers did not see a resemblance.

"Fathers are important in raising a child, and it manifests itself in the health of the child," says Solomon Polachek, distinguished professor at the State University of New York at Binghamton, one of two researchers who published the study in the Journal of Health Economics in January.

Fathers who felt their child resembled them spent 2½ more days a month with the child than did fathers who didn't believe their child looked like them. By a measure of health that included number of emergency-room visits, asthma and frequency of illness, the researchers said the babies in the first group had scores 10% to 25% higher one year after birth than babies whose fathers spent less time with them.

When children were thought to look like dad at birth, the fathers also shared more parental tasks and in-kind support, by providing items for the child.

Each parent was asked separately about paternal resemblance. About two-thirds of couples agreed on whether the baby looked like the father. The researchers used data from the Fragile Families and Child Well-being Study, with births from 1998 to 2000, and focused on 715 families with newborns that lived with only the mother.

While the study's conclusion refers specifically to babies living only with their mother, that is a growing population in the U.S. According to U.S. census data, the percentage of children living with only their mother nearly tripled from 1960 to 2016, to 23% from 8%, while the percentage of children living with only their father grew to 4% from 1%. But Dr. Polachek says that emphasizing the similarities between father and child may help children fare better in any kind of family.

Other research on the effects of paternal resemblance has reached various conclusions. A study based on a polygamous population in rural Senegal found that fathers who felt they looked and smelled similarly to their children invested more of their resources in those children. Another study examining two-parent families found that fathers felt emotionally closer to children that most resembled them but did not spend more time with them.

**Ms. Dizik is a writer in Chicago. She can be reached at reports@wsj.com.**

# The Future of Hospitals



crease in blood-sugar levels for participating patients, "and we are scaling the program up as fast as we can."

## HELP FROM AFAR

More hospital systems are reducing the need for large hospitals staffed by high-level specialists by investing in telemedicine. This technology lets doctors in one or more central hubs monitor and care for patients in widely dispersed intensive-care units, such as stroke victims and premature newborns.

For instance, specialists using two-way video and audio technology can monitor and recommend care for newborns in multiple neonatal units from one hub, while a patient with a rash or wound needing special care can use Skype or FaceTime to consult with a specialist from their local doctor's office. Telemedicine also allows local practitioners to consult remotely face to face with experts in big medical centers.

With 179 hospitals, HCA Healthcare Inc. still sees demand for more hospital capacity in its markets, adding 1,350 inpatient beds over the past three years, with plans for 2,000 more in the next three years. But last year, HCA also provided 115,000 telehealth consults, including for hospitals it doesn't own.

Intermountain Health Care, based in Salt Lake City, with 22 hospitals in Utah and one in Idaho, uses telemedicine for patients in its more far-flung locations. In Utah, smaller rural hospitals can connect emergency-department patients with crisis-care workers in Salt Lake City. Intermountain Medical Center also offers remote outpatient psychiatry consults, as well as guiding local treatment of wounds.

"We aren't interested in building more bricks and mortar, but are leveraging technology to expand our reach and our footprint," says Jim Sheets, Intermountain Healthcare vice president of outreach services.

**Ms. Landro, a former Wall Street Journal assistant managing editor, is the author of "Survivor: Taking Control of Your Fight Against Cancer." She can be reached at reports@wsj.com.**

Continued from page R1  
much swelling from fluid buildup.

At the end of a month, she was discharged from the program. "We were so impressed that they could do all the same things they did in the hospital and have my mother be comfortable...with family and familiar surroundings," says her daughter, Debbie Camaratta.

## BUILD SMALLER FACILITIES

To offer services and expand in locales where it doesn't make sense to build a new hospital, health systems are building free-standing emergency rooms and microhospitals, commonly called neighborhood hospitals. The scope of services varies, but microhospitals usually include emergency rooms and beds for short-stay recovery.

Houston-based Emerus Holdings Inc. partners with big health systems to open microhospitals. Commonly called neighborhood hospitals, they typically anchor a two- or three-story "healthplex" buildings with emergency care, labor and delivery, surgical procedures and lab and radiology services.

Typically, 92% of patients who come to the microhospitals are treated and sent home in an average of 90 minutes, and 8% are admitted overnight for care such as intravenous-medication administration, according to Chief Executive Craig Goguen. If need be, patients can be transferred to higher-level care.

Michigan Medicine, the academic medical center of the University of Michigan, is completing a nearly 300,000-square-foot center in Brighton, Mich., which will house more than 40 specialty services for adults and children, cancer treatment, operating rooms and a short-stay unit. Eventually, most patients who aren't acutely ill "will be getting care in an outpatient center that can do everything short of admitting you, and maybe just watch you overnight," says David A. Spahlinger, president of the University of Michigan health system.

Ochsner Health System, Louisiana's largest nonprofit academic health system, has 30 owned, managed or affiliated hospitals. President and Chief Executive Warner Thomas says

To improve health and reduce hospitalization from diabetes, Geisinger Health System runs a Fresh Food Farmacy (left) for patients in Shamokin, Pa. In Midvale, Utah, near Salt Lake City, Intermountain Health Care's telemedicine center links small hospitals to big-hospital expertise.

80% of its capital expenditures are going to outpatient clinics, and "I don't see us building new hospitals."

In the Baton Rouge area, for example, in addition to a recently opened outpatient cancer center, it is developing a medical office building with more primary-care and diagnostic and specialty clinics. Attached to the building will be a 10-bed inpatient hospital and surgical center, which Mr. Thomas says will offer procedures such as knee replacements requiring stays of 24 hours or less.

## FIND NEW USES FOR OLD HOSPITALS

In some cases, health systems are taking existing hospitals and turning them into specialized facilities.

After buying the River Parishes Hospital in LaPlace, La., three years ago, Ochsner joined with a provider of psychiatric and addiction treatment to convert the hospital to an inpatient psychiatric facility to provide services for mental-health disorders. Emergency care once provided at River Parishes is now offered at a new medical complex including 24/7 emergency services with 13 beds and on-site lab and radiology.

In New York, after Mount Sinai Health System's 2013 acquisition of Continuum, a network of community hospitals, it no longer made sense to operate all of them as full-service hos-

pitals, says Kenneth L. Davis, Mount Sinai's president and chief executive.

The focus now has been on converting the facilities to centers for specialty care, while continuing to ensure that each hospital can handle emergencies and other community needs, Dr. Davis says. The former Roosevelt Hospital, on Manhattan's West Side, for example, has been rebranded as Mount Sinai West, specializing in orthopedics, neurosurgery and complex ear, nose and throat cases, as well as mother-and-child services.

## REACH OUT TO THOSE AT RISK

The population-health strategy at Geisinger Health System includes identifying groups who can benefit from programs to improve health and avoid hospitalization, such as diabetics whose blood sugar isn't well controlled.

In Shamokin, Pa., for example, about 50% of the population is predisposed to diabetes, mostly due to obesity, and one in three residents is considered "food insecure." A healthier diet can lead to improvement in the disease. In a pilot program, Geisinger established a Fresh Food Farmacy, prescribing fruits, vegetables, lean proteins and whole grains, and providing them free to patients and families who need assistance, along with diabetes education, cooking tools and recipes.

Dr. Feinberg says Geisinger has seen a de-

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## JOURNAL REPORT | HEALTH CARE

# When Children Anger Easily

Extreme irritability isn't just disruptive. It can be unhealthy.

BY ANDREA PETERSEN

EVERY CHILD IS crabby sometimes. But for some children, the problem is a lot greater than occasional crabiness.

For these children, the irritability is so constant and severe that it causes serious problems at home and school. What's more, a high level of irritability in childhood often is a predictor of other mental-health problems later: These children have a greater risk of developing depression and anxiety disorders and are more likely to later have suicidal thoughts, research has found.

Now researchers are starting to home in on what is going on in the brains of irritable children and develop new treatments. These include a computer game that teaches children to interpret ambiguous facial expressions in a more positive way, so that they're less likely to mistakenly see anger in others' faces and react to it, and an adaptation of cognitive behavioral therapy that slowly exposes children to frustration and helps them deal with it in healthier ways. Cognitive behavioral therapy is a talk therapy that aims to change the thoughts and behaviors that fuel people's mental-health problems.

Some researchers are also targeting irritability directly by adapting other existing therapies for childhood psychological problems, like dialectical behavioral therapy, a version of cognitive behavioral therapy that focuses on developing skills to regulate emotions and reduce distress.

## 'Any little thing'

Researchers define irritability as an increased proneness to anger. "These are the kids who wake up on the wrong side of the bed every day and any little thing sets them off," says Amy Kran Roy, an associate professor of psychology at Fordham University in New York. Scientists estimate that 3% to 5% of children are chronically and severely irritable.

Irritability itself isn't a psychiatric diagnosis, but it is a component of several disorders, including generalized anxiety disorder and oppositional



STEVE SCOTT

defiant disorder. It is also often seen in children with attention-deficit hyperactivity disorder, or ADHD. Irritability is the core symptom of disruptive mood dysregulation disorder, or DMDD, a diagnosis introduced in 2013 in the Diagnostic and Statistical Manual of Mental Disorders.

Children with DMDD have "severe recurrent temper outbursts" at least three times a week, the manual says. Be-

## One treatment exposes children to things that anger them, like chores.

tween tantrums, they are in a grouchy mood most of the time. The outbursts also aren't developmentally appropriate. Preschoolers, for example, typically have temper tantrums much more often than 10-year-olds.

But there are few treatments for irritable children. They are sometimes given antidepressants or, especially those who have a diagnosis of ADHD, stimulants. Now, researchers at the National Institute of Mental Health are testing two new nondrug treatments.

One of these treatments uses a simple computer game to teach children to interpret facial expressions in a more

positive way. When irritable children see ambiguous expressions on people's faces, they tend to see the faces as angry and threatening, and then they respond with anger, says Melissa A. Brotman, director of neuroscience and novel therapeutics at the Section on Mood Dysregulation and Neuroscience at the NIMH, one of the therapy's co-developers.

## Reading ambiguity

In the treatment, children are shown pictures of faces. Some have happy expressions, some have angry ones, and some faces feature composites of the two expressions on a continuum from mostly happy to mostly angry.

Children are first tested to see at what point on the continuum they label a face happy versus angry. Then, during the treatment, children see each picture again and are asked to say whether the face is happy or angry by pushing a button. The computer tells them they are "right" or "wrong." The training gradually pushes children to see more of the ambiguous pictures as happy.

Research on the treatment's efficacy is still in its infancy. In a small study published in 2016 in the Journal of Child and Adolescent Psychopharmacology, 14 children with DMDD who got four sessions of training had reduced symptoms one week after the treatment ended and

parents reported that they were less irritable. The NIMH is currently conducting a larger randomized, placebo-controlled clinical trial. The study also aims to uncover what is going on in the brain of irritable children and what might change during treatment: Participants will undergo brain scans before and after treatment.

## Taking a step back

In the other new NIMH therapy, researchers are using the principles of exposure therapy that is often used to treat anxiety disorders. In this new therapy, children who are irritable are exposed to frustrating, anger-inducing situations.

In sessions led by a therapist, children start with experiences that make them mildly angry and move up to those that elicit greater anger. Dr. Brotman, the creator, says typical situations include being told to do chores or to stop playing a videogame to do homework. For one patient who became enraged when asked to fold laundry, she had the child's mother bring in a load of laundry to every therapy session. "First he had to just look at the laundry, then take a sock or two and put it aside," Dr. Brotman says. With the gradual exposure, children "learn they can tolerate the discomfort," she says.

**Ms. Petersen is a writer in New York. Email her at [reports@wsj.com](mailto:reports@wsj.com).**

# THE IMPACT OF MUSIC ON WORKOUTS

BY EMILY HOLLAND

Listening to "Eye of the Tiger" or Katy Perry's "Roar" when you work out probably isn't going to make you perform any better. But it might get you to take some more risks at the gym.

Those are the findings of a team of researchers who looked at the effect of motivational music on athletic performance. In the study, 150 participants between the ages of 18 and 35 were randomly divided into three groups: The first listened to a motivational playlist of their choice, the second listened to one chosen by the researchers, and the third didn't listen to any music at all.

The researchers—Paul Elvers of Goldsmiths, University of London and the University of Hamburg; and Jochen Steffens of Technische Universität Berlin—had the participants take a basketball shot and fill out a questionnaire to see how they evaluated themselves on measures like self-confidence and self-esteem.

## Taking a step back

Then the participants could shoot from distances of their choosing and get points for successful shots. Participants would get more points for taking more risks—defined as taking and making shots they had failed at frequently during the first phase of the game, which usually meant at distances farther from the basket.

The researchers found that motivational music didn't help the participants shoot any better or make them report feeling any better about themselves—unless they were already successfully making shots, in which case their self-esteem increased. "This suggests that there needs to be congruity between what the music expresses and the listener feels" for the music to enhance people's self-esteem, Dr. Elvers explains.

But listening to motivational music did encourage people to take more risks, and that led to higher point rewards.

Researchers were surprised to learn that music didn't improve people's shooting ability, despite previous studies indicating that music could boost performance. One reason, Dr. Elvers says, could be the complexity of basketball, which requires motor coordination and accuracy. Previous studies had focused on endurance sports. "Tasks that require high skills, as was the case in our study, may be less malleable by external influences," Dr. Elvers says.

## A gender divide

The study also showed that the motivational music had a more pronounced effect on men than it did on women, pushing men to take more risks.

Why? Dr. Elvers believes it comes down to different motivations: He says that other studies have shown that men are more likely than women to take risks when incentives or physicality are involved.

Another factor that boosted risk taking among men and women alike: selecting their own playlists. "Since people are more motivationally responsive to stimuli that are associated with pleasure"—such as music they enjoy—"or danger, this presumably contributed to framing risky choices as potentially rewarding," Dr. Elvers says.

**Ms. Holland is a writer in Canton, Ohio. She can be reached at [reports@wsj.com](mailto:reports@wsj.com).**

# For Liver Transplants, Less-Invasive Donor Surgery

Advocates say the method could get more living donors to come forward

BY DANA WECHSLER  
LINDEN

THE PATIENT IN the operating room was Stanley Karetta, a 29-year-old Army captain who had agreed to donate half of his liver to his wife's father.

The older man had a liver disease so advanced that his only hope of survival was a transplant. But with about 14,000 people on the nation's waiting list for donor livers, most of which come from deceased donors, there was little chance he would be approved for one in time.

His only option was to find a living donor willing to give up part of his or her liver for transplant. In this procedure, surgeons cut off part of a healthy person's liver and transplant it into a patient suffering from end-stage liver disease. With the liver's extraordinary ability to regenerate, both the donor and the recipient typically enjoy a full recovery.

## Rarely done

This type of procedure isn't without risk, however. And because doctors are often reluctant to subject healthy people to such a major operation, and few living donors step forward, it is rarely performed.

Adding to the challenge in Capt. Karetta's case, Adel Bozorgzadeh, chief of organ transplantation at UMass Memorial Medical Center in Worcester, Mass., had decided on a surgical approach still in its infancy. Rather than making a large incision in the abdomen, he would use laparoscopy, a minimally invasive—but technically challenging—technique.

Surgeons often use minimally invasive techniques to repair heart defects and knees and to remove gallbladders,

ovaries and esophageal cancer. The approach can lead to faster recovery, less pain, and fewer wound infections and incision hernias.

But only a handful of surgeons in the U.S. are doing liver donations with laparoscopy, both because ethical concerns about operating on live donors make them cautious about trying a new approach and because this particular surgery is technically challenging.

In the U.S. last year, just 367 of 8,082 liver transplants came from live donors, says the Department of Health and Human Services' Organ Procurement and Transplantation Network. Just a fraction of those were done with laparoscopy.

If surgeons performed more live-donor liver transplants using laparoscopy, the procedure's supporters say, it would encourage more donors to step forward. And that could reduce the thousands of deaths in the U.S. each year of people waiting for a liver to become available from a deceased donor, the more usual method. Each day, about 22 people on the waiting list for a liver transplant receive transplants, while about seven die or are removed from the list because they have become too near death for surgery before a liver becomes available, the organ network says.

## A challenging operation

However it is done, liver-donation surgery is considered one of the most challenging operations there is. It is sometimes said to be like trying to cut a big piece of watermelon without disturbing any of the seeds inside. Minuscule blood vessels and bile ducts run throughout the organ. The surgeon has to divide them with precision, and there is no room

for error. Deaths of liver donors are rare, but do occur in an estimated 1 out of 500 cases.

Open liver surgery generally involves an L-shaped incision halfway across the donor's stomach from hip to belly button and all the way up the chest. The incision can be as much as a foot and a half long and requires cutting through core abdominal muscles.

The laparoscopic approach, by contrast, makes only small incisions. Shorter recovery times mean donors can return to their normal lives faster, including heavy physical work.

Benjamin Samstein, chief of liver transplantation at NewYork-Presbyterian/Weill Cornell Medical Center, has led the way in bringing laparoscopic liver-donor surgery to the U.S. Last year his team did 12 of its 19 donor operations using a fully laparoscopic approach.

Dr. Samstein says his aim is to greatly increase access to liver transplants by making it easier to be a donor. He says the number of live kidney donors nearly doubled in 10 years when laparoscopic donor surgery was introduced in 1995, an increase experts believe was due in large part to laparoscopy. Live kidney donors used to be almost always first-degree relatives—par-



NEW YORK-PRESBYTERIAN AND WELL CORNELL MEDICINE

How incisions for laparoscopic liver-donor surgery (left) compare with traditional surgery (right).

## Donors Needed

About 14,000 people are currently on the U.S. waiting list for a liver transplant. In 2017:

**8,082**

Number of liver transplants

**1,189**

People who died while on the waiting list

**1,329**

People removed from waiting list because they became too ill

**367**

Live-donor transplants

Source: Department of Health and Human Services

THE WALL STREET JOURNAL

Open-surgery patients took, on average, 63 days to return to work, while donors who had laparoscopic surgery took 34 days, the study found.

But even among surgeons who believe it's crucial to encourage more living donors, some argue that urging doctors to perform laparoscopy isn't the way to do it.

## The whole picture

"We have to concentrate on the whole picture, not on one technique or the other," says Robert Fisher, chief of transplantation at Beth Israel Deaconess Medical Center in Boston. Dr. Fisher says he isn't opposed to laparoscopy but feels most comfortable sticking with the techniques he has been using safely. Transplant specialists can do more to "gain society's trust" in conventional surgery, he says, and advanced pain-control methods can be almost as effective as laparoscopy at reducing recovery times.

To others, though, the potential for increasing the supply of liver donors is a compelling argument for the laparoscopic approach. "The big question in everyone's mind," says Dr. Bozorgzadeh of UMass Memorial Medical Center, "should be, 'Is it OK to let thousands of people

die a year waiting for a liver transplant while we say there are no organs?" No, it is not, he says, "because there are organs. They're in living donors, and if you learn to do this safely the shortage is partially addressed."

Dr. Bozorgzadeh's surgery on Capt. Karetta last summer was only his sixth laparoscopic liver donation. Dr. Bozorgzadeh and his team, including Demetrius Litwin, an expert in minimally invasive surgery, inserted a small needle below Capt. Karetta's rib cage to inflate his abdominal cavity with carbon-dioxide gas.

They then made four slits of less than a half-inch each, through which they inserted surgical tools and a camera, and a 4-inch incision, called a hand port, through which Dr. Bozorgzadeh slipped a hand that eventually brought out the portion of liver going to the captain's father-in-law in the operating room next door.

Capt. Karetta's surgery was completed July 11. He left the hospital after six days, taking only ibuprofen for the pain, and returned to work on Aug. 17, about five weeks after the surgery. The median time for patients to return to light work after open liver-donation surgery is nine to 12 weeks, according to a 2017 paper in *Nature Reviews Gastroenterology & Hepatology*. By October, Capt. Karetta was wearing his usual equipment for field exercises, including body armor and a rucksack, which together weighed about 65 pounds.

Asked whether his relationship with his father-in-law has changed, he says no, but then chuckles. "He did send me a birthday card on his birthday, saying thank you inside. I think he plans on sending me one for the rest of his life."

**Ms. Linden is a writer in New York. Email her at [reports@wsj.com](mailto:reports@wsj.com).**

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## JOURNAL REPORT | HEALTH CARE

# Researchers Look to Enlist Patients as Partners

**Scientists say it's crucial if they want to get the data they need**

BY AMY DOCKSER MARCUS

JOEL NOWAK, a 66-year-old Brooklyn, N.Y., resident with metastatic prostate cancer, knows a lot about cancer research. Over the years, he has contributed blood, saliva and medical information to studies in hopes of helping investigators battle the disease.

But something has nagged at him. Almost always, Mr. Nowak says, investigators want data, "but you never hear from them again."

## Some studies urge patients to contact the researchers directly with ideas and questions.

Then he was asked to join a new endeavor that is trying to change that—by making participants into partners.

The Metastatic Prostate Cancer Project, launched by the Broad Institute of MIT and Harvard and the Dana-Farber Cancer Institute in Boston, is trying to give participants a bigger stake in studies by asking them for input, inviting them to events and keeping them updated on progress.

The effort is part of a broader movement seeking to change the culture of research studies. Scientists say they have little choice—the field of genomics is getting too complex for them to keep doing things the old way.

To better prevent or treat disease, investigators must

build large databases of genetic data, along with personal information—from medical records to patient reports about treatments. The aim is to identify genetic connections that may better predict outcomes and guide treatment. To get there, though, patients need to stay engaged in the research for the long haul, so that scientists have a larger trove of data with which to work.

One way to do that, says Eliezer Van Allen, an oncologist and prostate-cancer researcher who is leading the Metastatic Prostate Cancer Project, is to forge a relationship with participants. That connection, he says, should be built around the question, "What does the patient get out of it?" Increasingly, the answer is access to researchers, a say in how the study is run and an earlier sharing of results.

### Making contact

Previous studies have looked at large numbers of people over a long period of time, including the Framingham Heart Study to identify risk factors for cardiovascular disease. But there are key differences, including advances in sequencing technology, the existence of social media and a greater emphasis on giving participants a say in many aspects of the study.

The prostate-cancer initiative drew on prior projects focused on metastatic breast cancer and angiosarcoma, a cancer of the inner lining of blood vessels.

The studies use a number of methods to connect with participants and keep them involved. For one, patients are encouraged to reach out di-



Joel Nowak is participating in the Metastatic Prostate Cancer Project, which asks him and other patients for input.



Eliezer Van Allen, who is leading the prostate-cancer study, says researchers need to ask, 'What does the patient get out of it?'

rectly to the scientists with questions and ideas through email, Twitter and Facebook.

Patients are also invited for a tour of the Broad Institute to see its gene-sequencing machines or to meet and share ideas with researchers, says Nikhil Wagle, director of the umbrella initiative.

Dr. Wagle thinks the approach has led to unusually fast and large enrollment. More than 4,000 people enrolled in the breast-cancer project and over 290 in the angiosarcoma initiative. In just a few weeks, more than 200 signed up for the prostate-cancer study.

The cancer projects aren't the only studies trying to forge a more personal connection. The National Institutes of Health's All of Us initiative—which seeks to gather genetic and other health data—"is still trying to figure out ways we can build a sustained relationship with a million people for decades," says program director Eric Dishman.

One way: making participation easier. Volunteers can sign up through an 800 number.

Since many people can't get off work to give samples, the NIH works with drugstores or other centers to collect samples at night and on weekends.

Last month, in a blog post, NIH Director Francis Collins asked readers to submit questions online that they want addressed in the All of Us project. Dr. Collins says ideas will be discussed at a workshop in March, and participants will help set research priorities. More than 400 ideas have been submitted, including suggestions to study genetic and environmental factors that might influence hearing-loss progression in aging adults.

### Sharing the effort

Keeping participants up-to-date is a concern for researchers. It is an issue close to home for Corrie Painter, principal investigator of the angiosarcoma project at the Broad and one of the creators of all three of the institute's cancer initiatives.

Dr. Painter draws on her experiences as a cancer survivor and research participant in

shaping interactions with patients. She says that after her diagnosis, like many patients, she felt frustrated at being treated more "as passive recipients of care rather than part of the process of discovery."

She participated in two research studies, and "I don't have a clue about the results."

When she organized her own projects, patients told her they wanted data shared publicly with interested researchers, without waiting for investigators to mine the information and publish papers, which can take years.

Now, she says, investigators tweet data as it becomes available and email quarterly updates to participants. Data from 78 patients was released for the first time last October in the breast-cancer project, and data from the angiosarcoma project is expected to be publicly available in the coming months. Investigators plan regular data releases every six months, they say.

Meanwhile, some patients are taking the opportunity to play a larger role in shaping

studies. Mr. Nowak, for one, joined a patient advisory council of the prostate-cancer project. During a meeting at the Broad, researchers showed a prototype for the saliva kits that were going to be mailed to patients to collect samples.

The advocates told researchers to take "Metastatic Prostate Cancer Project" off the box. "There are a lot of men who don't want other people to know they have cancer," says Mr. Nowak.

He says he observed some of the potential of the collaborative approach earlier this month at a meeting about prostate and other cancers. A researcher suggested that Mr. Nowak and another patient advocate stand by the scientific poster about the project and help field questions.

Mr. Nowak enjoyed his new role. "I think some people didn't even realize who we were," he says.

**Ms. Dockser Marcus is a Wall Street Journal reporter in Boston. Email her at amy.marcus@wsj.com.**

# Dietary Advice From the Gut

Startups say the microbiome varies from person to person—and so should the most effective menu

BY CHARLES WALLACE

FOR ALMOST A decade, researchers have been sequencing the bacteria that live in the human gut. Now, some startups are claiming they can use that technology to help people diet more effectively—and in at least one case, scientists say the approach is showing some promise.

The companies are aiming to address a problem identified in recent years: Standard nutritional advice doesn't work for everyone. Research shows that people fed identical foods can have vastly different blood-glucose responses, which may explain why one person can eat doughnuts daily without gaining weight and another can't.

While some of this variability is due to genetics, there is growing evidence that the 100 trillion organisms that live in the human gut—known as the microbiome—also play a role. Composed of more than 8,000 different types of bacteria, vi-

ruses and fungi living together in a complex ecosystem, the gut microbiome varies from person to person and is affected by a variety of factors, such as sleep, exercise, antibiotics use and, most important, diet.

### The glucose response

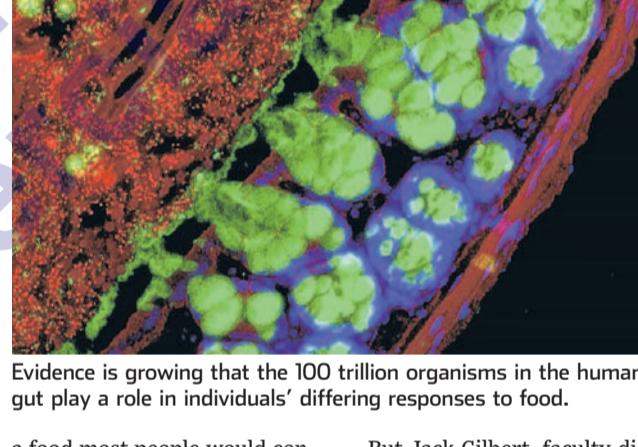
Thanks to advances in genetic sequencing, researchers increasingly believe that these bacteria affect the body's ability to harvest energy from food, a measure known as the post-prandial glucose response, or PPGR. If untreated, high blood glucose is a risk factor for a host of metabolic conditions, including obesity and diabetes.

**DayTwo** Inc., an Israeli startup, and **Viome** Inc., a company backed by Silicon Valley entrepreneur Naveen Jain, say they can help people normalize their blood sugar by analyzing the mix of bacteria that influence their glucose response. Customers send in a stool sample, from which their microbiome is sequenced, along with other information,

including a brief medical history, daily activity levels and blood-test results. The companies send back individually tailored diets via an app.

Until now, most diets have been based on the glycemic index, a half-century-old list that ranks foods based on how they affect blood sugar. While this index is widely used by doctors to provide dietary advice, it is based on an average response and has been found wanting because many people aren't average.

DayTwo, which charges \$329 for its kit, bases its dietary recommendations on research at the Weizmann Institute of Science in Rehovot, Israel. In 2015 the institute produced a double-blind, peer-reviewed study that showed that individual glucose responses to the same exact meals varied dramatically. Using a test group of 800 people, the study showed that some people produce less glucose after eating a bowl of ice cream than they do after eating a portion of sushi,



Evidence is growing that the 100 trillion organisms in the human gut play a role in individuals' differing responses to food.

a food most people would consider to be more healthful.

"We did a dietary intervention that showed that for different people, even people who were prediabetic, we could significantly lower their PPGR," says Eran Segal, one of the Israeli researchers and a consultant to DayTwo.

Until very recently, many doctors were hesitant to base any nutritional advice on the microbiome, saying researchers still didn't know what each type of micro-organism does exactly, how they interact with other bacteria, and whether they cause disease or are only a biomarker of disease.

But Jack Gilbert, faculty director of the University of Chicago's Microbiome Center, says he now believes it's possible to give some dietary advice based on microbiome analysis, even though the microbiome's role isn't fully understood. "This is less about trying to identify the particular mechanisms of the microbes and more about identifying the potential correlated association between the microbial communities and how they positively associate with blood-glucose levels and response to different types of food," he says.

Dr. Gilbert, who isn't connected to DayTwo, says he has put his own father, who is prediabetic, on the program.

The American Academy of Nutrition and Dietetics, which as recently as last year expressed reservations about microbiome-based diets, also has "evolved" its position, says Sonya Angelone, a San Francisco nutritionist and a spokeswoman for the academy. "I think this is the future of really good health care," says Ms. Angelone, though she suggests pairing such data with advice from a dietitian.

Rob Knight, a professor of pediatrics at the University of California, San Diego, and faculty director of the university's Center for Microbiome Innovation, says the Weizmann research underlying DayTwo is "very solid and rigorous, which puts them ahead of the curve." But, he adds, "I think it is still very challenging to extend results like that beyond the population you have studied directly."

Perhaps because of these concerns, DayTwo, which bases its dietary advice on an algorithm licensed from the Weizmann Institute that connects microbiome composition with predicted glucose responses, has joined with Mayo Clinic to duplicate the Israeli study on 329 people in the U.S. The goal

is to ensure that the diet advice works as well for Americans, whose genetics and diet are different from many Israelis.

Nicholas Chia, assistant director of the Center for the Individualized Medicine Microbiome Program at Mayo Clinic, says the results of the follow-up study were close to the Weizmann's Institute's findings. "That's a pretty good sign that we've replicated the Israeli study and that it continues to work," he says.

### A competing approach

Viome, meanwhile, uses gene-sequencing technology to analyze not only bacteria but also viruses and fungi in the gut. The Bellevue, Wash., firm, which charges \$399 for its analysis, compares users' microbiomes with 800 individuals the company has preselected as healthy specimens. It gives broad advice on foods to eat or avoid to improve glucose response, enhance sleep and focus, and reduce anxiety.

Though Mr. Jain says Viome's sequencing technology, licensed from the Los Alamos National Laboratory in New Mexico, is superior to other technologies, Viome's dietary advice isn't yet based on peer-reviewed research. Mr. Jain says Viome is conducting a microbiome study on 2,000 people that should be completed later this year.

Drs. Gilbert and Knight and Ms. Angelone declined to discuss Viome, saying they hadn't seen its studies. A spokesman for Viome says hundreds of testimonials are evidence that Viome's service is working.

Other companies offer sequencing of the microbiome, but they focus on how an individual's gut bacteria differ from the average, not on helping people understand which foods elevate their blood glucose. Some sell probiotics that they say improve the mix of bacteria, though many experts caution that the rapid growth in marketing and use of probiotics may have outpaced scientific research for many of their proposed uses and benefits.

As for microbiome-based diets, questions remain. Can these eating plans change a person's gut bacteria for the better, and if so, do people need to measure how much it has changed? "The right diet might change over time as the bacteria change," says Dr. Knight at UC San Diego.

**Ms. Wallace is a writer in New York. He can be reached at reports@wsj.com.**

## FOOD PICKS TAILORED TO YOUR GENES

BY LISA WARD

What if you could take a blood test to determine the best diet for you?

Right now most dietary guidelines are developed by looking at an average population. But not everyone responds to a given diet the same way. Some

ethnic groups, for instance, are more prone

than others to high blood pressure, abnormal cholesterol levels and excess body fat on certain diets.

New research raises the tantalizing possibility of creating personalized diets.

The study, published by the journal *Genetics*, suggests genes play a strong role in influencing how our bodies respond to diets. Based

on the results, the authors hope that someday people will be able to take a blood test to determine if a given diet is likely to work for them.

"The idea that as long as you stick to a certain diet you'll do well is probably not the complete story," says David Threadgill, the study's co-author and a professor in the departments of veteri-

nary pathobiology and molecular and cellular medicine at Texas A&M University.

In the study, mice with different genes were fed popular human diets: a typical North American diet, high in refined carbohydrates and fat; a Mediterranean diet, high in fiber; a Japanese diet, which for mice consisted of rice and green tea extract; and a ketogenic diet, based on the diet eaten by the Maasai in Kenya, which is high in fat and lacks carbohydrates entirely.

Researchers collected data on measures of metabolic health, such as body-mass index, glucose regulation, cholesterol levels and liver function.

Among the mice tested, each genetic subgroup had a unique response, with certain diets working for some groups, but not others. The mice generally did worst on the American diet and best on the Japanese diet, just like an average group of people.

But what was really striking, Dr. Threadgill says, "is that every strain had a unique pattern where it was optimally healthy."

For example, one strain, when put on the ketogenic diet, overate and then became obese and developed metabolic syndrome,

while another strain also overate on the ketogenic diet, but didn't gain weight.

The mice in that second group, in effect, could eat whatever they wanted without getting heavy. Rather than conserving energy, their bodies burned it off by raising their body temperature.

The researchers next are trying to identify genetic factors that allow one strain to overconsume without health effects, and to identify the specific genes causing each mouse strain to respond the way it did. "That will then allow us to actually go into human populations and start looking at how individuals respond based on their genotype," says Dr. Threadgill.

The scientists are also looking for biomarkers that could enable doctors to use a blood test to predict a diet's effectiveness. Dr. Threadgill cautions, however, that scientists don't know enough yet to use genetic testing to recommend a diet. He believes that is several years away.

"It may happen sooner," he says, "but it's going to require a more in-depth understanding."

**Ms. Ward is a writer in Mendham, N.J. She can be reached at reports@wsj.com.**

# AI Helps Identify Those at Risk for Suicide

The early results are promising, but critics raise privacy concerns

BY AILI MCCONNON

**IN LATE JANUARY**, a 60-year-old woman in northern Argentina posted on Facebook: "This can't go on. From here I say goodbye."

Within three hours, a medical team reached the woman and saved her life—thanks in part to advances in artificial intelligence.

The post caught the attention of Facebook's AI system, which is programmed to spot potential suicidal language. The system decided it was an emergency and passed it along to moderators for review, who then alerted authorities in Buenos Aires. Before long, first responders were on the scene. (Facebook wouldn't comment on the incident.)

"Artificial intelligence can be a very powerful tool," says Enrique del Carril, the investigations director in the district attorney's office in Buenos Aires. "We saved a woman far away in remote Argentina before something terrible happened. That is incredible."

Facebook's suicide-alert system is just one of many efforts to use artificial intelligence to help identify people at risk for suicide as early as possible. In these programs, researchers use computers to comb through massive amounts of data, such as electronic health records, social-media posts, and audio and video recordings of patients, to find common threads among people who attempted suicide. Then algorithms can start to predict which new patients are more likely to be at risk.

## Machine assistance

Machines wouldn't replace humans making diagnoses about suicidal behavior. But these tools—most of which are still experimental—could eventually help clinicians screen patients more quickly and accurately, perhaps even while a doctor is still doing an interview.

At the same time, some critics have raised concerns about the privacy rights of patients as machines tap into their personal data, as well as possible mistakes in how the information is interpreted.

Using technology to detect suicidal behavior is part of a larger ef-

fort to use AI to discover and treat a range of mental-health issues including depression, schizophrenia and bipolar disorder.

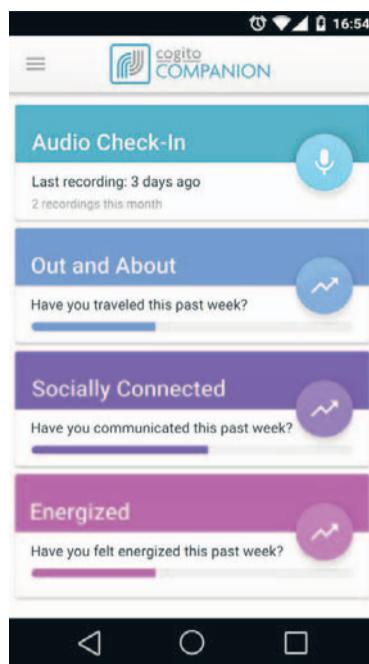
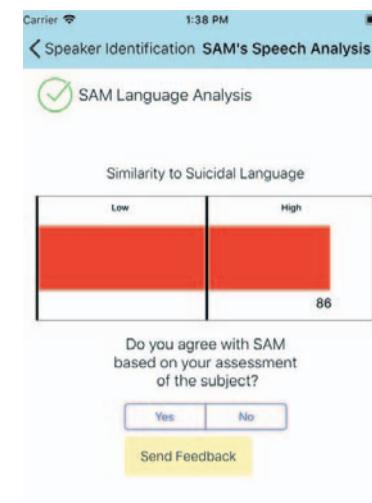
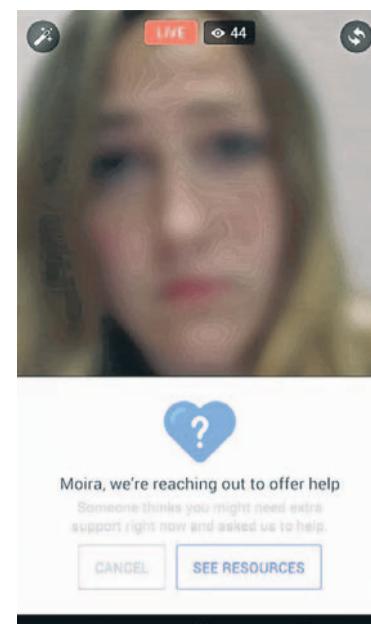
But suicide-detection research—in the public and private sectors—is further along than other mental-health efforts. In part, that's because suicide is on the rise, particularly among teenagers. Plus, traditional ways of predicting suicide have been found lacking. In fact, a recent meta-analysis by Florida State University researchers and others, published in the journal Psychological Bulletin, found that the traditional approach of predicting suicide, which includes doctors' assessments, was only slightly better than random guessing.

By contrast, early tests of AI have shown markedly better results. A follow-up study by several of the same researchers, published in the journal Clinical Psychological Science last year, used AI to analyze the medical records of nearly 16,000 general hospital patients in Tennessee. The algorithms identified common traits among suicidal patients—such as a history of using antidepressants and injuries with firearms—and could predict with 80% to 90% accuracy whether someone would attempt suicide in the next two years.

The results show AI can "model complex interactions among many risk factors" to decide who is most likely at risk, says Jessica Ribeiro, psychology professor at Florida State University focused on suicide prevention, and one of the researchers.

Other early tests combine analysis of medical records with real-life data, such as what people say to their clinicians and how they say it. John Pestian, director of computational medicine at the Cincinnati Children's Hospital, took this approach in a study published in 2016 in the journal Suicide and Life-Threatening Behavior. Dr. Pestian looked at 379 people in one of three categories: at serious risk for suicide; mentally ill but not suicidal; and a control group. The subjects filled in surveys and were interviewed and filmed.

An algorithm analyzed relevant patterns and could determine with up to 93% accuracy who was actually in the suicidal group versus someone



Facebook (left), the SAM app (center) and Cogito's Companion use AI in different ways to try to detect people at risk.

who was mentally ill but not at risk, or a control. Among other signs, the findings showed that mentally ill patients and control patients tended to laugh more, sigh less, and express less anger and emotional pain and more hope than those who exhibited suicidal behavior. All of which, Dr. Pestian argues, could only be gleaned from real-world interactions, not medical records.

## Analyzing audio

Dr. Pestian has used his AI research to develop an app called SAM that has been tested in Cincinnati schools and clinics. The app records sessions between therapists and patients, then analyzes linguistic and vocal factors to provide a real-time assessment of a patient at risk for suicide.

Another system with a similar approach: Cogito's Companion, developed by Cogito Corp. The system, which has been used with about 500 veterans, analyzes data from users' phones, such as the frequency with which they text or call; users also record short audio diaries that the system analyzes. Cogito says its app can detect depression and suicidal behavior with more than 80% accuracy.

Some private-sector efforts to identify suicidal behavior are already being used on a wide scale. In the past five years, AI-powered virtual as-

sistants such as Apple's Siri have started directing users to the National Suicide Prevention Lifeline, and offering to connect them, when they detect suicidal comments or questions.

Facebook has been working on suicide prevention for more than 10 years, but faced criticism last year for not doing enough after several users took their own lives and live-streamed the process. In November 2017, Facebook said that it had started to use AI to analyze people's posts and live streams in an effort to detect suicidal thoughts, and that its AI system now prioritizes particularly dangerous and urgent reports so that they are more quickly addressed by moderators. The company says that over a month in the fall of 2017, its AI system alerted first responders to intervene in 100 cases of potential self-harm.

"We're always looking to improve our tools," says William Nevius, a Facebook spokesman. "We know this is a new technology, and we're always looking for additional ways to help people."

## Potential roadblocks

But as companies get involved in the suicide-prevention efforts, they face a host of ethical questions. For one, there's transparency: Technology firms already have to deal with

concerns about the kinds of information they collect from users and what they do with it, and those debates will likely become even more heated as they handle sensitive mental-health information.

In fact, such questions of privacy may plague any research into suicide, some critics say. For medical AI systems to work well, they need access to a wealth of data from a variety of patients, but that can be tricky because of the perceived stigma of mental-health disorders, says Siddharth Shah, an industry analyst at research firm Frost & Sullivan.

Some efforts are under way to address that issue. For instance, Qntfy, an Arlington, Va., company, is recruiting people to donate data for study, and more than 2,200 people have done so to date. Identifying information is scrubbed out of the data before it's analyzed, the company says.

Finally, issues of nuance plague many AI efforts. Though AI may recognize a word, it may not comprehend the context. "Saying 'I hate this. I can't survive' is very different if you are saying it to a doctor versus venting on social media," says Adam Miner, a clinical psychologist and AI researcher at Stanford University.

**Ms. McConnon is a writer in New York. Email [reports@wsj.com](mailto:reports@wsj.com).**



A kiosk at St. Andrews medical school shows a reading of a poem from 'Tools of the Trade.'

# Doctors Use Poetry to Recharge

BY SIMON CONSTABLE

**WHAT IS A** good gift for a freshly minted physician? In Scotland, it is a book of poetry.

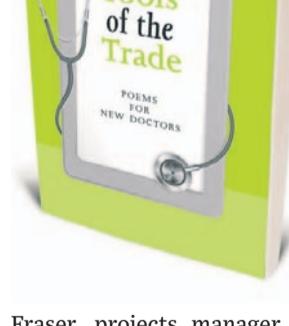
Each year, the 900 or so graduating medical students in Scotland receive a free copy of a poetry book titled "Tools of the Trade: Poems for New Doctors." It's a pocket-size book with fewer than 100 pages, so doctors can easily carry it while on duty. The poems are grouped into five themes designed to help young physicians: looking after yourself, looking after others, beginnings, being with illness, and endings.

The idea is to help young doctors navigate the stress of the vocation without forgetting the humanity of their patients. "I remind students in their first week that neglect [of patients] is a real consequence of disregarding the human aspect of what we do," says David Crossman, dean of the medical school at the University of St. Andrews in Fife, Scotland, and chief scientist for Scotland. "These poems just bring you back and help you understand who you are talking to."

The book came about after Lesley Morrison, a general practitioner and a tutor at Edinburgh University medical school, lost a friend. "I had a longstanding interest in medical humanities and how they can be used in education and

medicine," says Dr. Morrison. When her friend died, she says, "I said to myself I'd stop talking about it and do it."

She teamed up with the independent Scottish Poetry Library where she met Lilias



Fraser, projects manager at the library and one of the book's co-editors.

"Amazingly, we raised enough to print the first edition [in 2014] from individual donations," says Dr. Morrison. The second edition, published in 2016, was financially sponsored by the Royal College of General Practitioners (Scotland) and the Medical and Dental Defence Union of Scotland, a provider of indemnity insurance and advice for health-care professionals across the U.K.

"To be able to re-engage with the human side you need a catalyst," says Dr. Crossman, who recounts that during his medical training—long before

the book came out—he used to read poems himself. "I felt hugely energized by reading them," he says.

Some young doctors say the poetry book is helping them. Lewis Hughes, age 23, is currently in Dundee, Scotland, in a two-year rotation of clinical training. A poem he found very meaningful is Bernard O'Donoghue's "Going Without Saying," which affirms the value of simply telling someone how much we like them. He says it is heavily related to his work.

"Working in medicine lets you peek behind an odd veil into the reality of people's lives and deaths, warts and all," he says. "I took heart having read the second stanza, that even in the midst of what can be a gloomy journey, we can be a source of comfort for people where there is very little light by making their goodbye a fulfilling one."

Edinburgh University medical student Lekaa Rambabu, 20, also has found solace in the poems and reads them regularly at night before going to sleep. One she likes is "The Precious 10 Minutes" by Hamish Whyte, about the patient's perspective on talking with doctors.

"I don't feel rushed," the poem says. "It's a conversation. It all seems as it should be."

**Mr. Constable is a writer in Edinburgh, Scotland. Email [reports@wsj.com](mailto:reports@wsj.com).**

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