THE WALL STREET JOURNAL.

DOW JONES | News Corp * * * * * * TUESDAY, FEBRUARY 6, 2018 ~ VOL. CCLXXI NO. 30 WSJ.com ★★★★ $4.00

DJIA 24345.75 ▼ 1175.21 4.6% | NASDAQ 6967.53 ▼ 3.8% | STOXX 600 382.00 ▼ 1.6% | 10-YR. TREAS. ▲ 16/32, yield 2.794% | OIL $64.15 ▼ $1.30 | GOLD $1,333.00 ▼ $0.70 | EURO $1.2368 | YEN 109.12

What's News

Business & Finance

The Dow posted a record point decline, and stock indexes in the U.S., Europe and Asia gave up their gains for the year. The blue chips ended down 1,175.21 points, or 4.6%, at 24345.75. **A1**

◆ **Volatility roared back** into the stock market Monday, with the VIX index of price swings posting a record one-day increase. **B1**

◆ **Broadcom made** a sweetened bid for Qualcomm that valued the chip firm at $121 billion, but investors were wary it can seal a deal. **B1**

◆ **Lululemon said** its CEO resigned and that he had fallen short of the company's standard of conduct. **B3**

◆ **Samsung's de facto head** was freed from prison after a South Korean court cut his sentence for corruption. **B1**

◆ **Banks are shutting** branches at a record pace as they leave less profitable areas and teller use declines. **B1**

◆ **Sunday's Super Bowl** was the least-watched since 2009, with viewership falling 7.1% from last year. **B2**

◆ **Wells Fargo shares** slid 9.2% following Friday's Fed enforcement action that limits the bank's growth. **B10**

◆ **Wynn set up** a firm to handle a $7.5 million payment to a woman who accused him of forcing her to have sex. **B6**

◆ **Kroger is selling** its convenience-store business to privately held U.K.-based EG for $2.15 billion. **B3**

◆ **Lawyers for Uber** and Alphabet's Waymo faced off as a legal battle over driverless-car technology began. **B4**

World-Wide

◆ **A House panel voted** to release a Democratic memo that defends the federal probe into a Trump campaign associate, giving the White House five days to allow or reject its disclosure. **A1**

◆ **Trump again insisted** on funding for his promised border wall, as senators proposed an immigration bill without those funds. **A2**

◆ **The president attacked** Democratic leaders as unpatriotic in a speech in Ohio. **A4**

◆ **Syrian forces struck** northwest Idlib province, the last opposition stronghold. The assault included a chemical attack, activists said. **A8**

◆ **The U.S. and Russia said** they met treaty obligations to cut the number of strategic nuclear warheads. **A8**

◆ **The Supreme Court** refused to block a decision nullifying Pennsylvania's congressional map. **A3**

◆ **A judge in Michigan** sentenced Nassar to up to 125 years in prison on three additional sex-abuse charges. **A3**

◆ **The pope received** Turkey's Erdogan for a meeting that highlighted their objection to recognition of Jerusalem as Israel's capital. **A11**

◆ **The Paris terror suspect** appeared in a Belgian court but refused to answer questions about his role. **A11**

◆ **A signaling system** on the track where a deadly Amtrak crash occurred Sunday was being upgraded. **A3**

◆ **The Earth's ozone shield** may be thinning over populated areas, a study said. **A9**

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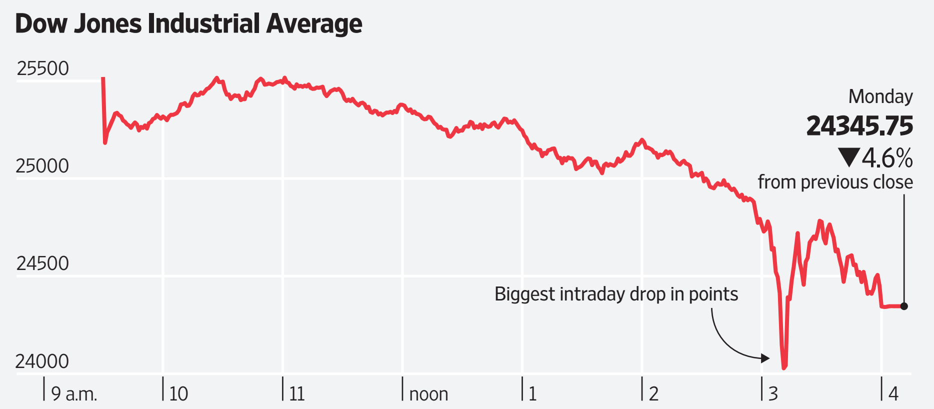
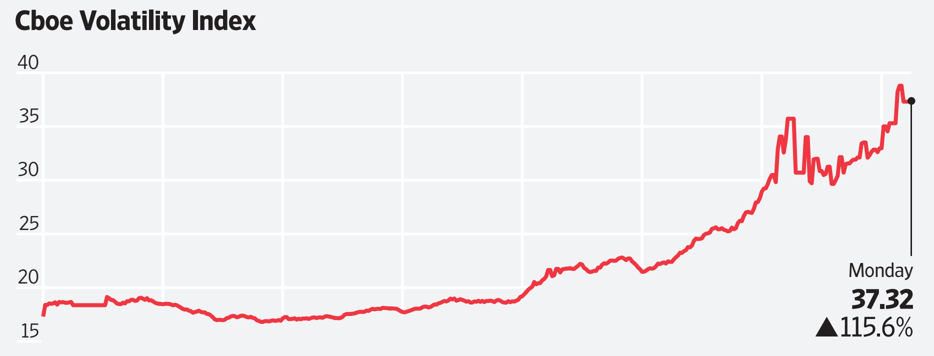
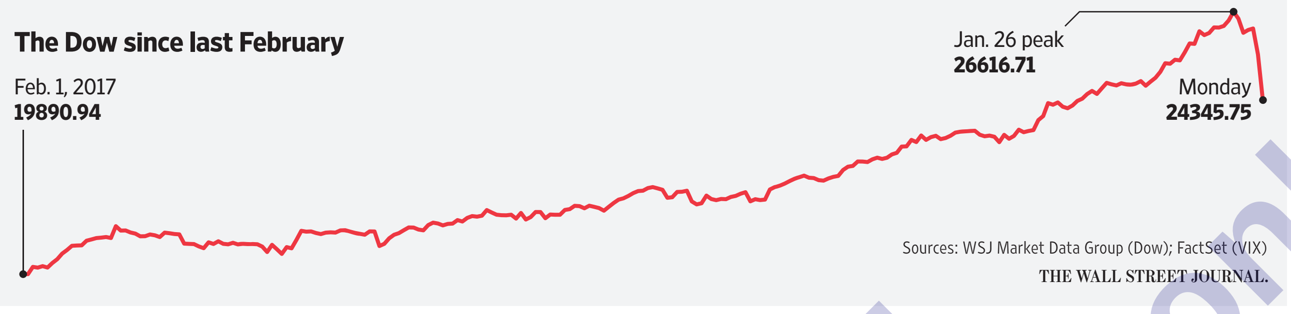
Stock Plunge Erases 2018 Gains





Largest daily declines in the Dow

Rank by percentage		Points
1. Oct. 19, 1987	−22.6%	−508.00
2. Oct. 28, 1929	−12.8	−38.33
3. Oct. 29, 1929	−11.7	−30.57
4. Nov. 6, 1929	−9.9	−25.55
5. Dec. 18, 1899	−8.7	−5.57
6. Aug. 12, 1932	−8.4	−5.79
7. March 14, 1907	−8.3	−6.89
8. Oct. 26, 1987	−8.0	−156.83
9. Oct. 15, 2008	−7.9	−733.08
10. July 21, 1933	−7.8	−7.55
99. Feb. 5, 2018	−4.6	−1,175.21



Sources: WSJ Market Data Group (Dow); FactSet (VIX)

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Dow industrials fall over 1,100 in biggest point drop ever; overseas indexes sink

By Akane Otani

The long-running global stock rally turned into a rout Monday as the Dow Jones Industrial Average posted its largest-ever, single-day point decline and major indexes in the U.S., Europe and Asia gave up their gains for the year.

Traders described a growing sense of anxiety throughout the day, and the Dow briefly dropped nearly 1,600 points. Although it quickly pared losses, the blue-chip index closed down 1,175.21 points, or 4.6%, to 24345.75, its largest one-day percentage decline since August 2011.

"This is the first time in a while I'd say it feels like borderline panic-type selling," said Tim Anderson, managing director at brokerage TJM Investments, as yelling broke out on the floor of the New York Stock Exchange when the stock declines accelerated.

Combined with steep falls Friday, the index has lost 7% in just two days, marking a break in the tranquility that has characterized financial markets for much of the past two years. The selloff also signaled a potential shift in sentiment, and investors sought safety in U.S. Treasurys, pushing yields lower.

The heavy selling persisted early Tuesday in Asia. Japan's Nikkei Stock Average was down about 1,200 points, or 5.3%, at the midday break. (See article on B11.)

The downward move in U.S. stocks was especially confounding given recent strength in the economy. While traders have grown more worried in recent days about rising inflation that could cause the Federal Reserve to raise rates more vigorously, there wasn't an obvious catalyst for the market's jarring move.

Please see PLUNGE page A6

Latest Selloff Can End Two Ways

By James Mackintosh

ANALYSIS

Good news, it seems, is bad news again.

Payroll figures that showed more jobs and more pay for Americans sparked a market decline Friday that only got worse on Monday.

Over the past two trading days, the S&P 500 fell by 6.1%—the steepest such drop since August 2015, but something that has happened on average once every two years since 1964. It still came as a shock after such a long period of subdued volatility.

We shouldn't put too much weight on any given day's price moves, but the recent market plunge feeds two narratives, one of which could be really bad news.

Both explanations involve higher bond yields hurting stocks. But one has a brief correction followed by a happy ending for shareholders, if not for bond investors, while the other is a tale of woe for both. Either way, a lot depends on whether President Donald Trump's tax cuts will be wasted in inflation or boost the real economy.

If the stock-market drop of the past two days was a knee-jerk reaction to tighter credit, then the bull market can resume so long as the economy and corporate profits remain strong. If, however, the lesson is that, after years of calm, inflation is about to get wild, the conclusion is darker.

Precisely what we should

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Markets on Edge

◆ Turnoil greets new chairman of Federal Reserve ... A6
◆ Jason Zweig: Stocks didn't get tested—you did ... B1
◆ Selloff upends low-volatility bets ... B1

Seoul Court Frees Samsung Heir

AHN YOUNG-JOON/ASSOCIATED PRESS

EARLY RELEASE: Lee Jae-yong, vice chairman and de facto head of Samsung Electronics, left a detention center in South Korea on Monday, after an appeals court suspended his jail sentence. **B1**

Panel Backs the Release of Democrats' Russia Memo

By Byron Tau And Rebecca Ballhaus

WASHINGTON—The House Intelligence Committee on Monday voted unanimously to release a classified Democratic memo that defends the federal investigation into a Trump campaign associate, a move that gives the White House five days to allow or reject its disclosure.

Democrats wrote the 10-page memo as a response to a Republican document released last week that details how the federal government got a warrant to conduct surveillance on Carter Page, a foreign-policy adviser to the Trump campaign during the 2016 election.

That GOP document suggested possible partisan motives by investigators in targeting Mr. Page, who left the campaign a month before prosecutors applied for the warrant in October 2016.

Democrats said the GOP memo was an attempt to discredit a wide-ranging Justice Department probe into possible collusion between the Trump campaign and Russia during the 2016 presidential campaign, an investigation that is also looking into potential obstruction of justice by the president and his aides.

President Donald Trump hailed last week's GOP memo as "totally" vindicating him in the Russia investigation. He has denied any collusion or obstruction.

The White House approved the release of the GOP document on Friday, and will now review the Democrats' document and decide whether it should be released, as well as identify any redactions.

"We will consider it on the

Please see MEMO page A4

Victoria's Secret Gambles the Mall Will Survive

CEO also bets smartphones will fade; meanwhile, his sales are down

By Khadeeja Safdar

COLUMBUS, Ohio—Leslie Wexner strode into the Victoria's Secret store in his favorite mall here, a man in his element. Music pulsed, and around him were the fruits of a two-year revamp.

Sports bras had crowded out swimsuits. Comfy pajamas jockeyed with lacy lingerie for prime display space. A wall-size TV screen displayed strutting supermodels, a signal to the investors gathered there that the chain hadn't lost its taste for sexy theatrics.

Then the questions started: What about declining mall traffic? Where do you see online sales? Why aren't you investing more in digital?

"I get that," retorted the chief executive, 80 years old. "Now explain to me Sephora and Apple," two companies that have opened successful physical stores recently.

Mr. Wexner, an icon of 20th-century retailing, is the last man standing from a generation of merchants who brought fashion to the masses through hundreds of chain stores in thousands of malls. Most retailers say the internet has forever changed shopping. Mr. Wexner doesn't.

The internet won't kill stores, the Columbus-based billionaire says. Moreover, the fascination with smartphones will fade. "We're in the process of bouncing back from that," he says in an interview.

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INSIDE

THE CHASE FOR A PERMANENT FLU VACCINE

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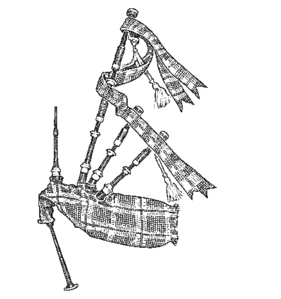
This Is Just What Bagpipe Bands Need: More Bagpipes

* * *

Championships' lack of size limit sparks noisy debate

By Michael M. Phillips



Is there such a thing as too many bagpipes?

There's a nagging suspicion, even among bagpipers, that the answer might be yes.

Top-grade bagpipe bands used to compete at the World Pipe Band Championships in Glasgow, Scotland, with 10 or 12 pipers. Now bands routinely march into the competition circle with 24 or even 27 pipers piping, and many pipers are worried the ballooning of the bands has gone too far.

"It's a raging topic in our little pipe-band world," says Andrew Berthoff, editor of pipes|drums magazine.

Please see PIPES page A12

U.S. NEWS

Service Sector Hits 10-Year High

Activity ramps up, boosting economy amid new signals of business confidence

By Sarah Chaney

A measure of service-sector activity across the U.S. picked up in January to reach a 10-year high, suggesting strong momentum in the sector powering the bulk of the U.S. economy.

The Institute for Supply Management on Monday said its index of nonmanufacturing activity—tracking industries including health care, finance, agriculture and construction—rose to 59.9 in January from 56 in December, the best index reading for records dating back to 2008.

This figure exceeded expectations of economists surveyed by The Wall Street Journal, who had forecast a January reading of 56.5. A number above 50 indicates expansion.

The rise was driven by increases across a broad swath of components, including new orders and employment indexes. The new orders index rose to 62.7 in January from 54.5 in December. The employment index increased in January to 61.6, the highest level on record.

Anthony Nieves, chair of the ISM committee that oversees the survey, said he sees the strength in services continuing.

"The economy has come out really strong for the month of January," Mr. Nieves said. "Our respondents are telling us it's due to the confidence level they have within their companies."

The rise in the new orders metric was propelled by a range of factors, including business confidence that the tax overhaul will boost investment, Mr. Nieves said.

January's acceleration comes after two consecutive months of pullback in the services sector.

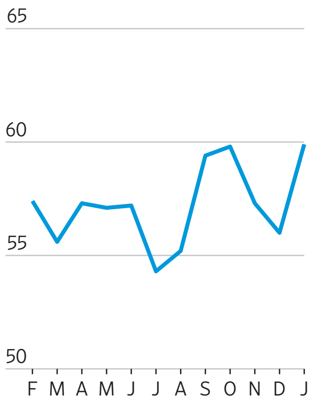
"The ISM indices have been especially volatile in recent months, but January's release is a reassuring sign that the economy has continued to gather momentum at the beginning of 2018," said Michael Pearce, economist at Capital Economics, in a note to clients. "We expect GDP growth of 2.5% for 2018 as a whole, faster than the 2.3% growth seen in 2017."

Other data have recently pointed to broadening economic strength. Gross domestic product, a broad measure of goods and services produced across the U.S., rose at an annual rate of 2.6% from October through December, the Commerce Department said. The measure was bolstered by strong business and consumer spending.

A separate ISM gauge that tracks activity in the much-smaller manufacturing sector maintained momentum in January.

Rising Tide

ISM service-sector index



Note: Values above 50 indicate expansion, below 50, contraction.
Source: Institute for Supply Management
THE WALL STREET JOURNAL.

Bipartisan 'Dreamers' Bill Faces Hurdles

By Kristina Peterson And Laura Meckler

WASHINGTON—President Donald Trump again insisted on funding for his promised border wall, making clear the high hurdle faced by a bipartisan pair of senators who are backing an immigration plan that leaves out wall funding and other Trump demands.

The senators are hoping that their legislation, introduced on Monday, will help end the impasse that has hindered a two-year budget deal.

The bill, by Senate Armed Services Committee Chairman John McCain (R., Ariz.) and Sen. Chris Coons (D., Del.), doesn't approve immediate funding for Mr. Trump's demand, reiterated on Monday, that any immigration deal include funding for a wall along the border with Mexico.

Congress is gearing up this week to pass another short-term spending bill to avoid a government shutdown four days before the government's current funding expires at 12:01 a.m. on Friday.

Lawmakers are increasingly frustrated by the gridlock that has prevented them from striking a long-term deal on either immigration or spending levels. Immigration has become entangled in the spending negotiations since Mr. Trump last year ended an Obama-era program that protects young people who were brought to the U.S. illegally as children, known as Dreamers.

Messrs. McCain and Coons unveiled a proposal that offers a path to citizenship for the young undocumented immigrants and orders a comprehensive study to determine what border-security measures are needed.

But the bill stops well short of almost all of Mr. Trump's demands—including his signature promise of immediate funding for the wall along the southern border.

"Any deal on DACA that does not include STRONG border security and the desperately needed WALL is a total waste of time," he wrote on Twitter on Monday. "March 5th is rapidly approaching and the Dems seem not to care about DACA. Make a deal!"

Mr. Trump was referring to the Deferred Action for Childhood Arrivals program, the Obama-era measure protecting the young immigrants from deportation. When he ended the program in September, Mr. Trump gave Congress until March to enact a replacement.

U.S. WATCH

ECONOMY

Employment-Trends Gauge Posts Gain

An index measuring employment trends rose again in January after an increase in December.

The Conference Board Employment Trends Index rose to 106.93 in January from 106.59 in December and was up 5.4% from a year ago.

Gad Levanon, the Conference Board's chief economist for North America, said the index shows no sign of slowing.

"A strong U.S. economy provides additional tailwinds to employment growth, bringing down the unemployment rate even further and encouraging more men and women to join the labor force," he said.

The index combines eight market indicators, including industrial production from the Federal Reserve, job openings from the Bureau of Labor Statistics and jobless claims from the U.S. Department of Labor.

The index filters out volatility in data to more clearly reveal underlying trends in employment.

—Cara Lombardo

GREG SORBER/ALBUQUERQUE JOURNAL/ZUMA PRESS

STEPPING UP: Children chaperoned by parents walk to school in Albuquerque, N.M., on Monday as part of the 'walking school bus' initiative, which is designed to provide students with a safe and healthier alternative to the school bus.

SAN FRANCISCO

State to Oversee City's Police Reforms

San Francisco's police chief said his department will be the first in the nation to get voluntary state oversight after the federal government ended a police-reform program from the Obama era.

San Francisco was among at least 15 departments that sought help from the Justice Department after deadly police shootings and other problems.

However, the U.S. Justice Department opted last year to no longer provide resources or guidance for the Community Oriented Policing Services program.

Police Chief William Scott said he was pleased the California Justice Department will step in to continue overseeing the reforms intended to heighten credibility and transparency.

California Attorney General Xavier Becerra announced the change on Monday. Mr. Becerra said the state will evaluate and report how the department is applying the 272 recommendations made by the Justice Department under the Obama administration.

"In the 16 months since the U.S. Department of Justice COPS Office assessment was released, the men and women of the San Francisco Police Department have made substantial progress in implementing reforms, particularly in the areas of increasing transparency and accountability," Chief Scott said.

—Associated Press

MIDWEST

Five Die, Dozens Hurt As Snow Slicks Roads

Five people died and dozens were injured in more than 650 crashes on snow-covered Missouri roads, and authorities said up to 50 vehicles collided on a freeway in Iowa.

The Missouri State Highway Patrol said the crashes started Sunday afternoon as snow began falling. Less than 2 inches accumulated, but the snow was treacherous because temperatures dropped rapidly from the high-30s to the single digits throughout the day, said meteorologist Gene Hatch with the National Weather Service in Springfield.

The largest crash happened on Interstate 44 near Marshfield, about 150 miles southeast of Kansas City. Besides the 60 to 80 damaged vehicles, another two dozen vehicles became blocked and unable to move, said patrol Sgt. Jason Pace. The pileup killed a 55-year-old man from Glendora, Calif. The interstate was closed for hours while crews cleared the wreckage.

Sgt. Pace said nearly 350 crashes and 50 to 55 injuries were reported in the 18-county area he is responsible for in the southwest part of the state.

One 12-vehicle pileup on I-44 in a six-county region in south-central Missouri killed Deborah Anderson, 63, of Ballwin, the highway patrol said.

Three other crashes on snow-covered roads elsewhere in the state killed Heather Sapaugh, 32, of Salem; Michael Marquette, 28, of Mexico, Missouri; and Jessu-lyn Williams, 26, of Norborne.

Authorities said the wrecks were caused, in part, by drivers trying to enter the freeway and crashing into existing accidents.

—Associated Press

A Global Test for Kindergartners

By Leslie Brody

Are American 5-year-olds falling behind the rest of the world?

A new test from the Organization for Economic Cooperation and Development aims to find out how children in various countries are faring and better gauge which methods of early childhood education work best.

But early childhood experts world-wide have balked, saying it won't accurately measure children's abilities—and that the effort could push kindergarten to be more academic rather than playful.

Called the International Early Learning and Child Well-being Study, the test aims to compare children's emerging literacy and number skills, as well as self-control and empathy. Part of the study has 5-year-olds use tablets to play games and respond to stories in four 15-minute sessions.

"It's very questionable how meaningful an assessment of 5-year-olds can be," said Helge Wasmuth, an associate professor in childhood education at Mercy College in New York City. "Some kids won't take it seriously."

The OECD ranks 15-year-olds every three years and U.S. students tend to show up in the middle of the pack. The latest round of its test known as PISA, or Program for International Student Assessment, in 2015 found U.S. performance around the average among 35 advanced economies in science and reading, and below average in math.

Critics call the new test "Baby PISA."

Early childhood experts who are upset about it are planning an April conference in New York City. Nearly 200 from about 20 countries signed a 2016 letter saying the OECD failed to consult scholars and such an important undertaking deserved robust public debate. They argue the test wouldn't factor in different cultures of child rearing, among other concerns.

So far the only participants are the U.S., England and Estonia, which does well in OECD rankings.

Rowena Phair, OECD senior analyst leading the study, called it "gold standard" research that will illuminate what helps children succeed in various settings so policy makers can improve services.

The games use numbers but not letters, reading or writing. A voiceover prompts children to interact with the stories of two cartoon characters, Tom and Mia, to gauge vocabulary, ability to make sense of language, motor skills and other capacities.

Peggy Carr, acting commissioner at the U.S. Department of Education's National Center for Education Statistics, said she had confidence in the tests' reliability and the U.S. could learn from other nations' approaches to early childhood and achieving equity.

"I don't think we should go into this assuming we know everything," she said.

But critics worry that tests create pressures to teach to their expectations. Elizabeth Blue Swadener, an education professor at Arizona State University, said kindergartens might cut essentials such as dramatic play, music and the arts, and expand "seat time" activities tied to math and reading.

Ms. Swadener said test results would likely reflect the wealth and education of test-takers' parents, and cultural biases in the tests, rather than early childhood programs.

THE WALL STREET JOURNAL
(USPS 664-880)
(Eastern Edition ISSN 0099-9660)
(Central Edition ISSN 1092-0935)
(Western Edition ISSN 0193-2241)
Editorial and publication headquarters:
1211 Avenue of the Americas, New York, N.Y. 10036
Published daily except Sundays and general legal holidays. Periodicals postage paid at New York, N.Y., and other mailing offices.
Postmaster:
Send address changes to The Wall Street Journal, 200 Burnett Rd., Chicopee, MA 01020.
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CORRECTIONS & AMPLIFICATIONS

A number of U.S.-stock exchange-traded funds cost less than 0.05 percentage point a year in expenses. The figure was incorrectly given as 0.5 percentage point in a Journal Report article on Monday about portfolios that hold a small number of funds.

Honda Motor Co. sold 409,826 vehicles in the U.S. in the December-ended quarter, up slightly from 409,562 vehicles during the same period a year earlier. A Business News article Saturday about Honda's results incorrectly said the car maker sold 1.27 million vehicles in the U.S. during the quarter.

Readers can alert The Wall Street Journal to any errors in news articles by emailing **wsjcontact@wsj.com** or by calling 888-410-2667.

Pennsylvania GOP Loses High-Court Bid

Justice declines to block gerrymandering ruling; Democrats get boost in quest to take House

By Brent Kendall
And Scott Calvert

The Supreme Court's refusal Monday to block a decision nullifying Pennsylvania's congressional map leaves the state facing a confused political landscape and raises the prospect of new district lines that could give Democrats a boost in their push to retake the U.S. House.

With Pennsylvania's primary a little more than three months away, candidates and voters still don't know which districts they will be in. The state Supreme Court has ordered legislators to come up with a new map within days, vowing to draw one itself otherwise. But with a divided state government, it isn't clear when or if that will happen.

The turbulence in Pennsylvania is part of a rare national re-examination of partisan gerrymandering. The U.S. Supreme Court is expected to issue opinions in two key redistricting cases by June, and those rulings could rewrite the country's historic system for drawing districts and for the first time impose limits on party-driven gerrymandering.

Justice Samuel Alito, without comment, denied a request by state Republican lawmakers to stay a Jan. 22 ruling by the Pennsylvania Supreme Court that invalidated the district lines the GOP majority drew in 2011 after the last census. In a divided ruling, the state's high court found that Republicans had drawn distorted districts to maximize their party's power.

Pennsylvania voters are split closely between Republicans and Democrats, but the GOP has held a 13-5 advantage in the state's congressional delegation under the now-invalidated map.

Democrats could have a shot at picking up three to four additional seats under new district boundaries, said Franklin & Marshall College political scientist Terry Madonna.

The party needs to gain a net 24 seats nationwide to win the U.S. House majority this November.

"Republicans are going to have to make a decision in the Legislature about how many seats they want to make vulnerable," Mr. Madonna said. "I don't know how they draw the lines and not make seats more competitive in order to get it through the state Supreme Court."

Pennsylvania Republicans, who control the state Legislature, have signaled they would try to move quickly to draw new lines if the Pennsylvania Supreme Court decision remained in place. They face a court-imposed Friday deadline to submit a proposal to Gov. Tom Wolf, a Democrat.

If the lawmakers and the governor can't reach an agreement on a new map, the state court has said it would draw the map to be used in this year's midterms. Pennsylvania's primary elections are scheduled for May 15.

The developments have created uncertainty for incumbents and challengers in Pennsylvania, who have been planning their political strategies for districts that may no longer exist.

Mr. Wolf said he was willing to work with the Legislature on creating fair districts.

JOANNE KALISH/ZUMA PRESS

Pennsylvania's Supreme Court last month invalidated congressional-district lines the GOP drew in 2011. Above, Pike County voters in 2016.

Amtrak Crash Site Was Getting a Signal Upgrade

By Scott Calvert
And Paul Page

CSX Corp.'s signaling system on the stretch of railroad track where a deadly train collision occurred on Sunday was being upgraded for an electronic safety system called positive train control, which federal investigators say could have averted the crash had it been in place and operational.

Because the current signaling system wasn't in operation because of the upgrade, a CSX dispatcher authorized Amtrak Train 91 to operate in the area south of Columbia, S.C., National Transportation Safety Board Chairman Robert Sumwalt said on Monday.

Before the crash, Mr. Sumwalt said, a CSX crew had driven a freight train onto a bypass track by manually moving a switch that diverted trains off the main track. Afterward, CSX personnel told the dispatcher "we're through," he said, but the switch wasn't moved back. So when the Amtrak train, with 147 passengers and crew members, appeared at about 2:30 a.m., the switch put it on a collision course with the CSX train parked 659 feet ahead.

"We want to understand exactly why that's the case," Mr. Sumwalt said. "It would be easy to latch on to the proximate cause and say this might be the error," he added. But he said the NTSB's goal is to understand the underlying reasons. "We want to look at the organizational culture, we want to look at the policies and procedures."

The Amtrak train was going 56 miles an hour, three miles under the speed limit, when its horn sounded seven seconds before an onboard recording ended, Mr. Sumwalt said. Two seconds after the horn sounded, the brakes were applied and the throttle moved from the full position to idle, and two seconds after that the emergency brakes were applied.

The train was going 50 miles an hour when the recording stopped, he said.

The crash killed the Amtrak train's engineer and conductor, and injured more than 100 people on the New York to Miami route.

CSX didn't comment on Monday. On Sunday, a CSX spokesman said the railroad was working with investigators and providing assistance.

Cowen & Co. said in a research note that Sunday's collision may bring new regulatory scrutiny to CSX's "significant head count reductions" and reduced capital spending under streamlining efforts started by Hunter Harrison, who became chief executive last year and died in December.

The railroad's average employee head count over the past quarter was down 10% from the previous year and capital expenditures have been cut by 20%.

Cowen said it also expected CSX would "have to take a reserve for the tragic loss of life and other damages."

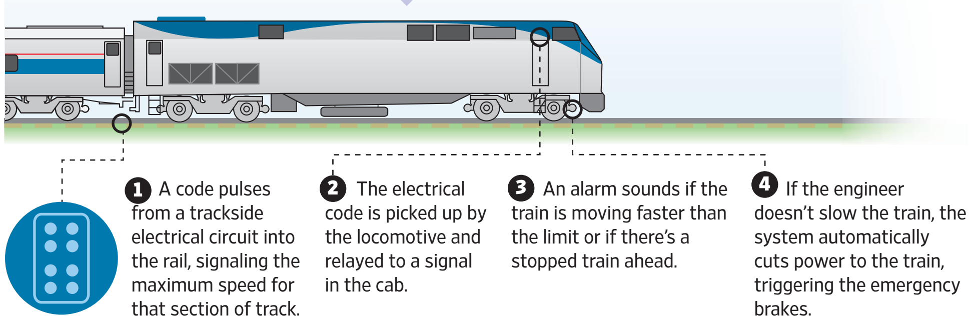
Positive train control, or PTC, is being rolled out around the U.S. and is required to be installed on railroads nationwide by the end of 2018.

The seven big railroads in the U.S. have implemented the system across 56% of the track on which they operate, according to the Association of American Railroads, putting them on schedule to meet a requirement called for by Congress to have the safety technology fully installed and running by Dec. 31, 2020.

A 2015 law requires the railroads to reach certain benchmarks by the end of this year, including having all hardware installed and more than half of their track running with the technology.

Improving Train Safety

Positive train control tracks trains in real time. It can prevent derailments and some collisions by stopping trains if they are speeding or if there is a hazard ahead. Equipment must be installed on all locomotives by the end of this year. The system must be operational systemwide by the end of 2020.



1. A code pulses from a trackside electrical circuit into the rail, signaling the maximum speed for that section of track.
2. The electrical code is picked up by the locomotive and relayed to a signal in the cab.
3. An alarm sounds if the train is moving faster than the limit or if there's a stopped train ahead.
4. If the engineer doesn't slow the train, the system automatically cuts power to the train, triggering the emergency brakes.

Source: Federal Railroad Administration

THE WALL STREET JOURNAL.

Online-Comments Probe Sought

By James V. Grimaldi

The top Democrat on the House Energy and Commerce Committee asked the Trump administration Monday to investigate fake online comments uncovered by The Wall Street Journal on a rule to restrict high-interest payday lending.

Rep. Frank Pallone of New Jersey made the request in a letter to the Consumer Financial Protection Bureau's acting director, Mick Mulvaney.

"I am most alarmed by the possibility that some in the industry may have been involved in an attempt to create a false impression that consumers widely oppose safeguards against such predatory payday lending practices," Mr. Pallone wrote, citing the Journal's report.

A survey conducted by Mercury Analytics for the Journal last year found that 40% of the comments in a batch of 13,000 comments opposing the CFPB rule weren't actually sent or authorized by the people associated with them.

Spokesmen for the CFPB didn't immediately respond to a request for comment.

In December, CFPB spokesman John Czwartacki told the Journal: "Director Mulvaney is concerned about any inauthentic data that comes to the Bureau. We intend to look into this matter further."

Industry representatives have cited comments from customers as a reason the administration should overturn the rule. In January, Mr. Mulvaney announced plans to reconsider federal restrictions on payday loans.

"The possibility that some payday lenders may be behind the fake comments underscores the need for preserving the rule's strong consumer safeguards," Mr. Pallone said.

Mr. Pallone's letter mentions the Community Financial Services Association of America. The group's executive director, Dennis Shaul, said, "More than one million people opposed the rule, including several hundred thousand who submitted handwritten comments. There is authentic and overwhelming opposition to the rule, which would restrict access to credit for millions of Americans."

Doctor Receives Additional 125 Years For Abuse

By Rebecca Davis O'Brien

A judge in Michigan on Monday sentenced former USA Gymnastics doctor Larry Nassar to up to 125 years in prison on three additional charges in Michigan related to his sexual abuse of girls and women during medical treatment sessions.

The effective life sentence—the minimum doctor could serve on the three counts is 40 years—will run concurrently with the 40- to 175-year term he received last month from a judge in another Michigan county, on similar charges. Dr. Nassar is currently serving a 60-year sentence in federal prison on child-pornography and obstruction charges.

Nassar must serve his 60-year federal sentence before his state penalties start.

He must serve that sentence—which he has indicated in court filings he plans to appeal—before he starts serving the state sentences.

Dr. Nassar, 54 years old, pleaded guilty to the state and federal counts last summer, about two years after he was pushed out of USA Gymnastics following athlete complaints about his behavior and a year following his arrest on state sexual-abuse charges.

More than 250 girls and women have alleged, in police reports and lawsuits, that they were abused by Dr. Nassar over the course of his more than two-decade career.

The victims range from youth gymnasts in Michigan to decorated Olympians, including Aly Raisman and McKayla Maroney. Dr. Nassar's abuse has prompted leadership overhauls at Michigan State University and USA Gymnastics.

A lawyer for Dr. Nassar didn't respond to a request for comment.

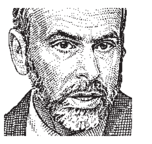
As with his highly publicized sentencing hearing in Ingham County, Mich., last month, Monday's sentence in Eaton County followed several days of emotional victim testimony, including by scores of women who had never spoken publicly before about their abuse.

The hearings were interrupted on Friday when the father of three alleged victims lunged at Dr. Nassar across the courtroom before he was restrained by law enforcement.

Hard Numbers Jumble Midterm Landscape

CAPITAL JOURNAL

By Gerald F. Seib



Democrats have been assuming (or maybe hoping) that this year's midterm elections will be about President Donald Trump's sagging popularity. Republicans have been assuming (or maybe hoping) that this year's midterm elections will be about growing economic confidence.

Both assumptions are natural. And both suddenly are being called into question by some cold, hard numbers, including Monday's stunning 1,175-point drop in the Dow Jones Industrial Average. In this year's political climate, we are reminded again, the only certainty is continuing uncertainty.

Democrats think Mr. Trump's historically low job-approval numbers—combined with the traditional success of an out-of-power party in midterm elections, an energized party base and a raft of retirements by congressional Republicans—will come together to produce a wave that could return control of Congress to them in November's elections.

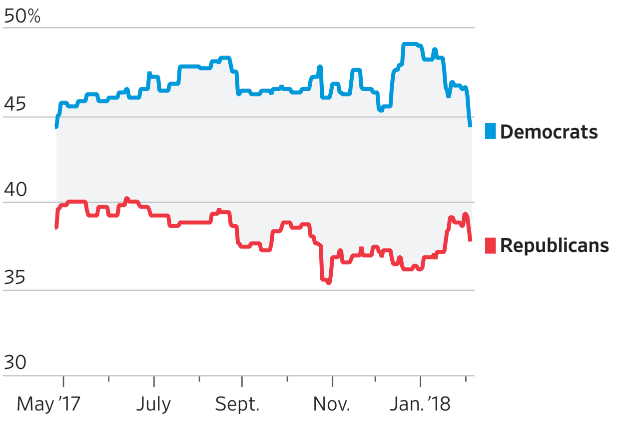
It's true that history shows the Republican president's low job approval—39% in the Wall Street Journal/NBC News poll—should translate into a Democratic pickup of more than 30 House seats. Given that Democrats need a net 24 seats to gain control, that should do the trick.

Yet Democrats' advantage as measured in national polls has declined markedly. In the Journal/NBC News survey, the share of voters who said they wanted Democrats to win control of Congress in this year's elections shrank to six points in January from 11 points just a month earlier.

Declining Averages

In a rolling average of national polls, Democrats' lead on the question of whether voters prefer them or Republicans in this year's midterm elections has declined.

Preference for control of Congress in the 2018 election



Source: Real Clear Politics

THE WALL STREET JOURNAL.

That finding is in line with other recent surveys. In the RealClearPolitics average of national polls, Democrats started the year with an advantage of almost 13 points on the generic question of which party voters preferred this fall. That advantage now is down to 6.6 percentage points.

The easiest explanation is a growing embrace of the tax-cut bill passed by the Republican-controlled Congress and signed by Mr. Trump in December, combined with rising voter happiness with the state of the economy. The share of Americans in the Journal/NBC News poll who said they were satisfied with the economy rose to 69% in January from 56% last spring.

That uptick in economic confidence has been feeding Republican hopes for the fall—or at least it was before the stock-market slide of the past week. That drop accelerated dramatically on Monday, with the Dow industrials at one point falling nearly 1,600 points before recovering somewhat. Republicans are being reminded not only of the folly of pinning too much political hope on stock prices, but also that the downside of a combination of faster growth and growing budget deficits is higher inflation and rising interest rates, which rattle markets.

A little perspective is in order, of course. Though Monday's plunge drove stocks down for the year, they still are up more than 20% since Mr. Trump took office. Unemployment, job growth and overall economic growth all probably remain more potent political indicators than does the level of the stock market, and those numbers are good.

Still, Mr. Trump himself pointed to the rising stock market in his State of the Union address as not just a good thing for the elites but for the everyman and woman with a retirement account: "The stock market has smashed one record after another, gaining $8 trillion in value," he said. "That is great news for Americans' 401(k), retirement, pension, and college savings accounts." If a rising stock market has at least some positive psychological effect on voters' verdict on how things are going, a falling one certainly has at least some of the reverse psychological effect.

So where does all this leave the midterm equation? Well, far from settled.

For Republicans, the key is whether the real economic news can stay positive regardless of the stock-market jitters—and whether the party can get more credit for it than Mr. Trump has so far. The economy's feel in the next few months is key.

For Democrats, economic numbers aren't the only issue. The deeper problem may be a risk they let their antipathy toward the president color their analysis of the surrounding landscape. That leads them to forget Mr. Trump often says things that resonate with working-class voters who don't like him personally.

That problem was amply illustrated in the aftermath of the tax cut. Rather than cheer the bonuses some workers received after the bill was signed, Democratic House leader Nancy Pelosi described the bonuses as "crumbs" when compared with the benefits big corporations got. It took no time for Republicans to turn that into an attack ad against the Democrat vying to win a special election for a House seat in Pennsylvania.

In 2016, Democrats both underestimated Mr. Trump and assumed he was so loathed that they didn't need to counter with a clear economic message of their own. They could yet repeat the mistake in 2018.

MICHAEL REYNOLDS/EPA/SHUTTERSTOCK

Rep. Adam Schiff expressed support Monday for the release of Democrats' rebuttal to a controversial GOP memo on the Russia probe.

MEMO

Continued from Page One

same terms we considered the [GOP] memo—which is to allow for a legal review, national security review led by the White House counsel's office," said White House spokesman Raj Shah.

Rep. Devin Nunes (R., Calif.), a Trump ally and the chairman of the House Intelligence Committee, didn't immediately respond to a request for comment. House Speaker Paul Ryan had backed the release of the Democrats' document, citing the need for transparency.

Democrats say their document is needed to correct a number of misstatements and omissions in the GOP memo, which was released Friday.

"Republicans have endeavored to put the FBI on trial, put the DOJ on trial, impeach and impugn the hard work of these dedicated public servants," said Rep. Adam Schiff (D., Calif.), the top Democrat on the House Intelligence Committee. "We think this very ill-serves the public, and we hope that they will stop."

Republicans contended in their memo that the Federal Bureau of Investigation's application for permission to conduct surveillance of Mr. Page in 2016 didn't give the judges who signed the warrant enough information about the evidence cited in the application.

But according to people familiar with the warrant, the application for surveillance did say that the research was linked to people or groups with a political motivation or political affiliations. Names of people and organizations are often redacted in legal filings for privacy purposes.

Mr. Page hasn't been charged with any wrongdoing. In an interview Monday evening with Fox News, he criticized efforts to "discredit" him and said revelations in the GOP memo were "even worse than I could've possibly imagined."

The White House's review of the Democratic memo comes as Mr. Trump has for months criticized top law-enforcement officials at the Justice Department and the FBI, who have been investigating whether his campaign colluded with Russian efforts to interfere in the 2016 U.S. election.

Mr. Trump has said privately that his interest in releasing the Republican memo stemmed in part from a desire to undermine the credibility of Deputy Attorney General Rod Rosenstein, one person close to the president said last week. Mr. Rosenstein appointed special counsel Robert Mueller last year and is named in the document as having approved an application to continue surveillance of Mr. Page in the spring of 2017.

The fight over the GOP memo, and the Democrats' demand to be able to release their own response, has engulfed Washington over the past week, even as lawmakers face another deadline to avert a government shutdown at 12:01 a.m. Friday.

Congressional Republicans and the White House have lined up on one side in the fight, with Democrats and leaders in the Trump administration's own Justice Department on the other side. Top FBI officials had publicly objected to the GOP memo's release, citing "grave concerns" about factual omissions and accuracy.

The FBI's surveillance application for Mr. Page relied at least in part on research compiled by Christopher Steele, a former British intelligence official who was conducting opposition research on Mr. Trump that was at that point being funded by Democratic-linked groups. Republicans, including Mr. Trump, have long criticized the Russia probe by arguing that it was set off by a dossier of research conducted by Mr. Steele.

But the GOP memo last week confirmed that the FBI's investigation of Trump associates' ties to Russia was prompted by information about former Trump aide George Papadopoulos's dealings with Russia. Mr. Papadopoulos, who served on the same foreign-policy advisory committee as Mr. Page, pleaded guilty last year to lying to FBI investigators about his contacts with Russians.

Mr. Schiff said the committee is requesting that any redactions made to the Democratic memo are "fully explained" by either the FBI or the Justice Department. "We want to make sure the White House does not redact our memo for political purposes," he said.

Mr. Trump hasn't publicly signaled his intentions on the Democratic memo, but has attacked Mr. Schiff while praising the top Republican on the committee, Mr. Nunes.

GOP Senators Fault Author of Dossier

Two Republican senators allege the author of a dossier lied to federal agents, or the Justice Department knowingly or mistakenly permitted "materially false statements" to appear in classified records, according a criminal referral from the lawmakers released on Monday.

Sens. Chuck Grassley of Iowa and Lindsey Graham of South Carolina made the allegations in a written referral they sent last month to the Justice Department seeking a criminal investigation of the dossier's author, Christopher Steele.

The letter doesn't specify which classified records it is referring to, but later correspondence suggests it involves material from Mr. Steele that the department included in a surveillance application submitted to a judge in 2016 to secretly monitor a former Trump campaign adviser. The Justice Department has said it received the senators' letter and is reviewing it. Mr. Steele's attorney didn't respond to a request for comment.

A heavily redacted version of the senators' letter was released Monday, following the release last week by the House Intelligence Committee of a Republican-authored memo asserting that improper bias had infected the Justice Department's investigation of ties between associates of President Donald Trump and the Russian government.

Friday's House memo, which was criticized by Democrats and the Federal Bureau of Investigation as containing inaccuracies and omissions, disclosed that U.S. authorities obtained a warrant from the Foreign Intelligence Surveillance Court to wiretap Carter Page, a onetime Trump campaign adviser who had been on the radar of U.S. intelligence since 2013.

The memo also noted that the Justice Department's surveillance request cited a September 2016 article from Yahoo News. The government apparently used that story to corroborate some of Mr. Steele's information.

However, the GOP memo alleged, the application "incorrectly assesses" that Mr. Steele didn't provide information to the author of that story. Mr. Steele had provided information to reporters at various news organizations including Yahoo News, the memo said, meaning the article wasn't a separate information source independent of Mr. Steele. The Yahoo News article appears to be at the crux of the newly released letter from Mr. Graham and Mr. Grassley, who chairs the Senate Judiciary Committee.

—Del Quentin Wilber and Byron Tau

Trump Bridles At Foes' Silence

By Peter Nicholas

President Donald Trump on Monday attacked Democratic leaders as unpatriotic and urged Republicans not to be "complacent" when it is time to vote, laying out what appeared to be an opening argument for the midterm elections.

Mr. Trump, appearing at a business in Ohio, a perennial battleground state, cast Democratic lawmakers as "un-American" and "treasonous" for sitting silent in his State of the Union address when he mentioned how unemployment rates for minorities have gone down on his watch.

"They were like death," he said. "And un-American. Un-American! Somebody said 'treasonous.' Yeah, I guess, why not? Can we call that treason? Why not? They certainly didn't seem to love our country very much."

The speech at Sheffer Corp. was listed on the president's daily schedule as an event devoted to "tax reform." Veering from the script, Mr. Trump used the address to call for Republican victories in the November elections, tout the candidacy of Jim Renacci, a Republican running for an Ohio senate seat, and criticize the top-ranking Democrats in Congress, Sen. Chuck Schumer of New York and Rep. Nancy Pelosi of California.

His remarks could complicate ongoing negotiations with Congress over spending and budget issues, the same mix that triggered a three-day partial government shutdown last month.

"Nancy Pelosi—what she's done to this country," said Mr. Trump. "And she's gone so far left and Schumer's gone so far left. Oh, I look forward to running against them."

Of the House Democratic leader, the president said, "She's our secret weapon. I just hope they don't change her. There are a lot of people who want to run her out. She's really out there. And I'm supposed to make a deal with her?"

In a statement after Mr. Trump's speech, Drew Hammill, a spokesman for Mrs. Pelosi, said: "As the Dow nosedives on his watch, the president's rambling, deceitful tax-scam sales pitch reached an all-time low in Cincinnati."

President attacks Democratic lawmakers as 'un-American' during Ohio speech.

It is common practice for the opposition party to avoid standing or applauding during a president's State of the Union address.

Following Mr. Trump's speech, Rep. Cedric Richmond (D., La.), chairman of the Congressional Black Caucus, said the president didn't deserve credit for whatever gains he cited.

"Much like the money he inherited from his father to start his business, President Trump inherited a growing economy from President Obama. The low black unemployment rate he boasted about has been falling for eight years," Mr. Richmond said.

As Mr. Trump spoke, the cable TV networks cut away to report on the plunging stock market.

WASHINGTON WIRE

IRS

Trump to Pick Rettig To Lead Tax Agency

President Donald Trump will nominate Charles Rettig, a California tax lawyer, as commissioner of the Internal Revenue Service, a person familiar with the matter said Monday.

The last IRS commissioner, John Koskinen, who left in November, clashed with House Republicans and had trouble getting traction for his requests for additional funding. As Mr. Trump's pick, Mr. Rettig, in his confirmation hearing and beyond, has a chance to reset that conversation.

Mr. Rettig has been active in tax circles, serving on an IRS advisory board and in tax-related bar-association groups. His law practice is focused on tax controversies, essentially defending taxpayers in conflicts with the IRS.

—Richard Rubin

FEDERAL RESERVE

Candidate for No. 2 Position Bows Out

Republican economist Lawrence Lindsey has withdrawn from consideration for the post of Federal Reserve vice chairman.

The White House has considered several candidates for the job. Those under consideration include Richard Clarida, a managing director at money manager Pimco, who has met with top officials at the White House and Treasury Department.

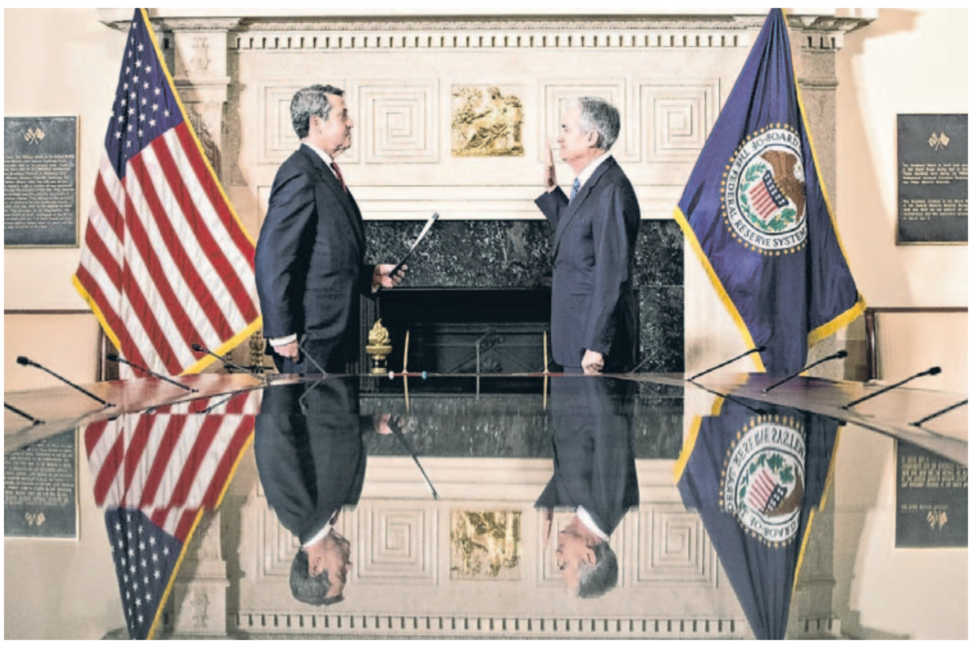
White House officials also have met with San Francisco Fed President John Williams, though he isn't considered a front-runner, and Mohamed El-Erian, the former chief executive of Pimco.

Mr. Lindsey is a former Fed official who later served as a top economic adviser to President George W. Bush.

—Nick Timiraos

Stocks Turmoil Greets New Fed Chairman

By Nick Timiraos



ANDREW HARRER/BLOOMBERG NEWS

Jerome Powell, who was sworn in Monday, has signaled continuity with his predecessor's approach.

WASHINGTON—Jerome Powell spent his first day as chairman of the Federal Reserve sizing up the largest stock selloff in 6½ years and the largest one-day point decline on record for the Dow Jones Industrial Average.

The Fed was an indirect player in the recent market tumult. A Friday report of strong January wage gains prompted investor worries that rising inflation would force the central bank to raise interest rates more aggressively than previously anticipated.

Markets had been remarkably placid before last week and with similarly low volatility in currency and bond markets. The Fed raised its short-term benchmark interest rate three times last year to a range between 1.25% and 1.5% as the economy strengthened and stocks climbed.

Mr. Powell and his colleagues made no public comment on the selloff Monday and are unlikely to make any sudden moves that could further amplify market volatility. The Fed is a glacial institution that doesn't plot rapid changes in course, and he has signaled continuity with the go-slow approach of his predecessor, Janet Yellen.

The stock drop could serve as a healthy correction of asset values that Fed officials have characterized as elevated for several months. This would allow the Fed to stick with its plans to raise interest rates three times this year.

Alternately, if Mr. Powell and his colleagues see the stock selloff as a sign of deeper problems in financial markets, they might rethink their policy path.

"When you've had this many years of recovery, normally you would expect at this stage in the cycle imbalances to build," said Dallas Fed President Robert Kaplan in an interview last month. "The next year or two is going to be a period where we need to be on our toes."

When markets fall as they did Monday, the Fed tends to ask two key questions: whether there is a financial stability reason behind the market turmoil, and what a selloff might imply for the economic outlook.

Monday's market gyrations differ in an important respect from those of 2015 and 2016, when similar convulsions prompted Fed officials to delay plans to raise interest rates. Back then, investors worried the Chinese economy and other emerging markets might slide into deflation, with wages and prices chasing each other down.

Now, investors have a wholly different set of worries: that synchronized global growth, tight U.S. labor markets and stimulus from the GOP tax cut could force the Fed to raise rates more aggressively than anticipated to prevent the economy from overheating and sending inflation too high.

"The Fed has been telling us that they want to raise interest rates, and now the data is confirming that interest rates are going up," said Torsten Slok, chief international economist at Deutsche Bank. Riskier assets such as stocks and higher-yielding corporate bonds will be more vulnerable, he said, but despite "episodic bouts of turbulence...the underlying economic expansion will continue."

It isn't unusual for new Fed chairs to face tests early in their terms. The October 1987 market crash known as Black Monday, in which the Dow fell 22%, occurred just two months into Alan Greenspan's term. Markets later recovered and the economy expanded solidly.

Stresses in the mortgage market emerged shortly after Ben Bernanke took office in 2006, and he spent most of his two terms in office combating the financial crisis and weak recovery that followed.

The biggest problem for the Fed over the past year has been stubbornly soft inflation, which held below the central bank's 2% target for most of the past six years. One year ago, just as it looked like the Fed might be hitting the goal, a series of one-off price declines, for items such wireless phone plans and prescription drugs, pushed inflation lower.

Officials want inflation to rise to 2%, a level they view as consistent with a healthy economy, but not to shoot much higher. If inflation looks like it's headed too high, the Fed would want to raise rates more than currently planned. But if it looks like falling stock prices and rising bond yields are likely to slow inflation and economic growth, the Fed would likely raise rates less than planned.

If markets stabilize, the movements of recent days might make it easier for Mr. Powell to keep the Fed on the path of gradual rate increases.

"They weren't rooting for this but having markets move in two directions is something they probably see as a sign of a functioning market," said Michael Feroli, chief U.S. economist at J.P. Morgan Chase & Co.

Web Outages Freeze Investors

By Daisy Maxey And Sarah Krouse

The websites and mobile applications of discount brokerages, mutual-fund firms and digital advisers suffered outages and slowdowns Monday, unnerving individual investors trying to access their accounts during the market rout.

The trading disruptions occurred as U.S. stocks plunged toward the end of the trading day. The Dow Jones Industrial Average closed down more than 1,170 points Monday, its biggest one-day point drop ever, and the S&P 500 and Nasdaq Composite were both off around 4%.

Investors complained online of outages at **Betterment** LLC, a pioneer in the automated investing world; digital adviser Wealthfront Inc.; **Charles Schwab** Corp.; **TD Ameritrade Holding** Corp.; **Vanguard Group**; and elsewhere.

One firm, **T. Rowe Price** Group Inc., suffered an outage late in the day before restoring service.

A spokeswoman for the firm said it had "experienced brief accessibility issues on some of its websites" that had been resolved. "We apologize for any inconvenience experienced by our clients," she said.

Alexander Sosnowski, a strategy analyst at Gap Inc. in San Francisco who has a Vanguard account, saw the stock market was falling fast at the end of the trading day as he was taking his lunch break. The 25-year-old had cash in his account that he wanted to invest in S&P 500 stocks and saw a buying opportunity.

"Since it was such a big drop...I knew it was an opportunity to take advantage of it," Mr. Sosnowski said. After 20 minutes of trying unsuccessfully to access his account, he called his mother to see if she could log in. When that didn't work, he tried calling the company to execute the trade over the phone, but the call was dropped twice.

Many Vanguard Group customers were unable to log into their accounts Monday afternoon. Several posted on Twitter and on bogleheads.org, a popular online investing forum named after company founder John C. Bogle, that they couldn't see their account balances or trade Monday afternoon.

A spokeswoman for Vanguard said that some clients might have experienced "sporadic difficulty" accessing their accounts at Vanguard.com or by phone.

STOCKS

Continued from Page One

make of the selloff that started Friday is obscured by shifts during the day. The surprisingly good headline on jobs and pay figures led traders immediately to price in a higher chance of more Federal Reserve interest-rate rises, both in futures markets and the two-year U.S. Treasury.

But as the day wore on and investors read beyond the headlines to some less positive details of the jobs report, markets retreated on their assumption of Fed rate increases. The two-year bond yield, sensitive to short-term Fed moves, ended Friday back below where it started, while Fed Fund futures by late Monday put a lower probability on three rate rises this year than before the jobs figures.

Meanwhile, stocks sold off without a tight link to bond yields on Friday, and fell in lockstep with yields on Monday.

Explanation No. 1 is that the initial shock of the brief fears of a hawkish Fed first hit bonds, and that was enough to startle shareholders, and the drop gathered momentum.

Such an explanation is plausible because investors were complacent. Money poured into equity funds in January, investors' cash holdings were low and almost every measure of sentiment was extremely positive.

The less investors are braced for unexpected news, the less it takes to scare them. If this explanation is right, what happens next depends on how many people are left waiting to buy the dip.

The fewer buy-the-dippers are left, the bigger the dip has to be to attract buyers. The longer-run story would be little changed, given Fed expectations are back down again, but at its worst on Monday the dip from January's high was more than 8%. That is quite a dip already.

More threatening for shareholders is the second explanation, which relies instead on volatility, prompted by rising uncertainty about inflation. Long-dated Treasury yields rose relentlessly from early December until the 10-year note hit 2.885% early on Monday, the highest since January 2014, before falling back.

Friday's rise in long-dated Treasury yields wasn't prompted mainly by forecasts of faster Fed rate increases. Instead, in this explanation, inflation uncertainty mattered as much or more than the actual level of inflation.

Bonds offer an extra reward, known as the term premium, above the path interest rates are likely to follow between now and maturity.

The more certain the path of rates, the lower the term premium. Since the Fed sets rates depending on inflation, the more certain investors are about inflation, the less extra yield they demand to hold bonds. Friday's jobs figures quite rightly made investors much less sure about inflation, and so they pushed up bond yields.

Rising bond yields often go hand-in-hand with rising stocks, but not this time. It all depends why yields are rising: If the economy is strengthening, the higher profits that result should balance out higher yields.

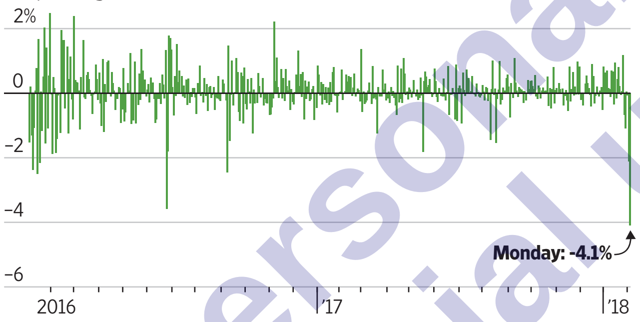
But if yields are rising because of uncertainty, future profits are unaffected and prices should fall to reflect the higher discount rate.

If investors think U.S. tax cuts will mostly stoke inflation and inequality rather than growth-enhancing capital spending and productivity, that will be bad for both bonds and stocks. If the tax cuts lead to the faster real growth promised by the White House, bonds will still suffer, but stocks should do well once the uncertainty is resolved.

The losses of the past two days gave us a foretaste of what could be an unpleasant outcome if Mr. Trump's team is wrong.

Tumbling

Daily change in the S&P 500



Percentage of daily up or down moves in the S&P 500 since 1964

Range	Percentage of Days	Average number of days per year
0-1%	77.9%	196.4
1-2%	17.2%	43.4
2-3%	3.5%	8.7
3-4%	0.8%	2.0
4-5%	**0.3%**	**0.2**
5-6%	0.1%	0.3
6%+	0.2%	0.4

Monday: -4.1%

Source: Thomson Reuters Datastream

THE WALL STREET JOURNAL.

PLUNGE

Continued from Page One

"I put in some orders last Friday and I entered some orders today," said Robert Pavlik, senior portfolio manager at SlateStone Wealth. "Nothing has changed on the economic front from last Monday to today."

The Dow is now down 1.5% for the year and off 8.5% from its Jan. 26 high, approaching the 10% fall that would mark a correction.

The sharp drop, coming just six trading days after the S&P 500 and Nasdaq Composite also surged to all-time highs, marked a stunning turnaround. Global stocks in January posted one of their best-ever starts to a year, buoyed by hopes for faster economic growth around the world and the just-enacted U.S. tax-code overhaul.

Enthusiasm for stocks led investors to pour a record $102 billion in January into mutual funds and exchange-traded funds that invest in equities globally.

But cracks emerged last week when government bond yields jumped to four-year highs, raising fears among some investors of a faster-than-expected pickup in inflation. The selling that resulted was broad, sending everything from shares of energy companies to banks to technology giants lower.

The S&P 500 fell 4.1% Monday and the Nasdaq Composite dropped 3.8%. The Dow and S&P 500 are at their lowest levels since early December.

Meanwhile, the yield on the 10-year U.S. Treasury fell to 2.794%, down from a four-year high of 2.852% Friday. The fall marked the steepest one-day yield decline in five months.

As investors grasped for reasons behind the moves, some traders said they appeared to be caused in part by algorithmic trading. As evidence, they noted how quickly the selling accelerated, only to abate a bit in the last half-hour of the session.

"The interesting action today is probably being caused by computer models that literally need to balance their risk," said Yousef Abbasi, a global market strategist at JonesTrading, who noted the selloff accelerated as the S&P 500 broke through 2700.

"That inherently creates a ton of selling," he said. "Getting back to flat on the year created that inflection point."

Others said broad selling of exchange-traded funds contributed to the declines.

Traders described a growing sense of anxiety throughout the day Monday.

Chris Hempstead, head of U.S. ETF sales at Deutsche Bank Securities, noticed trading in exchange-traded funds exploding Monday afternoon.

A little after 3:30 p.m. ET, trading of U.S. listed ETFs during the day equaled 40% of total stock-market value. That is well above the typical 25%, Mr. Hempstead said.

"We saw an explosion of ETF volume. That's highly unusual," he said. "People are making big decisions today."

Despite the upheaval, some investors say the stock rally is merely pausing after a strong run whose scale and pace has taken many by surprise. "This is a healthy pullback," said Jason Draho, head of tactical asset allocation Americas at UBS Wealth Management.

Until economic data points to a meaningful pickup in inflation that could push rates higher, "we're not concerned," he said.

Other investors have welcomed the declines, saying they used it as an opportunity to pick up suddenly cheaper stocks. Jason Ware, chief investment officer at Albion Financial Group, said that when the Dow lost 800 points, he and his traders started buying.

"There are good companies out there that were on sale today," he said, although the swift moves "made for a tricky and volatile experience in buying."

Monday's selling was broad-based, with all 11 sectors in the S&P 500 posting declines. Bank shares slid, sending the KBW Nasdaq Bank Index of large U.S. lenders down 4.9% and extending declines after posting its steepest loss of the year Friday.

Declines in shares of oil-and-gas companies also dragged on major indexes. The S&P 500 energy sector shed 4.4%, while U.S. crude oil declined 2% to $64.15 a barrel.

Meanwhile, a measure of expected swings in the S&P 500, the Cboe Volatility Index, shot higher, jumping 117%—its largest one-day percentage gain ever.

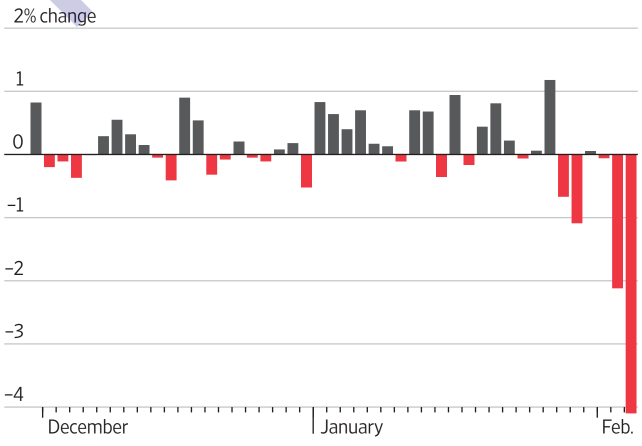
"You're getting a bit of a rotation into safer assets, which is why the Treasury market is doing better," said Tony Roth, chief investment officer of Wilmington Trust.

"The concern is the Fed is going to fall behind the curve and raise rates more quickly" than the three increases it had forecast in December, and has little to do with the economy, outside of inflation concerns.

—Corrie Driebusch, Riva Gold, Amrith Ramkumar and Daniel Kruger contributed to this article.

Losing Streak

Before Monday, the S&P 500 hadn't fallen three consecutive sessions since December.



Source: FactSet

THE WALL STREET JOURNAL.

Selloff Triggered Confusion, Concern

When stocks were soaring regularly to highs, many traders said they welcomed a healthy pause after such a rapid climb. But the crushing market rout on Monday was far worse than anything they had in mind.

"People have been conditioned to act in a very particular way, and that is to not be afraid of anything," said Jim Strugger, a derivatives strategist at brokerage firm MKM Partners. "In the last few hours, people are being woken up to how nasty this can be."

Shortly before 3 p.m. New York time, the Dow Jones Industrial Average had slid more than 600 points. Then within 15 minutes it was down nearly 1,000 more points, only to rebound before the close—a whipsaw move that had echoes of the May 2010 "Flash Crash."

The Dow Industrials closed down more than 1,100 points, or 4.6%, in its largest one-day point decline ever. The two-day percentage decline of 6.76% was the worst for a two-day period since November 2008, in the midst of the financial crisis.

"It's been an ugly two days," said Sahak Manuelian, managing director of equity trading at Wedbush Securities' trading floor in Los Angeles.

On the Stifel Nicolaus trading floor in Baltimore, traders asked one another at what point does a major stock index get halted by circuit breakers, said Justin Wiggs, managing director in equity trading at Stifel Nicolaus.

Rules that were adjusted after the 2010 'Flash Crash' dictate a 15-minute halt in all stocks once the S&P 500 index falls 7%, which on Monday would have meant a decline of about 193 points to about 2569. The S&P didn't reach those levels on Monday, bottoming out at 2638.17.

—Corrie Driebusch and Ira Iosebashvili

We manufacture prescription opioids. How could we not help fight the prescription and illicit opioid abuse crisis?

Two doctors founded a company in 1892 now known as Purdue Pharma. Continuing the strong heritage of a research-driven, science-based company, another doctor is currently at the helm as CEO. We're the pharmaceutical company that manufactures OxyContin®. Patients' needs and safety have guided our steps. It's what led us to research and develop medications to help patients. Today, it's what has spurred us to redouble our efforts in the fight against the prescription and illicit opioid abuse crisis. It's why we're taking action.

We support recommendations in *The President's Commission on Combating Drug Addiction and the Opioid Crisis* and the FDA's *Opioid Action Plan.* There are too many prescription opioid pills in people's medicine cabinets. We support initiatives to limit the length of first opioid prescriptions. Reducing the number of excess tablets won't end the epidemic, but we believe it will help rein in the problem. We believe doctors should check their state Prescription Drug Monitoring Program (PDMP) databases before writing an opioid prescription, to guard against doctor-shopping by those trying to game the system. Information sharing between state databases must improve.

Our industry and our company have and will continue to take meaningful action to reduce opioid abuse. We focused our talented research scientists and applied our innovative thinking to making opioids with abuse-deterrent properties, making them harder to crush and, therefore, harder to be abused by snorting or injection. With this investment, we pioneered the pharmaceutical industry's movement toward developing opioids with abuse-deterrent properties when we were the first to receive FDA approval.[1] Developing new formulations is risky and there are never any guarantees, but we did it anyway. Our company also took the initiative to distribute the CDC Guideline for Prescribing Opioids to thousands of prescribers and pharmacists shortly after it was released.

As we continue to fight the prescription opioid and illicit substance abuse crisis, we are applying our resources and our best scientific minds to discover and develop new, non-opioid pain medicines for patients.

No one solution will end the crisis, but multiple, overlapping efforts will. We want everyone engaged to know you have a partner in Purdue Pharma. This is our fight, too.

PURDUE

www.purduepharma.com

[1]Opioids with abuse-deterrent properties are not abuse-proof and don't prevent addiction, but they are part of a multifaceted approach to addressing the prescription opioid abuse crisis.

Syria Mounts Assault on Rebel Territory

Strikes in Idlib target last opposition strongholds; use of chlorine gas reported

By Raja Abdulrahim

BEIRUT—Two hospitals were bombed out of service and several others damaged in 24 hours of airstrikes on an already hard-hit area of Syria, as the last pockets of rebel resistance find themselves increasingly cornered.

The attacks on the northwest province of Idlib, the last opposition stronghold in Syria, included a chlorine chemical attack on Sunday night on the town of Saraqeb that wounded more than a dozen people, according to local activists and rescue workers.

Video posted online showed victims who were suffocating being stripped of their clothes and doused with water. The wounded included children, said a resident, Mohammed Fawaz.

The regime of President Bashar al-Assad, which denies it has used chemical weapons, has waged war against the opposition with the aid of Russia. Jet fighters from both countries have targeted medical facilities, rescue workers and residential buildings, according to local doctors and activists. Moscow and Damascus deny targeting civilians and civilian infrastructure.

AMER ALMOHIBANY/AGENCE FRANCE-PRESSE/GETTY IMAGES

A wounded man carried an injured child to a makeshift hospital in Zamalka, near Syria's capital, Damascus, on Monday.

Rebels and civilians in previous offensives, including in the city of Aleppo and several Damascus suburbs, have been forced to surrender under intense attacks. With Idlib now under a similar campaign, the U.N. has warned of the humanitarian ramifications for the province. The U.N. estimates 270,000 people have been displaced within the province since mid-December as a result of the fighting.

"The situation is screaming for a cease-fire there," Jan Egeland, head of the U.N. task force for humanitarian aid to Syria, said last week. "We cannot have...warfare in what is essentially a refugee camp."

Idlib and other rebel areas are supposed to be protected under a de-escalation agreement brokered last year by Turkey, Russia and Iran, but the Syrian regime has launched multiple campaigns to retake remaining rebel-held areas, contending that it is fighting terrorists.

At least 38 civilians were killed over the weekend in Idlib, according to the White Helmets, a civil-defense group operating in opposition-held areas. A five-story building in the provincial capital of Idlib crumbled Sunday night after being hit with an airstrike, trapping 14 people under the rubble, the group reported.

Residents reported that Russian warplanes struck the building. On Saturday night, a Russian warplane was downed in an attack claimed by a formerly al Qaeda-affiliated group, and its pilot killed.

Since coming under regular attack, residents of the town of Saraqeb in Idlib have fled to other parts of the province, many to tent camps near the Turkish border, said Mr. Fawaz, the resident.

The attacks on health-care facilities have further spurred people to flee.

The main hospital in the city of Maraat Numan was struck directly by at least four rockets Sunday night, causing severe structural damage and forcing the hospital to shut down, said Ahmad Dbais, a doctor with the Union of Medical Care and Relief Organizations.

Several premature babies in incubators were briefly cut off from oxygen during the attack, but they were treated and moved to another hospital, he said. Photos posted online by local activists showed seven tiny babies laid out on the floor and wrapped in thick winter blankets.

—Nour Alakraa contributed to this article.

Islamic State's Legacy in Raqqa: Hidden Explosives

Amateurs search the city's ruins to defuse booby traps; 'it's simple. But it needs someone with a strong heart.'

By Raja Abdulrahim

RAQQA, Syria—In the clock-tower square rimmed by rubble, people desperate to return to their booby-trapped homes seek out the man with the scruffy beard selling cigarettes and fresh eggs.

He guides them toward a small, ragtag group of deminers who have no training and few, if any, tools—men like Muhammad al-Shaeeb, a quiet, barely five-foot-tall 18-year-old, who venture into homes in this former Islamic State stronghold where explosives could be lurking under any light switch or towel or inside a refrigerator.

"It's simple," he said, as he demonstrated how to unhook a clasp on an already-defused explosive. "But it needs someone with a strong heart."

The mine-clearing efforts of the U.S.-led coalition and local forces are focused primarily on roads, public buildings and utility stations, and they are no match for the number of explosives left in Raqqa. So the dangerous task of searching homes and removing explosives planted by the militants before they were driven out a few months ago has been partly transformed into a business.

The work needed to clear one city of explosives points to the much larger challenge of rebuilding Syria and determining who will bear the cost of making vast areas devastated by the seven-year conflict habitable again.

A U.S. government contractor leading the demining in Raqqa has determined that even two decades of clearance work might not fully rid the city of explosives, according to the State Department. More than 300 civilians have been injured or killed by explosives since October, according to Doctors Without Borders.

Civilians returning to Raqqa are told to sign up with the city council to have their homes demined by a coalition-trained local security force. But the wait is too long for many and they eventually end up at the clock tower willing to pay for the work themselves, said Mr. Shaeeb, who got his start more than two months ago by defusing a few explosives in his family's home.

While local officials discourage these unsanctioned efforts, they mostly look the other way as the waiting list gets longer each day.

AHMED DEEB FOR THE WALL STREET JOURNAL

Muhammad al-Shaeeb, 18, does demining work in civilian homes.

There were more deminers when Mr. Shaeeb began, but several were killed in explosions, including one of his friends. "I thought about quitting then," he said. "But then I figured...whoever is fated to live will live."

Army Gen. Joseph Votel, head of the U.S. Central Command, visited Raqqa last week and talked about the need to get people back into their homes. On the same day, Mr. Shaeeb entered a home once commandeered by Islamic State's female religious police. He was armed only with a dim flashlight and the lingering calm from several deep drags on a cigarette.

Rather than being cautious and precise, Mr. Shaeeb jerked drawers open and slammed them shut. He quickly scanned behind furniture and was done in about 15 minutes.

One of the women pulled him by the arm and tried to pay him from her cheetah-print wallet. But he refused the money.

He said he has taken apart nearly 100 explosive devices and he usually only accepts payment if he dismantles an explosive.

One Man's Tale: 'How Many More Can I Lose?'

Some of the explosives planted by Islamic State are well-hidden and not discovered until later—often with deadly consequences.

Two weeks after Barakat Abu Karameh's sister and her family returned to their home, he said, his niece pulled open a curtain and set off an explosive. She was killed instantly.

Not long after, his 16-year-old son and son-in-law were both killed by an explosive that went off in a neighbor's home.

Nevertheless, days after Mr. Karameh pulled their bodies out of the rubble and buried them himself, he hired a man from the neighborhood to demine his house. The man—a car mechanic who had by that point demined 20 homes—charged 5,000 Syrian pounds (about $10) per dismantled explosive.

Mr. Karameh knew the risks. But he had been living for seven months with nine family members in the same two-room tent in a displaced-persons camp north of Raqqa.

Within a minute of entering the house, the man Mr. Karameh had hired spotted an explosive underneath a pile of olive leaves. He quickly dismantled it and moved through the room slowly.

Mr. Karameh, a taxi driver, began to get nervous, given the size of his four-room home. "I said: 'Brother, I no longer want this house. It's not worth it.'"

But the man insisted on finishing the job.

In the third room the man entered, he moved a mattress and then picked a towel up off the floor, triggering an explosive.

He died on his way to an area hospital.

Mr. Karameh is still living in the tent in the camp and wearing the same gray robe he wore on that day, now with a tear in the front where a piece of shrapnel struck him in the chest.

His son signed up at the local neighborhood council when it began collecting names of people who want their homes demined. But more than a month later, they still hadn't gotten a call.

"If I go back home, I'm going to burn down the entire house, because I don't know where they might have planted a mine," said Mr. Karameh. "How many more can I lose?"

U.S. and Russia Say They Have Met Nuclear-Reduction Targets

By Felicia Schwartz And Michael R. Gordon

WASHINGTON—The U.S. and Russia said they have fulfilled obligations under a 2010 treaty to reduce the number of strategic nuclear warheads, meeting the requirement by a Monday deadline.

The two governments made the declaration despite worsening relations, but still face the task of renewing the pact when it expires in three years amid a dispute over another weapons agreement.

As ties have frayed over conflicts in Syria and Ukraine and amid allegations of Russian interference in the 2016 presidential election, U.S. officials said Monday's announcements were a positive sign.

The State Department said the U.S. has fulfilled its commitments under the New Strategic Arms Reduction Treaty, or New START, which was signed by former President Barack Obama in 2010 and ratified by the Senate in 2011.

In Moscow, the Kremlin said it, too, had complied with the reductions to which it agreed under the accord. "The Russian Federation has fully complied with its commitment

METZEL MIKHAIL/TASS/ZUMA PRESS

Russian President Vladimir Putin, left, and President Trump face a 2021 deadline to extend the pact.

to reduce its strategic offensive weapons."

The treaty limits both Washington and Moscow to no more than 1,550 strategic nuclear warheads, and both must observe limits on other forms of weapons and delivery systems, such as bombers and submarines. Monday was the deadline for meeting the limits.

State Department spokeswoman Heather Nauert said the treaty's implementation makes strategic relations "more stable, transparent, and predictable; critically important at a time when trust in the relationship has deteriorated, and the threat of miscalculation and misperception has risen."

Both countries also allow each other to conduct on-site inspections to ensure treaty obligations are met. The State Department said in a fact sheet it has conducted 252 on-site inspections since the treaty took force in 2011.

U.S. officials added they expect to find Russia in compliance when the two countries exchange data on their strategic nuclear arsenals within the next month. Once officials confirm both sides have met the limits, the treaty is considered implemented.

While Russia is complying with the New START treaty, the U.S. alleges Moscow is violating a separate 1987 accord banning American and Russian intermediate-range missiles based on land. The alleged violation concerns the deployment of a Russian ground-launched cruise missile. If the dispute over this violation isn't resolved, it may color the American debate on whether to extend New START when it expires in 2021.

In announcing that it was adhering to the New START treaty, the Russian foreign ministry complained that some of the technical procedures the U.S. has employed to meet the accord's limits.

The U.S., for example, has taken missiles out of four of the 24 tubes on its Ohio-class submarines and modified the tubes so they can't launch missiles, arms-control experts say. The Russians have complained that this conversion could be reversed. The State Department declined to discuss the issue on Monday, but U.S. officials have maintained that the procedures used are adequate and cost-effective.

"Russia insistently urges the U.S. to continue the constructive search for mutually acceptable solutions," the Russian foreign ministry said.

The New START pact expires in 2021, leaving its renewal in question as mistrust simmers between the two countries. A Kremlin spokesman said on Monday that the U.S. and Russia are in contact through diplomatic channels on potentially extending the treaty, which can be prolonged for as long as five years by mutual consent.

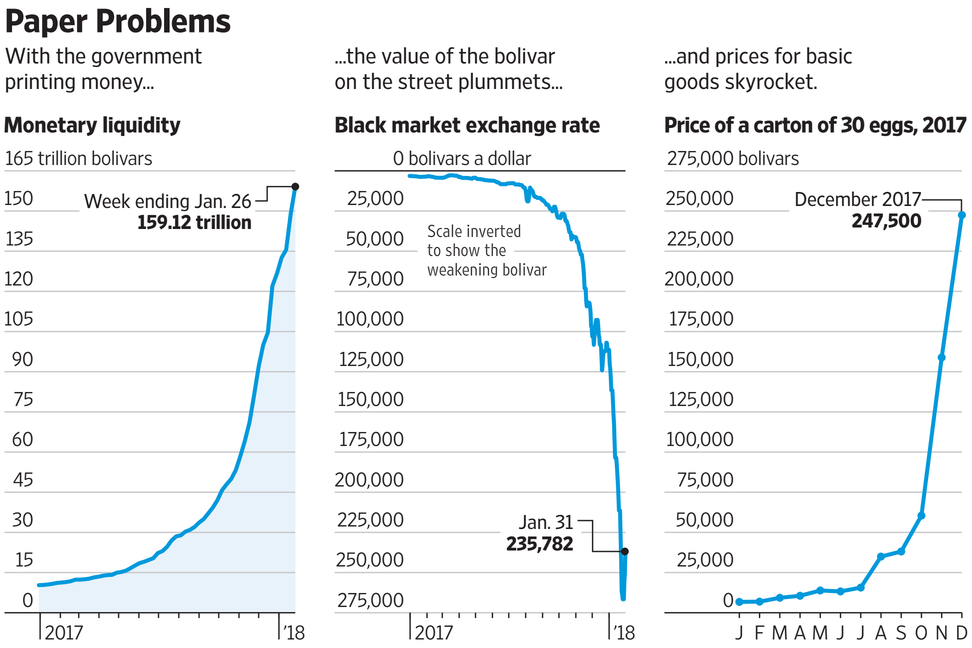
"New START implementation is a significant accomplishment," said Daryl G. Kimball, executive director of the Arms Control Association, which advocated for the treaty a decade ago. He said the treaty succeeded in trimming "still oversized nuclear arsenals."

—James Marson in Moscow contributed to this article.

OSCAR B.CASTILLO / FRACTURES COLLECTIVES FOR THE WALL STREET JOURNAL

A fruit vendor in Trujillo state hangs a sign that says his stand accepts debit and credit cards.

Paper Problems



Sources: Central Bank of Venezuela (monetary liquidity); DolarToday (exchange rate); Cendas-FVM (eggs)

THE WALL STREET JOURNAL.

Yoke of Hyperinflation Grips Venezuela

Skyrocketing prices flummox government, squeeze consumers; some pay with eggs

By Kejal Vyas

CARACAS, Venezuela—Prices here are doubling every few weeks, confounding cash-strapped Venezuelans who are scrambling to find a way to pay for basic transactions.

A Jesuit priest, Alfredo Infante, has turned to a novel formula to keep up with skyrocketing costs: He meticulously tracks the price of the humble egg. Six months ago, donations from one Sunday Mass could buy 30 eggs for church events, he said. Now, he needs more than 50 Sundays to buy the same number of eggs.

"How is anyone supposed to make a budget around here?" said Father Infante, throwing up his arms in frustration as he sat below a painting of Christ's Last Supper.

Such is the ordeal in a country stricken with hyperinflation and a government so flummoxed on how to fix the distortions of its crumbling economy that it is resorting to introducing what it says is a bitcoin-like cryptocurrency. The "petro" would eclipse the near worthless "strong bolivar," which has lost 98% of its value against the dollar in the past year.

The central bank on Monday announced a devaluation of more than 99% of its official exchange rate with a new foreign-exchange platform.

The problem is that in a country as broke as Venezuela, the government can't print enough bills or pay the hefty fees for commercial printers to supply them. Paying with plastic? Credit-card readers seldom work. That leaves ordinary Venezuelans searching for solutions.

Yorli Uzcategui, who sells vegetables from a streetside stall, keeps notebooks with handwritten IOUs and spends his off-hours chasing customers through chat groups on WhatsApp to get repaid via bank transfers. "If I don't do this, I'll sell nothing," he said as he bagged lettuce.

Things are expected to get only worse this year. The International Monetary Fund estimates an economic contraction of 15%, which means that by the end of 2018 the economy will be half of what it was in 2013. Inflation will hit 13,000%.

Following in the footsteps of Brazil, a slew of post-Soviet countries and, most recently, Zimbabwe, Venezuela has become the 57th recorded case of hyperinflation, said Steve Hanke, a Johns Hopkins University economics professor.

The government's injection of money has fueled the problem. Central-bank data show the bolivar's supply has risen 14-fold in the past 12 months.

One U.S. dollar now fetches around 236,000 bolivars on the street, around 80 times what it bought at the start of last year. Five years ago, that could buy a small apartment; now it barely covers an appetizer at lunch.

"The authorities have lost control, they can't stop creating bolivars even if they wanted to," said Omar Zambrano, a former economist for the Inter-American Development Bank. "This ends in two ways: Either we adopt the dollar or we go back to bartering."

That is what Marina Fernandez, a professor of architecture at a Caracas university, has done, finding out that some people will take, yes, the humble egg. When she didn't have enough cash to pay for parking, she handed over two eggs. Her university department, short of cash, paid a computer programmer with a carton of eggs.

Ms. Fernandez said onions or bananas, for some reason, just won't do. "If you're going to receive food as payment, the people want it to at least be a protein," she said.

In the La Vega slum where Father Infante has served for two decades, he collected the equivalent of 7 cents in bolivars at a recent service. He called it a blessing.

Key sectors like transportation still work exclusively with cash, meaning the scarcity of bills turns basic transactions into an odyssey.

The government of President Nicolás Maduro says it is developing electronic solutions like converting a QR code-bearing ID card used by government loyalists—the so-called Fatherland Card—into a "digital wallet" that can purchase state-subsidized goods.

And it is rolling out the petro cryptocurrency on the blockchain-based Ethereum network beginning Feb. 20, claiming it is the world's first crypto-asset launched by a sovereign state.

"We're revolutionizing the world," Mr. Maduro, who is seeking re-election in April, said in a recent televised address.

The digital currency will be backed with five billion barrels of oil, as well as diamonds and gold. In its first auction, petro tokens will be sold in either dollars or euros, each pegged to the price of a barrel of crude—about $60, according to an official white paper.

Mr. Maduro's plan would be government-regulated, in contrast to other decentralized currencies like bitcoin. The Trump administration is warning investors that participating in the new cryptocurrency would violate U.S. sanctions on Venezuela.

For now, Venezuela is responding in other ways to the crisis: forcing supermarkets to lower prices on scarce inventory and decreasing wage increases for public workers and pensioners through state-issued debit cards or food stamps.

Mr. Maduro is printing the newest and largest-denomination note—the 100,000-bolivar bill—under military supervision at the central bank's presses in the industrial city of Maracay.

Mr. Uzcategui, the produce vendor, said when his bank offers him a 100,000-bolivar bill, he has to decline.

"No one ever has change for those," he said.

—Mayela Armas contributed to this article.

Some Nations Have Struggled to Zero In On Price Solutions

When consumer prices rise by more than 50% a month, hyperinflation strikes. The first instance was in 18th-century France, and the latest is Venezuela, which entered its spiral in late 2017.

A look at hyperinflation in select countries:

ZIMBABWE 2007-08:
Strongman Robert Mugabe kept the economy afloat while paying military loyalists with an endless supply of bank notes and special bearer checks. International sanctions led the country's German security-paper provider to cut off supplies, leading the government to scrap its currency for foreign bank notes. Before the switch, prices had been doubling almost daily and the government had issued a bill worth 100 trillion Zimbabwean dollars, or $30.

BRAZIL 1980s-1990s:
For years, Latin America's largest country struggled with skyrocketing prices, which went up as fast as 82% a month in March 1990. The government resorted to slicing three zeroes off the currency, which changed names five times in less than a decade. Government controls on public spending brought inflation under control in 1994, with a new currency, the real, introduced.

BOLIVIA 1983-1985:
The remote, poor country in central South America saw annual inflation rise above 15,000%, as the government put printing into overdrive to pay debt. Called in to help, Harvard economist Jeffrey Sachs ended price controls, eliminated subsidies and cut public employment, bringing inflation below 20% in a few months. The response was dubbed "shock therapy."

HUNGARY 1946:
Its industry destroyed in World War II and with no tax base to rely upon, Hungary printed money and lent at will to banks and consumers. The currency in circulation rose from 25 billion pengő in 1945 to 47 septillion pengő (that's a trillion trillion) in January 1946. The currency was changed repeatedly and, with production recovering, Hungary was stabilized.

KEYSTONE-FRANCE/GAMMA-KEYSTONE/GETTY IMAGES

A Hungarian woman lit a cigarette with a billion-pengő note in 1946.

GERMANY 1922-23:
Economic instability rocked the Weimar Republic as the government struggled to pay World War I reparations.

FRANCE 1795-96:
Seeking to lift the country from the financial ruin of the French Revolution, the National Assembly created the assignat, a paper currency backed by the properties seized from the crown and the Catholic Church. But overprinting to finance wars gave France the world's first recorded case of hyperinflation.

—Kejal Vyas and Paulo Trevisani

Ozone Thinning Over Populated Areas

By Robert Lee Hotz

Part of Earth's protective ozone shield may be thinning over the most heavily populated regions of the globe, even as an ozone hole over Antarctica continues to mend, international researchers said Tuesday.

The global ozone layer, protected by an international treaty, absorbs hazardous ultraviolet radiation from the sun that can damage DNA and heighten the risk of cancer and other health problems.

Since 1987, the treaty has banned production of known ozone-destroying chemicals, and in January NASA scientists reported concrete signs that, as a result, the ozone layer in the stratosphere over the polar region is recovering.

In the new analysis, however, scientists detected a drop in the amount of ozone in recent years at lower levels of the stratosphere over the Earth's nonpolar regions, where most of the population lives. Moreover, the decline is larger than the rise measured at higher altitudes over Antarctica, they said. By their calculation, the total amount of ozone in the entire stratosphere hasn't improved since the 1990s.

"It means that overall we are not seeing a recovery," said data scientist Justin Alsing at the Center for Computational Astrophysics at the Flatiron Institute in New York, who was one of 22 scientists at research centers in the U.S. and Europe involved in the study. "The ozone layer is at least as bad as it has ever been."

The scientists, led by physicist William Ball at the Davos World Radiation Center and ETH Zurich in Switzerland, reported their research Tuesday in the journal Atmospheric Chemistry and Physics, which is published by the European Geosciences Union.

"The results are pretty convincing," said Rolando Garcia, a senior scientist at the National Center for Atmospheric Research in Boulder, Colo., who wasn't involved in the project.

Even so, the trend could be just a temporary variation within the broader band of ozone in the stratosphere, where changes are unusually difficult to measure and may take decades to unfold, said Sophie Godin-Beekmann, at the French National Center for Scientific Research and president of the International Ozone Commission.

"We may have a gap in our knowledge," said atmospheric scientist Daan Hubert at the Royal Belgian Institute for Space Aeronomy in Brussels, who studies ozone trends. "Our expectation from simulations is that ozone in the lower stratosphere should have gone up or at least remained stable since the end of the 1990s. This work suggests there has been a decline."

Scientists have sought for decades to understand the chemistry of the colorless gas in the thinning air between around 6 miles and 32 miles above the surface of the Earth. Variables include seasonal changes in global winds and temperatures, as well as periodic outbursts of gases from volcanic eruptions, the effects of El Niño ocean currents, and the subtle influence of solar cycles.

"Detecting an ozone response at middle latitudes, where the chemical changes were small to begin with and the dynamic variability is much larger, remains challenging," said Anne R. Douglass, an atmospheric scientist at NASA's Goddard Space Flight Center in Greenbelt, Md., who was part of a team that last month reported rising levels of protective ozone over Antarctica.

They attribute the recovery to the ban on ozone-destroying chemicals imposed under an environmental treaty called the Montreal Protocol on Substances that Deplete the Ozone Layer, which has been ratified by 197 countries.

"This was really a surprise," said Dr. Ball. "This is a warning sign that there is something going on that we don't understand."

KATY MERSMANN/NASA OZONE WATCH/NASA

The thin layer of atmosphere that envelops Earth, seen from space

WORLD WATCH

EUROZONE

January Indicator Beats Estimates

Data firm IHS Markit said Monday its composite Purchasing Managers Index for the eurozone—based on survey responses from 5,000 manufacturers and service providers—rose to 58.8 in January from 58.1 in December, reaching its highest level since June 2006.

IHS Markit previously estimated the measure at 58.6. A reading above 50 signals an expansion in activity.

Official data released last week showed the eurozone economy grew last year at its highest rate since 2007 and outpaced the U.S. Economists had expected to see a slowdown in growth during 2018, but some are already reassessing that expectation.

IHS said that if sustained through February and March, the composite PMI reading pointed to quarter-to-quarter growth of 1%, a pickup from the 0.6% expansion recorded in the three months through December.

—Paul Hannon

CANADA

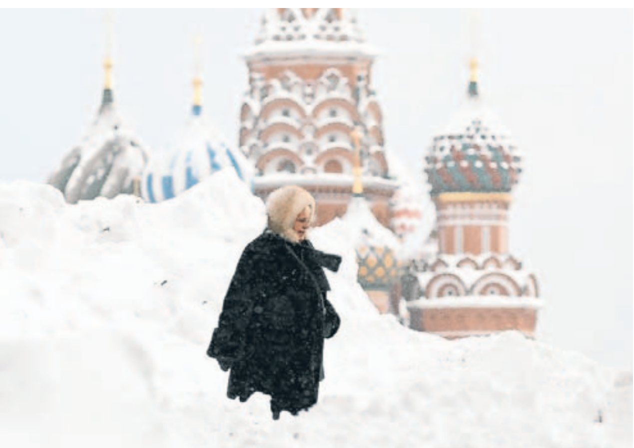
Foreign Reserves Rise to $86.75 Billion

Canada's international reserves rose by $123 million in January, the country's federal Finance Department reported.

At Jan. 31, the reserves of foreign currencies and other financial assets totaled $86.75 billion, up from $86.63 billion a month earlier. All reserve figures are reported in U.S. funds.

The government reported no official intervention in the foreign-currency market in January, and there were no gold holdings at the end of the month.

—Paul Vieira



YURI KOCHETKOV/EPA-EFE/REX/SHUTTERSTOCK

RUSSIAN WINTER: A woman passes St. Basil's Cathedral in Red Square after a heavy snowfall in Moscow.

U.K. Rules Out Customs Union After Leaving EU

BY JENNY GROSS AND JASON DOUGLAS

LONDON—The U.K. government said Britain wouldn't be constrained by the European Union's customs union after Brexit, pleasing right-wingers in the ruling Conservative Party but worrying others who fear the stance will damage trade with major partners.

Inside a customs union, countries trade tariff-free among themselves but impose common external tariffs on goods coming from outside. Its drawback is that it prevents member countries from implementing free-trade agreements for goods with non-members.

"We will be leaving the EU and the customs union, and it is not government policy to be members of the customs union or a customs union," Mrs. May's spokesman James Slack said. He said the U.K.'s aim is to establish bilateral free-trade deals with countries outside the bloc, like the U.S.

The statement goes further than the government has in the past. Six months ago, Prime Minister Theresa May said the U.K. would leave "the" EU customs union.

Monday's statement appears to rule out replicating any arrangement with the bloc similar to that of Turkey. Non-EU Turkey has a longstanding customs-union arrangement with the EU that makes it subject to most of the bloc's trade policies.

Leaving the EU's customs union could impose new costs on British businesses. Even if a free-trade deal between the EU and the U.K. eliminated tariffs, companies would still be subject to added paperwork and other administrative burdens to ensure their products met EU standards, including over the Irish border.

Neither London nor Dublin want any border checks or posts to disrupt the flow of people and goods that currently pass unrestricted between Ireland and Northern Ireland, which is part of the U.K., but it isn't clear how this would be possible with Britain outside the customs union. EU and Irish officials have been skeptical about U.K. proposals to use technology to smooth border procedures.

Business leaders have lobbied for Mrs. May to keep Britain as close to the EU as possible after Brexit, arguing that the value of frictionless trade with the bloc responsible for nearly half of British trade outweighs the value of potential trade deals between the U.K. and non-EU countries. Anna Soubry, a pro-EU Conservative lawmaker, said the U.K. would be poorer if it left the customs union.

Mrs. May and the U.K.'s Brexit minister, David Davis, met with Michel Barnier, the EU's chief negotiator, on Monday to discuss Britain's transition out of the bloc.

LEON NEAL/GETTY IMAGES

The U.K. and EU Brexit negotiators in London Monday.

L'OSSERVATORE ROMANO/AGENCE FRANCE-PRESSE/GETTY IMAGES

Recep Tayyip Erdogan, left, and his wife, Emine, are greeted by Pope Francis ahead of a 50-minute meeting between the two leaders.

Pope Meets Turkish Leader

Erdogan's first Vatican talks with Pope Francis touch on opposition to U.S. policy on Israel

BY FRANCIS X. ROCCA

ROME—Pope Francis received Turkey's President Recep Tayyip Erdogan for a meeting Monday that highlighted their shared objection to U.S. recognition of Jerusalem as Israel's capital. It was the first visit by a Turkish president to the Vatican since 1959.

As protesters demonstrated near the Vatican against Turkish military strikes in Syria, the leaders met for an unusually long 50 minutes, compared with the typical half hour for papal encounters with heads of state.

The Vatican afterward issued a short statement emphasizing points of agreement, particularly on Jerusalem, which Mr. Erdogan had said would be his "top priority" in his meeting with the pope.

Since President Donald Trump said in December that the U.S. would recognize Jerusalem as Israel's capital, Pope Francis has restated several times the Vatican's long-held position that the city's status should remain contingent on a two-state solution to the Israeli-Palestinian conflict.

The Vatican said Monday's meeting showed the need for "dialogue and negotiation, with respect for human rights and international law," to promote peace in the Middle East. The only issue specified was the question of Jerusalem.

The statement didn't indicate whether the two had discussed January's attacks by Turkey and allied Syrian rebels against Kurdish militia units in Afrin, Syria.

Protesters organized by a Rome-based Kurdish group demonstrated against the attacks, which Turkey says were necessary to defend itself against terrorism.

The Vatican noted that Turkey had accepted many refugees—more than 3.7 million, according to the European Commission. The pope has embraced advocacy for refugees and other migrants as one of his signature causes.

According to Turkey's state-run Anadolu news agency, the leaders also discussed "xenophobia, Islamophobia" and the unacceptability of linking terrorism to religion.

Both leaders oppose the U.S. decision to recognize Jerusalem as Israel's capital.

Following his meeting with the pope, Mr. Erdogan met individually with Italy's President Sergio Mattarella and Prime Minister Paolo Gentiloni.

Italy is only the fourth European Union country to invite Mr. Erdogan for a visit since a failed coup attempt in Turkey in July 2016. Mr. Erdogan's attempt has strained relations with the EU. In an interview with the Italian daily La Stampa, published Sunday, he said Turkey still seeks full EU membership, which it originally applied for in 1987.

Also Monday, the Netherlands announced it was officially withdrawing its ambassador to Ankara and refusing permission for Turkey to send an ambassador to The Hague. The Dutch foreign ministry said in a statement that, despite recent talks with Turkish officials, "we have not been able to agree on the way normalization (of relations) should take place."

Last March, the Netherlands expelled a Turkish government minister who had broken Dutch law by attempting to address a rally of Dutch-Turkish citizens ahead of April's referendum that expanded Mr. Erdogan's powers as president.

BENOIT PEYRUCQ/AGENCE FRANCE-PRESSE/GETTY IMAGES

A sketch made Monday shows suspect Salah Abdeslam, center, in the Brussels Palais de Justice.

Defiant Paris Terror Suspect Appears in a Belgian Court

BY VALENTINA POP

BRUSSELS—The only surviving suspect of the 2015 Paris terrorist attacks appeared in a Belgian court Monday but refused to answer any questions about his role in a police shootout three days before he was captured.

Salah Abdeslam, a 28-year-old French national, was Europe's most-wanted person after fleeing Paris on Nov. 13, 2015, the night his accomplices, including his elder brother, killed 130 people.

He slipped through a police check fleeing to Brussels and hid at several locations in the Belgian capital where other members of his Islamic State terror cell were staying.

Over the following four months, police raids uncovered several hideouts. Mr. Abdeslam evaded police again on March 15, 2016, when his flatmate Mohamed Belkaid provided cover by firing multiple rounds with an assault rifle before being killed by a sniper, according to prosecutor Kathleen Grosjean. The crime scene, in a residential area of Brussels, "looked like a war zone," Ms. Grosjean said.

Another accomplice, 24-year-old Sofien Ayari, who is also on trial for that incident, acknowledged being with Mr. Abdeslam but denied shooting at police. Mr. Ayari spent a year in Syria in the ranks of Islamic State. The Tunisian national on Monday denied any involvement in the Paris attacks but admitted having wanted to rejoin Islamic State in Syria before being captured.

Another assault rifle, with Mr. Ayari's DNA on it, was found with eight rounds missing, abandoned after both men jumped from a window and ran through the home of a shocked family. The two were captured three days later in the home of Mr. Abdeslam's cousin in the Brussels district of Molenbeek.

Four days later, the rest of the terror cell carried out the twin suicide bombings at Brussels Airport, followed by a suicide bombing on a subway, killing 32.

On Monday, a shackled and defiant Mr. Abdeslam refused to answer questions and criticized what he described as anti-Muslim prejudices. He said his refusal to speak didn't indicate guilt. "There is no God other than Allah," he said. "Judge me, do whatever you want, I put my trust in Allah."

Prosecutor Grosjean demanded the maximum sentence, 20 years in prison, for each suspect.

Mr. Abdeslam is being held in isolation in a French jail and is shuttled to Brussels every day under heavy security. His lawyer is expected to enter a plea in coming days.

Two associations representing the victims and their families from the Paris attacks have joined the plaintiffs' side.

RETAIL

Continued from Page One

"I don't think this is a new norm."

People crave social interaction and will seek it at places like malls. "There are times when that gets interrupted, but people want to be with other people," he says. "I've got 5,000 years of history on my side," pointing to the ancient shopping bazaars in Rome and Istanbul.

Other certainties have been proven wrong, he argues. Frozen food didn't wipe out restaurants. Landline phones didn't end face-to-face conversations.

American retailers just finished one of their toughest years on record. More than 6,000 closures were announced, surpassing the number during the 2008 recession. At least 50 retailers filed for bankruptcy, including Gymboree Corp., Payless ShoeSource Inc. and Toys 'R' Us Inc.

Mr. Wexner's company, L Brands Inc., has struggled with falling sales, too. The company, which also owns the teen brand Pink and the Bath & Body Works chain, recently disappointed investors when it revealed weak holiday results. Same-store sales are expected to fall for 2017, snapping a streak of seven years of growth. After peaking near $100 in late 2015, L Brands' share price has fallen 50%, erasing about $14 billion in investors' wealth.

'People want to be with other people,' he says. 'I've got 5,000 years of history on my side.'

"The struggle that they have is a cultural one," says William McComb, former CEO of Liz Claiborne and an investor in online lingerie rival ThirdLove. "Their entire culture is to be a slave to the physical store."

Mr. Wexner, who has been CEO of Victoria's Secret's parent company since 1963 and has no plans to retire, has been revamping the brand over the past two years, slashing the $500 million swim business, jobs and its famous catalog. Missing from the chopping block: brick-and-mortar stores.

L Brands has actually increased its store count over the past two years, leaving it with about 3,000 locations in North America, nearly half in second- and third-tier malls that are struggling to attract shoppers. It has more stores on the continent than Gap Inc., which has closed hundreds of Gap and Banana Republic stores, and almost 10 times as many as Lululemon Athletica Inc., which has about 350.

Mickey Drexler, chairman of J. Crew Group Inc. who stepped down as its CEO last summer, once shared Mr. Wexner's perspective. "I used to call shopping centers the local villages," he said at a media conference in November. That's no longer the case. "You don't have to go to the village to see other people if you are on your device, because that's the new way of meeting and seeing and having relationships."

Mr. Wexner says women want to come to Victoria's Secret stores to experience the environment and feel the products, because lingerie and beauty items, such as fragrances and lotions, are more personal to them than clothing.

Roughly 20% of sales for Victoria's Secret and Bath & Body Works are online, and Mr. Wexner says he expects that level to remain stable, even in another 10 years. "If the store environment is exciting," he says, "I'm convinced people want to go to the store."

The company has been putting more than 70% of its investments into opening and remodeling stores. Mr. Wexner stays involved in the minutiae, such as the placement of a flat-screen TV to broadcast fashion shows in the bathroom and the choice of wallpaper in the dressing room stalls. "It's about creating an atmosphere," he says.

Lingerie has been protected somewhat from online sales because fit and comfort can be hard to assess on a phone or computer screen. But fashion's shift toward garments with simpler sizing—such as sports bras and bralettes—plus lenient return policies have made it more viable for online sellers. With no costs for physical stores, rivals can offer lower prices.

There have been 34 funding rounds for U.S. lingerie startups from venture capitalists in the past five years, compared with seven deals in the preceding five years, according to Dow Jones VentureSource. Last year, Amazon.com Inc. launched its own line of bras priced under $10.

"With social media, we brought together a community of women very quickly," says Michelle Grant, a former Victoria's Secret employee, who launched New York-based online lingerie startup Lively in 2016. "It wouldn't have been possible 10 years ago."

Some of the online entrants are even more specialized than Mr. Wexner's stores. Lively, for example, focuses on just athleisure-inspired lingerie.

For a man who runs a company known for its eye-catching marketing, Mr. Wexner avoids the spotlight. A tastemaker for decades, he can be seen dressed in a simple dress shirt, tie and zippered vest. He may think smartphones have peaked, but he carries two and wears an Apple Watch with an Hermès wristband.

The Dayton, Ohio, native got his start in retail working at his parents' clothing shop. He opened his first store, The Limited, in 1963, with a $5,000 loan from his aunt. Upending the department-store model, he sold a limited selection of styles under his own label. He expanded quickly, and by the 1970s, he was on his way to building a national chain.

Over the next few years, he added other brands, including Abercrombie, Lane Bryant and Express, transforming many of them into mega-chains. He later sold off the clothing brands—"Conventional apparel just wasn't nearly as exciting as it used to be," he says.

TY WRIGHT FOR THE WALL STREET JOURNAL

CEO Les Wexner says shoppers want to visit stores to experience the environment and feel the products.

He kept Victoria's Secret, originally consisting of six stores and a catalog, which he purchased in 1982 for about $1 million. Today, Victoria's Secret is the leader with over 30% of the U.S. market for women's underwear, nearly six times the share of the next closest rival.

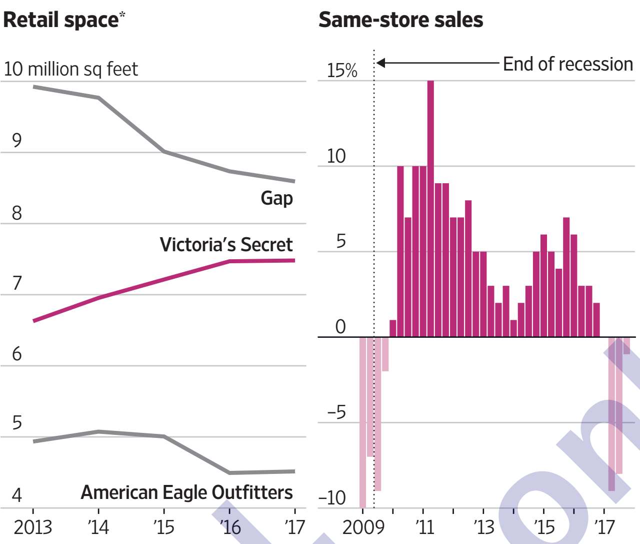
Mr. Wexner's forte has been to develop tightly focused product lines and carefully designed stores, and then to replicate the concept in malls across America.

"He could open 50 to 100 stores in a year and blow out a concept fast," says Rick Amari, founder of retail consultancy Columbus Consulting, who previously worked at Victoria's Secret. "He had these visions and could execute on them with laser focus."

According to Mr. Wexner, fashion brands become obsolete because the products they sell aren't compelling, or the atmosphere of the store isn't enticing. He believes clothing chains are hurting because they haven't fundamentally changed what they sell, not because of Amazon or declining mall traffic. "It's the merchandise, stupid," he often tells people.

Contrarian Move

Victoria's Secret has bucked the trend by adding stores, but sales at its parent company, L Brands, have dropped.



*North America
Sources: Euromonitor International (retail space); FactSet (same-store sales)

THE WALL STREET JOURNAL.

L Brands' same-store sales grew between 2009 and 2016, but Mr. Wexner was concerned that the company had become increasingly dependent on promotions to draw shoppers to stores. Victoria's Secret's beauty and lingerie businesses were losing steam, and its customers were getting older.

In 2016, he parted ways with Sharen Turney, who had served as CEO of Victoria's Secret for 10 years, and assumed control of the business. The company warned that sales would drop as Mr. Wexner made changes. Quarterly same-store sales and profit started falling.

Shortly after Victoria's Secret aired its annual swimsuit special on TV that year, with dozens of supermodels on the island of St. Barts, he eliminated the entire category. Swimwear generated revenue, but Mr. Wexner thought he could drive more traffic to his stores with sports bras and yoga pants, which are sold year-round. Ads started running with supermodels showing off their exercise routines.

He admits he didn't anticipate the athleisure trend, one of the most popular since the heyday of denim. "I didn't see Nike and Under Armour," he says, "and I didn't see Lululemon."

Later in 2016, he hired Jan Singer, a former Nike Inc. executive, to lead the Victoria's Secret lingerie division. He had her work at a Victoria's Secret store for the first two months, sizing women who were looking for undergarments, and then report observations back to Mr. Wexner and her staff. "As Les always says, the answer is in the store," says Ms. Singer.

These days, Ms. Singer and other executives are in a jet at least once a week visiting stores. They are encouraged to drop in to other retailers like Lululemon and Apple and learn about their products and stores. Mr. Wexner himself is a big product tester. His conference room in Columbus has hundreds of bottles of lotions and fragrances, many of them from competitors.

In September, Mr. Wexner told investors at a private meeting that he is more optimistic about Victoria's Secret than he has been in years. He had the same message for investors and analysts gathered at the event in Columbus two months later, stating: "It's never been better in retail."

He says problems in the industry are largely limited to clothing chains and department stores—which he predicted would decline years ago. "Everybody laughed," he recalls when in 1989 at a shopping center conference he pronounced the demise of the department-store model. Mall developers told him, "you're completely crazy."

Efforts in the store are lost on shoppers like Miku Konsolas, who says she has no way of knowing if Victoria's Secret is getting better because she rarely visits stores. The only reason the 28-year-old, a sales engineer in San Francisco, set foot inside a mall in recent memory was to process a quick exchange for an online order. On a website, she can "see all the inventory at once," she says.

In December, store-only sales at Victoria's Secret dropped 6%. Executives say the company's profits were hurt by heavy promotions.

"They likely need to close more of their stores over time," says David Berman, founder of Durban Capital, a hedge fund focused on retailers that is avoiding L Brands. "It is one of the best run retailers, but they are fighting against the tide."

Some investors are trying to profit by betting against Mr. Wexner, believing that his commitment to stores and malls is starting to hurt the business—6.9% of shares outstanding are sold short, held by investors betting they will decline in value.

Others are keeping faith in Mr. Wexner, the longest serving CEO of an S&P 500 company. "He's the straw that stirs the drink," says Michael Goody, a senior analyst at Scharf Investments, which owns about 3.8 million shares of L Brands. "This is in his blood."

Late on a Tuesday night, Mr. Wexner looped his Chevy Volt around the fountain in the middle of Easton Town Center, the open-air shopping center he helped design nearly 20 years ago.

The mall is just five minutes from his office, and he comes here often, parking in front of Victoria's Secret. "Humans are fundamentally pack animals," he says. "It hasn't changed for thousands of years."

TY WRIGHT FOR THE WALL STREET JOURNAL

Victoria's Secret has added sports bras and other athletic clothing.

PIPES

Continued from Page One

The Royal Scottish Pipe Band Association, which hosts the world championships, sets a minimum band size. Each grade-one band—the top tier—must have at least eight pipers, three snare drummers and one bass drummer.

The association sets no upper limit, and therein lies the source of the arms race on the Glasgow Green.

"Bands pressure each other to come up with a bigger unit, and size is perceived to matter," says Terry Lee, former pipe major of the Simon Fraser University Pipe Band, of British Columbia.

Not that everyone agrees on how it all started.

Mitchell McDowell, who plays for Ontario's City of Thorold Pipe Band, remembers his stunned disbelief when the Clan MacFarlane Pipe Band marched 18 bagpipes into the ballroom of a Toronto hotel for the 1979 Pipers' and Pipe Band Society of Ontario Highland Ball. "To those of us in attendance that night, it seemed that the single file of pipers marching through the entrance onto the dance floor would never end!" Mr. McDowell wrote in a letter to the editor of pipes|drums. But that wasn't a competition.

Some pipers say a turning point came when Bill Livingstone, a lawyer from Whitby, Ontario, created the 78th Fraser Highlanders Pipe Band out of an all-star selection of local pipers and the remnants of the General Motors Pipe Band, which had lost its sponsorship from the GM plant in Oshawa.

The 78th Frasers challenged the notion that a band should rise to the top simply by playing "Scotland the Brave" and other standards, only better. Mr. Livingstone introduced new Celtic- and jazz-influenced music, played with aggressive drumming.

In 1987, just five years after the band formed, with just 11 pipers, it became the first non-Scottish entrant to win the grade-one world championship, ending a six-year run by the Strathclyde Police Pipe Band.

"All of the sudden the Scottish bands said, 'We're not going to let some foreigners come over here and show us up,'" says Bentley Wall, pipe major of Cleveland's North Coast Pipe Band. "So the Scottish bands started recruiting to get larger bands with more players. Fraser responded by doing the same thing."

The bagpipe has five pipes and an air bag. Traditionally, the bag has been made of sheep or goat skin and the reeds of Spanish cane. As the player blows, spittle collects in the bag and the reeds get wet. (Some pipers, known as dry blowers, have naturally un-humid breath.) A little moisture is necessary; a lot throws the bagpipe out of tune. It doesn't help that the world championships are held outdoors in a city that gets 170 days of rain a year.

Pipe majors, who both play their own bagpipe and conduct the pipe and drum sections by tapping their foot, often spent an hour-and-a-half tuning a 14-pipe band. Tuning a 27-piece pipe section was unthinkable back in the day.

That changed with the advent of electronic tuners, synthetic reeds and Gore-Tex bags. Then there's the new moisture-control technology, which involves a microwavable product pipers call kitty litter.

Now pipe majors, working with a tuning team, can tune 27 pipes in an hour.

In 1995, Simon Fraser University won its first world championship with 18 pipers. The band last won in 2009 with 24. In 2007, the 78th Frasers fielded a record 30 pipers, and had another half-dozen on the bench in case of injury or tuning troubles. The band finished fourth that year.

"There's a visual thing when they walk out on the playing surface and suddenly the audience and judges are confronted by this huge phalanx of pipers and drummers," says Robert Wallace, who edits pipingpress.com. "A small band is a loser before they even strike up."

A huge pipe section can do justice to complex pieces such as "Journey to Skye," which contain multiple musical parts.

"Pipe bands are now playing at a level that was thought impossible due to the limitations of the bagpipe," says Andrew Carlisle, who runs the bagpipe program at Carnegie Mellon University in Pittsburgh and has played 16 years with Northern Ireland's Field Marshal Montgomery Pipe Band, 11-time world champs. The band won in 2016 with 27 pipers.

Big bands are also louder, something that appeals to players of an instrument one pipe major describes as having two volume settings: Loud and off.

Many pipers are pressing for caps on roster size. Pressed to fill their ranks, they argue, grade-one bands are siphoning off talent from lower-ranked bands.

In 2010, the grade-one City of Washington (D.C.) band dared take the field with just 10 pipers at the world championships. "It wasn't that bad of a play," says Andrew Donlan, pipe major of the MacMillan United Pipe Bands in Washington, D.C. "But they didn't have the numbers for the sound required for a grade-one band."

Shortly afterward, the Royal Scottish Pipe Band Association downgraded City of Washington to grade two, and the band disbanded.

The RSPBA demoted the Peel Regional Police Pipe Band, of Mississauga, Ontario, to grade two last year after the band's bottom-dwelling result at the world championships. Peel Pipe Major John Cairns says he could field 14 or 15 top-notch pipers, including a few flown in from Australia. But he can't round up the 20 or more he'd need to make a serious run in Glasgow.

In pipingpress.com, Mr. Wallace called for a 20-pipe limit. Otherwise, lower-ranked bands struggle to survive, he wrote.

The decision effectively falls to the 400-member Royal Scottish Association, which says it sees no reason to limit band rosters. "The majority appear to be happy with the current situation," says RSPBA Executive Officer Ian Embelton.

"The guys with the winning pipe bands are the guys with the power," says Mr. Wallace. "Some say [limiting band size] would be suicide. Why would you change a set of rules that allow you to win world championships?"

JEFF J MITCHELL/GETTY IMAGES

Top bands compete each year at the World Pipe Band Championships in Glasgow, Scotland.

GREATER NEW YORK

Witness: Ex-Cuomo Aide Got Perks

Former lobbyist who claims bribery role says Percoco and executive helped each other out

By Erica Orden

A Montauk fishing trip and a steakhouse lunch were but two of the perks used to coax a former top aide to New York Gov. Andrew Cuomo into bribery schemes, a star witness for the prosecution testified Monday in Manhattan federal court.

Over the course of nearly five hours, jurors in the corruption trial of the former aide, Joseph Percoco, heard the testimony of Todd Howe. Mr. Howe, a former lobbyist, was close to the Cuomo administration until he became a cooperating witness for the government.

Mr. Howe's testimony, expected to last at least a week, is critical to the bribery case against Mr. Percoco and three other defendants because Mr. Howe, by his own account, served as a middleman who helped arrange two bribery schemes in which private executives allegedly paid Mr. Percoco to obtain government favors for their companies.

Ruddy-faced and at times speaking barely above a mumble, Mr. Howe described the eight felonies to which he pleaded guilty as part of his cooperation deal. Then he proceeded to testify against Mr. Percoco, whom Mr. Howe called "the closest thing to a brother I ever had."

Mr. Howe was blunt in his assessment of what motivated the alleged bribery, saying that one of the executives, Peter Galbraith Kelly Jr., who is also a defendant, agreed to pay Mr. Percoco because he wanted Mr. Percoco to be "his eyes and ears in the governor's office."

Mr. Cuomo, a Democrat, hasn't been accused of wrongdoing and has said he was unaware of Mr. Percoco's alleged conduct. An attorney for Mr. Percoco said Monday night that "we look forward to cross-examining" Mr. Howe. An attorney for Mr. Kelly didn't respond to a request for comment.

In one alleged scheme, Mr. Howe testified, Mr. Kelly, an executive at an energy company that needed a power purchase agreement from the state for a power plant, courted Mr. Percoco with an array of perks. Mr. Howe said these included an August 2010 fishing trip in Montauk—jurors were shown photos of a grinning Mr. Percoco in sunglasses and shorts, showcasing a sizable tuna—and the use of Mr. Kelly's company's private jet, at Mr. Percoco's request, in the final stretch of Mr. Cuomo's gubernatorial campaign that year.

Mr. Percoco was aware that most of Mr. Howe's clients had business before the state, Mr. Howe said. In 2012, Mr. Percoco told Mr. Howe that he had "serious financial issues" and asked Mr. Howe about employment for his wife, Lisa Percoco, who had been a schoolteacher. "He asked if there were any clients of mine that could possibly hire her," Mr. Howe recalled.

Because Mr. Kelly had the power plant project before the state, Mr. Howe said he approached Mr. Kelly and asked him to find a job for Ms. Percoco.

Prosecutors allege that Mr. Kelly eventually arranged for Ms. Percoco to get a job connected to the energy company that paid her nearly $300,000 over three years, for minimal work.

U.S. ATTORNEY'S OFFICE FOR THE SOUTHERN DISTRICT OF NEW YORK

Todd Howe, left, and Joseph Percoco on a fishing trip in Montauk.

Legislators Grill Mayor on Budget, Property Taxes

By Mara Gay

New York state lawmakers are pushing Mayor Bill de Blasio to move faster on a promise to take on a property-tax overhaul, saying many residents are already being financially hurt by changes to the federal tax code.

"It's urgent that we move forward," Assemblyman Michael Cusick, a Democrat, said during a finance hearing in Albany Monday where the New York City mayor was presenting his preliminary budget.

The mayor's budget appearances in Albany take place several times a year. It is typical for state lawmakers to grill the mayor on subjects ranging from taxes to schools to police.

State Sen. Catharine Young, a Republican, asked the Democratic mayor why Shola Olatoye, the head of the city's public housing authority, was still at the helm amid concerns over management issues, including revelations the agency had failed to conduct lead-paint inspections required by law for four years. Mr. de Blasio defended Ms. Olatoye, saying she had made progress in a difficult agency.

But many lawmakers in Monday's hearing focused on property taxes, an issue that in New York has cut across partisan lines.

The mayor said he would "unquestionably" roll out property-tax changes this year. But he said any changes would have to be "revenue-neutral" to allow the city to maintain its current services.

The city's property-tax rate hasn't increased under Mr. de Blasio. But the levy has grown by 23%, or about $5 billion, since fiscal 2015, the first full year he was in office. The increase is because of a rise in property-value assessments by the city.

Cuts to property taxes haven't been a priority for the liberal mayor and liberal City Council. But the city could change the way it assesses property values to reduce what many residents, lawmakers and experts have said are disparities in the way the levy affects homeowners in different areas.

State Assemblywoman Nicole Malliotakis, a Staten Island Republican who ran against Mr. de Blasio in last year's mayoral race, brought her personal property-tax bill to the hearing, saying it was unfair that her tax burden was greater than those who live in wealthier areas of the city where the property values are much higher.

Mr. de Blasio said the city would work to fix that issue. "The inconsistency among neighborhoods makes no sense," he said. "It has to be addressed."

HANS PENNINK/ASSOCIATED PRESS

New York City Mayor Bill de Blasio fielded questions from lawmakers in Albany on Monday, with Assembly Speaker Carl Heastie standing nearby, during a joint legislative budget hearing.

Officer Testifies Mentally Ill Woman Didn't Swing Bat

By Zolan Kanno-Youngs

The 66-year-old mentally ill woman fatally shot by New York City Police Department Sgt. Hugh Barry didn't swing a baseball bat, an NYPD officer testified on Monday, contradicting the defense argument that she used "a lethal weapon" against the sergeant.

The witness, Officer Camilo Rosario, said that Deborah Danner, who suffered from paranoid schizophrenia, stood up from her bed in her Bronx apartment and stepped toward several officers while holding the 32-inch bat above her shoulder just before Sgt. Barry shot her in 2016. Other officers have testified that they were behind Officer Rosario and Sgt. Barry when the police approached Ms. Danner's room and their view was blocked.

"At any point did [Ms. Danner] try to hit Sgt. Barry in the head?" asked Wanda Perez-Maldonado, a prosecutor from the Bronx district attorney's office.

"No," answered Officer Rosario.

The testimony in Bronx Supreme Court on Monday came on the fourth day of the trial of Sgt. Barry, who is accused of second-degree murder and other counts in the shooting. He has opted for a nonjury trial before Judge Robert Neary.

The sergeant's murder trial comes at a time of heightened tensions between police and predominantly minority neighborhoods, and has reignited criticism of how the NYPD responds to incidents involving the mentally ill.

Sgt. Barry was one of six officers to respond to a report of a violent "emotionally disturbed person" yelling in the hallway of a Castle Hill apartment building on Oct. 18, 2016. He was armed with a stun gun when he shot Ms. Danner.

Officer Rosario's testimony could prove pivotal in the case because he was standing next to Sgt. Barry in Ms. Danner's bedroom doorway.

Andrew Quinn, an attorney for Sgt. Barry, maintains that Ms. Danner was going to kill Sgt. Barry by swinging the bat at his head. The Bronx district attorney says Sgt. Barry escalated tensions.

Officer Rosario testified that along with the other officers entered her apartment—before Sgt. Barry arrived—Ms. Danner said she didn't want them in her home.

With the officers standing in the bedroom doorway, Officer Rosario said he saw Ms. Danner moving a bat in a circular motion above her shoulder while sitting on the bed.

"She was ready for a fight," Officer Rosario said. He said Sgt. Barry told her to " 'drop it' " three times before firing two shots.

Governor Seeks to Ease State Tax Burden

By Joseph De Avila

Gov. Dannel Malloy on Monday proposed legislation to help Connecticut residents make up for $10 billion in lost federal tax deductions under the recent tax overhaul.

His plan aims to assist Connecticut homeowners who face higher federal tax bills because the new law caps state and local tax deductions at $10,000 a year. To get around that cap, Mr. Malloy's proposal would give towns authority to form charitable organizations that residents can contribute to in exchange for property tax credits.

Charitable contributions kept their full deductibility under the tax overhaul.

"It would be unreasonable for us as a state to not propose ways to assist our taxpayers," said Mr. Malloy, a Democrat. His plan requires approval by the state legislature.

The governor included the strategy among his recommended revisions to the state budget for the fiscal year that begins in July. The revisions in his $20.73 billion proposal are applied to the two-year budget lawmakers approved last year.

Other high-tax states such as New York and New Jersey have been searching for ways to ease the impact of the federal tax changes. Some New Jersey towns also have expressed interest in developing a plan similar to the one proposed by Mr. Malloy.

New Jersey Gov. Phil Murphy, a Democrat, supports those efforts. New York Gov. Andrew Cuomo, also a Democrat, has proposed changing some of the state income tax into a payroll tax on employers.

'It would be unreasonable...to not propose ways to assist our taxpayers.'

The Internal Revenue Service didn't respond to a request for comment.

The governors of New York, New Jersey and Connecticut also said in January they would sue the federal government to overturn the new tax law, saying it intentionally discriminates against Democratic-leaning states.

New York tax filers claimed about $22,000 on average in state and local tax deductions in 2015, the highest figure in the U.S., according to the Government Finance Officers Association. Connecticut tax filers claimed more than $19,000 on average and New Jersey nearly $18,000 on average.

Instead of funding municipal services through property taxes, cities and towns would tap a mix of property taxes and money raised from the charitable organizations, under Mr. Malloy's proposal. Details of the plan haven't been fully established.

"The specifics of how that will work will have to be worked out at a local level," said Ben Barnes, the budget chief for the Malloy administration.

Mr. Malloy said his administration has determined that his plan would be allowed under the current federal law.

Convicted Bomber Wants Family Visits

By Corinne Ramey

A lawyer representing the man convicted of detonating a bomb in Manhattan's Chelsea neighborhood in 2016 argued his client should be allowed to see family and have educational opportunities while spending his life in prison.

Ahmad Rahimi, convicted in October of using weapons of mass destruction and other crimes, is scheduled to be sentenced next week. He faces a mandatory life sentence.

In a letter to U.S. District Judge Richard Berman on Friday, the lawyer, Xavier Donaldson, asked that Mr. Rahimi be allowed to have educational opportunities in prison, and noted he had taken classes in business, entrepreneurship and drama while in jail.

Mr. Donaldson wrote that Mr. Rahimi had only been allowed six family visits since he was arrested. "We are also asking the Court to recommend to the Bureau of Prisons that Mr. Rahimi be housed as close to Virginia as possible to facilitate family visitation," Mr. Donaldson wrote.

The Federal Bureau of Prisons declined to comment.

Federal prosecutors said Mr. Rahimi's conduct before, during and after the attack shows he should spend life in prison, as required by law. Not only was Mr. Rahimi convicted of planting and detonating bombs, he had tried to radicalize fellow inmates while in jail, they said.

"He continues his attempt to wage jihad from his prison cell, espousing the hatred and vitriol of the terrorists he emulated in carrying out his attacks," Manhattan prosecutors wrote last month.

They said Mr. Rahimi provided inmates with materials including bomb-making instructions. He showed the inmates these materials on his laptop and gave some inmates electronic copies, they said. Some of these materials came from evidence that government lawyers said they had shared with defense lawyers in the case.

Mr. Donaldson didn't immediately respond to a request for comment.

On Sept. 17, 2016, Mr. Rahimi planted pressure-cooker bombs on West 23rd and West 27th Streets, the authorities said. The West 23rd Street bomb injured more than 30 people and caused millions of dollars in property damage, prosecutors said. The West 27th Street bomb didn't explode.


MEL EVANS/ASSOCIATED PRESS

Ahmad Rahimi faces life in prison when he is sentenced next week.


PETER FOLEY FOR THE WALL STREET JOURNAL; NEW YORKERS FOR CLEAN, LIVABLE AND SAFE STREETS (BELOW)

A horse-drawn carriage waited for customers Monday on Central Park South. Below, a carriage rested against a car outside the Ritz Carlton hotel Sunday after a spooked horse ran into the road, pulling the carriage between parked vehicles. Three tourists were hurt.

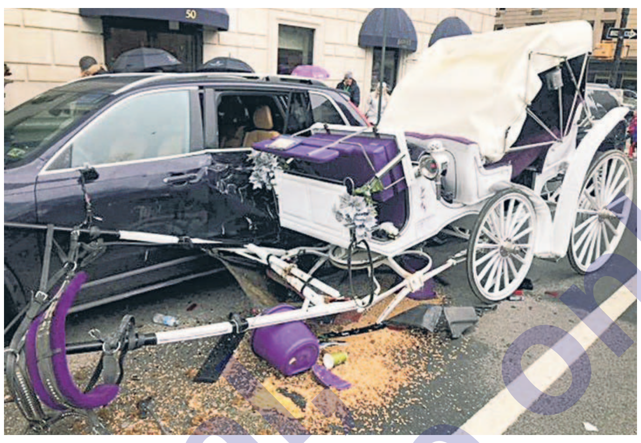
Carriage Crash Fuels Debate

By Mike Vilensky

A crash that left three passengers injured after a carriage horse bolted into a busy Manhattan street has revived a debate over restricting the iconic New York City rides.

The incident happened on Sunday after a pedestrian opened and closed an umbrella, spooking the horse that was pulling a carriage with three passengers from Texas, according to the carriage driver and a New York Police Department spokesman. The horse ran into Central Park South, wedging itself between two parked cars. The passengers were treated for minor injuries at a hospital, police said. The horse wasn't injured.

The incident has brought new calls for regulating the horse-carriage industry, an issue that has long dogged Mayor Bill de Blasio and the New York City Council. There are roughly



180 licensed carriage horses in and around Central Park.

On Monday, New Yorkers for Clean, Livable, and Safe Streets said the accident shows why a change to the status quo is necessary.

"We can't keep waiting on this issue," said Edita Birnkrant, the animal activist group's director. "There is a lot of outrage that the mayor has done nothing to help these horses after all the promises he has made."

During the 2013 campaign, NYCLASS gave financial and political backing to Mr. de Blasio, a Democrat who vowed to ban the carriages.

But in 2016, a compromise deal to restrict the carriages to Central Park and reduce their numbers fell apart when the Council refused to vote on the matter.

On Monday, a spokesman for Mr. de Blasio said the mayor's position hasn't changed: "We don't believe horses and cars should be on the same street," he said.

Christina Hansen, a spokeswoman for Historic Horse-Drawn Carriages of Central Park, which supports the carriages, said the horse involved in Sunday's incident was still under a 30-day trial period, and will now be returned to his previous owner.

"The reason why this is news is because our industry is so safe that it is unusual for us to have an accident," Ms. Hansen said.

The driver, Colm McKeever, said he has driven a horse-carriage for 30 years and it was the first accident. "It all happened so fast," he said.

Stepping Out in a Sartorial Statement


RICHARD DREW/ASSOCIATED PRESS (2)

CATWALK: Models showed off looks from Barbara Sanchez-Kane's Fall 2018 collection on Monday, the opening day of New York Fashion Week: Men's. Womenswear presentations begin on Thursday.

GREATER NEW YORK WATCH

NEW JERSEY

Murphy Signs Order On Net Neutrality

New Jersey will only agree to new contracts with internet providers who observe net neutrality under an executive order issued by Democratic Gov. Phil Murphy.

Mr. Murphy signed the order Monday in Newark. The Democratic governors of New York and Montana have taken similar executive action.

Mr. Murphy's administration also announced the state attorney general would be joining 21 other state attorneys general and the District of Columbia who are suing to block the repeal of the federal policy. The policy banned companies from interfering with web traffic or speeds to favor certain sites or apps.

Messages left with internet service providers and the state's telecommunications association haven't been returned.

—Associated Press

CONNECTICUT

Retiring Chief Justice Will Join Law Firm

Retiring Connecticut Chief Justice Chase Rogers has been hired by a large East Coast law firm.

Day Pitney announced Monday that Ms. Rogers will join the firm's Hartford office as a litigation partner and appellate practice group member on March 19. Monday also was the day Ms. Rogers' retirement as chief justice took effect.

Ms. Rogers served as chief justice for nearly 11 years, after serving as a judge on the Superior Court and Appellate Court. She said in a statement that she admires Day Pitney and the complexity of the matters it handles.

Democratic Gov. Dannel Malloy nominated Justice Andrew McDonald to succeed Rogers. Justice McDonald would be the first openly gay leader of a state Supreme Court in the country.

—Associated Press

MANHATTAN

Police: Man Kills Self Outside City Hall

Police say a man drove up to a gate outside New York's City Hall and shot himself to death.

A police spokesman says the man drove a black sedan up to the east gate of City Hall at 7:30 a.m. Monday and shot himself in the head. His name wasn't released. There were no other injuries.

Manhattan-bound traffic on the nearby Brooklyn Bridge was halted while police investigated the shooting, causing rush-hour traffic backups on both sides of the bridge.

The man shot himself close to one of two main security checkpoints for all people entering City Hall. Members of the public must pass through a metal detector before entering the building. Security was tightened after a gunman killed a city councilman in 2003.

—Associated Press

LIFE & ARTS


ALEX NABAUM

BONDS: ON RELATIONSHIPS | By Elizabeth Bernstein

The Role Power Plays in Sexual Harassment

Psychologists say high-powered men who abuse women have different motivations but often share certain personality traits; for some, 'parallels to alcohol'

WHY DO THEY DO IT?

A series of sexual-harassment accusations against well-known business leaders, celebrities and politicians has left people wondering why some successful men behave this way.

In many cases, power seems to play a role. Certainly, the majority of influential men treat women appropriately. But what is going on from a psychological standpoint with the ones who don't? Research shows they have different motivations yet typically share specific personality traits. Their power amplifies proclivities they already have.

Power can be isolating. Psychologists say that people in power sometimes feel removed from others, as if they aren't subject to the same rules. They may operate in a bubble. "Powerful people often surround themselves with people who enable them and who won't challenge them," says Christopher Kilmartin, a professor emeritus of psychology at University of Mary Washington, in Fredericksburg, Va., and author of "The Masculine Self."

A series of five studies, published together in the Journal of Personality and Social Psychology last year, shows that power can create opportunities for men to mistreat women. However, those who choose to exploit such opportunities are sometimes men who felt powerless in the past and then suddenly received an increase in power. This type of man, who sees himself as chronically lacking power, was the most likely to pursue an inappropriate workplace attraction or exhibit harassment behavior, the research said.

Power also can make people feel less inhibited, says Melissa Williams, an associate professor at Emory University's Goizueta Business School and the lead researcher on the study. "There are parallels to alcohol," she says. "Both make you less constrained by social norms."

For many people this is positive. People who are compassionate before they have power, for example, tend to be more compassionate afterwards, the research shows. They're the good bosses.

But some desires are negative. Research over decades on thousands of men shows that those who harass or assault women often have a combination of two distinct sets of personality characteristics, and that these then become amplified by power, says Neil Malamuth, a professor of psychology and communication at the University of California, Los Angeles. Psychologists call these "hostile masculinity" and "impersonal sexuality."

Men with "hostile masculinity" find power over women to be a sexual turn-on. They feel anger at being rejected by a woman. This is something that researchers believe probably happened to them a lot when they were young. They justify their aggression and are often narcissists.

> 'The bad behavior is a defense against being powerless.'
>
> Christopher Kilmartin, author of 'The Masculine Self.'

Men with "impersonal sexuality" prefer sex without intimacy or a close connection, which often leads them to seek promiscuous sex or multiple partners. Often, but not always, this type of person has had a difficult home environment as a child, with abuse or violence, or they had some anti-social tendencies as adolescents.

Men who harass or assault women also tend to have sexist attitudes, such as an opposition to gender equality or a favoring of traditional roles for women, says John Pryor, a distinguished professor of psychology emeritus at Illinois State University, in Normal, Ill., who has studied sexual harassment for decades.

"It's not automatic; it's not that power corrupts," says UCLA's Dr. Malamuth. "It's a certain type of man who uses his power in this way."

Dr. Malamuth says he has new, unpublished research that shows that men who are aggressive toward women are more likely to look for or create a situation where women are more vulnerable. So it's no coincidence that they are the ones who seek out power—especially over young, beautiful women, who were the ones who tended to reject them when they were young. Then their natural aggression makes them more likely to achieve it.

"The bad behavior is a defense against being powerless," says Dr. Kilmartin, of University of Mary Washington.

Write to Elizabeth Bernstein at elizabeth.bernstein@wsj.com or follow her on Facebook, Twitter or Instagram at EBernsteinWSJ.

YOUR HEALTH | By Sumathi Reddy

THE CHASE FOR A PERMANENT FLU VACCINE

AS DOCTORS STRUGGLE with the worst flu season in nearly a decade, some are racing to answer a question: Can they find a more permanent solution than variably successful annual vaccines?

Researchers at the University of California, Los Angeles have developed a new approach for a vaccine that tested successfully in animals. GlaxoSmithKline is in the early stages of testing another promising approach in people.

And the newly launched Universal Influenza Vaccine Initiative is sequencing the blood of individuals who receive the current flu vaccine or are infected with the virus. The group hopes to shed light on the body's immune response to ultimately develop better treatments.

The development of a universal influenza vaccine that would protect against multiple strains of the flu is a priority, says Anthony Fauci, director of the federal National Institute of Allergy and Infectious Diseases. But it's many years away from becoming a reality.

"There are about a dozen candidates that range from preclinical animal studies up through and including phase-two clinical trials," he says. "But we're still in the area of scientific discovery."

Combating the flu is difficult for a number of reasons. Humans are infected by influenza A or B viruses. Mutations can create different strains among the main two types of A viruses infecting humans, H1N1 and H3N2.

JUSTIN SULLIVAN/GETTY IMAGES

Annual flu shots are typically only 40% to 60% effective. This winter, success rates have been lower.

Scientists must make an educated guess months ahead of time on which strains they expect to circulate the following flu season, because of the time required to make the vaccine. But the virus can mutate in that time, resulting in a mismatch between the circulating virus and the vaccine. This year's dominant flu type—H3N2—has a tendency to mutate or change, making the vaccine less effective. It also causes a greater number of hospitalizations and deaths than other strains.

In any year, the vaccine reduces the risk of contracting the flu by about 40% to 60%. In years where the H3N2 is dominant, the numbers are usually lower.

That could help explain why less than half of adults in the U.S. usually get the vaccine. Doctors urge everyone over six months old to get it, noting that even if you contract the flu, the shot will make the virus less severe and shorten the time you are sick.

Still, there are those like Adam Hirsch who don't. The 40-year-old New York City resident, who works in the financial industry, says he's never received a flu vaccine. Neither has his wife.

"It's not very effective," Mr. Hirsch says. "We don't think it really works." This year they got one for their 19-month-old daughter late in the season only because of all the news about hospitalizations and deaths.

"We didn't get it for her last year, and when she's a little bit older, I don't think we would do it," he says. If a vaccine had a higher success rate, he would get it.

Scientists are a long way off from better rates of protection, but there are glimmers of hope.

UCLA researchers tested a vaccine in ferrets and mice that boosted their immune systems' ability to fight many viral strains. The study was published in January in Science.

The vaccine is "live"—consisting

Please see FLU page A14

MUSIC

A Chart-Topping Album Sparks Debate Over Length

FREDERICK M. BROWN/GETTY IMAGES

Migos, shown above at a 2017 performance in Los Angeles, in January released 'Culture II,' the follow-up to its Grammy-nominated album 'Culture.'

BY NEIL SHAH

HIP-HOP GROUP Migos has America's No. 1 album, but not everyone is celebrating.

The Atlanta rap trio's new record, "Culture II," which follows last year's chart-topping "Culture," has met with mixed reviews from outlets such as Pitchfork, which called it "a formless grab bag compiled without much care" and rated it 6.4 out of a possible 10. "While it's an ambitious swing, the 24-track project lacks the commanding relevancy of its predecessor," the Fader wrote.

Much of the criticism has focused on the album's length: With 24 tracks that last an hour and 45 minutes, it is nearly double the length of its predecessor, which spawned the hit "Bad and Boujee" and was nominated for a Grammy Award for Best Rap Album. It also highlights a new issue in the age of streaming: More tracks mean more royalties and higher rankings on the charts, prompting artists to release longer albums.

Every time a song is streamed, an artist earns royalties. Many fans will listen to a favorite artist's album from start to finish, at least the first time. If there are more songs, the artist racks up more income and ranks higher on the Billboard music charts, which factor in streaming.

Migos is "trying to game the system," says Craig Jenkins, music critic at New York magazine. "I worry that it's going to work so well that people are going to think, what's stopping anyone from doing this?"

A spokeswoman for Capitol Music Group, which operates a joint venture with Migos' label, Quality Control Music, said no one was available to comment.

In late 2014, Nielsen Music, which provides numbers for the Billboard album charts, started counting 1,500 on-demand audio streams as equivalent to one album sale. The change has been a boon for hip-hop artists, whose popularity on streaming services had previously been underestimated by the record industry.

Released on Jan. 26, "Culture II" had 199,000 "album equivalent" sales in its first week, including 38,000 traditional album sales and 225.6 million on-demand audio streams, exceeding the 131,000 album-equivalent sales "Culture" earned in its debut week, according to Billboard. That is the strongest streaming week for any album since Kendrick Lamar's "DAMN."

The rap trio's 24-track release highlights new issues in the age of streaming media.

last spring, which generated 340.6 million streams.

Hip-hop albums are typically 50 to 60 minutes, with 14 to 17 tracks, Mr. Jenkins says, but longer albums are on the rise.

In 2016, the rapper Drake released a 20-track album, "Views," which he followed in 2017 with a 22-track project, "More Life," that he called a "playlist." R&B singer Chris Brown's "Heartbreak on a Full Moon," released last fall, has 45 songs. (The deluxe edition adds 12 more.)

A long album isn't necessarily a bad one, and "filler" tracks aren't new. In the CD era, fans of all musical genres routinely spent $15.99 on albums with a few hits.

But as listening habits change in the streaming era, listeners with more options may not be as resistant to a hodgepodge of songs in an album. Music-industry watchers say that artists could be fighting back against the low compensation of streaming royalties by releasing longer albums.

Billboard is fine-tuning how it accounts for streaming. Last month, it began giving streams on subscription services like Apple Music and Spotify's ad-free, $9.99-a-month tier more weight than the "free" streams on YouTube and Spotify's ad-supported tier.

"Culture II" has some fans, though even they tend to point out the duration.

Hip-hop outlet XXL says the album's length "does eventually wear the songs thin" but applauded it overall, adding "listeners might not hear a smash hit at every turn but they still very much exist."

A fan on Twitter, @SecularSocialDem, echoed the qualified praise: "If you removed half the songs it would be a solid project."

FLU

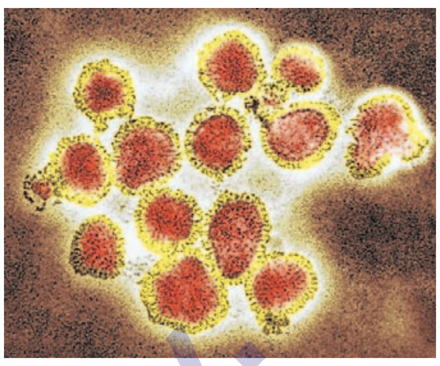
Continued from page A13

of a weakened form of the virus—and therefore triggers a response from B and T cells, which are both white blood cells that fight viruses, says Ren Sun, a professor of molecular and medical pharmacology at the David Geffen School of Medicine at UCLA and senior author of the study.

When developing the vaccine, researchers focused on interferons, proteins the body creates to kill viruses and trigger a successful immune response. Current flu strains feature functions that evade those interferons. The researchers identified these functions and deactivated them, developing a flu strain that counteracted their effects.

Dr. Sun says that if the virus cannot escape the interferons, two things happen: "One, the interferon system limits the virus replication. Two, strong interferon production stimulates a stronger antibody and T cell response."

The test virus protected animals against the H3N2 and H1N1 strains of influenza. The experiment needs to be repeated with influenza B strains, which are very different, says Dr. Sun.



CDC/SCIENCE SOURCE

H3N2 is an influenza A subtype responsible for this year's particularly harsh flu season.

Peter Palese and co-researchers have developed a different approach to a universal flu vaccine that's being tested in two phase one clinical trials in humans. GlaxoSmithKline is conducting one trial and the Bill & Melinda Gates Foundation is spearheading the other.

The vaccine they developed focuses on hemagglutinin, a protein that helps the flu virus bind to certain cells in the body, such as those in the upper respiratory tract.

Part of the protein doesn't change from year to year, says Dr. Palese, a microbiologist at the Icahn School of Medicine at Mount Sinai in New York City. The idea is to redirect the immune system to target those unchanging regions, he says. Researchers hope this creates a vaccine that works against all flu strains. The proposed vaccine succeeded in animal experiments, working against all influenza A and B strains tested.

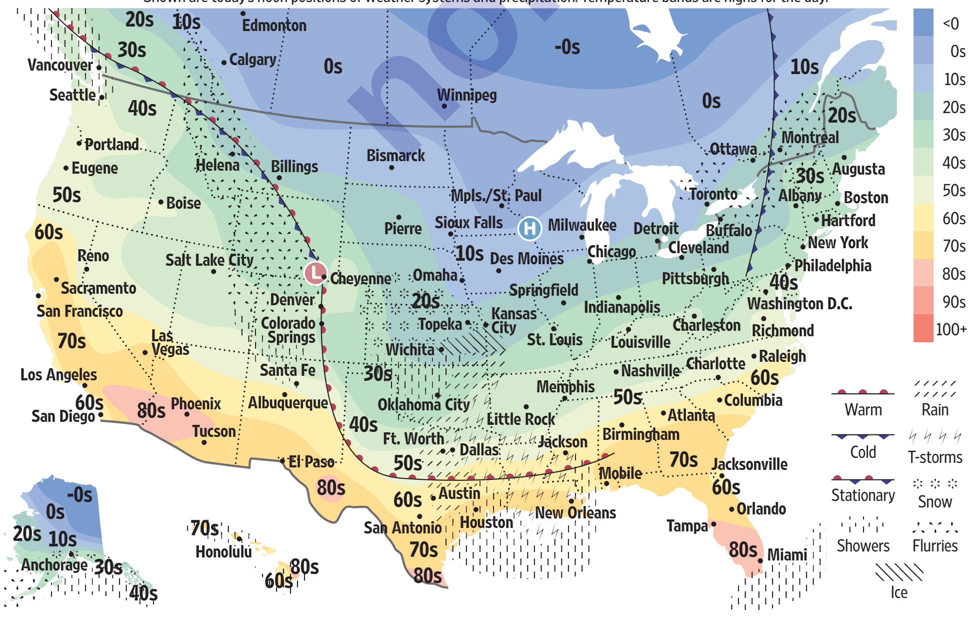
James Crowe, director of the Vanderbilt Vaccine Center, is leading the Universal Influenza Vaccine Initiative, a global effort to develop a vaccine. The project is examining babies, pregnant women, adults and the elderly to see how their first exposure to the flu impacts responses to future vaccines and viruses.

The initiative also uses DNA sequencing technology to decode billions of antibody and T cell sequences as they occur in humans. Researchers are getting blood samples from people either after they get the flu vaccine or just after they are infected with the virus and sequencing their blood for antibody and T cell responses. They have 60 people enrolled in the study, with the goal of sequencing 1,000.

Weather

AccuWeather DOWNLOAD OUR APP TODAY

Shown are today's noon positions of weather systems and precipitation. Temperature bands are highs for the day.



U.S. Forecasts

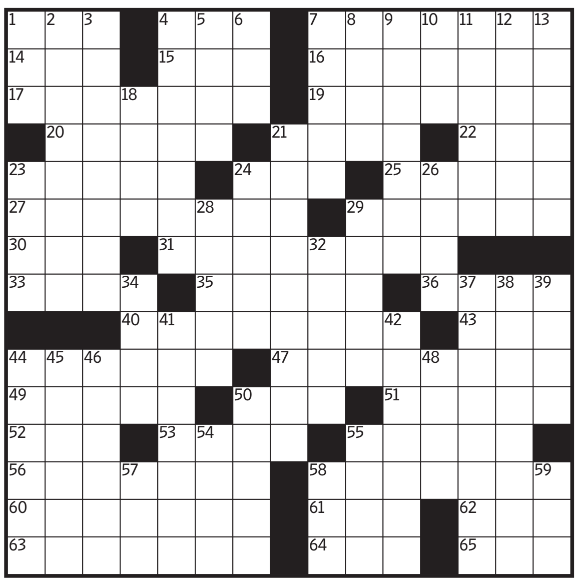
s...sunny; pc... partly cloudy; c...cloudy; sh...showers; t...t'storms; r...rain; sf...snow flurries; sn...snow; i...ice

City	Today Hi	Lo	W	Tomorrow Hi	Lo	W
Anchorage	30	17	sn	28	10	s
Atlanta	63	53	pc	63	39	r
Austin	66	45	r	51	33	sh
Baltimore	42	26	pc	44	26	i
Boise	51	34	pc	54	37	pc
Boston	37	24	pc	36	27	sn
Burlington	30	8	c	25	15	sn
Charlotte	59	47	pc	61	38	r
Chicago	20	12	pc	22	5	pc
Cleveland	26	16	c	27	18	sn
Dallas	54	38	r	51	32	pc
Denver	44	21	c	51	33	s
Detroit	25	16	c	26	8	sn
Honolulu	79	67	t	80	67	sh
Houston	71	62	t	63	41	r
Indianapolis	30	21	c	31	11	pc
Kansas City	20	11	sn	29	17	s
Las Vegas	74	46	s	70	47	s
Little Rock	42	33	r	45	23	c
Los Angeles	76	56	pc	81	55	s
Miami	80	72	pc	81	69	pc
Milwaukee	17	10	pc	21	6	pc
Minneapolis	9	5	pc	17	2	pc
Nashville	49	44	r	44	24	r
New Orleans	72	64	t	74	46	r
New York City	39	30	pc	40	29	sn
Oklahoma City	35	19	i	42	22	s
Omaha	17	7	sn	25	17	s
Orlando	79	61	pc	80	63	pc
Philadelphia	42	28	pc	44	26	sn
Phoenix	80	52	s	80	51	s
Pittsburgh	31	19	c	34	13	sn
Portland, Maine	34	18	pc	31	22	sn
Portland, Ore.	53	40	c	56	41	pc
Sacramento	72	43	s	72	43	s
St. Louis	31	20	c	32	18	pc
Salt Lake City	49	34	pc	54	36	pc
San Francisco	69	52	s	69	51	s
Santa Fe	55	21	pc	51	23	s
Seattle	50	46	c	52	46	c
Sioux Falls	12	5	sn	19	12	s
Wash., D.C.	46	31	pc	46	26	r

International

City	Today Hi	Lo	W	Tomorrow Hi	Lo	W
Amsterdam	35	23	pc	37	29	c
Athens	58	48	pc	61	53	sh
Baghdad	75	48	pc	76	48	s
Bangkok	84	68	pc	86	69	s
Beijing	38	22	s	37	9	s
Berlin	30	20	pc	33	22	s
Brussels	35	24	pc	36	26	pc
Buenos Aires	92	71	c	95	72	pc
Dubai	74	58	pc	73	60	pc
Dublin	39	28	pc	42	38	c
Edinburgh	39	25	pc	41	37	c
Frankfurt	37	26	pc	38	25	s
Geneva	44	33	c	40	31	c
Havana	85	64	s	85	66	s
Hong Kong	58	50	pc	60	53	s
Istanbul	50	42	s	55	49	pc
Jakarta	85	75	t	86	74	sh
Jerusalem	68	47	c	69	48	s
Johannesburg	83	62	pc	80	61	t
London	38	28	c	41	29	pc
Madrid	42	25	c	43	25	pc
Manila	84	71	pc	84	72	c
Melbourne	86	61	s	95	66	pc
Mexico City	75	49	pc	73	48	pc
Milan	41	37	r	46	36	r
Moscow	14	5	pc	18	7	c
Mumbai	89	66	c	89	64	pc
Paris	35	29	sn	35	24	sn
Rio de Janeiro	81	74	c	83	73	sh
Riyadh	78	56	s	81	55	pc
Rome	57	44	r	55	41	t
San Juan	85	72	pc	83	74	pc
Seoul	21	9	s	27	14	c
Shanghai	38	25	s	43	28	c
Singapore	84	76	pc	84	75	c
Sydney	79	66	pc	80	67	pc
Taipei	55	48	c	60	52	r
Tokyo	45	32	s	46	34	s
Toronto	23	11	c	23	11	sn
Vancouver	47	42	r	49	43	c
Warsaw	31	18	pc	33	25	c
Zurich	41	28	pc	38	28	c

The WSJ Daily Crossword | Edited by Mike Shenk



AUTOCORRECTION | By Samuel A. Donaldson

Across

1 Lennon's love
4 Lifelong pal, 4 short
7 Sounding more husky
14 Emmy winner Holbrook
15 "Evil Woman" group
16 Set free
17 Fight over coffee at the diner?
19 Lovers of big galoots?
20 Six-time baseball All-Star Rusty
21 Manuscript encl.
22 P look-alike
23 Former senator Harry and family
24 ___ Plaines
25 Competed in the Indy 500
27 Tripod?
29 Stair parts
30 Absorbed, as a loss
31 Act cruelly toward
33 Feudal worker
35 "Downton Abbey" extra, maybe
36 Jessica of "Sin City"
40 "You don't look a day over 30," perhaps
43 Regatta implement
44 Pleasure to behold
47 Baby carrot?
49 How a magician's assistant may be sawn
50 Tampa pro
51 To-do list items
52 Jargon suffix
53 Julia Louis-Dreyfus comedy
55 Some PCs
56 Shot from an admirer?
58 Passenger limits at major airports?
60 New York neighbor
61 Org. that began the Energy Star program
62 Long of "NCIS: Los Angeles"
63 Has as a foundation
64 Japan's capital
65 Wrap up

Down

1 Volt/ampere
2 Make sick
3 Vet
4 John of "Animal House"
5 Spare tire makeup
6 Snappy dresser
7 Expressive dances
8 Heavy burden
9 Africa's largest nation
10 (Spoiler warning!) Hermione's husband
11 Reporter's contact
12 Biblical queen
13 Fixes a fairway
18 Fidget spinners and Silly Bandz, e.g.
21 Finished a poker night, say
23 Some TVs
24 Key of Chopin's "Minute Waltz"
26 Nick and Nora's pooch
28 Choreographer Ailey
29 Put a new point on, as a pool cue
32 Museum exhibit
34 BTW equivalent
37 Planet's busiest woman?
38 Tricky table tennis tactic
39 Synagogue chests
41 Some vacuums
42 Formula One driver Ocon
44 Try to win
45 Preposterous
46 Surgical implants
48 Soft mineral
50 Pick to win
54 Timothée Chalamet's "Call Me by Your Name" role
55 Sucker
57 Furry flyer
58 "Watch it!"
59 Blue

▶ Solve this puzzle online and discuss it at **WSJ.com/Puzzles.**

Previous Puzzle's Solution

THAW COLLECTION/THE MORGAN LIBRARY & MUSEUM (4); CLINT SPAULDING/PATRICK MCMULLAN AGENCY (THAW)

ART REVIEW

Reveling in The Collector's Eye

BY KAREN WILKIN

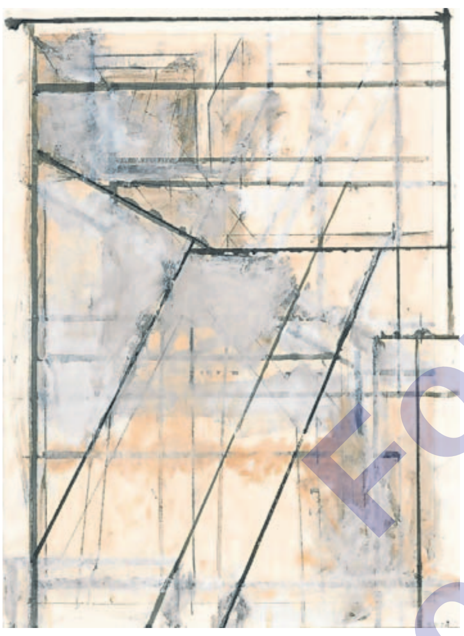
Williamstown, Mass.

WHEN EUGENE V. Thaw, self-described as "an intellectual art dealer," died on Jan. 5 at age 90, the art world lost a great connoisseur, collector and patron of the arts.

In 1950, at 23, Mr. Thaw opened a gallery and bookshop in New York where he sold an eclectic mix of works. He soon abandoned the bookshop but kept the gallery, to specialize in European old masters and become one of the most respected figures of his day. Beginning in 1954—urged by his wife, Clare Eddy Thaw (who died in 2017)—the young dealer began to keep works that he particularly admired. Over the next six decades, the couple assembled a collection of more than 400 outstanding drawings and works on paper, from the Renaissance to the 20th century. This remarkable assembly attests to the acuity of Mr. Thaw's eye, formed by graduate study with such legendary figures as Millard Meiss and Meyer Schapiro, mentoring by some of the most notable collectors, curators and art historians of his day, and intense scrutiny of countless works of art. (The same rigor applied when the Thaws collected Native American art, ancient Eurasian bronzes, medieval jewelry, architectural models, and more.)

Between 1968 and 2017, the Thaws gave their drawings, incrementally, to the Morgan Library & Museum, which mounted exhibitions of each donation. Last year, a selection of about 150 works, "Drawn to Greatness: Master Drawings From the Thaw Collection," was organized by the Morgan to celebrate this munificent gift, accompanied by a handsome book, with essays by an impressive roster of scholars, lavish illustrations, and a *catalogue raisonné* of the entire collection.

A slightly different group of 150 works is now on view at the Clark Art Institute. Since Mr. Thaw's passing, the celebratory exhibition has become a memorial tribute to one of the last passionate, scholarly collectors to be guided solely by his knowledge and taste. Thoughtfully installed by Clark curator Jay A. Clarke in both the museum's main galleries in the Tadao Ando building and the Eugene V. Thaw Gallery for Works on Paper in the recently renovated Manton Study Center, the selection begins with an ink-and-chalk study of three standing figures by Andrea Mantegna (c. 1450-55), proof of drawing's role, in the Renaissance, as a means of discovering the visible world. The Ando building installation ends with a series of heads drawn in various mediums by Henri Matisse, Pablo Picasso and Juan Gris, testimony to 20th-century improvisation, exploration and invention. Nearby, two stunning Jackson Pollock mixed-media drawings (c. 1943 and 1944), one dedicated to the pioneering dealer and collector Peggy Guggenheim, assert the power of fierce scrawls and scrapings to evoke unstable images dredged from the unconscious.



In between, we encounter a wealth of dazzling works, organized chronologically, geographically and thematically, cataloging 17th- and 18th-century drawings of religious subjects, social satire, landscape and portraits, from the Baroque to the Rococo to Neo-Classicism, in Italy, France and Northern Europe. Impressionist and Post-Impressionist works follow. Nineteenth-century Romantic drawings are in the Thaw Gallery.

The collection is at once comprehensive, wide-ranging and personal. Mr. Thaw preferred finished works to preparatory drawings, but excellence always dictated his selections; witness a Rembrandt sheet of casual studies for a Descent From the Cross (c. 1654) and a flickering, multifigure study of the same subject by Peter Paul Rubens (c. 1617-18). Mr. Thaw loved the sparkling light and playful themes of both Tiepolos, father and son, but also relished adventurous modernism. The Paul Cézanne watercolors—scintillating landscapes, a moody still life, a group of bathers—are all extraordinary. So is a delicious Edouard Vuillard watercolor of women in extravagant hats against dotted foliage, about to dissolve into abstraction. Although the collection includes a good number of recent works, there's little on view at the Clark: a nervous Alberto Giacometti still life, an Agnes Martin grid, a fine Richard Diebenkorn Ocean Park drawing, and a minimal Ellsworth Kelly collage. Mr. Thaw framed his works, rather than keeping them in archival storage, so there's a subtext of often spectacular period-appropriate frames.

"Drawn to Greatness" is so rich that only the complete checklist could do justice to what should be noted. Don't miss the incisive Lucas Cranach the Elder portrait; Jean-Auguste-Dominique Ingres's pencil portrait of a standing man with complex clothing folds played against a complicated folding desk; Etiènne-Louis Boullée's obsessive interior of a monumental library, washed in light; a wild wash drawing by the decorous portrait painter George Romney; Eugène Delacroix's Moroccan watercolors and a crouching tiger; Vincent van Gogh's letters with drawings of the paintings he describes, in exquisite handwriting, to his friend Emile Bernard; Berthe Morisot's radiant watercolor of a woman and child outdoors; Edgar Degas's mysterious café concert scene; Georges Seurat's economical landscape, all scribbles and velvety blacks. And. And. Even if you saw the show at the Morgan, a trip to the Clark is immensely rewarding.

Pablo Picasso's 'Portrait of Marie-Thérèse Walter' (July 28, 1936), above; Eugene Thaw in 2013, left

Drawn to Greatness: Master Drawings From the Thaw Collection
The Clark Art Institute, through April 22.

Ms. Wilkin is an independent curator and critic.

From top: Eugène Delacroix's 'Royal Tiger' (c. 1830); Richard Diebenkorn's 'Untitled' (1974); Berthe Morisot's 'A Woman and Child Seated on the Grass' (1875)

SPORTS

SUPER BOWL LII

The Best and Worst of the NFL

There were trick plays, gutsy coaching decisions and a wild finish. There were also controversial calls and a grisly injury.

BY ANDREW BEATON

CLOCKWISE FROM RIGHT: KEVIN JAIRAJ/REUTERS; ASSOCIATED PRESS (2)

Patriots quarterback Tom Brady, left, fumbles after being sacked by the Eagles' Brandon Graham in the fourth quarter. Eagles quarterback and Super Bowl LII MVP Nick Foles, above, scores a receiving touchdown.

Minneapolis

AS PHILADELPHIA EAGLES owner Jeffrey Lurie watched the pivotal play of Sunday's Super Bowl, a worrying thought crept into his mind.

Philadelphia tight end Zach Ertz had just caught a touchdown pass to put his team up 38-33 over the New England Patriots in the final minutes. But the ball shook free as Ertz crash-landed into the end zone. Lurie immediately recalled a strikingly similar play from earlier in the season, in which a similar catch was waved off upon re-examination. The refs, reviewing the play, could do the same here, he knew.

"You just never know how they're going to interpret it," Lurie says.

This was Super Bowl LII in a nutshell: an all-time thrill and a showcase of football's glaring flaws. If aliens had teleported down to Earth Sunday and watched their first football game, they would have learned all they need to know about the NFL. This one game, the Eagles 41-33 win over the Patriots, had pretty much everything that's intoxicating and everything that's broken in this sport.

First, the fireworks: This was a breathtaking shootout that had more total yards than any other Super Bowl ever, and that happened after three quarters. The game had two late comebacks—with the Patriots' rallying from a double-digit deficit to take the lead, only for Philly to reclaim it.

There were trick plays, boneheaded mistakes and gutsy coaching decisions. The offenses were so good that the team that lost never punted and its quarterback, Tom Brady, set a record for passing yards in the Super Bowl. The result of the game was an upset in favor of the football-obsessed town that had never won a Super Bowl. The hero, Nick Foles, came out of nowhere to become one of football's great talismanic figures.

This was enough excitement to last several Super Bowls.

But the game was messy, too. Not one, but two critical plays drew attention to the NFL's most obtuse rule, involving what it means to catch a ball. And a star player went down with a grisly head injury on a punishing hit. These were the league's worst nightmares.

The first-half injury was just the latest bone-rattling hit in the playoffs. Two weeks ago in the AFC Championship, Patriots tight end Rob Gronkowski took a hit to the head against the Jaguars and did not return to the game. After New England's Super Bowl loss, Gronkowski, one of the NFL's biggest stars, said he'd have to reevaluate his future playing the game. (He declined to specify why.)

This time, New England's No. 1 receiver, Brandin Cooks, went down after a crushing hit to the head. He was still on the ground as a quiet settled over the raucous crowd at U.S. Bank Stadium. Quickly, he was ruled out for the rest of the Super Bowl. Replays showed the immense force of the hit as Cooks fell to the ground—the exact image that has dogged football as it has fought health and safety concerns, especially those related to head injuries and concussions.

Then there were the controversial calls that will be lamented on Boston talk radio until the end of time. Children grow up and become adults with an understanding of what it means to catch an object. But the NFL's catch rule is so convoluted that the players themselves and the people watching the game don't have the slightest clue on some plays until a final decision is announced. This has been a high-profile problem for years, but never before had it potentially decided the league's champion in such a pressing moment.

On that decisive fourth-quarter play, the one that ultimately gave the Eagles the lead for good, Ertz caught the pass from Foles at about the 5-yard line. He took a few steps and then dove. When Ertz landed in the end zone, the ball hit the ground and caromed free.

It looked like a catch and touchdown. The officials ruled it as one immediately. But anybody who followed football this season had every reason to believe the call could be reversed and turn Philly bars into expletive-filled protests.

Here's why this play in particular was so maddening: Something nearly identical had happened during the regular season. Both Sunday's play and the other one were characterized by: a late drive in search of a comeback, a pass to the tight end, a loose ball caused by the ground when the tight end reached into the end zone and a ruling of touchdown on the field.

Both plays went to review: In the first instance, the Steelers saw their score overturned. Pittsburgh fans were outraged. Only the most long-winded explanations about things like what it means to "survive the ground" attempted to justify the decision.

So the Eagles owner and everybody else who has gone their lifetime without seeing Philadelphia win a Super Bowl were understandably concerned that Sunday's replay review would yield the exact same decision. The only thing more confusing than the catch rule: This one, unlike the other, was ruled a touchdown.

As Eagles wide receiver Alshon Jeffery watched it unfold he was sure it was a score. Then again, he adds, he thought the Pittsburgh one was too. "They need to change that rule," Jeffery says.

Earlier in the week, NFL Commissioner Roger Goodell said this confounding rule will be revisited. Now it's even more urgent: The rule didn't just complicate the Super Bowl once. All of this was exacerbated by the fact that there was an equally controversial catch-rule play earlier in the second half. This one also came on an Eagles touchdown. Foles hit running back Corey Clement in the back of the end zone. But the ball didn't appear entirely secure as he fell out of bounds. This one was also reviewed—and called a touchdown.

For everyone exasperated at home with no idea what was going on, there was nothing else to think. Not even the guys tasked with explaining all of this to the tens of millions of people watching had an idea.

"I give up," NBC broadcaster Cris Collinsworth said on-air.

FOOTBALL | By Jason Gay

EAGLES FANS ARE SMILING. YES, IT'S WEIRD.

Fans in Philadelphia celebrate after the Eagles' victory in Super Bowl LII.

Minneapolis

These are strange and confusing days. The happiest people on earth are Philadelphia Eagles fans.

After Sunday night's Super Bowl victory over New England, the Eagles fans in your life are probably feeling a little strange and confused themselves—so take it easy on them. They're not accustomed to this sensation of unbridled human joy. They're going to spontaneously shout "Fly, Eagles Fly!" in the middle of a meeting. At some point, they're going to corner you, and tell you with all sincerity, and maybe a few tears in their eyes, that they love Eagles quarterback Nick Foles more than anyone in their families.

Just indulge them. Eagles fans have waited a long time.

They're going to be a little slow around the office, too. A lot of Eagles fans didn't go to bed until early Monday. Some of them may not have gone to bed at all. Some of them may have wound up in that madness in downtown Philadelphia after the game—did you see that ridiculousness, they climbed and destroyed a Ritz-Carlton awning, like angry Trip Advisor commenters.

An Eagles fan you know might *still* be atop a pole, shirtless, screaming.

But you'd be screaming, too, if your team had never won a Super Bowl, and you won a Super Bowl this way—by outplaying, outscoring, and basically out-Patriot-ing what has long been the NFL's most formidable team in a rollicking 41-33 win over none other than Tom Brady and legendary Grumpy Lobster Boat Captain Bill Belichick.

It could not have been a better exorcism, a sweeter way to reverse so many generations of Philadelphia frustration. The Eagles are a franchise that knows what it means to be Charlie Brown, eagerly trying to kick the football, but winding up flat on their backs.

On Sunday, they got to be Lucy.

In the corridors below U.S. Bank Stadium after the game, the men who pulled it off seemed to be in a little bit of shock. These Eagles did not come from nowhere—they'd finished the regular season as the top seed in the NFC—and yet they'd lost their starting quarterback in early December, and were quickly written off. They were declared underdogs at home in their first two playoff games, which in retrospect, gave the city of Philadelphia the edge of disrespect it biologically craves.

> An Eagles fan you know might *still* be atop a pole, shirtless, screaming.

Nobody believed they could do this. It wasn't totally true—but it was true enough.

Foles got what it meant. He'd been an Eagles phenom once, an MVP candidate with glittering statistics, only to wind up leaving town, struggling and coming close to ending his football career. But he'd come back, and when his friend Carson Wentz got shelved with a busted knee, he'd somehow found the old Nick. After the game, Foles talked about his faith and his family (including his adorable daughter, Lily, whose pink headphones are now the toddler fashion statement of the year), and, of course, his Eagles teammates. But he knew who this improbable victory was really for.

"The people who bleed green, the people of Philadelphia, the people all across the nation that support the Eagles, they've waited a long time," Foles said.

Around the corner, Foles's teammates looked wide-eyed, almost floating as they walked. *They'd actually done it.* It was confirmed. You'd want confirmation, too, if you'd handed the ball back to Brady a couple of times in the final minutes of a one-score game, as Philadelphia did. We've all seen how that movie typically ends. The Patriots usually, mercilessly, maddeningly found a way. It was what made them great, simultaneously the NFL's best and most infuriating team.

If you were an Eagles fan, you held your breath those final moments. You needed to be totally sure New England was kaput. You had to see the stake go into the vampire with your own eyes.

"Kind of helpless," the Eagles defensive end Chris Long said of watching Brady's last-second, failed Hail Mary end zone pass. "Gosh, the ball was just hanging up there. It hit, like, eight people, did it not? I couldn't see. I was like, 'Did they just catch the ball? Did they just get another break?' Then I saw a [teammate] run on the field."

They'd pulled it off. Long was just one of many brilliant stories on this Eagles roster, a Super Bowl winner with New England last year who'd come to Philadelphia, and, partly inspired by the social justice activism of teammate Malcolm Jenkins, had decided to donate his 2018 salary to educational charities. Now he had back-to-back rings, even if he acknowledged it hadn't been the greatest night for the Eagles defense, as Foles and Philadelphia charged up the field at will, and Brady threw the ball "up and down like it was a college game."

The Eagles D came through in the end, though. A strip-sack of Brady by Philadelphia's Brandon Graham with 2:16 left in the fourth was probably the biggest play of the game, which is saying something, in a contest where Foles—Foles!—caught a touchdown pass on a nifty trick play.

"You really want to know what we call that play?" Eagles coach Doug Pederson said afterward.

"Philly Special."

Perfect.

It is indeed special for Philadelphia today, if a little bit groggy and zonked.

The Eagles parade is going to be Thursday, with the city announcing that schools will be closed for the celebration (stay off the Ritz, kids!). There are other lengthy title waits in town (the Flyers, the Sixers), and there will inevitably be new frustrations in a tough-to-please sports town. But those are noisy arguments for another hour.

Philadelphia has found its happy place. That sounds really weird, but good for them.

OPINION

A Word From Henry Kissinger

GLOBAL VIEW
By Walter Russell Mead

When The Wall Street Journal asked me to become its Global View columnist, I immediately went for advice to the dominant figure in American foreign policy of the past 50 years: Henry Kissinger.

Asking Mr. Kissinger a question is a little like inquiring at the Oracle of Delphi: You never quite know what you are going to get. Some queries elicit long, learned analyses.

What can a column on foreign affairs add to today's cacophonous debate? 'Context.'

Mr. Kissinger often deftly weaves together the motives of the leaders involved, the interests of the U.S., and the effect of American domestic politics on the range of available choices.

Some questions elicit a more lapidary response. In the aftermath of the Cold War, I once heard someone ask Mr. Kissinger what he saw as the most important trends in the world. I braced myself for an hour of sage but complex geopolitical monologue. Instead he replied with a single sentence, albeit one with more substance than most books published in the field: "You must never forget that the unification of Germany is more important than the development of the European Union, that the fall of the Soviet Union is more important than the unification of Germany, and that the rise of India and China is more important than the fall of the Soviet Union."

My request for advice as a new columnist did not even merit a sentence; Mr. Kissinger had only a word for me. What a column on international affairs should seek to provide, he said, is "context."

That short answer points to the heart of Mr. Kissinger's worldview—and to the vast intellectual gap between him and most of the academics who study foreign affairs and the bureaucrats who carry it out. It has often been said, sometimes by Mr. Kissinger himself, that he is a "realist" while many of his critics are "idealists." There is some truth there, and Mr. Kissinger's most trenchant opponents attack what they characterize as his cynical willingness to achieve policy objectives through morally dubious or even reprehensible means. But the gap between Mr. Kissinger and the rest cuts deeper. He isn't suspicious merely of rosy idealism; he is suspicious of those who think ideologically about foreign policy, reasoning down from first principles and lofty assumptions rather than grounding their analysis in the messiness and contradictions of the real world.

Unlike so many professors, policy makers and pundits on both the left and right, Mr. Kissinger does not believe the arc of history makes house calls. American values may one day prevail around the world, but no leader should base strategic calculations on a hope that Russia, China and Iran will turn into friendly liberal democracies in a relevant time frame. Nor would a wise policy maker assume that other powers share America's interest in, for example, an end to the North Korean nuclear program—or any initiative aimed at making the international order more stable and secure.

Oddly, the "conservative" Mr. Kissinger takes diversity much more seriously than many of his liberal critics. Historical study and a lifetime of experience have taught Mr. Kissinger the folly of assuming that Vladimir Putin, Xi Jinping or Ayatollah Khamenei thinks like American leaders do or wants the same things. Each of these men and their supporters are grounded in cultural and historical imperatives that do not always mesh with ideas about Adam Smith, liberal order and win-win negotiating.

When Mr. Kissinger advises a columnist to focus on "context," he is suggesting that there is value in helping readers to appreciate the kaleidoscopic variety and sometimes dizzying complexity of the forces at work on the international scene, and in explaining how those forces interact with American politics.

In 2018, this mission is more important than ever. After the Soviet Union's collapse, the United States and its Cold War allies sought to spread Western institutions around the world, but that effort has ground to a halt. Support for free trade, free movement of capital, free speech and free government is in retreat in many places, the U.S. not excepted. Geopolitical rivals are trying to roll back American power, and longtime allies like Turkey are moving away from the West. The end of history has ended, and the world is suddenly looking more Kissingerian.

It has never been more important to understand world events, and it has rarely been harder to do so. I look forward to the challenge of engaging with the Journal's readers on the momentous geopolitical trends of our time, and I hope that this column can help, if only in a small way, prepare our country for the tests that lie ahead.

Are Leprechauns Racist?

MAIN STREET
By William McGurn

So it's come to this: Leprechauns are hateful.

Not just any leprechauns, mind you. This particular one—hat cocked, chin out, dukes up—happens to be the mascot for the Fighting Irish of the University of Notre Dame. The little, green-suited man is now in the same politically correct crosshairs that recently locked onto the Cleveland Indians' Chief Wahoo. And ESPN's Max Kellerman has called on Notre Dame to follow the Indians' lead and send this leprechaun back to the end of the rainbow where he belongs.

Notre Dame's Fighting Irish offer some healthy cultural appropriation.

"Many Irish-Americans are not offended, but many are," Mr. Kellerman said. "Should that also change? The answer is yes! Unequivocally yes. Pernicious, negative stereotypes of marginalized people that offend, even some among them, should be changed."

That's some standard: The handful of offended trump the majority of unoffended. Notre Dame argues, correctly, that the leprechaun differs from Chief Wahoo and other Native American logos in a crucial way: The university is highlighting its own heritage rather than appropriating imagery from others. By embracing the Fighting Irish moniker, moreover, Notre Dame transformed an epithet into a source of pride. That's why generations of Catholic immigrants struggling to find their place in America cheered every Notre Dame gridiron victory as their own.

NOTRE DAME

The Fighting Irish mascot.

Old Chief Wahoo is perhaps America's least woke sports mascot. In a deal struck under pressure from Major League Baseball, the Indians have now agreed the chief is too offensive to appear on the field. But he's apparently not too offensive for the cash registers off the field, which will still ring with sales of Chief Wahoo merchandise.

Often lost in this debate are two of the most obvious points. First, mascots and logos are by definition caricatures, hence the exaggerations. Second, Native American names have been popular in sports because they are associated with a tough and martial spirit. In Cleveland's case, Chief Wahoo has become as much a symbol of the city as of its ballclub. How many Clevelanders could identify their city flag?

Even Jimmy Carter once recognized the silliness of these campaigns. During the 1991 World Series, Mr. Carter pushed back against criticism of the "tomahawk chop" used by Braves fans. "With the Braves on top, we have a brave, courageous and successful team, and I think we can look on the American Indians as brave, successful and attractive," the former president said. "So I don't look on [the chop] as an insult."

Most Braves fans agreed, which speaks to another feature of modern cultural appropriation. Progressives often appropriate the indignation of communities to which they don't in fact belong. Mr. Kellerman does not appear to be Irish. So to justify his call for a ban on leprechauns, he invoked the outrage of one Irish-American he happens to know, former ESPN colleague Brian Kenny.

Some of the same might be said for the Change the Mascot campaign, a national group led by Oneida Nation's Ray Halbritter. The campaign's website lists a variety of Native American organizations among its "supporters of change," along with a long list of allies ranging from the American Society of Business Press Editors and professional wrestler Wade "Bad News" Barrett to members of Congress and the Michigan teachers union. Most are not Native American. Unless you count Sen. Elizabeth Warren.

Perhaps this is what you do when the outrage isn't really there. When the Washington Post polled Native Americans in 2016, it found 9 of 10 were not offended by the name of the city's NFL franchise—the Redskins. The results did not vary much by age, income, education, politics or proximity to a reservation. And the results hadn't changed much since a similar 2004 poll by the Annenberg Public Policy Center.

The Supreme Court settled the legal question last year when it shut down the U.S. Patent Office's attempt to prevent the Slants, an Asian-American rock band, from trademarking its name. The high court rightly came down foursquare for the First Amendment.

These days, alas, a constitutional right goes only so far in a culture catering to the professionally aggrieved—folks who often have no loftier goal than ruining things for ordinary Americans, whether it's the Grammy Awards, the national anthem at football games or a statue of Christopher Columbus.

In fairness, Mr. Kellerman understands the zeitgeist well. His argument that the 34 million Irish-Americans who are mostly untroubled by the Fighting Irish leprechaun must be forced to yield to the demands of one outraged Irish-American friend is as current as they come.

But in the case of Notre Dame, the more interesting question may be the one the ESPN analyst never asks. Each week on national TV, especially during football season, the Fighting Irish offer their own lesson in diversity. Instead of condemning a cartoon leprechaun, perhaps America ought to be applauding the healthy cultural appropriation that happens every time African-American, Asian-American and Latino athletes compete together wearing jerseys or helmets proudly proclaiming themselves "Irish."

Write to mcgurn@wsj.com.

Space Exploration May Take Off in 2018

By Taylor Dinerman

It looks as if 2018 will be an important year for the National Aeronautics and Space Administration. The agency will take some big steps—with an assist from private companies—toward building a permanent human presence beyond Earth's orbit.

On Tuesday Elon Musk's SpaceX plans to send a bright red Tesla Roadster into a deep orbit beyond Mars. If the company's new Falcon 9 heavy rocket works, it will become the most powerful space launch vehicle anyone has built since the final launch of the Saturn V in 1972.

Developing and building the Falcon 9 Heavy has been a remarkable achievement. When it becomes operational, it will be the most economical way to put payloads into space. Access to space at the prices SpaceX will be able to offer—less than $50 a pound to low Earth orbit, I estimate—will radically alter the nature of the U.S. space industry. If all goes well, SpaceX and Boeing will start providing passenger service to the international space station sometime in 2018.

NASA and private companies move beyond Earth's orbit.

NASA is reworking its plans to send manned spacecraft beyond low Earth orbit. Sometime in the next decade it hopes to start building either a moon base or a small "gateway" space station near the moon. Anyone hoping to see American astronauts on Mars will have to wait. But with more-efficient heavy-lift technology, NASA will be able to send people to Mars sometime in the 2030s.

Low-cost access to space is changing the economics of the solar system. Companies like Planetary Resources and Deep Space Industries are hoping to mine the asteroids and set up bases on the moon and elsewhere. Nations large and small are working out ways that their citizens and companies can enjoy property rights on what the old Outer Space Treaty called "celestial bodies."

Meanwhile, NASA and other space agencies are constantly discovering new resources—such as the water ice on Mars—that could be valuable someday. Some NASA staffers believe they are continuing in the tradition of Lewis and Clark. Centuries from now it wouldn't be surprising to see NASA remembered, more than anything, for its Mars probes and missions to the asteroids.

Unfortunately, America's space ambitions will remain aspirational so long as Congress continues to fail to pass budgets on schedule. Pathbreaking single projects—such as the Webb Space Telescope—may succeed despite delays and cost overruns. But if Americans want to return to the moon, they need to demand steady leadership and bipartisan cooperation. In the current political climate this seems like too much to ask, but President Trump has surprised us before.

Mr. Dinerman writes on space policy and national security.

BOOKSHELF | By Frank Rose

The Promise Of Virtual Reality

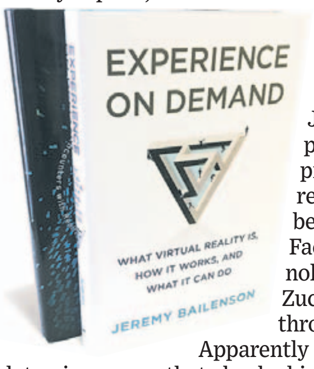
Experience on Demand

By Jeremy Bailenson
(Norton, 290 pages, $28.95)

Dawn of the New Everything

By Jaron Lanier
(Holt, 351 pages, $30)

What a difference a few decades can make. When the reader first meets Jaron Lanier, often touted as the "father of virtual reality," in Silicon Valley in the early 1980s, the valley is a gearhead's playpen filled with quirky places and even quirkier people—Mr. Lanier chief among them. Uncredentialed either as a businessman or as an academic, he is driven in his pursuit of a technology he can barely explain, much less realize. (It would be years before computers could display convincing imagery in a 3-D headset.)



Fast-forward to 2014, when Jeremy Bailenson, a Stanford professor and one-time Lanier protégé, is giving a virtual-reality demo to Mark Zuckerberg, the founder and CEO of Facebook. By this time the technology is so advanced that Mr. Zuckerberg can be sent flying through the air like Superman. Apparently the illusion worked: Weeks later, in a move that shocked just about everyone, Mr. Zuckerberg would shell out $2 billion to buy the startup Oculus VR, which had yet to ship a product.

The story of VR's evolution from wackadoodle pipe dream to multi-billion-dollar corporate wager is told by these writers in two books that are as different as the eras they describe. Mr. Lanier's "Dawn of the New Everything: Encounters with Reality and Virtual Reality" is a highly eccentric memoir that traces the author's quest for VR back to its roots, not as some sort of geeky engineering challenge but as a feeling he had as a child of being overwhelmed by the magic of the universe. Mr. Bailenson's "Experience on Demand: What Virtual Reality Is, How It Works, and What It Can Do" is a far more straightforward account of the fantastical made real—or seemingly real, which of course is the point.

If you're planning to read both books—and if you want to understand the most immersive new communications medium to come along since cinema, you should—I'd suggest starting with Mr. Bailenson's. It's short, it's levelheaded and it tells you what you need to know. Among other things, the book answers the sometimes vexing question of what VR is actually good for. In addition to running Stanford's Virtual Human Interaction Lab, which he founded in 2003, Mr. Bailenson is co-founder of STRIVR, a startup launched by a grad student (and former Stanford football player) who saw VR's potential as a training device. It's one thing to watch game footage on a video screen, and quite another to experience it in a virtual reality headset. The difference lies in what's called "presence": the overwhelming sensation that you are actually there. As Mr. Bailenson writes, "VR engulfs us."

The story of VR, the most immersive communications technology to come along since cinema, as told by two of its pioneers.

The illusion of presence is what drove Mr. Lanier from the start. He envisioned VR not as an alternative to physical reality but as an enhancement—a way to more fully appreciate the wonder of existence. More conventional individuals, their senses dulled by the day-to-day, may be drawn to virtual reality because it seems realer than real; he considered it a new form of communication. "I longed to see what was inside the heads of other people," he writes. "I wanted to show them what I explored in dreams. I imagined virtual worlds that would never grow stale because people would bring surprises to each other. I felt trapped without this tool. Why, *why* wasn't it around already?"

"Dawn of the New Everything" is full of such self-revelatory moments. The author grew up an only child in odd corners of the Southwest, first on the Texas-Mexico border, then in the desert near White Sands Missile Range. When he was nine, his mother, a Holocaust survivor, was killed in a car crash on the way home from getting her driver's license. The tract house they'd bought burned down the day after construction was completed. The insurance money never came, so Jaron and his father lived in tents in the desert until they could afford to build a real home—which turned out to be a mad concoction of geodesic domes of Jaron's own design. They called it Earth Station Lanier.

At 14, Jaron stopped going to high school and started taking courses at nearby New Mexico State, raising goats and selling goat cheese to pay the tuition. Intellectually he was drawn to music and mathematics, but he turned to computer science in hopes of finding a way to allay his anxieties. ("I worried about Earth's orbit," he writes, cryptically. "So precarious.") Eventually he made his way to Santa Cruz, a hippie enclave on the San Francisco Peninsula, and then to nearby Silicon Valley. Lacking a degree from high school, never mind college, he nonetheless parlayed his virtual-reality obsession into a company, VPL Research, that for a few years in the late '80s made VR seem real, if only in a lab setting. Then came board fights and bankruptcy, and VR disappeared from public view for more than 20 years.

What went wrong at VPL? Unfortunately, you won't find out here. Mr. Lanier warns us he isn't going to deliver a blow-by-blow; instead we get a disjointed sequence of half-remembered anecdotes. What does come through is his ambivalence about going into business at all, and his even deeper ambivalence toward writing about it.

The larger question, now that VR seems poised to become a mass medium, is where it will take us. Escapism, violence, propaganda—potential misuses abound. It could also foster empathy and provide a powerful new medium for storytelling. But even today, VR suffers from a basic shortcoming. The illusion of presence comes largely from having your head encased in a monitor—but since virtual humans are still fairly primitive, that makes it nearly impossible to connect with others in a realistic fashion. "Virtual reality is going to become a must-have technology when you can simply talk and interact with other people . . . in a way that feels utterly, unspectacularly normal," Mr. Bailenson writes. Someday we'll get there—but in the meantime there's a lot of work to be done.

Mr. Rose is the author of "The Art of Immersion" and a member of the Digital Storytelling Lab at Columbia University School of the Arts.

REVIEW & OUTLOOK

The Return to Normal Risk

Jay Powell started work as Federal Reserve chairman on Monday, and stocks promptly fell by the largest single-session point decline on record—1175 points, or 4.6% on the Dow Jones Industrial Average. No doubt this wasn't anything personal, but the ugly market plunge Friday and Monday is a signal of the trouble Mr. Powell may have unwinding a decade of Fed interference with bond markets to boost risk assets.

Equity markets welcome Jay Powell as Federal Reserve Chairman.

The paradox of the equity-market correction is that it's taking place even as the real economy looks stronger than it's been since at least 2005 and maybe 1999. The ISM non-manufacturing index for January rolled in at 59.9 on Monday, which means a near-boom in the service economy. The new orders index surged to 62.7 from 54.5 in December and the employment index hit 61.6 from 56.3.

This is the latest signal that the U.S. economy has climbed to a new, higher growth plateau from Barack Obama's secular stagnation. Discounting for noise in the GDP figures, the economy has grown about 3% on an annual basis since last May. Global growth has accelerated to about 4% from 3%, and global trade has revived despite protectionist worries.

With tax reform now kicking in, growth could be even faster in 2018. Business and consumer confidence are higher than they've been in years, and wages are starting to rise at a faster pace amid tight labor markets. The Atlanta Fed's snap GDP calculator, albeit a flighty number, has been signaling first quarter growth above 5%.

So why are stocks falling amid all the good news? The best answer we've heard is that stocks are reflecting a return to volatility and risk after years of the Fed's financial repression. With its quantitative easing bond purchases, the Fed has for a decade suppressed market price signals in bonds. The point was to push investors into riskier assets, including equities, real estate, junk bonds, emerging markets, you name it.

This didn't do much for the real economy, which grew more slowly than any expansion in modern times. But it was great if you were lucky enough to hold stocks, amid slow growth, low inflation and low volatility. The resulting wealth transfer to the rich from middle-class workers is one reason Donald Trump won the election—not that he understands this about the Fed. He seems to think interest rates can and should stay low forever.

But they can't, especially when growth is accelerating. Investors may finally be figuring out that the global quantitative-easing monetary party is ending. The Fed has already begun its great unwinding, albeit slowly, but faster growth in Europe and Japan means that their days of central-bank bond purchases also won't last.

This helps explain the sharp rise in the 10-year Treasury yield in recent weeks (before it fell back Monday). The Fed has sat on the long end of the bond market for so long that some investors may not remember normal interest rates when they see them. Investors are adjusting to this new world of faster growth and market-based debt pricing.

After such a long run of rising stock prices and low volatility, the correction is all the more abrupt and scary. The rapid intraday price swings are accentuated by trading based on algorithms that also need to be adjusted for new market realities.

Even a substantial price correction shouldn't damage the real economy much after the long market rally since November 2016. A correction of 15% would take us back to prices last fall. The larger risk to the real economy will arrive over time as rates rise and QE unwinds and we see who took on too much risk. We don't know what those asset classes are, but you can bet they'll show up naked on the beach somewhere.

Which brings us back to the unlucky Mr. Powell, who is taking over Fed leadership right when monetary history returns. As Janet Yellen finished her four-year term as Chair last week, she was feted far and wide as a sage leader who presided over financial calm. True enough, but the effusive praise reminds us of the encomiums that attended Alan Greenspan when he left as Fed Chairman in 2006. We know how that story ended two years later.

In the same way, the story of the Ben Bernanke-Janet Yellen Fed won't be written until their unprecedented monetary experiment unwinds. Fed Chairmen don't get credit for only half an economic cycle. Like Presidents on foreign policy, they are responsible for the problems they leave their successors. Mr. Powell's fate, or curse, is that he gets to preside over the return of normal growth and volatile financial markets. Good luck.

Trump Drops the T-Word

Treason by any other name is not defined by refusing to applaud Donald Trump during his State of the Union speech last week. Still, at a discursive speech Monday in Cincinnati that was nominally about the strong economy, President Trump decided to drop the T-word on the Democratic hand-sitters. "They were like death, and un-American," Mr. Trump said to the Ohio factory workers. "Somebody said treasonous. Can we call that treason? Why not? They certainly don't seem to love our country very much."

Democrats who fail to applaud him aren't betraying the country.

When politicians start accusing opponents of treason, our former Journal colleague Seth Lipsky has made it a practice to recall that "treason" is defined narrowly in Article III, Section 3 of the U.S. Constitution.

Perhaps we should be grateful to Mr. Trump for giving us the opportunity to quote the Founding Fathers: "Treason against the United States, shall consist only in levying war against them, or in adhering to their enemies, giving them aid and comfort. No person shall be convicted of treason unless on the testimony of two witnesses to the same overt act, or on confession in open court."

Watching Nancy Pelosi and Chuck Schumer scowl through the State of the Union speech, several words occurred to us: churlish, grumpy, resentful. But treasonous didn't spring to mind. Mr. Trump's mind no doubt is filled with smoldering anger because opponents have called him authoritarian, totalitarian, Hitler and insane.

Voters may be getting turned off by the hyperbolic rhetoric of politics, but they'd better expect more of the same. Mr. Trump tweeted Monday that Democratic Rep. Adam Schiff of the House Intelligence Committee "must be stopped," whatever that means for a duly elected Member of Congress, while Mr. Schiff accuses Mr. Trump of colluding with Russia based on little evidence. The real treason here, in the non-constitutional meaning, is against normal political debate and reason.

Steele's Other Clinton Link

Senate Judiciary Chairman Chuck Grassley on Monday released an unclassified version of his recent letter to the Justice Department urging a criminal investigation into Christopher Steele, and it raises more questions about the credibility of the dossier that Mr. Steele generated in 2016.

A Senate letter says the dossier writer got info from a Clinton 'friend.'

The unclassified version is heavily redacted, consisting of 14 readable paragraphs. It nonetheless provides new details about the FBI's application to obtain a Foreign Intelligence Surveillance Court order against former Trump official Carter Page in October 2016, a request that relied on the Steele dossier. The referral letter says Mr. Steele may have lied to the FBI and that the FBI provided false information to a FISA judge.

The FBI fired Mr. Steele after the ex-British spy talked about his interaction with the bureau and his dossier for an Oct. 30, 2016 Mother Jones article. Yet the referral notes that in subsequent sworn court filings in Britain, Mr. Steele said he also briefed reporters in "late summer/autumn 2016," including the New York Times, Washington Post and Yahoo News. Fusion GPS chief Glenn Simpson, who hired Mr. Steele and was retained by the Hillary Clinton campaign, has confirmed these briefings.

Yet according to the Grassley referral, this conflicts with "classified documents reviewed by" his committee. In other words, the FBI's application for surveillance, filed October 21, 2016, led the court to believe that Mr. Steele wasn't talking to the press and working a political angle. Such an admission might have derailed the surveillance order.

Democrats insist that the FISA court knew the dossier was the work of a partisan campaign. But the House intelligence memo makes clear the application didn't refer to the Clinton campaign or the Democratic Party, and our sources tell us it also didn't use the words "political party." The court was told that the document was politically motivated—which is not the same as a competing presidential campaign.

The Grassley referral adds that associates of the Clinton campaign fed Mr. Steele information apart from the dossier. One section of the Steele dossier was not made public by the Buzzfeed website in 2017, and the Grassley memo says that in that section Mr. Steele acknowledges that "his company 'received this report from [redacted] US State Department,' that the report was the second in a series, and that the report was information that came from a foreign sub-source who 'is in touch with [redacted], a contact of [redacted], a friend of the Clintons.'"

Between Mr. Steele's media outreach and his connection with Clinton associates, the dossier was hardly a secret. As the referral notes, "the more people who contemporaneously knew that Mr. Steele was compiling his dossier, the more likely it was vulnerable to manipulation." And the more likely the Russians knew about it too.

Mr. Grassley wants the FBI to declassify his entire referral letter, and either the bureau or the White House should do so. The House GOP memo betrayed no sources and methods, and now the GOP is moving to release a Democratic memo. All Americans should get the complete FISA-Steele story.

LETTERS TO THE EDITOR

Keep Money-Market Funds Safe and Sensible

Your editorial "The Next Money-Fund Bailout" (Jan. 29) omits key facts about my legislation as well as the effects of the SEC's 2014 rule affecting money-market funds. I agree that investors should be aware of the risks of their investments and that the federal government should not bail out failing businesses. That's why my bill prohibits federal bailouts and requires that this be disclosed on page one of an investment prospectus.

The first postcrisis reform, which occurred in 2010, brought increased transparency, liquidity and credit quality to money-market funds. These positive reforms addressed several problems that became apparent during the financial crisis. My bill doesn't alter these reforms.

The 2014 changes, however, were clearly disruptive and detrimental. By eliminating the stable net-asset value (NAV), a core attribute for prime and tax-exempt funds, the SEC pushed $1 trillion into Treasury and GSE (e.g., Fannie Mae and Freddie Mac) funds, which are still allowed to operate with a stable NAV. This was an entirely predictable outcome, since public and private-sector treasurers are typically required by law or corporate policy to invest in funds with a stable share price.

Consequently, many municipal borrowers now face higher costs and have fewer options for investing their cash. Many businesses now encounter greater competition for bank loans. The SEC unfairly picked winners and losers: Fannie, Freddie and the federal government benefited at the expense of state and local governments, affordable-housing authorities, schools, hospitals and Main Street businesses.

That is why my bill has broad bipartisan support and the endorsement of 20 chambers of commerce and national groups like the Government Finance Officers Association and the National Association of Corporate Treasurers.

Rep. Keith Rothfus (R., Pa.)
Washington

FedEx and UPS Agree on the Truck Situation

Regarding "Truck Shortage Delivers Blow" (Business & Finance, Jan. 25): The Americans for Modern Transportation coalition supports modernizing trucking-equipment standards and increasing the national twin-trailer standard to 33 feet from 28 feet. Twin 33-foot trailers would add 18% in capacity without putting additional trucks on the road or adding to already congested highways. This creative capacity solution would also reduce wear and tear on our existing infrastructure. Fewer trucks on the road mean less opportunity for accidents, reduced fuel use and lower emissions. And this solution doesn't cost the federal government or taxpayers a dime. The trucking industry foots the bill.

While infrastructure investment will address congestion in the medium to long term, a national standard for twin 33-foot trailers will add instant capacity while reducing congestion and making the most efficient use of the roads and highways we travel today. Modern twin 33-foot trailers are allowed to operate on certain highways in 20 states, and they have traveled millions of miles safely.

The time is now for Congress to act on modernizing trucking equipment standards. America must be bold and innovative to solve critical issues that threaten U.S. economic growth and competitiveness.

Michael L. Ducker
FedEx Freight
Memphis, Tenn.

Richard McArdle
United Parcel Service Freight
Richmond, Va.

Is Blockchain the Answer to Ending Poverty?

Phil Gramm and Hernando de Soto's "How Blockchain Can End Poverty" (op-ed, Jan. 26) couldn't be more off the mark. Blockchain allows decentralization of authority which works quite well for Bitcoin. To become a member of this blockchain you must have a digital identity—a wallet. A minimum requirement for a land blockchain to exist would be for every potential land owner to have such an identity. The chances that Tunisian merchant Mohamed Bouazizi, the man whose self-immolation touched off the Arab Spring, would have such an identity are probably not great.

The example of Peru's CPT is further indication that a blockchain isn't the reasonable approach. The lack of a standard for assets of a $53 million company is probably an indication that a standard for land held by a peasant in Peru probably doesn't exist as well.

The beauty of the bitcoin blockchain is that all participants agree on how to represent the asset. For the authors' property blockchain implementation to work, every central authority in the world must agree on exactly what land rights are. In the U.S. we have a very complex set of land-use regulations. If I wanted to exchange U.S. dollars for a parcel of land in Russia, would the restrictions be part of the representation on the blockchain? Or would I be required to go to a central authority's registry of deeds to see what restrictions exist? Finally, and they got this one correct, just because I am the registered owner of a parcel, what is to stop warlord X from using my land? The rule of law is what makes our land-registry system work.

Graham Gal
Amherst, Mass.

Poverty has historically been part of the human condition. To use blockchain to alleviate human suffering, it must remain free of government control and monopolization and keep true to its voluntarist origins.

Dillard Gosnell
Inman, S.C.

Are Dreamers the Democrats' Palestinians?

Jason L. Riley mentions that California Attorney General Xavier Becerra, a Democrat, threatens to prosecute employers who help federal immigration officials identify people in the country illegally. He asks if the Democrats really want to reach an immigration compromise or just use the Dreamers for political reasons ("Do Democrats Even Want a Compromise on Immigration?," Upward Mobility, Jan. 31).

Mr. Becerra, an open-borders advocate, is using the law passed in 2017 by California's Democratic Party-dominated legislature and signed by Democrat Gov. Jerry Brown. The law subjects employers to prosecution if they voluntarily cooperate with the feds in enforcing federal immigration laws. But this contradicts California's previous position on immigration law. In 2012, California's former attorney general, now Sen. Kamala Harris, argued to strike down Arizona's law enforcing federal immigration laws on the basis that such a law "is clearly pre-empted by federal immigration laws." Why? Because then-President Obama wanted exclusive federal enforcement of immigration.

This supports Mr. Riley's point. The Democrats seem to be using the Dreamers as a pawn for the sake of opposing the wall and Mr. Trump generally. Such senseless partisanship is why Congress is unable to function efficiently.

Oliver Watson
Orange, Calif.

For political reasons, Arab countries have kept Palestinian refugees in limbo in the Middle East for more than half a century, so this strategy has precedent.

Sam L. Teichman
Oakland, Calif.

Playing With Scotch Whisky

Regarding "For Scotch Whisky Purists, This Might Be Hard to Swallow" (page one, Jan. 24) about Diageo PLC's efforts to define Scotch whisky down, I have two words of advice for the company: New Coke.

Brian Daley
Chicago

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Pepper ... And Salt

THE WALL STREET JOURNAL

"I got the grant! I'm researching whether or not money can buy happiness."

Democrats and FBI Abuses

By David J. Garrow

Only a few aging historians still remember Rep. John J. Rooney, but from the 1940s into the 1970s he was FBI Director J. Edgar Hoover's most powerful enabler. Rooney, a Brooklyn, N.Y., Democrat, led the House appropriations subcommittee that oversaw the Justice Department. He remained Hoover's steadfast ally as presidents from Truman through Nixon came and went.

John Rooney personified an era in which congressional Democrats eagerly aided and abetted the FBI's running amok, as the bureau surveilled political activists who attracted Hoover's ire. Rooney's retirement in 1974 ushered in a radically different age, featuring rigorous and aggressive congressional oversight. A new generation of Democrats, led by principled progressives like Sen. Frank Church and Rep. Otis Pike, courageously proved ready and willing to expose and eliminate the abuse of Americans' constitutional rights that had long been Hoover's political bread and butter.

In the 1970s, progressives stood up for civil liberties. Today they've reverted to the J. Edgar Hoover era.

The Church Committee, along with decades' worth of Freedom of Information Act releases, exposed once top-secret documents that FBI executives never imagined would see the light of day. These files detailed the scale of politically motivated misbehavior that had occurred when executive-branch controls and meaningful congressional oversight were absent. As a historian who cut his teeth on that copious record, I found it unimaginable that congressional Democrats, or American progressives generally, would ever return to championing unquestioned acceptance of FBI claims that its surveillance practices must remain hidden from the public.

But as Frank Church's legacy faded, the FBI protested that the 21st-century bureau bore no relationship whatsoever to Hoover's. In a 2016 speech, then-Director James Comey said that under the glass on his desk he kept a copy of a 1963 memo, signed by Attorney General Robert F. Kennedy, authorizing a wiretap on Martin Luther King Jr. "I keep it there in that spot," Mr. Comey said, "to remind me of what we in the FBI are responsible for, and what we as humans are capable of, and why it is vital that power be overseen, be constrained, be checked."

Yet anyone eager to embrace the belief that today's FBI is a rigorously professional and politically unbiased agency is overlooking the facts. Consider an FBI intelligence assessment from last August, obtained by Foreign Policy's Jana Winter and Sharon Weinberger. The report warns of a new and highly dangerous domestic terrorist threat: "Black Identity Extremists." Notwithstanding that "BIE violence has been rare over the past 20 years," the FBI proclaimed that it had "high confidence"—defined as "high quality information from multiple sources"—that "premeditated attacks upon law enforcement" by armed African-American activists were 80% to 95% likely to occur over the following year.

Six months later no such attacks have taken place. But in a Dec. 12 raid on the Dallas home of a black activist, FBI agents did seize two firearms, along with a copy of Robert F. Williams's well-known book "Negroes With Guns," first published in 1962. According to a Jan. 30 report in Foreign Policy, the activist stands accused of unlawful possession of a firearm, given a previous misdemeanor conviction for domestic assault.

The same FBI knowingly relied on the "Steele dossier"—thirdhand, anonymous partisan gossip about Donald Trump, brokered by a paid operative—to obtain a top-secret court order for surveillance of former Trump adviser Carter Page, an American citizen. Yet so far as we know, Mr. Page is guilty of nothing more than pursuing unsuccessful business ties in Moscow while mouthing naive platitudes about Vladimir Putin.

Worst of all, the court order for surveillance of Mr. Page was renewed three successive times at the behest of officials including Mr. Comey, the FBI's then Deputy Director Andrew McCabe, and Deputy Attorney General Rod Rosenstein. To anyone who has studied how Hoover's FBI worked, this continuing approval immediately calls to mind the bureau's never-ending surveillance of King's closest adviser, Stanley Levison. Year after year, the wiretaps of Levison produced no evidence to support the FBI's hypothesis that he was a Soviet agent. Still, successive attorneys general, including Bobby Kennedy, readily approved the FBI's surveillance of Levison and his family.

At first blush, Mr. Rosenstein might welcome the comparison to RFK. But the important point is that the modern Justice Department's surveillance of law-abiding American citizens—whether in New York or Dallas—is no more defensible than the 1960s blanket coverage of Levison and King.

Yet that bright truth is, at the moment, being outshone by Democratic lawmakers' eagerness to cover up, excuse and defend FBI behavior that their predecessors of the 1970s would have readily denounced. The ignominious irony is that judgment-blurring partisan hatred is leading many Democrats to ignore and forsake the lessons that the FBI's history so richly teaches.

Mr. Garrow's books include "The FBI and Martin Luther King, Jr.," the Pulitzer Prize-winning King biography "Bearing the Cross," and "Rising Star: The Making of Barack Obama."

KEYSTONE/GETTY IMAGES

President Kennedy, FBI Director J. Edgar Hoover and Attorney General Robert F. Kennedy.

Poland Seeks To Censor History

By Alan M. Dershowitz

Poland's nationalist government is in the process of enacting legislation to criminalize speech that "claims, publicly and contrary to the facts, that the Polish Nation or the Republic of Poland is responsible or co-responsible for Nazi crimes committed by the Third Reich." The proposal would exempt "artistic or academic activity" but would prohibit ordinary citizens and politicians from accusing Poland of complicity in the murder of three million Polish Jews. Both the Israeli and U.S. governments have denounced the proposal, which restricts free speech and falsifies history.

Laws that impose an official view—even those banning Holocaust denial—are pernicious.

True, the Germans built Auschwitz and other death camps on Polish soil. But the Germans could not have murdered the Polish Jews, and millions of other Europeans imported to death camps in Poland, without the active assistance of many Poles in identifying and rounding up victims. This complicity was incited by generations of anti-Semitic church sermons. Poles also murdered Jews during and after the German occupation—including in the Jedwabne pogrom in July 1941 and in Kielce in July 1946.

On the positive side, there were Polish Catholics, including priests and nuns, who risked their lives protecting Jews. There were many other righteous Polish individuals as well. Jan Karski risked his life by dressing as a death-camp guard so he could document the horrors, and the Ulma family was murdered for harboring Jews.

Poland's role in the Holocaust is a mixed picture of complicity, heroism, complacency and willful blindness. It is up to historians to sort out the specifics and moralists to apportion blame. But it is not the role of law to stifle debate and to threaten those who question the current self-serving Polish government narrative.

Nor does history need laws to confirm that the Holocaust occurred. Yet several European governments have made Holocaust denial a crime. Denying the Armenian genocide is a crime in France; acknowledging it is a crime in Turkey. Israel's Knesset is responding the Polish effort by weighing its own legislation that would make it a crime to deny or minimize the role of collaborators in the Holocaust. Both the proposed Polish and Israeli laws would have extraterritorial reach, so virtually any discussion or debate about this issue would risk prosecution and imprisonment in one of those countries. Such is the consequence of governmental efforts—no matter how well-intentioned—to criminalize debates about history.

It is understandable why people who believe there is only one side to a debate would seek to censor what they regard as malicious lies about deeply emotional issues such as the Holocaust and the Armenian genocide. It is also understandable that some American students and faculty, particularly on the hard left, seek to stifle "hate speech," "micro-aggressions" and comments or ideas that make them feel "unsafe."

But censorship comes around like a boomerang. To some Palestinians on campuses, Zionist speech creates an unsafe space, while to some Jewish students, anti-Israel speech offends and frightens. To some women, antiabortion advocacy is demeaning, while to some Christians, pro-abortion advocacy is offensive. It is not the role of governments or universities to take sides in these conflicts. It is very much their role to encourage civil discourse on these and other controversial issues that divide people emotionally and intellectually. It is also the role of these institutions to promote tolerance of conflicting views and to tell citizens and students that, in a democracy, there are no safe spaces from ideas.

So let the competing narratives regarding the role of Poland, the Polish Catholic Church and individual Poles continue to be debated without the heavy hand of governmental censorship and criminal punishment. Trust the open marketplace of ideas, rather than the self-serving biases of bureaucrats, to arrive at the complex truth about this terrible period in Polish and Jewish history.

Mr. Dershowitz is a professor emeritus at Harvard Law School and author of "Trumped Up! How Criminalizing Politics Is Dangerous to Democracy" (CreateSpace, 2017).

The Markets Point Toward Economic Strength

By Jason De Sena Trennert

The pullback in stocks the past two trading days is both long overdue and healthful. But after nearly a decade of easy money engineered by the Fed and other central banks, is the sell-off in the bond market simply a short-term tantrum? Or is it the start of a secular bear market in bonds, due to higher inflation, that can only end in tears?

If one thinks about interest rates as simply the price of money, one could argue that the correction in stock prices would be more worrisome if accompanied by significantly lower bond yields than higher ones. In that regard, higher rates suggest that the economy is no longer so fragile as to require the "extraordinary monetary accommodation" that has kept the federal-funds rate lower than inflation since June 2008.

With the consumer price index running at only 2.1%, higher rates appear to indicate that investors expect a stronger economy and corporate profits rather than impending inflation. The historically modest current increase in the cost of money tends to validate the rally in stock prices since President Trump was elected.

While we all naturally tend to view our most recent experience as typical, the low interest rates some of us have enjoyed since the financial crisis have been anything but normal. They are atypical of a healthy economy that allocates capital properly. Even odder than the low level of interest rates since the "expansion" started in 2009 has been their invariability. Historically, the yield on a 10-year Treasury note has been roughly equivalent to the level of nominal growth in gross domestic product (real growth plus inflation). That would imply that the rates should have averaged 3.4% since 2009 and should be roughly 5% today. Instead they have averaged only 2.45% and are now 2.71%. Why?

The academic economists who have been setting monetary policy would see this as heresy, but there may be a sense in which the best intentions of the Federal Reserve to save the world from the financial crisis at some point started to impede economic progress rather than foster it. More troubling, there is evidence that the Fed's policy mix of easy money and tight financial regulation disproportionately benefited wealthy people with financial assets while hurting poor and middle-class people who earn interest on their savings.

Since the financial crisis, stock and bond prices have soared while interest paid on deposit accounts has plummeted. Higher long-term interest rates suggest that investors have come to believe that the outsize influence of global central banks on economic growth is ending. That's good news for those who believe that the collective wisdom of markets, while imperfect, is better at allocating capital than small groups of unelected officials.

Higher long-term interest rates suggest central banks may finally be curtailing their outsize influence.

Many remain skeptical that the new tax law will spur economic growth. With no reason to think the federal government will curb its profligacy, it is fair to worry about the legislation's long-term impact on interest rates, the deficit and the dollar. In the short term, however, it's best not to overthink it. All historical analogies are imperfect, but the 2003 tax cuts are a reasonable guide to what investors can expect in 2018. Based on that experience, long-term interest rates, earnings and nominal economic growth should all rise this year. If there is any bad news, it is that higher inflation and interest rates are likely to make it harder for earnings multiples to expand, ending the market's ability to outperform the underlying economy as greatly as it has. The good news is that the real economy and corporate profits should boom while a rising and more variable cost of capital should prompt corporations to seek higher returns through capital investment rather than share repurchases.

While free markets can be unsettling, it is difficult to find a lot wrong with the economy today. Consumer spending, capital investment, and government expenditures are rising or likely to rise while a weaker dollar should help offset the trade deficit. These expectations for stronger economic growth are being reflected in long-term interest rates and are currently nothing to fear. Inflationary pressures are likely to build, and the Fed has started the long-awaited process of "normalizing" short-term interest rates.

With liquidity ample and corporate profits set to surge, stock prices should continue to rise. Higher interest rates will temper the urge for investors to pay for growth at any price. In the long run, that is a good thing.

Mr. Trennert is chairman of Strategas, an investment-strategy, economic and policy research firm.

Relax, Nobody Is 'Nationalizing' Wireless Networks

By Declan Ganley

The response to a memo leaked from a White House working group on telecommunications achieved something rare in Washington—near unanimous agreement that government control of the next generation of mobile broadband is a terrible idea.

An Axios headline suggested that the Trump administration would consider "nationalizing 5G," but that's absurd. There is no 5G network, which means there's nothing to nationalize. As for the spectrum that might be used, Congress effectively nationalized all radio spectrum when it passed the Radio Act of 1927.

The heart of the National Security Council memo that triggered the outrage is a proposal to allocate 500 megahertz of spectrum to a next-generation network. That's not socialism. Keeping spectrum locked up in government hands is socialism. Freeing radio spectrum for commercial use is the right thing to do wherever and whenever possible.

Concerns that the government is dictating the specific use for the spectrum are also misplaced. The government regularly auctions, allocates or repurposes spectrum. It has to make decisions about how much spectrum to release, how big those blocks will be, how powerful devices can be in those frequencies, and so on. Government decision-making about spectrum influences its final use in uncountable ways. Declaring that these 500 MHz should be used for a nationwide 5G network is not materially different from everyday decisions made by the Federal Communications Commission and National Telecommunications and Information Administration.

Spectrum that remains exclusively in the government's hands is almost always underused, if not wasted. It makes sense for Washington to make a large block of spectrum available as quickly as possible to promote higher speeds and more coverage. Doing so could give a boost to a sector of the tech economy that has atrophied as subsidized Chinese equipment makers have rapidly gained market share in wireless networking.

And to promote new business models—rather than reinforce the dominance of the four incumbent national carriers—the memo suggests a shared network that would be available to all comers. Capacity on that network could not be hoarded, much like electricity markets operate under an antihoarding "open access" rule.

Such a network can be built with private capital. It shouldn't be under the control of the federal government. Wireless networks have proved their ability to attract private capital.

A "moonshot" to "flip the script" on the future of wireless isn't as crazy—or nefarious, or fascist, or socialist—as the coverage of the memo has made it sound. Fund it privately, require open access, and let the market do the rest. If the Trump administration does that, it can guarantee that American innovation and ingenuity drive development of 5G technologies.

Mr. Ganley is chairman and CEO of Rivada Networks.

THE WALL STREET JOURNAL.
PUBLISHED SINCE 1889 BY DOW JONES & COMPANY

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UNITED IN SPORT

When we are united, together, we are at our best. But today our world, our country, even our communities are as divided as they have ever been.

No one seems to have time or tolerance for anyone with an opinion differing from their own. Turn on the news or flip through your phone and it seems as though someone or something is trying to drive us apart.

Those forces will not succeed because you can't break the human spirit, which at its core is indivisible.

As a proud sponsor of Team USA and a company rooted in sport, we are fortunate enough to see humanity at its best every single day … on fields, rinks, courts, tracks, diamonds, gridirons, bleachers and in locker rooms. Sport shows us that the similarities that bind us are infinitely stronger than the differences that divide us. It is the diversity of race, religion and gender that truly moves us forward, together.

For 17 days, as Team USA and the world compete in the 2018 Olympic Winter Games, we will put our differences aside and simply play games.

We will play with excitement and pride. We will play by the rules. And we will play with sportsmanship and respect for our opponents.

For 17 days, the world will be united by the joy and spirit of sport.

Sport has the power to bring us together as one community, one country and one world. Sport has always been one of the great uniters.

The Olympic Winter Games will show those divisive forces that they are fighting a losing battle. We will see how the human spirit can be lifted to new heights. We will see that when we are united, we are at our best.

So let us remember the power sport has to unite us as one race ... the human race, living together with respect, tolerance and love.
Not just for 17 days every two years, but always.

Sincerely,

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TECHNOLOGY: GIANTS SIT ON OVERSEAS CASH DESPITE TAX LAW B4

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Selloff Upends Low-Volatility Bets

Large swings force investors to rethink the duration of quiet markets

By Gunjan Banerji And Alexander Osipovich

Volatility roared back into the stock market Monday, rattling traders and wrong-footing scores of investors caught wagering that share-price swings would remain muted.

The Cboe Volatility Index, or VIX, posted its largest-ever one-day increase, more than doubling by Monday's close to 37. That is the highest close since August 2015, when U.S. markets briefly went into free fall following a surprise devaluation of the Chinese yuan.

The VIX, the most widely cited market gauge of price swings, uses options activity to give investors a view of expected stock-price moves in coming sessions. It was an obscure measure even on Wall Street until ructions in the VIX during the early stages of the 2008 financial crisis foretold larger problems ahead.

Since the crisis, the VIX has generally been depressed, and its levels hit new lows last year as the Dow Jones Industrial Average and other major indexes soared to new highs. The decline in the VIX spurred increased interest among investors in making bets that volatility would fall further, a wager widely known in trading circles as "shorting the VIX" and the "volatility carry trade."

Those seeking to short volatility can either buy financial products such as some exchange-traded products that seek to benefit from a decline in price swings, or they can borrow products that track the VIX and sell them short, seeking to repurchase them later at a lower price and pocket the difference. When stocks plunge and volatility surges, though, investors who have been short

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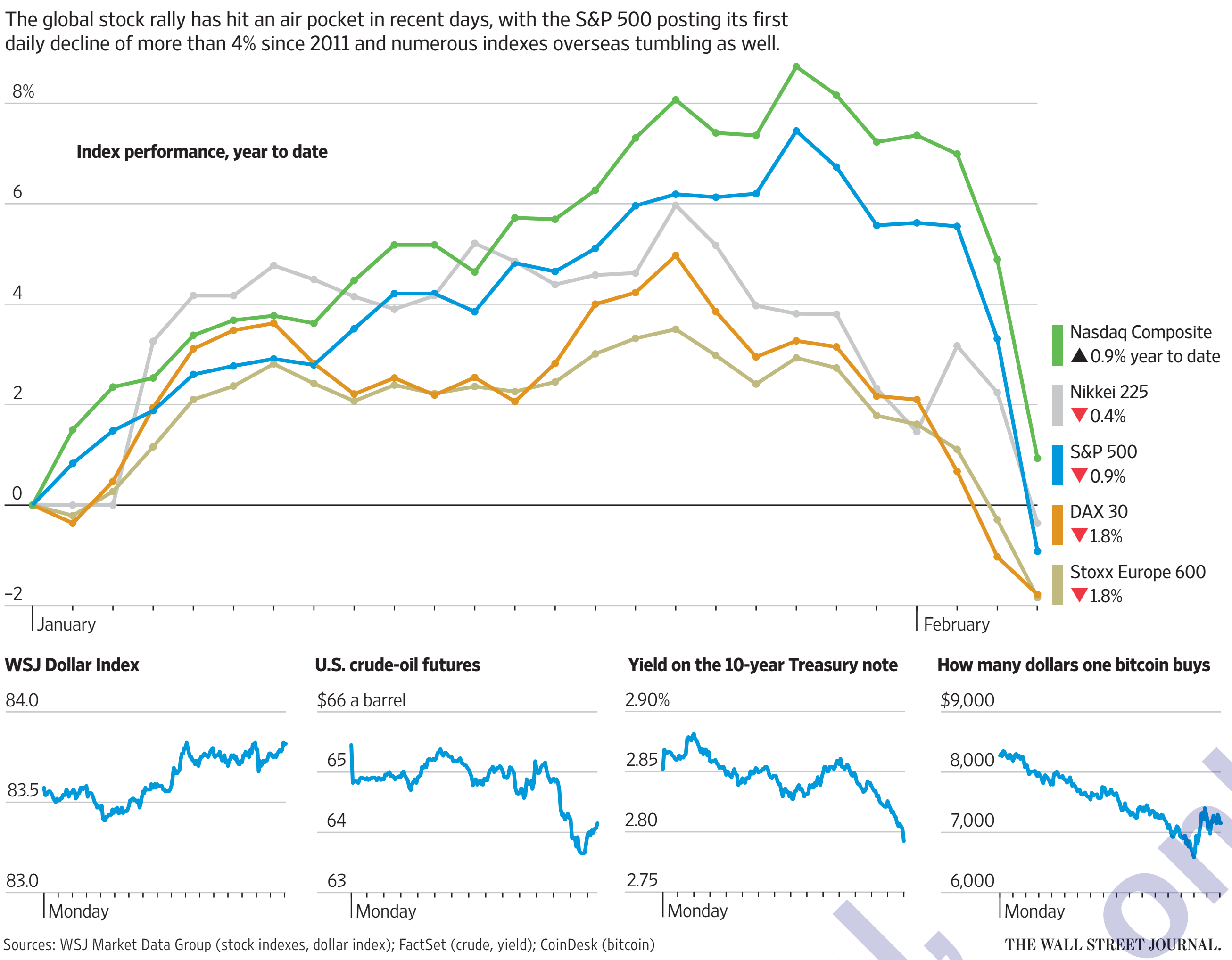
◆ Asian markets decline sharply in early trading........ B11



Broadcom Increases Its Bid For Rival

By Ted Greenwald

Broadcom Ltd. made a sweetened offer for **Qualcomm** Inc. that valued the semiconductor maker at $121 billion but did little to convince investors that the potentially biggest technology deal on record would actually happen.

Broadcom, which also is a chip maker, on Monday raised its offer to $82 a share in cash and stock, up from its initial offer of $70 a share, or $105 billion, in November. The portion of the offer in cash was unchanged at $60 a share.

Qualcomm's shares were down about 3% in afternoon trading at $64.06, a 22% discount to the revised bid, reflecting Wall Street's continued wariness about prospects for the deal. Shares then tumbled with the broader market, at one point sinking 7.8% before ending with a 6.6% loss at $61.73.

The Qualcomm stock move Monday is "a little puzzling," said Chris Caso, an analyst with Raymond James, given that the revised offer was in line with what many investors expected.

Several analysts suggested Broadcom Chief Executive Hock Tan's declaration that the revised bid is his "best and final offer" rattled investors hoping for stronger language about getting a deal done. Broadcom shares, flat most of the day, turned south too, finishing down 3.1% at $228.10.

Mr. Tan, in a letter to Qualcomm shareholders Monday, also threatened to walk away if the companies can't agree on a deal by Qualcomm's March 6 shareholder meeting or if Qualcomm shareholders don't elect Broadcom's proposed slate of directors.

Qualcomm has continued to hold Mr. Tan at arm's length throughout the process. "There's a view that maybe the chances are higher that Broadcom could walk," Bernstein analyst Stacy Rasgon said.

Another cloud hanging over Qualcomm stock Monday was a research note from Nomura Instinet analyst Romit Shah in which he suggested Apple Inc. might reduce its reliance on Broadcom chips and cut out Qualcomm entirely in its next cycle of iPhones. All three companies declined to comment on that report.

Mr. Tan has suggested he can solve an ongoing dispute over royalties between Qualcomm and Apple. Investors have to wrestle with the possibility, if a deal is completed, that his solution could eliminate much of Qualcomm's highly profitable patent-licensing revenue.

The revised bid represents a 50% premium to Qualcomm's share price Nov. 2, before news of an expected bid first emerged.

In an interview, Mr. Tan talked down a recent presentation from Qualcomm executives on how the company would grow without a Broadcom deal.

"This offer provides more value than any stand-alone value Qualcomm has tried or is

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INTELLIGENT INVESTOR | By Jason Zweig

Stock Market Didn't Get Tested, but You Did

Stop trying to make sense of the stock market.

The one question every investor was asking on Monday has no answer: Why? Why did the Dow Jones Industrial Average close down nearly 1,200 points, or 4.6%?

Market commentators are already arguing that stocks were bound to fall because interest rates are rising and inflation is sure to jump as the economy heats up. But a week or two ago, before stocks stumbled, analysts were saying just as glibly that moderate increases in interest rates and inflation were good for stocks.

Yes, stocks have been expensive by historical measures for some time now. And investors have been extraordinarily optimistic. In January, near-term earnings estimates for the companies in the S&P 500 rose by the largest percentage since 2002, according to FactSet.

What's more, the abnormal smoothness of the stock market over the past couple of years set investors up for a shock whenever stocks did fall at least 5%, as they did on Monday.

As I pointed out last month, in the low-volatility market we have seen until recently, "even slight declines are apt to set off talk of Armageddon, and you will need to focus harder than ever on long-term returns to keep short-term losses from rattling you."

That's because the pain of a market drop depends not merely on its size, but on its steepness relative to recent experience. A 5% drop back in late 2008 or early 2009 was almost routine; now it feels like a frightening deviation.

Bear in mind, too, that some index funds—those autopilot portfolios that seek to match the market by holding all the stocks in a benchmark—tend to execute their trading orders around the close of trading at 4 p.m. Eastern time. That can reduce a key source of buying during the middle of the trading day.

But just as no one knows, to this day, why the stock market crashed in September 1929 or October 1987, searches for a rational explanation of Monday's madness are futile.

The novelist Joseph Conrad understood human nature. In his memoir, "A Personal Record," published in 1912, he recounted a

Please see ZWEIG page B11

Court Frees Samsung Head

By Timothy W. Martin And Eun-Young Jeong

SEOUL—After almost a year behind bars, Lee Jae-yong, the de facto head of Samsung, walked free Monday when an appeals court cut his sentence for involvement in a government corruption scandal.

Mr. Lee's release has raised hopes at the company that its prolonged leadership vacuum may be nearing an end as Samsung hunts for new areas of growth beyond its money-spinning memory chips and smartphones.

In a decision that surprised some South Korean lawmakers and legal experts, the Seoul High Court replaced Mr. Lee's five-year jail term with a suspended prison sentence of two years and six months, as it upheld, but lessened the extent of wrongdoing in, four of his five convictions, which centered on bribes allegedly paid to South Korea's former president. Mr. Lee has denied wrongdoing.

Mr. Lee, 49 years old, is expected to resume his duties as vice chairman of **Samsung Electronics** Co., the conglomerate's crown jewel, though it is unclear if he would appear at work on Tuesday, a Samsung spokeswoman said.

The release of Lee Jae-yong from prison raised hopes of end to vacuum in leadership.

The Samsung heir's legal status isn't fully resolved. Both Mr. Lee's lawyers and prosecutors can appeal the High Court's ruling with the Supreme Court. Mr. Lee's attorney said he planned to file an appeal to clear his client of the remaining charges. A trial could begin as early as next month. Prosecutors, who had sought a 12-year jail term, couldn't be reached for comment.

Mr. Lee, grandson of the firm's founder, returns to Samsung at a time of record profits—but also challenges. Growth in the smartphone market, in which Samsung ranks No. 1 in the world based on annual shipments, is slowing. Prices of memory chips, which spurred the company's record profits, may have peaked, analysts

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Not-So-Super Bowl for Ratings

ELSA/GETTY IMAGES

GAME OVER: This year's thriller was the least-watched professional football championship since 2009. B2

INSIDE

AMAZON'S AUDIOBOOKS MAKE BIG NOISE

PUBLISHING, B2

BEAUTY BRANDS GET FINE LINES AND WRINKLES

COSMETICS, B6

Banks Shut the Door on More Branches

Banks are closing branches at the fastest pace in decades, as they leave less profitable regions and fewer customers

By Rachel Louise Ensign, Christina Rexrode and Coulter Jones

use tellers for routine transactions.

The number of branches in the U.S. shrank by more than 1,700 in the 12-month period ended in June 2017, the biggest decline on record, according to a Wall Street Journal analysis of federal data.

Branch numbers fell again in the second half of 2017, according to related data submitted to bank regulators and reviewed by the Journal. That would add to the thousands of locations closed following the financial crisis and is the longest stretch of closures since the Great Depression.

Many of the closings were in big cities and surrounding suburbs, where branches were consolidated largely because of falling foot traffic. Others were in rural areas, where some large regional lenders are leaving town altogether.

While banks battered during the financial crisis such as **Citigroup** Inc. and **Bank of America** Corp. started cutting branches years ago, regional banks have only accelerated closures more recently. From mid-2012 to mid-2017, **Capital One Financial** Corp. cut 32% of its branches, **SunTrust Banks** Inc. 22% and **Regions Financial** Corp. 12%. For all three, the sharpest cuts came in the most recent 12-month period.

Banks say they carefully consider which branches to close, examining deposit levels at each branch and commute time to the nearest location. "We continue to evolve and optimize our branch network to ensure that we're operating as efficiently and effectively as possible," a Capital One spokeswoman said.

For decades, banks needed to add new locations to expand, pushing the number of U.S. branches to a peak in 2009. But in the aftermath of the financial crisis, some started closing branches to save money and then kept closing them to contend with low interest rates and higher regulatory costs.

Along the way, lenders realized they could maintain their

Please see BANKS page B10

INDEX TO BUSINESSES

These indexes cite notable references to most parent companies and businesspeople in today's edition. Articles on regional page inserts aren't cited in these indexes.

INDEX TO PEOPLE

Credit Union to Serve Pot-Related Businesses

By Lalita Clozel

WASHINGTON—A Federal Reserve Bank has given conditional approval to a Colorado credit union to serve marijuana-related businesses, though to win the Fed's backing it agreed to step back from its original plan to serve state-licensed dispensaries.

Instead, **Fourth Corner Credit Union** will focus on individuals and companies that support legalized marijuana, including those who partner with vendors, such as accountants, lawyers and landlords. Fourth Corner sued the Fed three years ago over the issue.

In its letter granting conditional approval dated Friday, the Federal Reserve Bank of Kansas City noted that "this letter does not express the policy views of" the Fed, "nor does it contain any supervisory, regulatory or enforcement guidance or precedent." A Fed spokesman declined to comment.

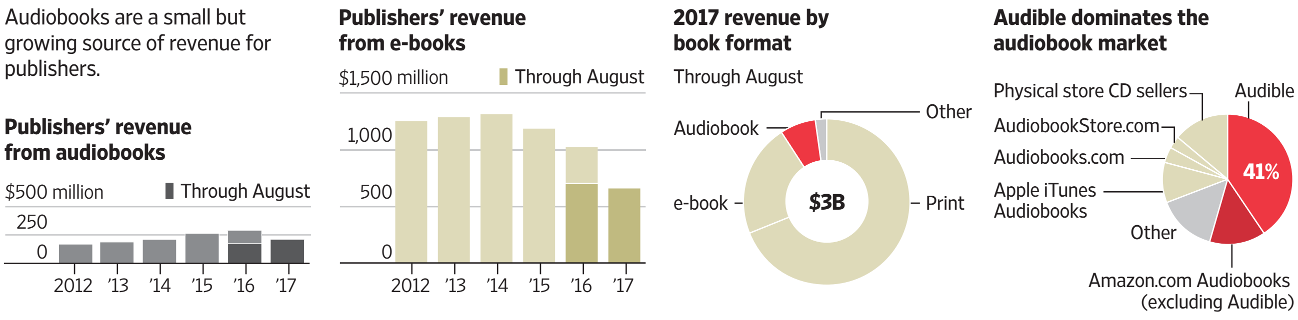
The move comes a month after the Trump administration decided to toughen the federal government's stance on marijuana.

A significant chunk of the financial system—including most credit-card companies and all banks that have access to the Fed's payments highway—is regulated by the U.S. government, which considers distribution and use of marijuana a crime. As a result, marijuana dispensaries have had to rely mainly on cash.

BUSINESS & FINANCE

Snowboarder Shaun White's memoir will initially be released as an audiobook from Audible.

XINHUA/ZUMA PRESS



Notes: Publishers' revenue from U.S. adult book sales; Audiobook market share is based on units sold according to a survey of book buyers
Sources: Association of American Publishers (publishers' revenue); Codex Group LLC (audiobook market)

THE WALL STREET JOURNAL.

Amazon Shakes Up Audiobooks

By Jeffrey A. Trachtenberg

When Olympic snowboarder Shaun White's memoir lands later this year, readers will have to wait. That is because his book will be released as an audiobook a month before the hardcover and e-book editions.

The force behind this unorthodox rollout is Audible, **Amazon.com** Inc.'s audiobook subscription service. Audible paid for more than half of the memoir to gain rights to the audio version, which will be published by its in-house studio. Audible said it would be the first time one of its audiobooks precedes a print book in coordination with another publisher.

With the help of its deep-pocketed owner, Audible is trying to extend its dominance in a rapidly growing corner of the book business. It already accounts for about 41% of U.S. audiobook unit sales, according to researcher Codex Group LLC. Audible said Mr. White's book is a blueprint for the sorts of deals it will pursue. Audible's growth comes at a time when many consumers have also embraced podcasts, helping to build interest in audio-related experiences.

As a publisher of audiobooks rather than simply a retailer, Audible can develop exclusive audio content that differs from the print version, helping to lure subscribers and fend off rivals. In working directly with authors, Audible controls the content instead of traditional publishers, which normally own all rights to books and distribute audio versions through firms like Audible and **Apple** Inc.'s iTunes.

Audible is pitching literary agents on the benefits of using its services, saying authors will get a competitive bidding process that could mean more money in their pockets, and will get more attention and marketing for their audiobooks.

The company is adding pressure on book publishers to hold on to a modest but growing area of an otherwise challenged book industry. In the first eight months of 2017, publishers' revenue from audiobooks grew 20% from the same period a year earlier, while print books only rose 1.5% and e-books slipped 5.4%, according to the Association of American Publishers, which collects data reported by 1,200 publishers.

Beth Anderson, Audible's publisher, said the company has been a disrupter since before it was acquired by Amazon in 2008. She noted the company's entry into downloadable titles when others were selling CDs and cassettes, and its introduction of digital rights management to protect against piracy. "We're going after the people who aren't yet listening," said Ms. Anderson. "And we're trying to serve authors who have entrusted their rights to us."

Amazon built a dominant position in print books and e-books. With audiobooks, the company faces new hurdles, including greater competition and pushback from publishers.

Last month, **Alphabet** Inc.'s Google began selling audiobooks through its Google Play store, and **Walmart** Inc. said it was working with Japan's No. 1 e-commerce retailer, **Rakuten** Inc., to sell audiobooks in the U.S. The Audio Publishers Association estimates U.S. audiobook sales rose 18% to $2.1 billion in 2016.

Several publishers, including Penguin Random House and HarperCollins Publishers, say they generally won't buy a new book without audiobook rights. "Authors are best served if they are published as a whole and marketed as a whole and in lockstep with our digital sales team and our print team," said Ana Maria Allessi, publisher of HarperAudio, a unit of HarperCollins Publishers. HarperCollins, like The Wall Street Journal, is owned by News Corp.

Rights Gain In Importance

With Audible, the publisher typically gets a set fee for each audiobook download, part of which is passed on to the author. When Audible owns the audiobook rights, print publishers no longer get a cut. Typically, this means more money is passed on to the author.

"As e-book sales decline and hardcover sales flatten, publishers need audiobook rights to boost their bottom line," said Robert Gottlieb, chairman of Trident Media Group LLC, a New York literary agency. "What's different is that Audible is trying to get agents to sell them the audiobook rights before they go out with the other publishing rights."

To entice subscribers, Audible is seeking more original content beyond actors or authors simply reading a text.

The audiobook edition of snowboarder Shaun White's untitled memoir, which will be released in September only on Audible and iTunes, may include conversations with Mr. White's coaches or competitors and narrations of competitions, Ms. Anderson said. The print and e-book versions will follow in October from **Houghton Mifflin Harcourt** Co.

Houghton was a suitable partner because it typically sublicenses its audio rights to others. Ellen Archer, president of Houghton's trade publishing group, said the print edition will feature photos, journal entries and art by Mr. White.

Super Bowl Draws Fewer TV Viewers

By Joe Flint

There were 17 Super Bowl records set in Sunday night's thriller between the Philadelphia Eagles and New England Patriots, but the size of the audience wasn't one of them.

The Eagles' 41-33 nail-biter win over the Patriots in Super Bowl LII averaged 103.4 million viewers on NBC, according to Nielsen, making it the least-watched football championship since 2009.

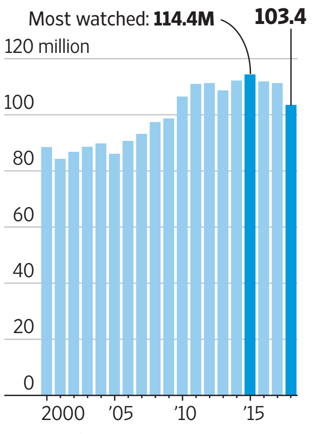
This year's ratings marked a 7.1% drop from last year's 111.3 million people who saw the Patriots beat the Atlanta Falcons in overtime on Fox. The record Super Bowl audience was set at 114.4 million when the Patriots defeated the Seattle Seahawks in 2015 on NBC.

The decline in viewership for the Super Bowl is in line with declines the National Football League experienced during the regular season. The average audience for an NFL game for the 2017 season was 14.9 million viewers, a nearly 10% decline from the 2016 regular season, which was down 8% compared with 2015. Ratings for the playoffs this season were also down.

Other big events have also seen their audiences shrink. Last week's Grammy Awards audience slipped by 24% and the Golden Globes were off 5%.

Despite this year's decline, the Super Bowl still draws by far the biggest audience on television, making it a coveted program for advertisers who shelled out more than $5 million for 30 seconds of commercial time during the big game.

Viewership for Super Bowl LII on NBC fell 7.1% from 2017.



Source: Nielsen

THE WALL STREET JOURNAL.

This year's Super Bowl ranks as the 10th-most-watched program in U.S. television history, behind eight other Super Bowls and the finale of "M.A.S.H.," according to NBC. NFL games in general remain incredibly popular, accounting for 33 of the top 50 programs on television in 2017, according to the league.

Sunday night's audience peaked at 112.3 million viewers late in the fourth quarter. The Patriots had trailed by only one point with less than three minutes on the clock.

The ratings data for Super Bowl LII don't include out-of-home viewers, which capture people watching in bars and restaurants, and that data won't be available until Thursday. Including viewers across digital platforms like NBC-Sports.com, its app and NFL.com, the total audience reached 106 million viewers, according to NBC.

ELSA/GETTY IMAGES

Eagles fans celebrate in Philadelphia Sunday night.

NBC Sports Chairman Mark Lazarus said the smaller audience has more to do with Nielsen's measurement than interest in the game.

"I think the Super Bowl is much bigger than what was reported," Mr. Lazarus said. "Any reasonable person can agree there was a significant amount of out-of-home viewing for this game."

In addition, "people are consuming things in a lot of different ways" and the industry is still struggling to "capture and measure that in a timely fashion," he said.

Representatives for Nielsen didn't immediately respond to a request for comment.

Ratings for all television programming are on the decline as viewers embrace streaming services such as Hulu, Netflix and Amazon Prime. Furthermore, more viewers are recording shows or watching them on video-on-demand instead of live, although sports have typically been immune to that trend.

Television executives have blamed the decline in professional football ratings on an oversaturation of product and audience fragmentation. In recent years, the league has increased the number of Thursday night games and added a handful of Sunday morning games from London to the mix.

A recent Wall Street Journal/NBC News poll, however, painted a darker picture for the NFL, finding its traditional audience isn't following the game as closely, and younger viewers aren't embracing the sport in the same way as previous generations.

The league also has been dealing with controversy not only on the field with the way games are officiated but off the field as some players have chosen to sit or kneel during the national anthem as a form of protest against police violence and other societal issues.

Kroger To Sell Its Convenience Stores

By Heather Haddon And Cara Lombardo

Kroger Co. is selling its convenience-store business to privately held U.K.-based **EG Group** for $2.15 billion, the companies said Monday.

EG Group, which operates gas stations and convenience stores across Europe, will establish its North American headquarters in Cincinnati, where Kroger is based, and continue to operate stores under the existing banner names as part of the deal.

The deal gives EG an entry into the U.S. market with nearly 800 stores in 18 states under brands including Turkey Hill, Loaf 'N Jug, Kwik Shop, Tom Thumb and Quik Stop. In 2016, the stores generated $4 billion of revenue and sold 1.2 billion gallons of fuel, according to Kroger. The stores employ roughly 11,000 people.

The deal doesn't include Kroger's supermarkets, fuel centers or Turkey Hill Dairy, which makes ice cream and drinks.

Kroger announced it was exploring a sale of its convenience stores in the fall along with a three-year plan to overhaul its operations, given rising competition in grocery. Company executives said the plan would include making over its supermarkets, seeking strategic partnerships and investing more in technology instead of opening new stores. Selling the business, Kroger said, would free up cash and allow it to focus on food selling.

The convenience-store sector is expected to continue to consolidate as profits in the once-booming industry stalled in 2015.

Kroger and EG expect the deal to close in a few months. Kroger plans to use the proceeds to repurchase shares and repay debt.

The former Arby's Restaurant Group is now known as Inspire Brands, which includes the Buffalo Wild Wings and Arby's chains.

LUCAS JACKSON/REUTERS

Arby's Works Up Appetite

Restaurant chain hunts for more deals as it closes acquisition of Buffalo Wild Wings

By Julie Jargon

Fast-food and casual-dining restaurants are fighting for market share as new competitors offer consumers more ways to eat. **Arby's Restaurant Group** Inc. believes it can thrive by doubling down on both business models.

Privately held Arby's closed its purchase of **Buffalo Wild Wings** Inc. on Monday. Including debt, the deal is valued at roughly $2.9 billion.

Now, the renamed **Inspire Brands** Inc. aims to buy more chains to mitigate the threat of consumers losing their appetite for any one type of restaurant concept or cuisine. "We intend to own brands that span multiple occasions, up and down the spectrum," Chief Executive Paul Brown said in an interview.

By owning both fast-food and casual-dining restaurants—and eventually perhaps fast-casual chains—Mr. Brown hopes to capture more visits from the same customers visiting the company's restaurants at different times. For example, he said, a lot of Arby's customers looking for a quick bite are also Buffalo Wild Wings patrons when they want to watch sports.

Mr. Brown wouldn't name potential acquisition targets but said he envisions buying no more than 10 chains with systemwide sales of $1 billion to $4.5 billion each.

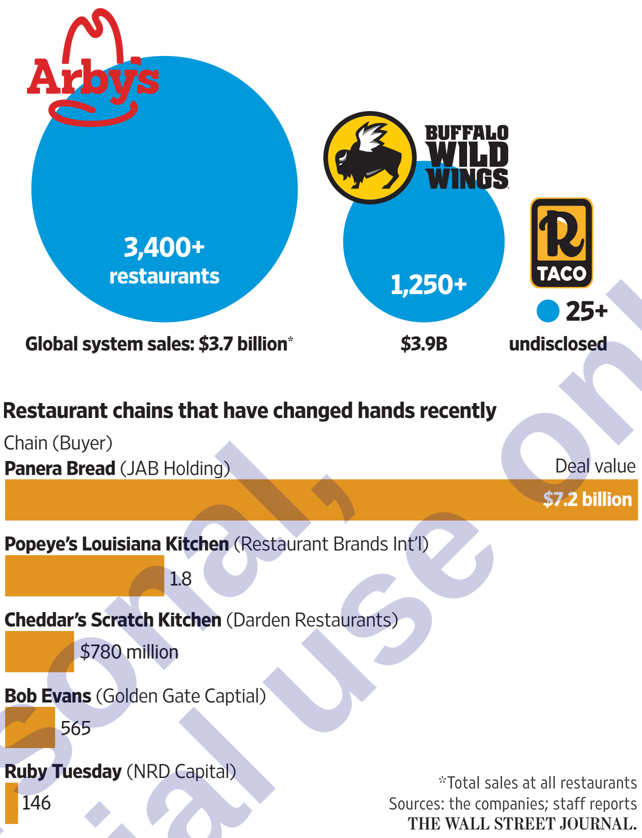
Mr. Brown said he wants to organize Inspire Brands like Hilton Hotels & Resorts, which operates everything from budget-priced hotels to high-end resorts with one loyalty program that stretches across them all. R Taco, a small street-taco chain in which Buffalo Wild Wings owns a majority stake, will also fall under Inspire Brands.

Arby's was once part of Wendy's Co. and has been majority-owned by **Roark Capital Group** since 2011.

Mr. Brown said he plans to take a patient approach with Buffalo Wild Wings, which had been under fire from activist shareholder **Marcato Capital Management** LP. By being privately held, he said, the company can make capital investments that might not generate quick returns.

Dishing Up Changes

Arby's is reorganizing under a new company with its acquisition of Buffalo Wild Wings.



*Total sales at all restaurants
Sources: the companies; staff reports
THE WALL STREET JOURNAL.

Lululemon CEO Exits Abruptly

By Sara Germano And Joann S. Lublin

Lululemon Athletica Inc. said its chief executive, Laurent Potdevin, resigned after unspecified behavior that failed to meet the company's standards, an abrupt exit that surprised investors of the fitness-apparel maker.

The company said Monday afternoon that Mr. Potdevin, who had been its top executive since January 2014, had resigned as CEO and a board member, effective immediately. The Vancouver-based company has started a search for a new CEO.

It wasn't immediately clear how the 50-year-old had run afoul of the company's standards. There were "a range of instances" where his actions didn't align with company policy on leadership and conduct, said a person familiar with the matter. There have been no legal settlements or criminal charges related to the alleged behavior, the person said.

"Lululemon expects all employees to exemplify the highest levels of integrity and respect for one another, and Mr. Potdevin fell short," the company said in a written statement, without providing additional details.

Mr. Potdevin didn't respond to a request for comment.

Lululemon's shares fell 3.1% to $75 in after-hours trading after The Wall Street Journal reported the CEO's exit. The company has a market value of about $10 billion.

"It is the responsibility of leaders to set the right tone in our organization," Glenn Murphy, Lululemon's chairman, said in a statement. "Protecting the organization's culture is one of the Board's most important duties."

Mr. Murphy will take over additional duties in the interim while the retailer starts searching for a new CEO.

Dalian Wanda Sells Stakes in Theater Chain

QILAI SHEN/BLOOMBERG NEWS

Billionaire Wang Jianlin's **Dalian Wanda Group** is selling nearly 13% of his Chinese movie-theater chain to **Alibaba Group Holding** Ltd. and a film company backed by the Beijing municipal government as he seeks to pay down debt at his business.

The shares being sold in separate stakes are worth 7.8 billion yuan ($1.2 billion), **Wanda Film Holding** Co., Mr. Wang's publicly listed cinema unit, said in a regulatory filing on Monday.

Wanda Film owns and operates about 500 theaters on the mainland (including the Shanghai cinema shown above). The investment could open the door to future partnerships between e-commerce giant Alibaba and Wanda's other show-business units, such as Hollywood production company Legendary Entertainment.

Wanda is now in business with China's two largest internet giants as it moves to shore up its balance sheet. The company agreed last month to sell a stake in its property business to a group that included Chinese social-media titan **Tencent Holdings** Ltd.

Last year, Wanda came under fire from Beijing for its aggressive overseas deal-making, and the company found it harder to pay for overseas acquisitions. The company since has sold billions of dollars in assets both in China and abroad.

In its filing Monday, Wanda Film said it would sell a 7.7% stake to Alibaba and a roughly 5% stake to Cultural Investment Holdings Co.

—Liza Lin and Wayne Ma

SpaceX Revises Its Strategy

By Andy Pasztor

SpaceX chief Elon Musk said his company has essentially shelved plans to use its Falcon Heavy rocket to transport humans around the moon or deeper into space, opting instead to focus on developing an even larger booster announced just last year.

Disclosed during a press conference on Monday, the surprise decision came the very day before the long-delayed Falcon Heavy—in which SpaceX has invested roughly $1 billion over a seven-year stretch—is slated for its maiden launch. The 230-foot rocket, sporting 27 reusable engines, was conceived as the most powerful space-transport vehicle since the iconic Saturn V that blasted the Apollo astronauts to the moon five decades ago.

Mr. Musk, who founded **Space Exploration Technologies** Corp. in 2002 with the goal of eventually transporting humans throughout the solar system, told reporters the change in plans wasn't due to doubts about the Falcon Heavy's design or capabilities. He said he remained "really hopeful for this flight going as planned," adding that "I'm sure we have done everything we could do to maximize the chance of success."

Still, he said SpaceX has decided that even if the Falcon Heavy performs as expected, management will shift its attention to a larger space-transportation system called the Big Falcon Rocket, envisioned to ultimately take humans to Mars.

The spacecraft designed to fly on top of the Big Falcon Rocket, according to Mr. Musk, could begin short test flights perhaps as soon as next year. With work on the follow-on system to the Falcon Heavy "moving quickly," Mr. Musk said, "it will not be necessary to qualify Falcon Heavy for crewed space flights."

SpaceX's revised strategy sees an unmanned future for the Falcon Heavy boosting the largest commercial and U.S. spy satellites into orbit.

Tech Giants Sit Tight on Overseas Cash

Microsoft and others are in no hurry to alter spending plans with tax changes in place

BY DOUGLAS MACMILLAN AND JAY GREENE

The Microsoft visitors center in Redmond, Wash. Many firms are benefiting from the new tax law.

GLENN CHAPMAN/AGENCE FRANCE-PRESSE/GETTY IMAGES

With the passage of the new U.S. tax law, the nation's tech giants can now more freely dip into their stockpiles of overseas cash. They don't seem to be in any hurry.

The five largest U.S. technology companies by market value hold nearly $500 billion combined in cash abroad. In their first earnings calls since the tax overhaul, three—**Microsoft** Corp., **Alphabet** Inc. and **Amazon.com** Inc.—suggested greater access to the cash didn't change their spending plans.

"When we have seen an opportunity to invest, we have not really waited for tax reform to do that," Microsoft Chief Financial Officer Amy Hood said on a call with analysts. Alphabet finance chief Ruth Porat reported "no change in our approach to capital allocation." Amazon's CFO, Brian Olsavsky, said the company already spends a great deal on its workforce.

That contrasts with **Apple** Inc.'s announcement last month it would make a $38 billion one-time tax payment on its offshore cash holdings, bring most of the money home and boost spending in the U.S., creating more than 20,000 jobs. In his State of the Union address last Tuesday, President Donald Trump hailed Apple's plans as evidence of the tax law's success.

For **Facebook** Inc., the impact of the tax law on spending never came up on its call.

"Investors are a little disappointed that you didn't get clarity and transparency from these management teams on what they are going to do" with overseas cash, said Daniel Ives, head of technology research for GBH Insights.

The tax change benefited the bottom line for many American corporations by reducing the statutory corporate rate to 21% from 35%. The impact has spurred businesses to go on acquisition sprees, launch share buybacks, cement plans to build new U.S. plants and dole out bonuses to workers in industries such as telecommunications and airlines.

Tech firms, which hold more overseas cash than any other industry, lobbied for the law in part because it promised them a one-time discounted rate of as much as 15.5% on those holdings.

Most don't need to use that cash because they have been able to borrow low-cost capital to return cash to shareholders. Over the past five years, tech companies in the S&P 500 index tripled their amount of long-term debt to $531 billion, a faster pace of growth than any other industry over that period.

Many of the companies said on their calls they are still working through the complexities of the tax code. Some could announce changes to their spending plans in the coming weeks. Alphabet, Amazon and Microsoft declined to comment beyond their calls.

In an emailed statement, Facebook CFO Dave Wehner said the tax law gives the company "added flexibility about where to hire and build." Facebook already planned to double the size of its U.S. workforce over the next three years, a Facebook spokeswoman said. An Apple spokesman said the company didn't have anything to add beyond its prior comments.

It isn't clear how much of Apple's investment was triggered by tax considerations and how much Apple would have done anyway. Finance chief Luca Maestri said in an interview Apple's goal is to target a "net cash neutral" position, compared with the large gap between its current holdings of $285 billion in cash and $122 billion in debt.

That implies Apple could spend as much as $163 billion across dividends, share repurchases and acquisitions in the coming years, analysts said. The company said on its call it plans to disclose more details when it next reports earnings.

Even after Apple garnered presidential praise for its moves, Microsoft, whose international cash pile is second only to Apple's among U.S. corporations, chose to play down the impact of the tax law. On a Jan. 31 call with analysts, Ms. Hood said Microsoft made acquisitions "when they made sense" and "didn't wait when we thought about capital return" to shareholders.

Alphabet announced plans to repurchase $8.6 billion in shares—"a modest increase" to previous programs, Ms. Porat said on the call.

Other tech companies were spare with details on their calls. The tax-law impact on spending didn't come up on **Qualcomm** Inc.'s call.

PayPal Holdings Inc. CFO John Rainey said while the company wants to return cash to shareholders, "we don't feel pressured to go out and do that immediately."

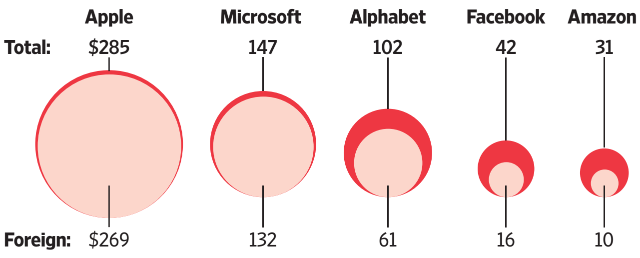
Intel Corp. CFO Robert Swan said "tax reforms provide further incentive to continue investments" in U.S. research and development, but didn't elaborate.

—Tripp Mickle contributed to this article.

Dry Powder

Aside from Apple, the largest tech giants so far haven't shared any plans to boost spending as a result of overseas cash freed up because of the new U.S. tax law.

Companies' foreign and total cash, in billions*



*Cash figure includes cash and cash equivalents and marketable securities for the most recent filing period.
Note: Total cash figures are from the most recently ended quarters. Foreign cash figures are from most recent quarter available.
Source: WSJ analysis of company filings

THE WALL STREET JOURNAL.

Alphabet and Uber Open Fire in Self-Driving Car Suit

BY GREG BENSINGER

SAN FRANCISCO—Silicon Valley's biggest legal battle in years began on Monday as lawyers from **Alphabet** Inc.'s Waymo and **Uber Technologies** Inc. traded barbs in a federal case that could have significant implications for the race to bring robot cars to the streets.

During opening remarks in front of a 10-person jury sitting less than a mile from Uber headquarters, Waymo's lawyers portrayed Uber's former chief executive, Travis Kalanick, as a cheater who would do anything to catch up to his competitor.

Uber's attorneys pushed back, calling Waymo's portrayal "quite a story" while denying the allegations that Uber swiped trade secrets and knowingly used them to develop autonomous vehicles. An Uber attorney, Bill Carmody of **Susman Godfrey** LLP, said there was no conspiracy or cheating. "Period, end of story."

The high-stakes showdown pits an offshoot of Google against a highflying startup in Uber, two companies estimated to be worth tens of billions of dollars and among the leaders in autonomous-vehicle development. The case could test intellectual property law in Silicon Valley, where top engineers with technical chops are constantly poached by rival companies.

Waymo sued Uber nearly a year ago in the U.S. District Court for the Northern District of California, saying the startup ransacked the tech giant's design secrets after paying about $680 million in 2016 to buy autonomous-truck company Otto, founded by a former star engineer at Google, Anthony Levandowski. Uber has denied the allegations.

Waymo will seek an injunction to prevent Uber from developing further aspects of its driverless-car technology and possible damages that could reach into the billions.

Waymo's lawyer, in his opening remarks, pointed to Mr. Kalanick for allegedly conspiring to have Mr. Levandowski bring his files and know-how from years of developing the technology at Google. He said Uber tried to cover its tracks through clandestine meetings and erasing emails and text messages.

Uber needed "to win at all costs and losing is not an option—they would do anything they needed to do to win, no matter what," said Charles Verhoeven, the lawyer representing Waymo from **Quinn Emanuel Urquhart & Sullivan** LLP. Mr. Kalanick "made a decision that winning was more important than obeying the law; he decided to cheat."

A spokesman for Mr. Kalanick declined to comment Monday. An attorney for Mr. Levandowski declined to comment. Mr. Kalanick has denied any theft in depositions, and Mr. Levandowski has previously indicated he will invoke his Fifth Amendment right against self-incrimination.

The case hinges on a technology known as lidar, or light detection and ranging systems, which is used to guide self-driving vehicles. Waymo will seek to persuade the San Francisco jury to put a stop to Uber's development of lidar based on what it says is its proprietary technology.

Mr. Verhoeven presented evidence including steps Mr. Levandowski took to download thousands of Google files to his personal computer.

Uber's attorney, Mr. Carmody, called the downloaded files unimportant, adding that Uber never received or used any proprietary information. He said engineering talent is essential in developing self-driving car technology, which drove Uber's acquisition of Otto and its employment of Mr. Levandowski.

LEE

Continued from page B1

lysts say.

During Mr. Lee's absence, Samsung shook up its senior ranks, replacing the heads of its three major units last year, with one of its outgoing joint CEOs acknowledging that new leaders were needed to accelerate innovation.

Mr. Lee's return is seen as critical because the Lee family shapes the company's vision and approves major strategic decisions. He took the helm after his father was made incapacitated from a heart attack in 2014, and pushed the conglomerate to become less opaque and more global in thinking.

Just weeks before Mr. Lee testified before South Korean lawmakers about the bribery scandal, in November 2016, Samsung announced its largest ever acquisition: an $8 billion deal to buy U.S. automotive technology manufacturer Harman International Industries Inc. Mr. Lee also personally backed big investments in biopharmaceuticals.

"It's more likely they'll do something bigger now that he's back," said Mark Newman, an analyst for Sanford C. Bernstein. Samsung has about $77 billion in cash.

Hours after the High Court ruling, Mr. Lee walked out of a detention center south of Seoul where he had been held since February last year.

AHN YOUNG-JOON/ASSOCIATED PRESS

Lee Jae-yong on Monday. He spent almost a year in prison.

"I apologize for not showing my best self," he told reporters before getting in a car and going to visit his father at a hospital in downtown Seoul. His release came just days before the opening of the 2018 Pyeongchang Winter Olympic Games, of which Samsung is a top-tier sponsor. While the decision's timing was fortuitous, legal experts say it tracked the judicial schedule.

The reduced sentence for Mr. Lee deals a blow to lawmakers and governance advocates who had held out hopes for change under South Korea's left-leaning president, Moon Jae-in. Mr. Moon had promised to loosen the country's traditionally cozy ties between politics and businesses.

Public anger over the corruption scandal helped Mr. Moon win a snap election in May and prompted the ouster of his predecessor, Park Geun-hye. Samsung's Mr. Lee was the highest-profile business head to be prosecuted.

"Today we witnessed how Samsung is above the law once again," said Park Yong-jin, a lawmaker with the left-leaning ruling party, the Democratic Party of Korea, in a statement after the court ruling. Mr. Lee's father twice received presidential pardons.

Samsung declined to discuss the implications of Monday's court ruling or comment further.

Prosecutors accused the younger Mr. Lee of receiving government favors in return for financial contributions made to a confidante of Ms. Park, the former president. Samsung has previously said it paid about $38 million to entities that the company later discovered were linked with Ms. Park's confidante, but denied that they were given in return for political favors.

The Seoul High Court quashed one of Mr. Lee's convictions—hiding assets overseas—and ruled that only about 3.6 billion South Korean won ($3.3 million) of the funds in question counted as bribes, lower than the $8.2 million found by the lower court. The High Court also said that Samsung's contributions were made as a result of coercion by Ms. Park. The former president, who is undergoing a lower court trial, has previously denied wrongdoing. Her lawyers weren't immediately available for comment.

Mr. Lee's reduced sentence of two years and six months was suspended for four years.

"Given the trial's significance, the appellate court seems to have taken a passive and conservative interpretation of the case," said Park Yong Chul, a criminal-law professor at Sogang University in Seoul, adding that it was surprising for the High Court to completely overturn the lower court's ruling on Mr. Lee's charge of hiding assets overseas.

Mr. Lee's legal fate now moves to South Korea's highest court.

Now Mr. Lee's legal fate migrates to the country's Supreme Court, which can uphold the appellate court's verdict or send it back for re-examination.

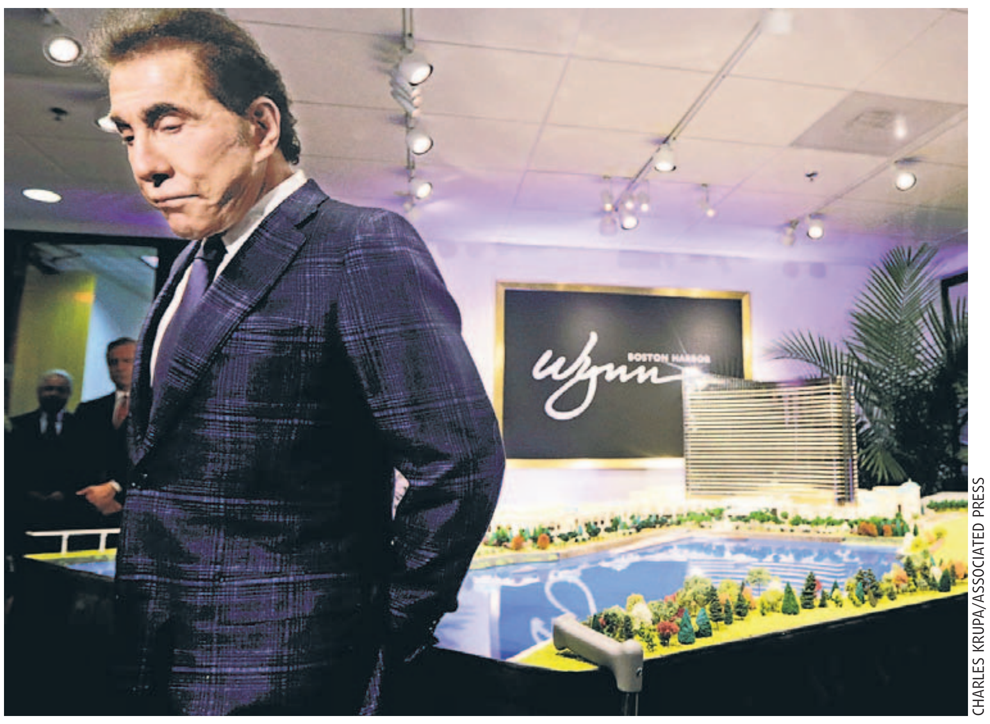
Despite three consecutive quarters of record profits, Samsung is vulnerable in its key businesses. Global smartphone shipments fell 9% in the final three months of 2017, according to Strategy Analytics, a market research firm.

Mr. Lee told the appeal judge on Dec. 27 that his time in prison had benefited him in unexpected ways and given him valuable time to reflect. In brief remarks, Mr. Lee said his ambition was to be recognized as a "world class" business leader in his own right, not due to his birthright as heir to South Korea's biggest family fortune.

Wynn Tried to Veil Payment to Accuser

Casino mogul created separate company to settle with manicurist at Las Vegas resort

By Kate O'Keeffe



CHARLES KRUPA/ASSOCIATED PRESS

Steve Wynn has called it 'preposterous' that he would assault a woman but settled with the manicurist.

Steve Wynn and his legal representatives set up a company separate from his **Wynn Resorts** Ltd., according to public records, that helped conceal a $7.5 million payment to a woman who had accused the casino mogul of forcing her to have sex.

The limited-liability company, called Entity Y, was created in 2005, Nevada records show, after a manicurist at Mr. Wynn's flagship Wynn Las Vegas casino-resort made the accusation, according to people familiar with the matter. Entity Y was created solely as a vehicle to handle the settlement funds, a Wynn Resorts lawyer confirmed to a judge in a hearing in October, according to a court transcript.

That hearing was part of continuing litigation between Mr. Wynn and his ex-wife, Elaine, over her bid to lift restrictions on the sale of her stock in Wynn Resorts.

Mr. Wynn used his personal funds for the settlement, his lawyers said in an earlier court filing in that case.

The size of the payment and the allegations surrounding it were first reported by The Wall Street Journal last month. Regulators in Massachusetts, who are investigating the allegations and who have the power to revoke the firm's license there, said last week that the settlement and any efforts to conceal it from regulators are a "critical element" of their review.

Mr. Wynn, the 76-year-old chairman and chief executive of Wynn Resorts, has said it was "preposterous" that he would assault a woman. He didn't provide further response to other allegations of sexual misconduct that the Journal inquired about before publishing the January article.

The registered agent for the LLC was the law firm Brownstein Hyatt Farber Schreck LLP, according to state business and court records. Partner Frank Schreck has served as outside regulatory counsel for Mr. Wynn, Wynn Resorts and Mr. Wynn's prior gambling companies since 1976, according to the firm's website.

Entity Y's manager is listed as James Pisanelli, who worked at Brownstein at the time of the 2005 settlement before leaving to start his own firm in 2010. Mr. Pisanelli is representing Wynn Resorts in the litigation with Elaine Wynn. Neither Mr. Schreck nor Mr. Pisanelli answered a request for comment.

A manager of the salon where the manicurist worked at the time of the alleged incident in 2005 told the Journal that she filed a written report to human resources at the casino after being told of the manicurist's allegations. The manager said she got a call from a company executive, castigating her for filing to HR and saying she should have taken the matter directly to her. The former manager said no one followed up with her about the matter.

The alleged episode with the manicurist was referenced, in broad terms, in the lawsuit involving Steve and Elaine Wynn.

Attorneys for Ms. Wynn said in a filing that Mr. Wynn used the services of attorneys to make a "multimillion dollar payment after apparently being threatened with allegations of serious misconduct occurring on Company property against a Wynn Resorts employee." In the filing, Ms. Wynn, a former board member of Wynn Resorts, alleged that Mr. Wynn used company personnel and resources to conceal the allegations.

On Friday, in response to questions about the LLC, a spokesman for Wynn Resorts said: "Entity Y was created to receive settlement proceeds, however there would have been no settlement or negotiations if the matter was about an alleged assault."

But in an Aug. 14, 2017, court hearing, Wynn Resorts lawyer and Entity Y manager Mr. Pisanelli said of the same episode: "And what we're talking about here are allegations of assault by a company executive," according to the transcript.

Ms. Wynn's attorneys have argued that in making the settlement with the former employee without telling the board, Mr. Wynn recklessly exposed the company and other directors to liability.

Ms. Wynn's lawyer, Mark Ferrario, said the circumstances surrounding Entity Y's formation are critical to his client's case. "[W]hy was it handled different than every other type of claim like this within the company?" he asked the judge, according to the transcript of the Oct. 23, 2017, hearing.

The misconduct allegations are threatening to derail the Wynn Resorts casino project in Massachusetts, where Wynn is scheduled to open a casino in 2019 in the Boston suburb of Everett.

Karen Wells, who directs the investigations and enforcement bureau at Massachusetts' state gambling commission, said at a Wednesday meeting that Mr. Wynn and his company never disclosed the settlement agreement before the commission granted Wynn a casino license in September 2014, or at any point before the Journal report.

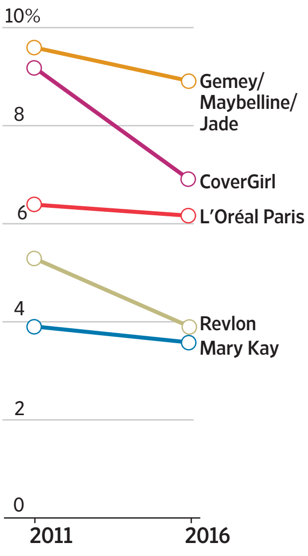
$7.5M

Payment made by limited-liability company called Entity Y

A spokesman for Wynn Resorts said of the Massachusetts project: "The application process did not ask for disclosure of that type of information; it was a personal settlement and was not a matter of litigation."

Losing Luster

Market share for some of the leading mass-market cosmetics brands has been flat or slipping.



Source: Euromonitor

THE WALL STREET JOURNAL.

RACHEL MURRAY/GETTY IMAGES FOR NYX PROFESSIONAL MAKEUP

'Love You So Mochi' makeup event. Younger shoppers use social media to hear about new products.

Aging Beauty Brands Seek a Facelift

By Sharon Terlep

The biggest and most beleaguered names in beauty are trying to stage a comeback, but first they must shed their reputation as dated drugstore staples.

Brands like CoverGirl, Maybelline and Revlon for decades dominated beauty aisles in drugstores and supermarkets, winning women over with vibrant colors and affordable prices. But they have lost ground to smaller rivals, from online-only brands to higher-end names like MAC and Urban Decay to lines popularized by the rise of specialty retailers like Sephora. Even drugstores have cut back on beauty mainstays in favor of trendier names.

More recently, the big brands have been slow to catch on as social media transformed the way beauty products were discovered, especially by younger shoppers who often hear about new products from YouTube tutorials and Instagram posts by "influencers," or social-media stars. Niche brands have been far quicker to market on social media.

The upheaval has driven losses, prompted the ouster of executives and spurred acquisitions at companies such as **Revlon** Inc., **L'Oréal** SA and **Coty** Inc.

"It's not a matter of big and small. It's a matter of how you connect with the consumer," Coty CEO Camillo Pane said in an interview. "And our brands did not necessarily connect with consumers in the past."

To resuscitate ailing brands, Coty and its rivals are churning out trendier options such as facial highlighter and metallic lip color, recruiting more relatable spokesmen, and speeding how quickly new products get to market.

Coty has been struggling since acquiring the bulk of Procter & Gamble Co.'s beauty business, including CoverGirl, in 2016 for $11.6 billion. The brands, the company said, turned out to be sicker and more difficult to integrate than the company anticipated.

Take CoverGirl, which saw its share of the $16 billion U.S. color cosmetics market fall to 6.9% in 2016 from 9.2% in 2011, according to Euromonitor.

Now the 60-year-old brand is getting dozens of new products and made-over store displays. Instead of using only supermodels—a mainstay of yesteryear—its new marketing campaigns feature spokeswomen like a 69-year-old grandmother and a fitness trainer with more than two million Instagram followers.

Mr. Pane and other top executives have been lobbying retailers like **CVS Health** Corp. and **Walmart** Inc. to give back some of the shelf space CoverGirl lost over the years as its popularity flagged.

That can be a hard sell. While CVS says beauty products are important to sales, its focus isn't necessarily on big-name brands. At an event last year, executives bragged about attracting niche beauty makers and launching their own private-label products.

The chain is installing higher-end beauty sections in stores, stocked with smaller brands and exclusive offerings, to better compete with beauty retailers like Sephora and Ulta.

"Coty is under a lot of pressure to get this right," said Jefferies analyst Stephanie Wissink. "CoverGirl might become the proxy for the success story for a brand that's under attack. Or they might become the case study for why a makeover in packaging and marketing isn't enough to rebuild."

Shannon Curtin, head of Coty's consumer beauty unit in North America, said CoverGirl's rebirth goes deeper.

Development time for products is down to as little as six months instead of as much as two years, and one-quarter of the brand's lineup will be entirely new products, Ms. Curtin said. "We didn't have items people were buying—primers, brows, corrector kits," she said. "And now we do."

CoverGirl's largest rivals also are struggling to woo such shoppers. The five biggest mass-market beauty brands lost a combined 5 percentage points of market share between 2011 and 2016, while higher-end and smaller mass-market brands picked up share, according to Euromonitor.

Avon Hires CEO From Unilever as Activists Urge Sale

Avon Products Inc. has hired a Unilever PLC veteran as its chief executive, six months after the cosmetic giant decided to search for a new leader following a disappointing five-year tenure that left investors exasperated.

Jan Zijderveld, whose new job is effective immediately, was most recently president of Unilever's European unit, which is the consumer-goods company's largest, with 25,000 employees in 34 countries.

Mr. Zijderveld succeeds Sheri McCoy, who announced in August that she would step down this year after three disappointing quarters and years of unsuccessful turnaround efforts.

Ms. McCoy said at the time that she had accomplished her main goals: splitting off and selling Avon's North American unit, relocating the company to the U.K. from the U.S. and putting in place a new management team.

Mr. Zijderveld, 53 years old, inherits a company that is based in London and operates around the globe, but not in the U.S. market. Avon's North American business is a separate entity that is controlled by private-equity firm **Cerberus Capital Management**.

Avon shares have gained 8.6% this year, but are still down 59% over the past 12 months. The stock fell 5% to $2.25 on Monday, leaving it with a market value of around $1 billion.

Mr. Zijderveld will have to contend with activist investors that want Avon to sell itself. The Wall Street Journal reported recently that **Shah Capital**, **Barington Capital Group** LP and **NuOrion Partners**, which together own about 3.5% of the company, believe a yearslong effort to reshape the brand has run out of time.

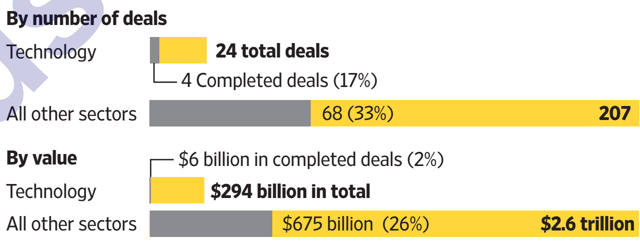
Avon has been losing its door-to-door sales representatives after failing to modernize its products and respond to a shift toward online shopping. Mr. Zijderveld said direct-selling is still relevant, but pledged to take a fresh look at the business and "deliver Avon's next chapter with a sense of urgency."

—Cara Lombardo and Joann S. Lublin

Collateral Damage

The majority of recent hostile mergers and acquisitions bids have not made it through to completion.

Global hostile M&A bids over $1 billion since 2008



Source: Dealogic

THE WALL STREET JOURNAL.

CHIPS

Continued from page B1

planning to try to create," he said. "What they're trying to do doesn't hold a candle to it."

The new offer comes as Qualcomm is grappling with several significant challenges that depressed its stock price through 2017, including various tussles with international regulators, its court fight with Apple, which is withholding royalty payments, and Qualcomm's own slow-motion deal to acquire NXP Semiconductors NV.

The proposed NXP acquisition has weighed on prospects for a Broadcom-Qualcomm deal, analysts said. Mr. Tan's offers have been contingent on the completion of the NXP transaction at the original $110-a-share offer price.

Holding to that price seems unlikely, though. NXP stock has traded well above the $110 offer price, and few NXP shareholders have tendered their shares. The activist investor Elliott Management Corp. has said NXP is worth $135 a share, making it likely Qualcomm will need to raise its offer.

In a news release Monday, Qualcomm said it wouldn't comment on Broadcom's revised bid until its board completed a review of it. In a prior letter to its shareholders, Qualcomm said it was "highly doubtful" a Broadcom transaction would be approved by international regulators.

Combined, the two companies would form the No. 3 chip maker by revenue, behind Intel Corp. and Samsung Electronics Co.—a position that could give antitrust enforcers pause. A merger would face steep challenges from international regulators, antitrust watchers say, particularly over the companies' dominant positions in parts critical to smartphones.

A combined company could dictate the capabilities of wireless devices, potentially hurting consumers, device makers, software writers and service providers, some say.

To compensate Qualcomm shareholders for regulatory risk, Broadcom's updated offer includes a fee to be paid to Qualcomm if the transaction isn't completed within 12 months, as well as a multibillion-dollar breakup fee in the event the transaction is terminated. Mr. Tan said the size of the fees is negotiable—if only Qualcomm board members would engage with him.

"Given the magnitude of the deal, something in the range of $10 billion seems like it could be in the ballpark," Mr. Rasgon said.

Dividend Changes

Dividend announcements from February 5.

Company	Symbol	Yld %	Amount New/Old	Frq	Payable / Record
Increased					
Avista	AVA	3.0	.3725/.3575	Q	Mar15/Feb23
Blackstone Group	BX	9.9	.85/.44	Q	Feb20/Feb12
Fidelity National	FIS	1.3	.32/.29	Q	Mar30/Mar16
Invitation Homes	INVH	2.1	.11/.08	Q	Feb28/Feb13
Mobile Mini	MINI	2.3	.25/.227	Q	Mar14/Feb28
Neenah	NP	1.9	.41/.37	Q	Mar02/Feb16
Nexstar Media Cl A	NXST	2.1	.375/.30	Q	Mar02/Feb16
Polaris Industries	PII	2.3	.60/.58	Q	Mar15/Mar01
USD Partners	USDP	12.3	.35/.345	Q	Feb16/Feb12
VISA Cl A	V	0.7	.21/.195	Q	Mar06/Feb16
Reduced					
WisdomTree Investments	WETF	1.2	.03/.08	Q	Feb28/Feb14
Foreign					
AstraZeneca ADR	AZN	5.6	.95	SA	Mar19/Feb16
Barclays ADR Pfd Ser 5	BCSpD	7.7	.50781	Q	Mar15/Mar01
Imperial Oil	IMO	1.8	.12966	Q	Apr01/Mar02
Lazard	LAZ	12.1	1.71	Q	Feb23/Feb12
MiX Telematics ADR	MIXT	1.5	.05196	Q	Mar08/Feb23
Norbord	OSB	5.2	.48624	Q	Mar21/Mar01
Novo Nordisk ADR	NVO	1.0	.8117		Apr03/Mar26
Telecom Argentina ADR	TEO	3.2	1.5591		Feb22/Feb14
Transalta Corp	TAC	2.5	.03242	Q	Apr01/Mar01
Unilever ADR	UL	3.3	.4452	Q	Mar21/Feb16

KEY: A: annual; M: monthly; Q: quarterly; r: revised; SA: semiannual; S2:1: stock split and ratio; SO: spin-off.

MARKETS DIGEST

EQUITIES

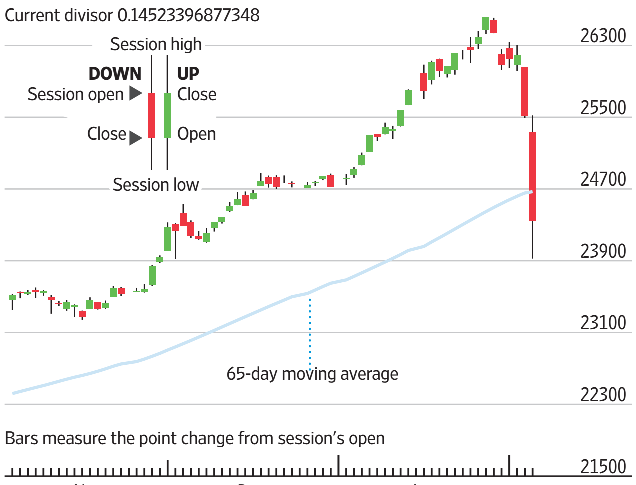
Dow Jones Industrial Average

24345.75 ▼1175.21, or 4.60%

High, low, open and close for each trading day of the past three months.

	Last	Year ago
Trailing P/E ratio	25.09	20.31
P/E estimate *	17.70	17.24
Dividend yield	2.15	2.39
All-time high	26616.71, 01/26/18	

Current divisor 0.14523396877348

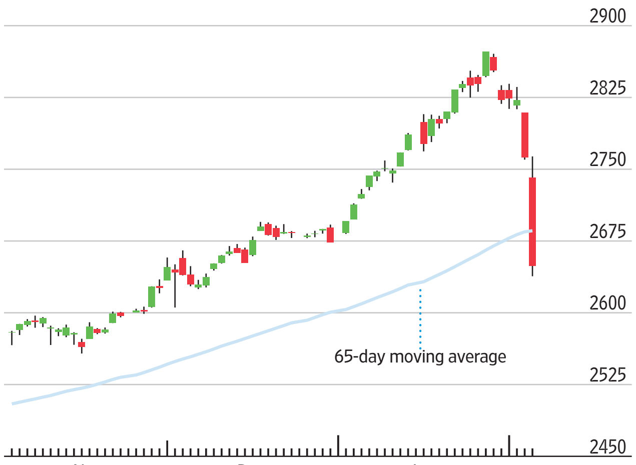


S&P 500 Index

2648.94 ▼113.19, or 4.10%

High, low, open and close for each trading day of the past three months.

	Last	Year ago
Trailing P/E ratio	21.71	24.18
P/E estimate *	18.05	17.59
Dividend yield	1.81	2.08
All-time high:	2872.87, 01/26/18	

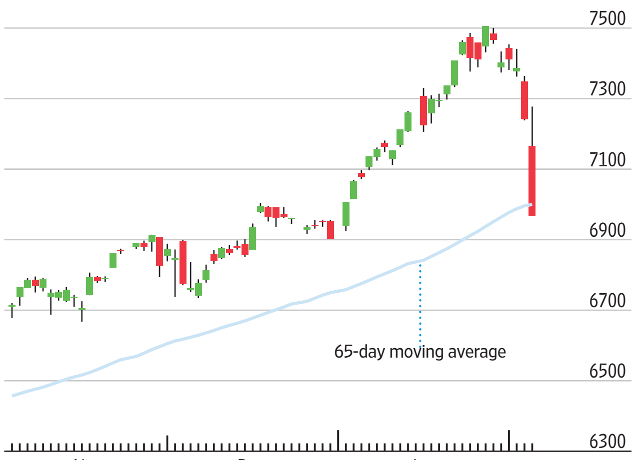


Nasdaq Composite Index

6967.53 ▼ 273.42, or 3.78%

High, low, open and close for each trading day of the past three months.

	Last	Year ago
Trailing P/E ratio *	26.10	24.15
P/E estimate *	20.85	19.13
Dividend yield	0.99	1.16
All-time high:	7505.77, 01/26/18	



Weekly P/E data based on as-reported earnings from Birinyi Associates Inc.

Major U.S. Stock-Market Indexes

	High	Low	Latest Close	Net chg	% chg	52-Week High	52-Week Low	% chg	YTD % chg	3-yr. ann. % chg
Dow Jones										
Industrial Average	25520.53	23923.88	**24345.75**	-1175.21	**-4.60**	26616.71	20052.42	**21.4**	-1.5	**10.8**
Transportation Avg	10763.90	10349.62	**10350.41**	-336.77	**-3.15**	11373.38	8783.74	**12.1**	-2.5	**4.9**
Utility Average	690.37	672.05	**672.89**	-11.59	**-1.69**	774.47	661.50	**1.7**	-7.0	**1.7**
Total Stock Market	28513.86	27277.48	**27365.89**	-1134.39	**-3.98**	29630.47	23838.00	**14.8**	-1.1	**8.3**
Barron's 400	725.68	700.17	**700.17**	-25.89	**-3.57**	757.37	608.59	**14.7**	-1.5	**8.7**
Nasdaq Stock Market										
Nasdaq Composite	7277.36	6967.53	**6967.53**	-273.42	**-3.78**	7505.77	5663.55	**23.0**	0.9	**13.5**
Nasdaq 100	6807.96	6495.39	**6495.92**	-264.37	**-3.91**	7022.97	5167.96	**25.7**	1.6	**15.1**
S&P										
500 Index	2763.39	2638.17	**2648.94**	-113.19	**-4.10**	2872.87	2292.56	**15.5**	-0.9	**8.7**
MidCap 400	1915.93	1849.53	**1849.53**	-68.21	**-3.56**	1995.23	1681.04	**8.9**	-2.7	**7.7**
SmallCap 600	942.79	908.56	**908.74**	-34.75	**-3.68**	979.57	815.62	**9.0**	-2.9	**9.2**
Other Indexes										
Russell 2000	1547.03	1491.06	**1491.09**	-56.18	**-3.63**	1610.71	1345.24	**9.1**	-2.9	**7.2**
NYSE Composite	13050.16	12518.21	**12572.93**	-512.42	**-3.92**	13637.02	11243.38	**11.6**	-1.8	**4.9**
Value Line	564.28	544.67	**544.67**	-19.61	**-3.48**	589.69	503.24	**5.9**	-3.1	**2.6**
NYSE Arca Biotech	4734.51	4513.09	**4515.20**	-199.88	**-4.24**	4939.86	3293.77	**36.3**	6.9	**7.2**
NYSE Arca Pharma	556.95	528.49	**533.45**	-25.44	**-4.55**	593.12	484.49	**9.8**	-2.1	**-1.0**
KBW Bank	113.75	107.78	**108.77**	-5.62	**-4.91**	116.52	88.02	**17.3**	1.9	**15.8**
PHLX§ Gold/Silver	84.94	82.44	**83.07**	-0.81	**-0.96**	96.72	76.42	**-13.6**	-2.6	**0.8**
PHLX§ Oil Service	151.52	143.43	**144.26**	-6.43	**-4.27**	182.73	117.79	**-19.6**	-3.5	**-10.6**
PHLX§ Semiconductor	1328.07	1253.09	**1255.81**	-62.17	**-4.72**	1392.86	960.01	**29.8**	0.2	**22.9**
Cboe Volatility	38.80	16.80	**37.32**	20.01	**115.60**	37.32	9.14	**228.2**	238.0	**30.4**

§Nasdaq PHLX

Sources: SIX Financial Information; WSJ Market Data Group

Late Trading

Most-active and biggest movers among NYSE, NYSE Arca, NYSE Amer. and Nasdaq issues from 4 p.m. to 6:30 p.m. ET as reported by electronic trading services, securities dealers and regional exchanges. Minimum share price of $2 and minimum after-hours volume of 5,000 shares.

Most-active issues in late trading

Company	Symbol	Volume (000)	Last	Net chg	After Hours % chg	High	Low
SPDR S&P 500	SPY	32,298.9	261.95	-1.98	**-0.75**	273.69	259.35
VS Inverse VIX STerm	XIV	18,459.8	22.01	-76.99	**-77.77**	99.00	18.00
Energy Transfer Equity	ETE	10,315.8	16.75	-0.25	**-1.47**	17.00	16.70
VS 2x VIX Short Term	TVIX	4,953.4	16.91	4.31	**34.21**	18.00	12.20
iPath S&P 500 VIX ST Fut	VXX	4,615.1	50.90	6.96	**15.84**	51.00	42.94
PwrShrs QQQ Tr Series 1	QQQ	4,365.1	157.32	-0.80	**-0.51**	163.38	155.50
Finl Select Sector SPDR	XLF	4,133.9	27.50	-0.38	**-1.36**	29.38	27.45
iShares MSCI Emg Markets	EEM	4,024.2	47.18	-0.15	**-0.32**	48.96	46.70

Percentage gainers…

Company	Symbol	Volume (000)	Last	Net chg	% chg	High	Low
VS 2x VIX Short Term	TVIX	4,953.4	16.91	4.31	**34.21**	18.00	12.20
VS VIX Short Term	VIIX	7.5	23.99	5.37	**28.84**	25.50	18.55
ProSharesUltVIXST	UVXY	1,724.5	29.28	6.41	**28.03**	29.86	22.35
iPath S&P 500 VIX ST Fut	VXX	4,615.1	50.90	6.96	**15.84**	51.00	42.94
Radian Group	RDN	47.0	25.00	3.31	**15.26**	25.00	21.69

…And losers

Company	Symbol	Volume (000)	Last	Net chg	% chg	High	Low
VS Inverse VIX STerm	XIV	18,459.8	22.01	-76.99	**-77.77**	99.00	18.00
VS Inverse VIX MedTerm	ZIV	8.4	59.98	-14.56	**-19.53**	74.02	50.00
Rockwell Medical	RMTI	7.4	4.32	-0.86	**-16.60**	5.18	4.32
People's United Finl	PBCT	109.9	16.04	-2.97	**-15.62**	19.01	16.04
Priceline Group	PCLN	7.6	1605.30	-220.63	**-12.08**	1892.73	1605.30

Trading Diary

Volume, Advancers, Decliners

	NYSE	NYSE Amer.
Total volume*	1,320,327,269	20,147,487
Adv. volume*	41,631,602	9,335,535
Decl. volume*	1,274,159,087	10,389,673
Issues traded	3,107	340
Advances	324	71
Declines	2,739	254
Unchanged	44	15
New highs	16	…
New lows	452	44
Closing tick	…	32
Closing Arms†	3.57	0.28
Block trades*	8,111	205

	Nasdaq	NYSE Arca
Total volume*	3,054,370,501	721,648,775
Adv. volume*	449,820,038	195,752,790
Decl. volume*	2,588,498,828	525,716,130
Issues traded	3,105	1,413
Advances	383	277
Declines	2,647	1,133
Unchanged	75	3
New highs	22	11
New lows	205	127
Closing tick	373	159
Closing Arms†	0.83	0.65
Block trades*	11,292	2,533

*Primary market NYSE, NYSE American NYSE Arca only.
†(TRIN) A comparison of the number of advancing and declining issues with the volume of shares rising and falling. An Arms of less than 1 indicates buying demand; above 1 indicates selling pressure.

International Stock Indexes

Region/Country	Index	Latest Close	Net chg	% chg	YTD % chg
World	**The Global Dow**	**3121.52**	–91.74	**–2.86**	1.1
	DJ Global Index	**399.19**	–11.90	**–2.89**	0.5
	DJ Global ex U.S.	**271.99**	–4.97	**–1.80**	2.0
Americas	**DJ Americas**	**635.94**	–25.59	**–3.87**	–1.0
Brazil	**Sao Paulo Bovespa**	**81861.09**	–2180.26	**–2.59**	7.1
Canada	**S&P/TSX Comp**	**15334.81**	–271.22	**–1.74**	–5.4
Mexico	**S&P/BMV IPC**	**50395.83**	…	Closed	2.1
Chile	**Santiago IPSA**	**4329.99**	–71.40	**–1.62**	2.8
EMEA	**Stoxx Europe 600**	**382.00**	–6.07	**–1.56**	–1.8
Eurozone	**Euro Stoxx**	**384.58**	–5.05	**–1.30**	–0.2
Belgium	**Bel-20**	**3997.59**	–56.00	**–1.38**	0.5
France	**CAC 40**	**5285.83**	–79.15	**–1.48**	–0.5
Germany	**DAX**	**12687.49**	–97.67	**–0.76**	–1.8
Israel	**Tel Aviv**	**1505.81**	–34.47	**–2.24**	–0.5
Italy	**FTSE MIB**	**22821.63**	–381.03	**–1.64**	4.4
Netherlands	**AEX**	**542.65**	–7.43	**–1.35**	–0.4
Russia	**RTS Index**	**1263.77**	–8.99	**–0.71**	9.5
Spain	**IBEX 35**	**10064.50**	–146.70	**–1.44**	0.2
Sweden	**SX All Share**	**559.76**	–14.90	**–2.59**	–1.6
Switzerland	**Swiss Market**	**9100.39**	–120.30	**–1.30**	–3.0
U.K.	**FTSE 100**	**7334.98**	–108.45	**–1.46**	–4.6
Asia-Pacific					
Australia	**S&P/ASX 200**	**6026.20**	–95.20	**–1.56**	–0.6
China	**Shanghai Composite**	**3487.50**	25.42	**0.73**	5.5
Hong Kong	**Hang Seng**	**32245.22**	–356.56	**–1.09**	7.8
India	**S&P BSE Sensex**	**34757.16**	–309.59	**–0.88**	2.1
Japan	**Nikkei Stock Avg**	**22682.08**	–592.45	**–2.55**	–0.4
Singapore	**Straits Times**	**3482.93**	–46.89	**–1.33**	2.4
South Korea	**Kospi**	**2491.75**	–33.64	**–1.33**	1.0
Taiwan	**Weighted**	**10946.25**	–179.98	**–1.62**	2.9

Sources: SIX Financial Information; WSJ Market Data Group

Percentage Gainers…

Company	Symbol	Latest Session Close	Net chg	% chg	52-Week High	52-Week Low	% chg
VS 2x VIX Short Term	TVIX	12.60	5.10	**68.00**	53.30	4.66	**-75.3**
ProSharesUltVIXST	UVXY	22.87	9.11	**66.21**	98.24	8.52	**-75.6**
ProShares VIX ST Fut	VIXY	36.66	9.35	**34.24**	64.24	21.24	**-41.7**
VS VIX Short Term	VIIX	18.62	4.73	**34.05**	32.50	10.84	**-41.5**
iPath S&P 500 VIX ST Fut	VXX	43.94	11.02	**33.48**	77.08	25.59	**-41.6**
VS 2x VIX Med Term	TVIZ	12.00	2.43	**25.39**	28.60	7.93	**-56.7**
Velocity VIX Tail RiskETN	BSWN	22.64	3.87	**20.62**	24.96	17.72	**-2.3**
Oragenics	OGEN	2.70	0.44	**19.47**	8.50	0.60	**-60.4**
iPath S&P 500 VIX MT Fut	VXZ	21.00	2.93	**16.21**	30.54	16.42	**-30.3**
Arcturus Therapeutics	ARCT	6.83	0.90	**15.18**	15.19	5.78	**-24.9**
ProShs UltraPro Short Finl	FINZ	8.04	1.03	**14.76**	16.27	6.47	**-47.7**
Direxion Dly SCOND 3 Bear	SOXS	15.66	1.92	**13.97**	45.35	11.85	**-64.1**
Hexindai ADR	HX	11.70	1.40	**13.59**	17.00	10.21	**…**
ProShares VIX MT Fut	VIXM	24.77	2.94	**13.47**	37.00	19.88	**-32.1**
Direxn Daily Finl Bear 3x	FAZ	12.00	1.42	**13.42**	21.00	9.71	**-41.2**

Percentage Losers

Company	Symbol	Latest Session Close	Net chg	% chg	52-Week High	52-Week Low	% chg
ProSharesShtVIXST	SVXY	71.82	-33.78	**-31.99**	139.47	59.22	**18.2**
SSLJ.com Cl A	SSLJ	3.59	-1.41	**-28.20**	…	…	**…**
Corcept Therapeutics	CORT	17.26	-6.20	**-26.43**	25.96	7.58	**122.4**
Prothena Corp. PLC	PRTA	32.14	-7.46	**-18.84**	70.00	29.83	**-36.9**
VelocityShares VIX Short	XIVH	55.42	-12.86	**-18.83**	82.84	44.47	**23.0**
XOMA	XOMA	25.96	-5.97	**-18.70**	37.25	3.96	**503.7**
Yangtze River Development	YERR	3.50	-0.77	**-18.03**	25.47	3.50	**-15.0**
Future FinTech Group	FTFT	2.53	-0.52	**-17.05**	8.00	1.30	**-61.0**
Transcontinental Realty	TCI	25.67	-5.19	**-16.82**	35.00	16.48	**60.3**
Ameri Holdings	AMRH	1.88	-0.36	**-16.07**	13.50	1.27	**-71.1**
Avinger	AVGR	5.30	-0.93	**-14.93**	117.43	5.05	**-94.9**
Direxion Aero Def Bull3	DFEN	45.12	-7.79	**-14.72**	58.00	23.03	**…**
NL Industries	NL	10.70	-1.80	**-14.40**	16.05	5.25	**86.1**
VS Inverse VIX STerm	XIV	99.00	-16.55	**-14.32**	146.44	61.18	**58.3**
Marathon Patent Group	MARA	2.37	-0.39	**-14.13**	10.03	0.50	**-63.4**

Most Active Stocks

Company	Symbol	Volume (000)	% chg from 65-day avg	Latest Session Close	% chg	52-Week High	52-Week Low
SPDR S&P 500	SPY	**261,047**	214.2	263.93	**-4.18**	286.63	228.31
iPath S&P 500 VIX ST Fut	VXX	**202,369**	416.3	43.94	**33.48**	77.08	25.59
ProSharesUltVIXST	UVXY	**152,084**	375.2	22.87	**66.21**	98.24	8.52
Bank of America	BAC	**151,807**	120.8	30.26	**-5.29**	32.67	22.07
iShares MSCI Emg Markets	EEM	**147,013**	162.2	47.33	**-3.51**	52.08	37.39
Finl Select Sector SPDR	XLF	**137,107**	133.2	27.88	**-5.04**	30.33	22.00
VS 2x VIX Short Term	TVIX	**125,484**	595.8	12.60	**68.00**	53.30	4.66
General Electric	GE	**119,997**	36.8	14.91	**-4.67**	30.59	14.91
Advanced Micro Devices	AMD	**115,324**	120.7	11.57	**-7.07**	15.65	9.70
Wells Fargo	WFC	**100,987**	446.0	58.16	**-9.22**	66.31	49.27

* Volumes of 100,000 shares or more are rounded to the nearest thousand

Volume Movers

Ranked by change from 65-day average*

Company	Symbol	Volume (000)	% chg from 65-day avg	Latest Session Close	% chg	52-Week High	52-Week Low
PwrShrs DB G10 Cur Harvest	DBV	402	**7184**	23.12	**8.11**	26.03	21.39
PowerShares GI Shrt Tm	PGHY	2,003	**2588**	23.90	**0.25**	24.76	23.19
M III Acquisition	MIII	1,455	**2244**	9.96	**0.00**	10.00	9.71
ETRACS Monthly Pay 2xLev	CEFL	3,143	**1860**	15.71	**-7.92**	18.98	15.40
John Hancock Multi HC	JHMH	135	**1837**	31.73	**-3.16**	34.56	26.92
iShares Core 10+Y USD Bd	ILTB	1706	**1782**	62.26	**0.14**	65.21	59.80
WT Asia Local Debt	ALD	123	**1758**	46.18	**-0.32**	46.97	43.35
Old Point Financial	OPOF	82	**1498**	25.98	**-11.96**	34.82	24.92
Columbia India Small Cap	SCIN	214	**1434**	20.74	**-2.40**	25.98	16.00
Direxion Daily Mid Br 3x	MIDZ	179	**1432**	14.53	**10.92**	20.92	11.55

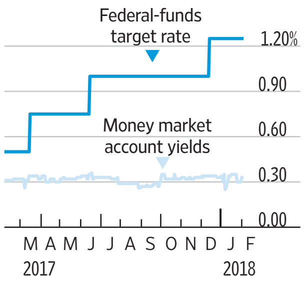
* Common stocks priced at $5 a share or more with an average volume over 65 trading days of at least 5,000 shares †Has traded fewer than 65 days

CREDIT MARKETS & CURRENCIES

Consumer Rates and Returns to Investor

U.S. consumer rates

A consumer rate against its benchmark over the past year



Selected rates

Money market accounts

Bankrate.com avg†:	**0.33%**
Capital One 360	**1.40%**
Glen Allen, VA	877-464-0333
Discover Bank	**1.40%**
Riverwoods, IL	877-505-4051
FNBO Direct	**1.40%**
Omaha, NE	877-370-3707
EverBank	**1.41%**
Jacksonville, FL	866-242-1924
American Express Bank, FSB	**1.45%**
New York, NY	866-215-8754

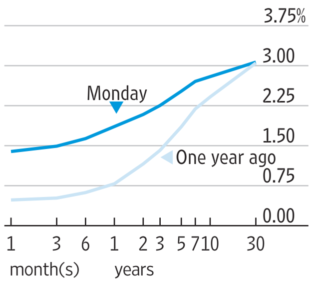
Interest rate	Yield/Rate (%) Last	Week ago	52-Week Range (%) Low	High	3-yr chg (pct pts)
Federal-funds rate target	**1.25-1.50**	1.25-1.50	0.50	1.50	**1.25**
Prime rate*	**4.50**	4.50	3.75	4.50	**1.25**
Libor, 3-month	**1.79**	1.77	1.03	1.79	**1.54**
Money market, annual yield	**0.33**	0.30	0.25	0.36	**-0.09**
Five-year CD, annual yield	**1.55**	1.54	1.20	1.55	**0.09**
30-year mortgage, fixed†	**4.38**	4.19	3.73	4.38	**0.66**
15-year mortgage, fixed†	**3.80**	3.63	2.99	3.80	**0.80**
Jumbo mortgages, $424,100-plus†	**4.64**	4.47	4.21	4.87	**0.20**
Five-year adj mortgage (ARM)†	**4.28**	4.16	3.20	4.35	**0.75**
New-car loan, 48-month	**3.56**	3.30	2.85	3.56	**0.62**

Bankrate.com rates based on survey of over 4,800 online banks. *Base rate posted by 70% of the nation's largest banks. † Excludes closing costs.

Sources: SIX Financial Information; WSJ Market Data Group; Bankrate.com

Treasury yield curve

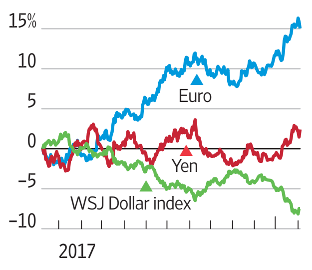
Yield to maturity of current bills, notes and bonds



Sources: Ryan ALM; Tullett Prebon; WSJ Market Data Group

Forex Race

Yen, euro vs. dollar; dollar vs. major U.S. trading partners



U.S.-dollar foreign-exchange rates in late New York trading

Country/currency	Mon in US$	Mon per US$	US$ vs, YTD chg (%)
Americas			
Argentina peso	.0514	19.4705	**4.7**
Brazil real	.3065	3.2626	**–1.5**
Canada dollar	.7974	1.2541	**–0.3**
Chile peso	.001659	602.60	**–2.1**
Ecuador US dollar	1	1	**unch**
Mexico peso	.0532	18.7843	**–4.5**
Uruguay peso	.03519	28.4200	**–1.3**
Venezuela b. fuerte	.100050	9.9951	**–3.4**
Asia-Pacific			
Australian dollar	.7879	1.2692	**–0.9**
China yuan	.1590	6.2889	**–3.3**
Hong Kong dollar	.1279	7.8206	**0.1**
India rupee	.01555	64.315	**0.7**
Indonesia rupiah	.0000737	13572	**0.7**
Japan yen	.009164	109.12	**–3.2**
Kazakhstan tenge	.003100	322.58	**–3.0**
Macau pataca	.1241	8.0594	**0.2**
Malaysia ringgit	.2564	3.9000	**–4.0**
New Zealand dollar	.7265	1.3765	**–2.4**
Pakistan rupee	.00905	110.550	**–0.1**
Philippines peso	.0194	51.470	**3.0**
Singapore dollar	.7567	1.3216	**–1.2**
South Korea won	.0009134	1094.84	**2.6**
Sri Lanka rupee	.0064805	154.31	**0.5**
Taiwan dollar	.03400	29.409	**–0.9**
Thailand baht	.03162	31.630	**–2.9**
Vietnam dong	.00004404	22709	**…**
Europe			
Czech Rep. koruna	.04903	20.394	**–4.2**
Denmark krone	.1661	6.0199	**–3.0**
Euro area euro	1.2368	.8086	**–3.0**
Hungary forint	.003986	250.86	**–3.1**
Iceland krona	.009907	100.94	**–2.5**
Norway krone	.1276	7.8370	**–4.5**
Poland zloty	.2973	3.3640	**–3.3**
Russia ruble	.01745	57.299	**–0.7**
Sweden krona	.1253	7.9822	**–2.5**
Switzerland franc	1.0733	.9317	**–4.4**
Turkey lira	.2639	3.7900	**–0.1**
Ukraine hryvnia	.0360	27.7719	**–1.3**
UK pound	1.3954	.7166	**–3.2**
Middle East/Africa			
Bahrain dinar	2.6532	.3769	**–0.1**
Egypt pound	.0566	17.6730	**–0.6**
Israel shekel	.2891	3.4593	**–0.6**
Kuwait dinar	3.3363	.2997	**–0.6**
Oman sul rial	2.5973	.3850	**0.02**
Qatar rial	.2741	3.649	**…**
Saudi Arabia riyal	.2666	3.7503	**…**
South Africa rand	.0824	12.1297	**–1.9**

	Close	Net Chg	% Chg	YTD % Chg
WSJ Dollar Index	83.82	0.24	0.29	**–2.50**

Sources: Tullett Prebon, WSJ Market Data Group

Corporate Borrowing Rates and Yields

Bond total return index	Close	Yield (%) Last	Week ago	52-Week High	52-Week Low	Total Return (%) 52-wk	3-yr
Treasury, Ryan ALM	1431.051	**2.571**	2.523	2.634	1.818	**0.067**	–0.093
10-yr Treasury, Ryan ALM	1677.136	**2.794**	2.695	2.852	2.058	**–1.086**	–0.966
DJ Corporate	375.998	**3.420**	3.348	3.461	2.879	**3.704**	2.403
Aggregate, Barclays Capital	1914.120	**3.030**	2.950	3.060	2.380	**1.885**	1.163
High Yield 100, Merrill Lynch	2855.420	**5.917**	5.510	5.917	4.948	**4.433**	4.228
Fixed-Rate MBS, Barclays	1956.090	**3.310**	3.180	3.310	2.660	**0.994**	1.079
Muni Master, Merrill	515.262	**2.409**	2.293	2.412	1.736	**2.507**	1.615
EMBI Global, J.P. Morgan	799.014	**5.775**	5.643	5.934	5.279	**5.548**	6.068

Sources: J.P. Morgan; Ryan ALM; S&P Dow Jones Indices; Barclays Capital; Merrill Lynch

COMMODITIES

	Close	Monday Net chg	% Chg	52-Week High	52-Week Low	% Chg	YTD % chg
DJ Commodity	**631.03**	-4.12	**-0.65**	645.87	532.01	**9.89**	0.91
TR/CC CRB Index	**195.67**	-2.68	**-1.35**	200.52	166.50	**1.82**	0.93
Crude oil, $ per barrel	**64.15**	-1.30	**-1.99**	66.14	42.53	**21.01**	6.17
Natural gas, $/MMBtu	**2.747**	-0.099	**-3.48**	3.63	2.56	**-9.93**	-6.98
Gold, $ per troy oz.	**1333.00**	-0.70	**-0.05**	1362.40	1200.10	**8.37**	2.04

COMMODITIES

Futures Contracts

Metal & Petroleum Futures

	Open	High	hi lo	Low	Settle	Chg	Open interest
Copper-High (CMX)-25,000 lbs.; $ per lb.							
Feb	3.2165	3.2400		3.1790	**3.2105**	0.0340	822
March	3.1755	3.2575		3.1705	**3.2210**	0.0335	137,808
Gold (CMX)-100 troy oz.; $ per troy oz.							
Feb	1331.10	1340.20		1329.00	**1333.00**	−0.70	2,239
April	1334.60	1344.80		1331.60	**1336.50**	−0.80	394,477
June	1339.70	1349.20		1336.70	**1341.70**	−0.80	74,544
Aug	1344.10	1351.60		1343.50	**1347.20**	−0.70	26,098
Oct	1348.10	1359.70		1348.10	**1352.50**	−0.90	4,933
Dec	1356.00	1364.70		1355.10	**1358.20**	−1.00	34,722
Palladium (NYM) - 50 troy oz.; $ per troy oz.							
March	1043.00	1045.85		1023.55	**1032.95**	−12.00	28,996
June	1039.35	1041.65		1023.05	**1029.60**	−11.95	4,942
Sept	1020.00	1026.00		1018.90	**1023.90**	−11.60	319
Platinum (NYM)-50 troy oz.; $ per troy oz.							
Feb	991.70	991.70		989.90	**992.50**	−3.90	1
April	994.70	1000.60		990.50	**995.50**	−3.90	85,209
Silver (CMX)-5,000 troy oz.; $ per troy oz.							
Feb	...	...		...	**16.639**	−0.037	1
March	16.610	16.865	▼	16.510	**16.671**	−0.038	127,259
Crude Oil, Light Sweet (NYM)-1,000 bbls.; $ per bbl.							
March	65.10	65.40		63.42	**64.15**	−1.30	540,626
April	64.69	64.97		63.12	**63.83**	−1.24	264,949
May	64.19	64.43		62.73	**63.41**	−1.20	193,950
June	63.60	63.90		62.30	**62.96**	−1.15	278,599
July	62.98	63.32		61.81	**62.46**	−1.09	133,636
Dec	60.25	60.56		59.38	**59.97**	−0.76	247,977
NY Harbor ULSD (NYM)-42,000 gal.; $ per gal.							
March	2.0450	2.0450	▼	2.0041	**2.0196**	−.0339	163,329
April	2.0296	2.0346	▼	1.9950	**2.0111**	−.0330	88,772
Gasoline-NY RBOB (NYM)-42,000 gal.; $ per gal.							
March	1.8720	1.8800		1.8302	**1.8466**	−.0254	153,532
April	2.0392	2.0518		2.0078	**2.0229**	−.0265	93,378
Natural Gas (NYM)-10,000 MMBtu.; $ per MMBtu.							
March	2.825	2.880		2.736	**2.747**	−.099	305,066
April	2.786	2.809		2.715	**2.726**	−.066	157,379
May	2.792	2.811		2.725	**2.737**	−.060	185,939
June	2.820	2.845		2.760	**2.772**	−.060	68,142
July	2.864	2.884		2.801	**2.813**	−.059	97,041
Oct	2.865	2.887		2.808	**2.822**	−.053	121,723

Agriculture Futures

	Open	High	hi lo	Low	Settle	Chg	Open interest
Corn (CBT)-5,000 bu.; cents per bu.							
March	359.50	360.75		357.25	**358.75**	−2.75	726,127
May	367.50	368.75		365.25	**366.50**	−3.00	333,559
Oats (CBT)-5,000 bu.; cents per bu.							
March	266.50	272.50		266.00	**267.25**	−.25	2,744
May	267.25	271.75	▲	265.50	**268.25**	1.00	2,982
Soybeans (CBT)-5,000 bu.; cents per bu.							
March	976.25	977.50		969.50	**969.75**	−9.00	317,403
May	988.00	988.75		981.00	**981.25**	−9.00	207,477
Soybean Meal (CBT)-100 tons; $ per ton.							
March	330.20	330.50		326.20	**327.00**	−4.40	152,268
May	334.30	334.30		330.20	**331.00**	−4.40	130,888
Soybean Oil (CBT)-60,000 lbs.; cents per lb.							
March	32.52	32.79		32.39	**32.50**	−.01	194,411
May	32.71	32.99		32.60	**32.71**	...	130,360
Rough Rice (CBT)-2,000 cwt.; $ per cwt.							
March	1244.00	1255.00	▲	1240.00	**1253.00**	7.00	6,455
May	1275.00	1282.00	▲	1275.00	**1280.50**	7.00	2,083
Wheat (CBT)-5,000 bu.; cents per bu.							
March	443.25	445.75		438.75	**440.25**	−6.50	233,880
May	456.25	458.75		451.75	**452.50**	−7.25	127,725
Wheat (KC)-5,000 bu.; cents per bu.							
March	459.75	466.75		454.50	**461.75**	−1.50	123,914
May	475.00	481.75		469.75	**476.50**	−1.75	78,988
Wheat (MPLS)-5,000 bu.; cents per bu.							
March	603.25	605.25	▼	600.00	**601.75**	−2.00	28,773
May	614.75	616.00	▼	611.50	**613.25**	−1.50	15,757
Cattle-Feeder (CME)-50,000 lbs.; cents per lb.							
March	150.800	151.950	▲	148.050	**149.675**	−1.250	27,878
April	151.700	152.825	▲	149.100	**150.525**	−1.250	9,370
Cattle-Live (CME)-40,000 lbs.; cents per lb.							
Feb	126.300	127.900	▲	125.900	**126.125**	−.725	24,173
April	125.975	127.200	▲	125.125	**125.475**	−.650	151,512
Hogs-Lean (CME)-40,000 lbs.; cents per lb.							
Feb	75.450	75.900	▲	75.000	**75.825**	.625	14,906
April	73.650	73.975		72.275	**73.325**	−.225	100,486
Lumber (CME)-110,000 bd. ft., $ per 1,000 bd. ft.							
March	479.70	481.20		474.90	**477.90**	−5.80	5,458
May	472.90	474.60		469.20	**472.10**	−6.50	1,530
Milk (CME)-200,000 lbs., cents per lb.							
Feb	13.66	13.76		13.60	**13.74**	.11	3,636
March	13.65	13.77		13.53	**13.73**	.12	4,339

	Open	High	hi lo	Low	Settle	Chg	Open interest
Cocoa (ICE-US)-10 metric tons; $ per ton.							
March	2,051	2,067	▲	2,034	**2,045**	−14	85,526
May	2,080	2,096	▲	2,063	**2,074**	−11	88,022
Coffee (ICE-US)-37,500 lbs.; cents per lb.							
March	120.40	120.70	▼	119.50	**119.80**	−.60	108,591
May	122.65	122.90	▼	121.80	**122.10**	−.65	70,131
Sugar-World (ICE-US)-112,000 lbs.; cents per lb.							
March	13.66	13.92		13.28	**13.90**	.27	379,119
May	13.73	13.89		13.35	**13.86**	.18	258,337
Sugar-Domestic (ICE-US)-112,000 lbs.; cents per lb.							
March	26.00	26.00		25.76	**25.80**	−.08	2,436
May	26.28	26.32	▼	26.28	**26.32**	−.08	2,852
Cotton (ICE-US)-50,000 lbs.; cents per lb.							
March	77.36	77.91	▼	76.45	**76.57**	−.73	113,225
May	78.55	79.20		77.86	**77.90**	−.71	95,203
Orange Juice (ICE-US)-15,000 lbs.; cents per lb.							
March	146.05	146.05		142.00	**143.75**	−3.25	6,601
May	146.30	146.30		143.20	**144.85**	−3.25	2,593

Interest Rate Futures

	Open	High	hi lo	Low	Settle	Chg	Open interest
Treasury Bonds (CBT)-$100,000; pts 32nds of 100%							
March	144-300	147-160		144-030	**145-220**	29.0	805,109
June	143-290	146-140		143-010	**144-210**	29.0	3,897
Treasury Notes (CBT)-$100,000; pts 32nds of 100%							
March	120-260	122-020		120-180	**121-085**	17.0	3,698,840
June	120-090	121-165		120-000	**120-235**	18.5	53,160
5 Yr. Treasury Notes (CBT)-$100,000; pts 32nds of 100%							
March	114-145	115-075		114-120	**114-252**	12.0	3,459,929
June	114-040	114-297		114-030	**114-160**	12.5	32,374
2 Yr. Treasury Notes (CBT)-$200,000; pts 32nds of 100%							
March	106-195	106-270		106-190	**106-235**	4.5	2,003,079
June	106-117	106-195		106-117	**106-160**	5.2	25,239
30 Day Federal Funds (CBT)-$5,000,000; 100 - daily avg.							
Feb	98.583	98.583		98.580	**98.583**	...	233,177
April	98.360	98.410		98.360	**98.380**	.020	236,829
10 Yr. Del. Int. Rate Swaps (CBT)-$100,000; pts 32nds of 100%							
March	94.109	95.500		93.969	**94.625**	.609	28,336
1 Month Libor (CME)-$3,000,000; pts of 100%							
Feb	98.4200	98.4200		98.4200	**98.4175**	...	5,280
April	98.1975	98.1975	▼	98.1975	**98.1975**	.0100	275
Eurodollar (CME)-$1,000,000; pts of 100%							
Feb	98.1775	98.1875		98.1750	**98.1775**	.0050	171,582
June	97.8800	97.9350		97.8700	**97.9050**	.0350	1,505,263
Dec	97.5950	97.7050		97.5900	**97.6550**	.0700	1,829,004
Dec'19	97.2400	97.4050		97.2350	**97.3250**	.1000	1,669,123

Currency Futures

	Open	High	hi lo	Low	Settle	Chg	Open interest
Japanese Yen (CME)-¥12,500,000; $ per 100¥							
Feb	.9075	.9182		.9074	**.9124**	.0046	548
March	.9098	.9197		.9088	**.9138**	.0046	257,772
Canadian Dollar (CME)-CAD 100,000; $ per CAD							
Feb	.8043	.8063		.7989	**.7997**	−.0078	609
March	.8038	.8070		.7975	**.7999**	−.0078	176,432
British Pound (CME)-£62,500; $ per £							
Feb	1.4104	1.4145		1.3996	**1.4009**	−.0129	1,175
March	1.4111	1.4173		1.3975	**1.4023**	−.0129	221,161
Swiss Franc (CME)-CHF 125,000; $ per CHF							
March	1.0761	1.0800		1.0698	**1.0726**	−.0046	71,608
June	1.0863	1.0880		1.0774	**1.0806**	−.0048	307
Australian Dollar (CME)-AUD 100,000; $ per AUD							
Feb	.7901	.7950		.7878	**.7900**	−.0035	1,649
March	.7901	.7953		.7874	**.7900**	−.0035	144,929
April	.7898	.7951		.7879	**.7901**	−.0035	811
May	.7898	.7951	▼	.7884	**.7900**	−.0035	136
June	.7903	.7951		.7881	**.7901**	−.0035	2,176
Dec	.8085	.8097	▲	.8085	**.7910**	−.0034	285
Mexican Peso (CME)-MXN 500,000; $ per MXN							
March	.05321	.05364		.05269	**.05311**	−.00049	197,120
June	.05272	.05282		.05231	**.05229**	−.00048	1,771
Euro (CME)-€125,000; $ per €							
Feb	1.2447	1.2484		1.2379	**1.2410**	−.0054	2,860
March	1.2465	1.2508		1.2395	**1.2432**	−.0054	571,478

Index Futures

	Open	High	hi lo	Low	Settle	Chg	Open interest
Mini DJ Industrial Average (CBT)-$5 x index							
March	25431	25477	▼	23691	**23938**	−1490	151,772
June	25458	25552	▼	23771	**23964**	−1498	982
S&P 500 Index (CME)-$250 x index							
March	2758.00	2762.00	▼	2596.00	**2607.70**	−149.00	77,274
Mini S&P 500 (CME)-$50 x index							
March	2757.00	2763.00	▼	2595.75	**2607.75**	−149.00	3,297,660
June	2761.00	2767.00	▼	2597.25	**2611.00**	−150.00	90,882
Mini S&P Midcap 400 (CME)-$100 x index							
March	1915.80	1916.20	▼	1802.60	**1847.30**	−70.60	89,528
Mini Nasdaq 100 (CME)-$20 x index							
March	6752.3	6813.5	▼	6387.8	**6429.3**	−326.5	260,857
June	6776.3	6837.8	▼	6419.5	**6455.5**	−325.3	2,604
Mini Russell 2000 (ICE-US)-$100 x index							
March	1543.70	1548.20	▼	1450.20	**1461.80**	−82.80	24,000
June	1536.00	1536.00	▼	1506.00	**1465.30**	−82.80	20
Mini Russell 1000 (ICE-US)-$100 x index							
March	1517.30	1527.60	▼	1468.40	**1449.10**	−77.90	255
U.S. Dollar Index (ICE-US)-$1,000 x index							
March	89.19	89.58		88.88	**89.41**	.37	43,764
June	88.92	89.24		88.56	**89.08**	.37	1,747

Source: SIX Financial Information

Cash Prices | WSJ.com/commodities

Monday, February 05, 2018

These prices reflect buying and selling of a variety of actual or "physical" commodities in the marketplace—separate from the futures price on an exchange, which reflects what the commodity might be worth in future months.

	Monday
Energy	
Propane,tet,Mont Belvieu-g	**0.8118**
Butane,normal,Mont Belvieu-g	**0.9337**
NaturalGas,HenryHub-i	**2.790**
NaturalGas,TranscoZone3-i	**2.770**
NaturalGas,TranscoZone6NY-i	**3.480**
NaturalGas,PanhandleEast-i	**2.190**
NaturalGas,Opal-i	**1.980**
NaturalGas,MarcellusNE PA-i	**2.370**
NaturalGas,HaynesvilleN.LA-i	**2.640**
Coal,C.Aplc.,12500Btu,1.2SO2-r,w	**60.100**
Coal,PwdrRvrBsn,8800Btu,0.8SO2-r,w	**12.250**
Metals	
Gold, per troy oz	
Engelhard industrial	**1339.42**
Engelhard fabricated	**1439.88**
Handy & Harman base	**1333.60**
Handy & Harman fabricated	**1480.29**
LBMA Gold Price AM	***1345.00**
LBMA Gold Price PM	***1331.15**
Krugerrand,wholesale-e	**1387.26**
Maple Leaf-e	**1400.60**
American Eagle-e	**1400.60**
Mexican peso-e	**1616.28**
Austria crown-e	**1310.49**
Austria phil-e	**1400.60**
Silver, troy oz.	
Engelhard industrial	**16.9000**
Engelhard fabricated	**20.2800**
Handy & Harman base	**16.7750**
Handy & Harman fabricated	**20.9690**
LBMA spot price	**£12.0100**
(U.S.$ equivalent)	**16.8750**
Coins,wholesale $1,000 face-a	**12371**
Other metals	
LBMA Platinum Price PM	***997.0**
Platinum,Engelhard industrial	**998.0**
Platinum,Engelhard fabricated	**1098.0**
Palladium,Engelhard industrial	**1046.0**
Palladium,Engelhard fabricated	**1146.0**
Aluminum, LME, $ per metric ton	***2228.0**
Copper,Comex spot	**3.2105**
Iron Ore, 62% Fe CFR China-s	**76.0**
Shredded Scrap, US Midwest-s,m	**339**
Steel, HRC USA, FOB Midwest Mill-s	**721**
Fibers and Textiles	
Burlap,10-oz,40-inch NY yd-n,w	**0.6500**
Cotton,1 1/16 std lw-mdMphs-u	**0.7557**
Cotlook 'A' Index-t	***89.05**
Hides,hvy native steers piece fob-u	**67.000**
Wool,64s,staple,Terr del-u,w	**n.a.**
Grains and Feeds	
Barley,top-quality Mnpls-u	**4.85**
Bran,wheat middlings, KC-u	**125**
Corn,No. 2 yellow,Cent IL-bp,u	**3.3700**
Corn gluten feed,Midwest-u,w	**103.7**
Corn gluten meal,Midwest-u,w	**470.4**
Cottonseed meal-u,w	**298**
Hominy feed,Cent IL-u,w	**98**
Meat-bonemeal,50% pro Mnpls-u,w	**218**
Oats,No.2 milling,Mnpls-u	**2.9625**
Rice, Long Grain Milled, No. 2 AR-u,w	**25.00**
Sorghum,(Milo) No.2 Gulf-u	**8.3713**
SoybeanMeal,Cent IL,rail,ton48%-u	**322.50**
Soybeans,No.1 yllw IL-bp,u	**9.3600**
Wheat,Spring14%-pro Mnpls-u	**7.1175**
Wheat,No.2 soft red,St.Louis-bp,u	**4.4800**
Wheat - Hard - KC (USDA) $ per bu-u	**4.5175**
Wheat,No.1soft white,Portld,OR-u	**5.3563**
Food	
Beef,carcass equiv. index	
choice 1-3,600-900 lbs.-u	**193.20**
select 1-3,600-900 lbs.-u	**187.46**
Broilers, National comp wghtd-u,w	**0.9166**
Butter,AA Chicago	**2.0800**
Cheddar cheese,bbl,Chicago	**136.50**
Cheddar cheese,blk,Chicago	**151.75**
Milk,Nonfat dry,Chicago lb.	**73.75**
Cocoa,Ivory Coast-w	**2330**
Coffee,Brazilian,Comp	**1.2086**
Coffee,Colombian, NY	**1.4202**
Eggs,large white,Chicago-u	**1.7050**
Flour,hard winter KC	**15.10**
Hams,17-20 lbs,Mid-US fob-u	**0.64**
Hogs,Iowa-So. Minnesota-u	**73.25**
Pork bellies,12-14 lb MidUS-u	**1.7255**
Pork loins,13-19 lb MidUS-u	**0.8780**
Steers,Tex.-Okla. Choice-u	**n.a.**
Steers,feeder,Okla. City-u,w	**169.25**
Fats and Oils	
Corn oil,crude wet/dry mill-u,w	**31.6500**
Grease,choice white,Chicago-h	**0.2250**
Lard,Chicago-u	**0.3250**
Soybean oil,crude;Centl IL-u	**0.3098**
Tallow,bleach;Chicago-h	**0.2500**
Tallow,edible,Chicago-u	**n.a.**

KEY TO CODES: A=ask; B=bid; BP=country elevator bids to producers; C=corrected; E=Manfra,Tordella & Brooks; G=ICE; H=Hurley Brokerage; I=Natural Gas Intelligence; M=monthly; N=nominal; n.a.=not quoted or not available; R=SNL Energy; S=Platts-TSI; T=Cotlook Limited; U=USDA; W=weekly, Z=not quoted. *Data as of 2/2

Source: WSJ Market Data Group

Borrowing Benchmarks | WSJ.com/bonds

Money Rates

February 5, 2018

Key annual interest rates paid to borrow or lend money in U.S. and international markets. Rates below are a guide to general levels but don't always represent actual transactions.

Inflation

	Dec. index level	Chg From (%) Nov. '17	Dec. '16
U.S. consumer price index			
All items	**246.524**	−0.06	2.1
Core	**253.558**	0.03	1.8

International rates

	Latest	Week ago	52-Week High	Low
Prime rates				
U.S.	**4.50**	4.50	4.50	3.75
Canada	**3.45**	3.45	3.45	2.70
Japan	**1.475**	1.475	1.475	1.475
Policy Rates				
Euro zone	**0.00**	0.00	0.00	0.00
Switzerland	**0.50**	0.50	0.50	0.50
Britain	**0.50**	0.50	0.50	0.25
Australia	**1.50**	1.50	1.50	1.50
Overnight repurchase				
U.S.	**1.33**	1.45	1.62	0.48

U.S. government rates

	Latest	Week ago	52-Week High	Low
Discount				
	2.00	2.00	2.00	1.25
Federal funds				
Effective rate	**1.4200**	1.4200	1.4400	0.6000
High	**1.5625**	1.6500	1.6500	0.8125
Low	**1.2600**	1.3000	1.4100	0.4500
Bid	**1.4100**	1.4100	1.4300	0.5600
Offer	**1.4300**	1.4300	1.4400	0.6700
Treasury bill auction				
4 weeks	**1.440**	1.230	1.440	0.400
13 weeks	**1.500**	1.425	1.500	0.515
26 weeks	**1.650**	1.625	1.650	0.620

Secondary market

	Latest	Week ago	52-Week High	Low
Fannie Mae				
30-year mortgage yields				
30 days	**3.948**	3.860	3.948	3.253
60 days	**3.970**	3.885	3.970	3.281

Other short-term rates

	Latest	Week ago	52-Week high	low
Call money				
	3.25	3.25	3.25	2.50
Commercial paper (AA financial)				
90 days	**1.70**	1.71	1.71	0.72
Libor				
One month	**1.58007**	1.57345	1.58007	0.77000
Three month	**1.79345**	1.77225	1.79345	1.03372
Six month	**2.00080**	1.96719	2.00080	1.33489
One year	**2.29309**	2.26406	2.29309	1.69400
Euro Libor				
One month	**-0.406**	-0.406	-0.383	-0.420
Three month	**-0.381**	-0.382	-0.344	-0.387
Six month	**-0.334**	-0.339	-0.240	-0.339
One year	**-0.258**	-0.263	-0.108	-0.263
Euro interbank offered rate (Euribor)				
One month	**-0.369**	-0.369	-0.366	-0.375
Three month	**-0.329**	-0.328	-0.325	-0.332
Six month	**-0.278**	-0.278	-0.237	-0.279
One year	**-0.191**	-0.191	-0.101	-0.194

	Latest	Value Traded	52-Week High	Low
DTCC GCF Repo Index				
Treasury	**1.381**	22.800	1.836	0.489
MBS	**1.416**	90.930	1.852	0.496

	Settle	Change	Open Interest	Implied Rate
DTCC GCF Repo Index Futures				
Treasury Feb	**98.580**	0.010	4240	1.420
Treasury Mar	**98.455**	0.010	521	1.545
Treasury Apr	**98.285**	0.015	346	1.715

Notes on data:

U.S. prime rate is the base rate on corporate loans posted by at least 70% of the 10 largest U.S. banks, and is effective December 14, 2017. **Other prime rates** aren't directly comparable; lending practices vary widely by location; **Discount rate** is effective December 14, 2017. **DTCC GCF Repo Index** is Depository Trust & Clearing Corp.'s weighted average for overnight trades in applicable CUSIPs. Value traded is in billions of U.S. dollars. **Federal-funds rates** are Tullett Prebon rates as of 5:30 p.m. ET. **Futures on the DTCC GCF Repo Index** are traded on NYSE Liffe US.

Sources: Federal Reserve; Bureau of Labor Statistics; DTCC; SIX Financial Information; Tullett Prebon Information, Ltd.

Key Interest Rates

Data are annualized on a 360-day basis. Treasury yields are per annum, on actively traded noninflation and inflation-indexed issues that are adjusted to constant maturities. Data are from weekly Federal Reserve release H.15.

	Week Ended Feb 2	Jan 26	52-Week High	Low
Federal funds (effective)				
	1.41	1.42	1.42	0.65
Commercial paper				
Nonfinancial				
1-month	**1.50**	1.52	1.59	0.60
2-month	**1.55**	1.54	1.55	0.68
3-month	**1.61**	1.61	1.61	0.74
Financial				
1-month	**1.47**	1.46	1.50	0.67
2-month	**1.58**	1.58	1.58	0.76
3-month	**1.69**	1.69	1.69	0.84
Discount window primary credit				
	2.00	2.00	2.00	1.25
Conventional mortgages				
	n.a.	n.a.	n.a.	n.a.
Treasury yields at constant maturities				
1-month	**1.40**	1.25	1.40	0.44
3-month	**1.46**	1.43	1.46	0.51
6-month	**1.65**	1.64	1.65	0.63
1-year	**1.87**	1.79	1.87	0.80
2-year	**2.14**	2.09	2.14	1.17
3-year	**2.30**	2.21	2.30	1.39
5-year	**2.53**	2.44	2.53	1.65
7-year	**2.68**	2.57	2.68	1.90
10-year	**2.75**	2.65	2.75	2.07
20-year	**2.88**	2.78	2.91	2.43

	Week Ended Feb 2	Jan 26	52-Week High	Low
Treasury yields (secondary market)				
1-month	**1.38**	1.22	1.38	0.43
3-month	**1.44**	1.41	1.44	0.51
6-month	**1.62**	1.61	1.62	0.62
TIPS				
5-year	**0.59**	0.50	0.59	-0.02
7-year	**0.64**	0.56	0.64	0.20
10-year	**0.64**	0.58	0.64	0.28
20-year	**0.76**	0.71	0.88	0.60
Long-term avg	**0.78**	0.74	0.90	0.65
Interest rate swaps				
1-year	**n.a.**	n.a.	n.a.	n.a.
2-year	**n.a.**	n.a.	n.a.	n.a.
3-year	**n.a.**	n.a.	n.a.	n.a.
4-year	**n.a.**	n.a.	n.a.	n.a.
5-year	**n.a.**	n.a.	n.a.	n.a.
7-year	**n.a.**	n.a.	n.a.	n.a.
10-year	**n.a.**	n.a.	n.a.	n.a.
30-year	**n.a.**	n.a.	n.a.	n.a.
Corporate bonds, Moody's seasoned				
Aaa	**n.a.**	n.a.	n.a.	n.a.
Baa	**n.a.**	n.a.	n.a.	n.a.
State and local bonds				
	n.a.	n.a.	n.a.	n.a.
Eurodollars				
1 month	**n.a.**	n.a.	n.a.	n.a.
3 month	**n.a.**	n.a.	n.a.	n.a.
6 month	**n.a.**	n.a.	n.a.	n.a.

Notes on data:
Federal-funds rate is an average for the seven days ended Wednesday, weighted according to rates on broker trades; **Commercial paper rates** are discounted offer rates interpolated from sales by discounted averages of dealer bid rates on nationally traded certificates of deposit; **Discount window primary credit rate** is charged for discounts made and advances extended under the Federal Reserve's primary credit discount window program; **rate** is average for seven days ended Wednesday; **Inflation-indexed long-term TIPS** average is indexed and is based on the unweighted average bid yields for all TIPS with remaining terms to maturity of 10 years or more; **Swap rates** are International Swaps and Derivatives Association (ISDA(R)) mid-market par rates for a fixed-rate payer, who in return receives three-month Libor, and are based on rates collected at 11:00 a.m. ET by Garban Intercapital PLC; Source is Reuters; **Moody's triple-AAA** rates are averages of industrial bonds only; **Muni rates** are Thursday quotes based on the Bond Buyer Index for general obligation, 20 years to maturity, mixed quality debt; **Mortgage rates** are contract rates on commitments for fixed-rate first mortgages

Sources: Federal Reserve; for additional information on these rate data and their derivation, please see, www.federalreserve.gov/releases/h15/data.htm

Bonds | WSJ.com/bonds

Tracking Bond Benchmarks

Return on investment and spreads over Treasurys and/or yields paid to investors compared with 52-week highs and lows for different types of bonds

Total return close	YTD total return (%)	Index	Yield (%) Latest	Low	High
Broad Market Bloomberg Barclays					
1914.12	-1.6	U.S. Aggregate	3.030	2.380	3.060
U.S. Corporate Indexes Bloomberg Barclays					
2758.13	-1.5	U.S. Corporate	3.500	3.030	3.540
2598.08	-0.9	Intermediate	3.140	2.530	3.200
3827.17	-2.9	Long term	4.250	3.990	4.680
560.61	-1.5	Double-A-rated	2.980	2.470	3.030
714.37	-1.2	Triple-B-rated	3.760	3.340	3.830
High Yield Bonds Merrill Lynch					
417.48	-0.03	High Yield Constrained	6.029	5.373	6.189
426.91	1.6	Triple-C-rated	10.323	9.584	11.091
2855.42	-0.2	High Yield 100	5.917	4.948	5.917
379.29	0.1	Global High Yield Constrained	5.365	4.934	5.738
306.76	0.1	Europe High Yield Constrained	2.532	1.897	3.196
U.S Agency Bloomberg Barclays					
1624.32	-0.8	U.S Agency	2.430	1.690	2.490
1456.48	-0.4	10-20 years	2.290	1.490	2.350
3278.74	-3.2	20-plus years	3.250	2.730	3.410
2438.08	-1.1	Yankee	3.200	2.610	3.250
Mortgage-Backed Bloomberg Barclays					
1956.09	-1.6	Mortgage-Backed	3.310	2.660	3.310
1923.83	-1.5	Ginnie Mae (GNMA)	3.280	2.630	3.280
1146.72	-1.6	Fannie mae (FNMA)	3.310	2.670	3.310
1766.08	-1.7	Freddie Mac (FHLMC)	3.330	2.680	3.330
515.26	-1.3	Muni Master	2.409	1.736	2.412
358.00	-2.1	7-12 year	2.538	1.744	2.540
404.01	-2.0	12-22 year	2.813	2.213	2.872
392.01	-2.1	22-plus year	3.203	2.716	3.449
Global Government J.P. Morgan†					
537.82	-1.1	Global Government	1.600	1.300	1.620
745.29	-1.3	Canada	2.310	1.570	2.320
368.46	-0.5	EMU§	1.250	0.956	1.363
702.62	-1.1	France	1.020	0.690	1.210
500.00	-1.5	Germany	0.720	0.210	0.730
288.09	-0.2	Japan	0.420	0.340	0.460
552.39	-1.5	Netherlands	0.810	0.390	0.820
907.50	-2.5	U.K.	1.740	1.340	1.740
799.01	-1.1	Emerging Markets **	5.775	5.279	5.934

*Constrained indexes limit individual issuer concentrations to 2%; the High Yield 100 are the 100 largest bonds † In local currency § Euro-zone bonds

** EMBI Global Index

Sources: Merrill Lynch; Bloomberg Barclays; J.P.Morgan

Global Government Bonds: Mapping Yields

Yields and spreads over or under U.S. Treasurys on benchmark two-year and 10-year government bonds in selected other countries; arrows indicate whether the yield rose(▲) or fell (▼) in the latest session

Coupon (%)	Country/ Maturity, in years	Yield (%) Latest	Previous	Month ago	Year ago	Spread Under/Over U.S. Treasurys, in basis points Latest	Prev	Year ago
2.000	**U.S.** 2	2.081 ▼	2.145	1.960	1.201			
2.250	10	2.797 ▼	2.842	2.477	2.470			
4.500	**Australia** 2	2.067 ▲	2.014	1.864	1.856	-1.4	-13.1	65.5
2.750	10	2.925 ▲	2.818	2.618	2.802	12.7	-2.3	33.2
0.000	**France** 2	-0.416 ▼	-0.406	-0.470	-0.559	-249.7	-255.1	-176.0
0.750	10	0.998 ▼	1.009	0.799	1.083	-179.9	-183.2	-138.7
0.000	**Germany** 2	-0.560 ▼	-0.548	-0.610	-0.741	-264.1	-269.3	-194.1
0.500	10	0.737 ▼	0.766	0.443	0.416	-206.0	-207.5	-205.4
0.050	**Italy** 2	-0.202 ▼	-0.192	-0.199	-0.006	-228.3	-233.7	-120.7
2.050	10	2.034 ▲	2.033	1.996	2.259	-76.3	-80.9	-21.1
0.100	**Japan** 2	-0.137 ▼	-0.128	-0.135	-0.218	-221.8	-227.3	-141.9
0.100	10	0.083 ▼	0.088	0.062	0.101	-271.4	-275.4	-236.9
2.750	**Spain** 2	-0.379 ▼	-0.375	-0.398	-0.291	-245.9	-252.1	-149.2
1.450	10	1.459 ▲	1.439	1.507	1.641	-133.8	-140.2	-82.9
1.750	**U.K.** 2	0.639 ▼	0.660	0.503	0.104	-144.2	-148.5	-109.7
4.250	10	1.560 ▼	1.580	1.248	1.461	-123.	-126.2	-100.9

Source: Tullett Prebon

Corporate Debt

in that same company's share price.

Investment-grade spreads that tightened the most...

Issuer	Symbol	Coupon (%)	Maturity	Spread*, in basis points Current	One-day change	Last week	Stock Performance Close ($)	% chg
Qualcomm	QCOM	2.100	May 20, '20	33	−14	40	61.73	-6.57
Intel	INTC	3.300	Oct. 1, '21	18	−12	27	44.52	-3.53
J M Smucker	SJM	3.000	March 15, '22	43	−11	n.a.	116.63	-2.91
Goldman Sachs	GS	3.000	April 26, '22	56	−8	n.a.	249.11	-4.20
Mizuho Financial	MIZUHO	4.600	March 27, '24	133	−8	n.a.	...	...
Arrow Electronics	ARW	3.875	Jan. 12, '28	120	−7	133	79.15	-2.28
Credit Suisse Funding	CS	3.125	Dec. 10, '20	78	−5	73	...	...
General Electric	GE	2.700	Oct. 9, '22	55	−5	66	14.91	-4.67

...And spreads that widened the most

Issuer	Symbol	Coupon (%)	Maturity	Spread*, in basis points Current	One-day change	Last week	Stock Performance Close ($)	% chg
General Electric	GE	5.000	Jan. 21, '49	201	26	200	14.91	-4.67
Sunoco Logistics Partners Operations	ETP	5.400	Oct. 1, '47	242	24	223	...	...
Royal Bank of Scotland	RBS	8.000	Aug. 10, '49	285	24	263	7.80	-4.53
Wells Fargo	WFC	5.875	June 15, '49	170	22	n.a.	58.16	-9.22
Qualcomm	QCOM	2.900	May 20, '24	115	20	106	61.73	-6.57
Hess	HES	5.800	April 1, '47	215	19	n.a.	44.49	-6.91
Enbridge Energy Partners	EEP	5.500	Sept. 15, '40	183	18	n.a.	13.75	-1.65
Mosaic	MOS	5.625	Nov. 15, '43	213	16	203	24.78	-4.84

High-yield issues with the biggest price increases...

Issuer	Symbol	Coupon (%)	Maturity	Bond Price as % of face value Current	One-day change	Last week	Stock Performance Close ($)	% chg
Dynegy	DYN	7.625	Nov. 1, '24	108.250	1.00	108.375	11.86	-3.58
Charter Communications Operating	CHTR	3.750	Feb. 15, '28	94.865	0.97	94.987	...	...
Frontier Communications	FTR	7.125	March 15, '19	101.750	0.78	101.630	7.66	-2.30
WPX Energy	WPX	5.250	Sept. 15, '24	100.250	0.75	102.250	14.14	-2.21
Park Aerospace Holdings	AVOL	5.500	Feb. 15, '24	100.000	0.70	100.339	...	...
NCR	NCR	5.000	July 15, '22	102.125	0.63	102.300	34.25	-4.81
Lennar	LEN	4.750	Nov. 15, '22	103.125	0.62	103.970	57.70	-3.87
Antero Resources	AR	5.625	June 1, '23	103.125	0.56	104.317	18.08	-3.21

...And with the biggest price decreases

Issuer	Symbol	Coupon (%)	Maturity	Bond Price as % of face value Current	One-day change	Last week	Stock Performance Close ($)	% chg
Precision Drilling	PDCN	7.750	Dec. 15, '23	103.312	−4.06	107.750	...	...
EP Energy	EPENEG	8.000	Feb. 15, '25	75.500	−2.63	81.500	...	...
Sanchez Energy	SN	6.125	Jan. 15, '23	85.125	−2.50	89.000	4.45	0.23
Whiting Petroleum	WLL	6.625	Jan. 15, '26	99.000	−2.44	102.500	25.73	-4.56
MEG Energy	MEGCN	7.000	March 31, '24	82.250	−1.97	87.750	...	...
California Resources	CRC	8.000	Dec. 15, '22	81.875	−1.88	85.500	19.99	-3.15
Endo Finance	ENDP	5.375	Jan. 15, '23	75.750	−1.76	78.750	...	...
Weatherford International	WFT	7.750	June 15, '21	102.250	−1.75	106.500	3.09	-11.71

*Estimated spread over 2-year, 3-year, 5-year, 10-year or 30-year hot-run Treasury; 100 basis points=one percentage pt.; change in spread shown is for Z-spread.

Note: Data are for the most active issue of bonds with maturities of two years or more

Sources: MarketAxess Corporate BondTicker; WSJ Market Data Group

BIGGEST 1,000 STOCKS

How to Read the Stock Tables

The following explanations apply to NYSE, NYSE Arca, NYSE American and Nasdaq Stock Market listed securities. Prices are composite quotations that include primary market trades as well as trades reported by Nasdaq BX (formerly Boston), Chicago Stock Exchange, Cboe, NYSE National and Nasdaq ISE.

The list comprises the 1,000 largest companies based on market capitalization.

Underlined quotations are those stocks with large changes in volume compared with the issue's average trading volume.

Boldfaced quotations highlight those issues whose price changed by 5% or more if their previous closing price was $2 or higher.

Footnotes:
i-New 52-week high.
↓-New 52-week low.
dd-Indicates loss in the most recent four quarters.
FD-First day of trading.
h-Does not meet continued listing standards
lf-Late filing
q-Temporary exemption from Nasdaq requirements.
t-NYSE bankruptcy
v-Trading halted on primary market.
vj-In bankruptcy or receivership or being reorganized under the Bankruptcy Code, or securities assumed by such companies.

Wall Street Journal stock tables reflect composite regular trading as of 4 p.m. and changes in the closing prices from 4 p.m. the previous day.

Monday, February 5, 2018

Stock	Sym	Close	Net Chg
A B C			
ABB	ABB	26.13	-1.30
AECOM	ACM	35.81	-2.18
AES	AES	10.60	-0.52
Aflac	AFL	86.21	-2.74
AGNC Invt	AGNC	18.24	-0.24
ANGI Homesvcs	ANGI	13.06	-0.26
Ansys	ANSS	156.02	-4.27
ASML	ASML	186.68	-7.89
AT&T	T	36.63	-1.44
AbbottLabs	ABT	58.73	-2.76
AbbVie	ABBV	109.51	-5.66
Abiomed	ABMD	239.37	-8.83
Accenture	ACN	151.83	-5.07
ActivisionBlizzard	ATVI	67.98	-3.44
AcuityBrands	AYI	145.22	-4.73
Adient	ADNT	61.94	-2.66
AdobeSystems	ADBE	190.27	-5.37
AdvanceAuto	AAP	109.86	-4.07
AdvMicroDevices	AMD	11.57	-0.88
AdvSemiEngg	ASX	6.93	-0.19
Aegon	AEG	6.62	-0.15
AerCap	AER	51.63	-1.41
Aetna	AET	180.95	-4.05
AffiliatedMgrs	AMG	188.50	-8.61
AgilentTechs	A	68.22	-3.33
AgnicoEagle	AEM	44.77	-1.02
AirProducts	APD	156.33	-6.51
AkamaiTech	AKAM	62.81	-2.91
AlaskaAir	ALK	62.74	-1.82
Albemarle	ALB	105.15	-0.36
Alcoa	AA	48.46	-0.63
AlexandriaRealEst	ARE	119.08	-4.24
AlexionPharm	ALXN	112.72	-3.43
Alibaba	BABA	180.53	-6.78
AlignTech	ALGN	242.40	-14.98
Alkermes	ALKS	55.71	-3.05
Alleghany	Y	594.80	-23.16
Allegion	ALLE	79.11	-2.74
Allergan	AGN	165.00	-7.51
AllianceData	ADS	228.39	-11.13
AlliantEnergy	LNT	38.22	-0.69
AllisonTransm	ALSN	42.55	-1.15
Allstate	ALL	95.02	-2.92

Wells Fargo Feels the Pinch From Fed

Bank's stock sinks in wake of enforcement action, wiping out $29 billion in value

BY EMILY GLAZER

A selloff in **Wells Fargo** & Co. shares chopped $29 billion from the bank's market value after the Federal Reserve cast it into a regulatory purgatory and limited its ability to expand its business.

Shares tumbled 9.2% on Monday amid a broader selloff in stock prices, as analysts ratcheted down earnings estimates for the third-largest U.S. bank by assets. The decline, its sharpest one-day drop since April 2009, was especially painful because the recently bright outlook for banks was also thrown into question Monday.

The acute market declines shifted, at least for now, bank investors' optimism about stronger economic growth, rising interest rates and lighter regulation. The KBW Nasdaq Bank Index dropped 4.9%, slightly more than the 4.6% decline in the Dow Jones Industrial Average.

Still, Wells Fargo has been hit the hardest. Since the start of the year, Wells Fargo's shares have lost 4.2%, while its biggest peers have gained between 2% and 3%.

Meanwhile, the bank's price/earnings ratio has fallen below that of **JPMorgan Chase** & Co. and **Bank of America** Corp.

The challenge now facing Wells Fargo was on display Friday night in an analyst call held less than two hours after the Fed announced an unprecedented enforcement action and said the bank would replace four board directors by year-end.

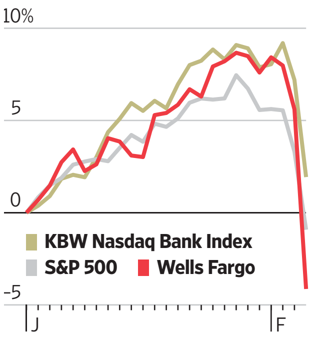
Chief Executive Officer Timothy Sloan said five times on the call that the bank is "open for business."

Wells Fargo in its presentation to analysts Friday night said that it expected the Fed action to reduce 2018 after-tax profit by between $300 million and $400 million.

Such a reduction comes at an inopportune time for Wells Fargo. Over the past three quarters, the bank's net interest income—a gauge of lending profitability—has fallen. At the same time, the bank has been in the midst of an effort to cut $4 billion in annual costs by 2019.

Stumbling

Performance in 2018



Source: WSJ Market Data Group
THE WALL STREET JOURNAL.

In the wake of the Fed's growth cap, half a dozen analysts on Monday cut estimates for 2018 earnings per share to an average of $4.71 from a previous average of $4.83. Some of those analysts trimmed forecasts for 2019 earnings to an average of $5.16, down from an average of $5.40.

KBW bank analyst Brian Kleinhanzl downgraded Wells Fargo to "market perform" from "outperform" and lowered his earnings-per-share estimates to $4.70 from $4.90 for 2018 and to $5.10 from $5.45 for 2019.

"The bottom line is that the [Fed] order will mean Wells will have a harder time maintaining market share and will have to compete more on price or credit terms versus peers," he wrote.

Gerard Cassidy, an RBC Capital analyst, also voiced concerns about competition, writing that "existing customers could be pried away from the company by aggressive competitors." He added that given a positive outlook for the banking industry, investors would be better off owning JPMorgan, Bank of America or **Citigroup** Inc., which "will be able to harness the growth of the U.S. economy."

Wells Fargo executives said Friday that they would use a series of financial maneuvers to limit certain activities so the bank won't have to deny business to its large consumer base. But certain commercial customers could get squeezed.

For instance, the bank may reduce certain commercial deposits known as "nonoperational," of which it had roughly $200 billion as of the end of 2017. That is a tactic JPMorgan used to lower its asset size a few years ago.

Wells Fargo may also limit financial institutions' deposits, which tallied $149 billion at year-end 2017. And it could also reduce its $92 billion in trading assets and $91 billion in short-term investments as of Dec. 31, 2017.

Some analysts were more sanguine. Sanford C. Bernstein's John McDonald wrote Monday that the growth cap will be manageable because Wells Fargo "was already planning to continue shrinking...auto and home-equity loans." He estimates the two noncore portfolios will decline by about $15 billion this year, "creating additional flexibility" for the bank.

Overall, Mr. McDonald said he expects the impact of the Fed moves to go away by next year. He added the growth cap hadn't significantly altered his view of the bank, but he had been modeling just 1% loan growth in 2018.

Some investors were taken aback by the Fed's action and the fact the bank hasn't fully overcome the sales-practices scandal. Still, others were holding on.

Shareholder David Katz said the Fed's action is "sending another message to Wells that they've got to be more aggressive in getting their act together." But he said he was confident in the bank's approach to how it can "meet all the needs" of clients and manage the balance sheet.

Analysts reduced earnings estimates for the third-largest U.S. bank by assets.

Mr. Katz, who is president and chief investment officer at New York-based **Matrix Asset Advisors** Inc. that owns about 480,000 Wells Fargo shares, said the firm plans to hold its current position.

BANKS

Continued from page B1

deposit levels with fewer locations in a digital world in which customers often prefer banks' mobile apps and ATMs.

The shift in strategy is helping some banks reach profit records.

For instance, Bank of America's adjusted earnings in 2017 matched its highest annual profit ever. The bank closed or sold more than 1,500 branches since 2009, including the vast majority of its rural branches. The closures have helped the bank save on occupancy and employee costs, bringing down overall expenses. The lower expense levels have bolstered bank profit.

Real-estate auction firm Ten-X says more banks are using its site to sell properties, many at a discount. The firm, which got its start focusing on distressed real estate, is now considering a new group dedicated to branches.

For example, **Wells Fargo** & Co., which preserved its branch network even as rivals trimmed, has started cutting it back since its sales-practice scandal imploded in 2016.

Regional banks **Fifth Third Bancorp** in Cincinnati and Regions, based in Birmingham, Ala., disclosed in regulatory filings that they have been selling land that they had once bought for future branch locations.

Banks are still opening new branches, just not enough to make up for the ones they are closing. Bank of America, for instance, has expanded into big cities where it previously didn't have branches. **JPMorgan Chase** & Co. similarly announced plans to open as many as 400 branches in new markets in coming years.

DAVID MORRIS FOR THE WALL STREET JOURNAL

Charlene LeBlanc has to drive more than 30 miles to a Regions bank branch to do business.

Some closures involve banks leaving rural areas because branches there aren't profitable enough, according to the Journal analysis. Since mid-2012, **PNC Financial Services Group** Inc. has cut its branches in rural areas and small towns by nearly one-third. SunTrust has cut its rural branches almost by half.

When PNC closed its only branch in Jeromesville, Ohio, in 2015, the bank told regulators in a letter that it was "due to limited usage in a declining rural area." In a letter to customers, PNC wrote that consumers were "using branches very differently today" and that they have "more service choices than ever."

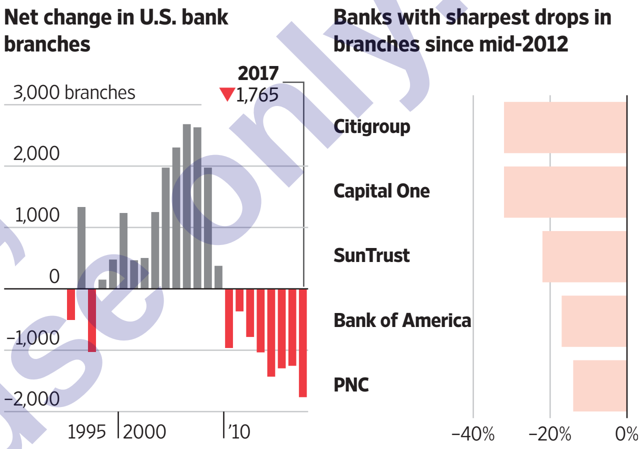
While Jeromesville has no remaining bank branches, it does still have a PNC ATM.

"Limited usage is one of many criteria we look at when making the difficult but necessary decision to close a branch," PNC said. "Other criteria include community needs and the closest nearby branch." PNC has a branch roughly 8 miles from Jeromesville.

Some customers miss their branches. Bubba McKey, who runs a grocery store in Centreville, Miss., population 1,667, banked at the only Regions branch there for years until Regions closed it in 2016. He has since switched most of his banking to the only other bank in town, a community lender called **United Mississippi Bank**, but he can no longer walk just a few blocks to get change for his store or deposit checks. "I have no qualms with the other bank," Mr. McKey said. "It's mostly just the fact that you don't have a choice now."

Paring Back

The number of U.S. bank branches has been declining for years.



Note: Annual data as of June 30 each year
Source: Federal Deposit Insurance Corp.
THE WALL STREET JOURNAL.

Charlene LeBlanc decided to keep banking at Regions, but she has to drive more than 30 miles to a Louisiana branch to cash checks. She has used Regions' mobile app to deposit checks, but says she doesn't like it. The old Regions branch still sits vacant.

"We understand that closing branches can create difficulties for our customers in smaller communities," a Regions spokeswoman said, adding that the bank tries to limit the impact of closings. For example, it has donated branch buildings to a credit union with locations throughout Mississippi.

When SunTrust pulled out of Muscle Shoals, Ala., last year it left a different mark: its furniture, which it bundled onto the side of the road. Employees at a business down the street, Alabama Hose Products, got new filing cabinets. A SunTrust spokeswoman declined to comment about the branch strategy but said that when the bank closes a branch, excess furniture is typically disposed of at the end of the day.

Great Eastern in Talks To Sell Malaysia Unit

BY YANTOULTRA NGUI AND P.R. VENKAT

Singapore-based insurer **Great Eastern Holdings** Ltd. is in exclusive talks with Malaysia's largest pension fund to sell it a minority stake in its Malaysian insurance unit, a deal that could fetch as much as $1 billion, according to people familiar with the discussions.

The talks with the **Employees Provident Fund** is part of Great Eastern's strategy to meet a Malaysian central bank deadline, set for June, mandating that insurers operating in the country are at least partially owned by locals. A stake in Great Eastern Life would allow EPF to ride on the growth prospect of Malaysia's insurance sector.

$1B

How much a stake in Malaysian insurance unit could fetch.

Great Eastern's Malaysia unit, Great Eastern Life Assurance (Malaysia) Bhd., is the oldest insurance company in the country. It had over three million policies in force and a network of 17,000 agents in Malaysia at the end of 2016, according to its website.

State-owned EPF managed 771.2 billion ringgit ($198 billion) of investment assets as of last September and is the world's 15th-largest pension fund, according to Willis Towers Watson.

Negotiations are in early stages, with no certainty of a transaction, the people familiar said.

Great Eastern could look to list its insurance unit through an initial public offering in Malaysia if no deal is reached, the people said.

Even if the deal fails through, EPF can still opt to partake in the potential listing of Great Eastern Life, albeit with a lower stake, they said.

Since the central bank's mandate came down, foreign insurance firms operating in Malaysia have been looking at ways to trim stakes in their local units, either through sales of a minority stake to Malaysian firms or via an IPO. The firms have to bring down their stakes in their local insurance units by at least 30%, according to the bank.

The people familiar said such share sales could raise almost $3 billion.

Great Eastern declined to comment, while EPF didn't immediately respond to a request for comment.

Growth Slows at Chinese Money Fund

SHANGHAI—Asset growth in the world's largest money-market fund hit a plateau at the end of 2017, following a series of measures by the fund's manager to control its swelling size.

The fund known as Yu'e Bao, whose name means "leftover treasure" in Mandarin, had assets of 1.58 trillion yuan ($250.59 billion) at the end of 2017, according to its manager, Tianhong Asset Management Co. While the fund was nearly twice its size from a year ago, it increased just 1% from the end of September, the data showed.

Yu'e Bao is an online money-market fund that was started in 2013 as a way for users of popular Chinese payments network Alipay to earn returns on idle funds sitting in their virtual wallets. Its rich investment yields—which topped 4% on an annualized basis at various points last year and hit a record of 6.8% in 2014—have drawn a flood of cash from investors.

XINHUA/ZUMA PRESS

A purchase using Alipay. Consumers use Yu'e Bao to earn returns on idle funds in the virtual wallet.

Yu'e Bao's rapid growth and scale, however, has worried Chinese regulators, which have suggested it is "systemically significant." The fund has invested much of its money in hard-to-sell assets such as commercial paper issued by Chinese banks, and regulators fear an extreme scenario in which mass investor redemptions trigger forced selling of assets that could set off a broader financial panic.

Financial regulators last year set rules requiring the country's money-market funds to invest in more liquid and less risky assets. Yu'e Bao's manager also implemented a series of voluntary steps to slow inflows into the fund, including setting limits on daily investments from individual account holders.

Last week, Tianhong Asset Management said it was imposing a new "aggregate daily quota" on incoming funds that it can adjust from time to time. The quota, which will be in effect from Feb. 1 through March 15, will cap the total amount of cash the fund accepts on any given day.

The move is aimed at taming inflows around the Lunar New Year, which historically has been a popular time for people to invest. Yu'e Bao recently had about 370 million account holders.

Beijing-based Tianhong, which is a unit of **Ant Financial Services Group**, said the quota is meant to prevent the money-market fund from over-expanding in size and help "maintain long-term stable operations." From the second to the third quarter of last year, the fund's assets rose 8%, versus a 41% quarter-over-quarter increase earlier in 2017.

Tianhong also has reduced Yu'e Bao's holdings of high-yielding but hard-to-sell investments, such as certificates of deposits issued by Chinese banks, and boosted its allocations to short-term and more liquid assets. The changes have helped lower the fund's returns. Yu'e Bao's seven-day annualized yield was 3.91% last week, compared with 4.39% at the start of this year.

—Stella Yifan Xie

Japan Stocks Down 5.3% Early Tuesday

Nikkei's fall is bigger in point and percent terms than Dow's; Hang Seng off 4.3%

By Gregor Stuart Hunter And Kevin Kingsbury

Asian stock markets fell sharply following a severe rout in the U.S., extending losses from a day earlier.

The selling also sent a fresh bad signal for the U.S. market. S&P 500 futures were up 0.5% as Asian stock markets opened but skidded by midmorning, and futures were down 1.8% at midday in Tokyo.

WORLD STOCKS

Japan's Nikkei Stock Average was down about 12,000 points, or 5.3%, a steeper fall in both point and percentage terms than suffered by the Dow industrials on Monday.

The Japanese index closed the morning at its lowest level since late October and was on track to finish in correction territory, defined as a 10% drop from its most recent high. Selling was worsened by haven flows that are lifting the yen.

Selling in Japan was made worse by haven flows into the yen.

KAZUHIRO NOGI/AGENCE FRANCE-PRESSE/GETTY IMAGES

Investors that follow strict rules-based approaches to investing, such as risk-parity funds that attempt to maintain a constant level of volatility, were forced to sell because of the increased market fluctuations, Chris Weston, chief market strategist at IG in Melbourne, Australia, said.

The tumult has been exacerbated by sales of exchange-traded notes tracking implied volatility, which had become a popular way of betting on whether the recent calm in global equities would continue.

Many institutional investors were pausing to see where markets settled before taking big positions, said Lee Porter, managing director for Asia Pacific at brokerage Liquidnet.

"We've been through such a prolonged period of low volatility, and it was a question of when, not if, it would end," he said.

With that lull shattered, many ETFs betting that volatility would remain low have suffered wrenching declines. Japanese investment bank **Nomura** said Tuesday it would close one such fund early after the underlying index plunged 80% Monday, hitting a condition for early redemptions.

In Hong Kong, the Hang Seng Index was down 4.3%. Money flooded offshore as net inflows to the Hong Kong market through the Shanghai Stock Connect, which allows reciprocal investment of stocks between the two cities, hit the highest levels since April 2015, when the link's daily trading limit was last triggered.

Elsewhere, Australia's S&P/ASX 200 was off 3.1%. The index hasn't closed down 3% since the day after the U.K. voted to leave the European Union in June 2016. South Korea's Kospi was down 3% and Taiwan's Taiex was down 4.5%, with both of the tech-heavy indexes turning negative for the year.

AUCTION RESULTS

Here are the results of Monday's Treasury auctions. All bids are awarded at a single price at the market-clearing yield. Rates are determined by the difference between that price and the face value.

13-WEEK AND 26-WEEK BILLS

	13-Week	26-Week
Applications	$133,327,040,200	$123,070,376,000
Accepted bids	$48,000,400,200	$42,000,096,000
" noncomp	$638,671,700	$607,387,000
" foreign noncomp	$178,000,000	$300,000,000
Auction price (rate)	99.620833	99.165833
	(1.500%)	(1.650%)
Coupon equivalent	1.527%	1.687%
Bids at clearing yield accepted	64.64%	0.29%
Cusip number	912796PF0	912796PU7

Both issues are dated Feb. 8, 2018. The 13-week bills mature on May 10, 2018; the 26-week bills mature on Aug. 9, 2018.

U.S. Government Bonds Stage Rally

U.S. government bonds rallied, sending the yield on the 10-year Treasury note to its biggest one-day decline in five months, as investors dumped stocks and bought assets perceived as safe.

CREDIT MARKETS

The yield on the 10-year Treasury note fell to 2.794% on Monday, from 2.852% Friday, marking its largest one-day fall since September. Yields fall as bond prices rise.

Investors bought bonds as stocks fell, with the Dow Jones Industrial Average at one point losing almost 1,600 points before paring losses to finish roughly 1,175 points lower, its largest point decline on record.

Demand for Treasurys on Monday was driven by "stocks melting down," said Thomas Roth, managing director in the rates trading group at MUFG Securities Americas Inc. "It's not being caused by anything economic."

The rush into Treasurys marked a reversal after weeks of selling pushed the 10-year yield toward 2.9%.

The 10-year Treasury yield rose more in January than in any month since November 2016, as expectations for growth and inflation picked up after the passage of tax cuts expected to add roughly $1 trillion to deficits over the next 10 years.

Economic growth can push investors into riskier assets, while inflation poses a threat to the value of government bonds because it chips away at the purchasing power of their fixed payments and can drive the Federal Reserve to raise interest rates.

Before Monday's gyrations, analysts had expected that investors' response to $66 billion in Treasury auctions this week would signal whether there is appetite for bonds at higher yields or if many remained concerned about additional declines.

The Treasury Department said last week that it is raising the size of its government bond auctions as it addresses higher deficits expected as a result of the tax cuts.

—Daniel Kruger

VIX

Continued from page B1

volatility face significant losses.

"With volatility being so low, people took on positions that were effectively leveraged," said Jason Draho, head of tactical asset allocation for the Americas at UBS Wealth Management.

Exchange-traded funds that profit in calm markets minted money in 2017, as volatility fell further and further during a long period of regular stock-price increases, before turning sharply lower more recently. Two of these products recorded losses during January after several months of gains, though investors continued to pile into the trade.

The **ProShares Short VIX Short-Term Futures ETF**, with the ticker SVXY and which was launched in 2011, lured a record amount of funds in January and brought in more than $500 million on Friday, the most ever in a single day, FactSet data show. It plunged 32% on Monday.

Money has also flown into the **VelocityShares Daily Inverse VIX Short-Term** exchange-traded note, launched in 2010. It dropped 14% during Monday's session and dropped roughly 84% after the market closed.

Potentially adding to the large market swings on Monday was options positioning. Rather than paying for options to protect portfolios, some investors have turned to selling options for incremental income, analysts said—another strategy that exposes the seller to outsize losses in the event of a large market move.

"Equity volatility popped more than people thought because of this new leverage in the system," said Peter Cecchini, global chief market strategist at Cantor Fitzgerald, referring to such options selling for income.

Investors who sold bearish put options may have been forced to sell shares as stocks slipped, with certain option positioning on the S&P 500 concentrated around the 2700 level, Mr. Cecchini said.

The S&P dropped 113.19 points Monday to 2648.94, after earlier trading as low as 2638. As the equity index continued to fall, this positioning increased selling.

"That forces people to sell shares and exacerbates the market selloff," Mr. Cecchini said. "That is precisely what happened today."

Some analysts pinned the wild move on automated trading strategies that kicked in when the algorithms saw the market falling rapidly. Adding evidence to that theory: The market's selloff appeared to accelerate once the S&P 500 fell below 2700, a threshold where investors might have placed orders to automatically sell stock-market futures to cover their losses.

Such selling could have in turn pushed the market down further.

Similarly, the S&P 500 broke through its 50-day moving average, a key technical indicator that could have triggered automatic sell orders, around 2:25 p.m. EST.

"I think it's more technical than panic," said Binky Chadha, chief strategist at Deutsche Bank. "It's a snowball. It rolls down a hill and gets bigger and bigger."

—Amrith Ramkumar and Akane Otani contributed to this article.

Plunging Stocks Spur Surge in Volatility

The CBOE Volatility Index

Source: WSJ Market Data Group

THE WALL STREET JOURNAL.

RICHARD DREW/ASSOCIATED PRESS

ZWEIG

Continued from page B1

chilling story from his family's history in Poland.

After a troop of Cossacks invaded the grounds of the home of Conrad's wealthy grand uncle, dozens of peasants surged in and around the house. A loyal servant placated the crowd, and the tension began to dissipate.

Then, as much of the crowd started to head home, one of the peasants stepped to the window. He bumped into a dainty table; as it hit the floor, coins clinked inside it. He bashed it open, and gold coins spilled out.

Instantly, the crowd shifted from retreat to rampage. They swarmed inside and "smashed everything in the house, ripping with knives, splitting with hatchets, so that, as the servant said, there were no two pieces of wood holding together left in the whole house."

That's what markets are like. Tens of millions of people don't always act rationally in response to new information; often, they react to nothing but how they think other people are acting or will act.

Monday's madness is a reminder that investing in stocks doesn't automatically make people rich. Twice in the past 20 years—between 2000 and 2002, and again between 2007 and 2009—the stock market has cut investors' wealth roughly in half.

No one can say when that will happen again, but everyone should know that it can—and very well might. If a 6% daily drop makes you squirm, then you probably have too much invested in stocks for your own psychological good.

Getting Tighter

A Goldman Sachs gauge suggests financial conditions have tightened over the last week, breaking with their recent trend.

Source: Goldman Sachs

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Bitcoin's Selloff Deepens, Spreads

By Paul Vigna

Bitcoin prices fell nearly 20% in intraday trading, pulling down dozens of other cryptocurrencies along with it, as this year's selloff continues to undo last year's rally.

CURRENCIES

Bitcoin dropped to about $6,600 on Monday, according to **CoinDesk** Inc. The price recovered later to $7,151.56, down 12% on the day.

Ether declined 17% to $694. Of the top 80 cryptocurrencies, all had fallen, according to CoinMarketCap.

It has been a brutal year for bitcoin, which in December came within $20 of hitting $20,000 amid a furious rally. Since then, however, the sellers have swamped the buyers. Bitcoin is down about 67% since that December high, and in the first five days of February, it has fallen 35%.

This is still only the third-largest drop in the past five years for bitcoin. It fell 76% in the spring of 2013 and 85% from November 2013 to January 2015. Both those selloffs were followed by rallies, underscoring bitcoin's volatility.

A selloff like this "was inevitable after December's meteoric rally," said Logan Kugler, a managing partner at hedge fund General Crypto. He expects the market will remain volatile, given that it comprises more individual investors—"plumbers and hairdressers," he said—than institutional investors. "As soon as the market starts going down, they panic sell."

The tenor of the news continues to augur poorly for cryptocurrencies.

On Friday, some of the largest credit-card issuers in the U.S. said they would stop allowing customers to purchase cryptocurrencies with credit cards. On Monday, **Lloyds Banking Group** PLC said it would also implement a ban. Other U.K. banks are reviewing their policies as well.

On Tuesday, Congress will hold a panel on virtual currencies in which they will hear from two U.S. lawmakers; Jay Clayton, the chairman of the Securities and Exchange Commission; and J. Christopher Giancarlo, the chairman of the Commodity Futures Trading Commission.

As strong as this selloff has been, however, it still takes the price back only about three months. On Nov. 13, bitcoin closed at $6,518. That means that most bitcoin investors are still sitting on sizable gains; one year ago, the price was at $1,025.

"I still believe it will come back and have no plans to sell," said Tony Horsley, a 78-year-old investor from Atlanta who started buying bitcoin last summer.

Oil Prices Sink, Rattled by Stock Rout, Increased Drilling

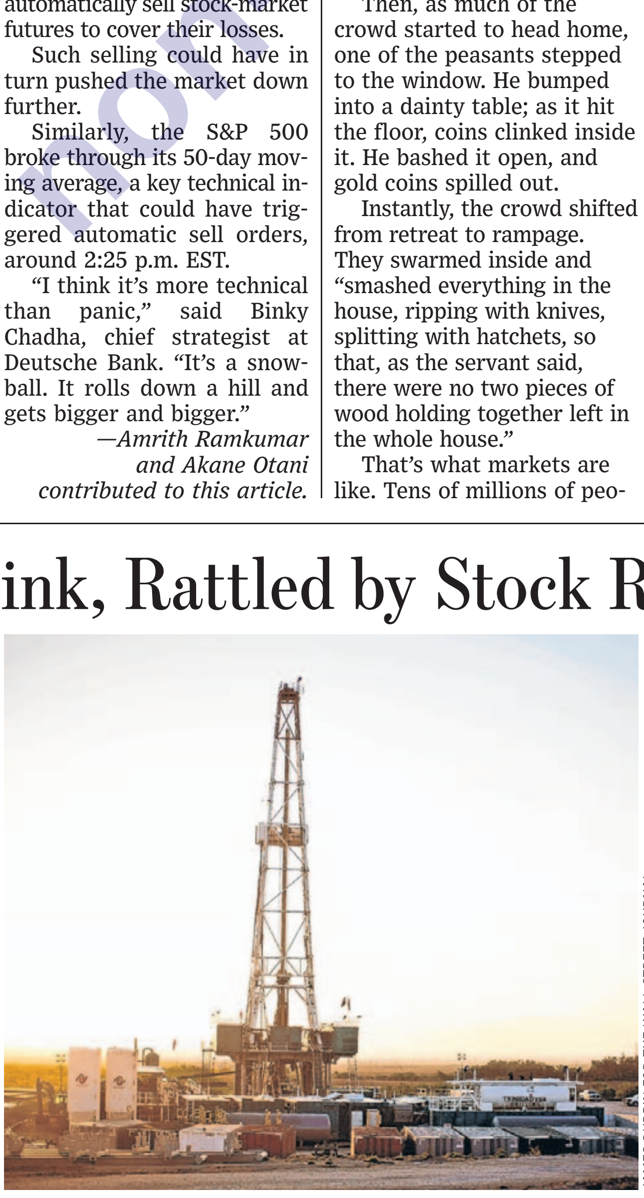
By Christopher Alessi And Alison Sider

U.S. crude prices had their worst day in two months Monday as a stock market selloff and increased U.S. drilling continue to knock months of bullish sentiment for crude.

COMMODITIES

U.S. crude futures settled down $1.30, or 1.99%, at $64.15 a barrel on the New York Mercantile Exchange—their biggest daily drop since Dec. 6. Brent, the global benchmark, fell 96 cents, or 1.4%, to $67.62 a barrel on ICE Futures Europe.

Oil's movements have become more closely aligned with broader financial markets in recent days as expectations of a pickup in inflation and subsequent tightening of monetary policy have caused equities to tumble sharply. The selling spread to the oil market.



Oil's movements have become more aligned with markets.

JAMES DURBIN FOR THE WALL STREET JOURNAL

"You're starting to see a whiff of what I call the GMO trade—get me out," said Bill O'Grady, chief market strategist at Confluence Investment Management.

Oil investors have piled into bets on rising prices, with bullish bets outnumbering bearish ones more than 13 to one. Analysts say that kind of positioning can exacerbate selloffs.

"You get a crowded market, it's not hard to drop," said David Leben, director of commodity derivatives at BNP Paribas. "People are losing a bit of confidence—it's a risk off day all across the board."

Oil prices had hovered near three-year highs of more than $70 a barrel last month. But rising U.S. shale production, evidenced by increased drilling activity, has started to weigh on crude, analysts say.

Baker Hughes on Friday said the number of active rigs drilling for oil in the U.S. had risen by six the preceding week, in the second consecutive weekly rise.

At the same time, "maybe the selloff in the financial market is what was needed to convince oil bulls that the recent rally is unsustainable, especially in the light of a potentially oversupplied 1H 2018," said Tamas Varga, an analyst at brokerage PVM Oil Associates Ltd.

Analysts at consultancy JBC Energy noted that "at least from a technical perspective, things are starting to look a little more precarious for the bulls out there."

Oil market observers are looking ahead to weekly inventory and production data from the American Petroleum Institute on Tuesday and the U.S. Energy Information Administration on Wednesday.

Gasoline futures fell 2.54 cents, or 1.36%, to $1.8466 a gallon. Diesel futures fell 3.39 cents, or 1.65%, to $2.0196 a gallon.

MARKETS

Corporate-Bond Market Remains Calm

Narrow premium over Treasurys signals lack of worry about companies' health

BY MIKE BIRD AND RIVA GOLD

Stock indexes around the world continued to plunge Monday, but investors point to one reassuring factor in global markets: People aren't getting nervous about corporate credit.

The difference between yields on corporate bonds and less risky government debt continues to narrow, suggesting that share-price declines aren't because of widespread fears about the financial health of the world's companies.

Previous U.S. equity-market corrections since the 2008 credit crisis have been matched by big moves in corporate-credit spreads, as investors sought a higher premium over government bonds to compensate for their increased concerns over corporate health.

Spreads on dollar- and euro-denominated corporate credit ticked down to their lowest levels since 2007 Friday, indicating that bond buyers don't currently require a greater payoff against the risk that such debt defaults.

For example, while **Apple** Inc.'s stock is now down about 7.5% in the year to date, spreads on the company's 2027 bonds have dropped to 0.59 percentage point Monday from 0.65 percentage point at the beginning of the year.

U.S. corporate bonds offered yields just 1.1 percentage points more than government bonds of the same maturity, according to IHS Markit's iBoxx indexes, barely higher than Friday's 1.08 points, the lowest level seen since 2007.

The spread on European corporate bonds was even lower on Friday, at just 0.82 percentage point.

On Monday, European, Asian and U.S. stocks fell again. The Stoxx Europe 600 sank 1.6%, the largest drop in a year and a half, Japan's Nikkei Stock Average fell 2.5% and the S&P 500 slid 4.1%. The spread on European corporate bonds barely budged, ending at 0.83 percentage point.

"I think the resilience of credit to the most recent selloff within equity should provide equity investors with a little bit of comfort," said David Riley, head of credit strategy at BlueBay Asset Management.

"It suggests credit investors still feel very comfortable with corporate-credit fundamentals, the earnings outlook and the ability of the corporate sector to absorb higher rates," he added.

During previous market turns like the nearly 14% drop of the S&P 500 in February 2016 from its May 2015 high, the spread on the iBoxx U.S. corporate index rose by nearly 0.9 of a percentage point.

Similarly, during the height of the European sovereign-debt crisis in 2011, when the S&P 500 dropped 18%, corporate spreads rose 1.7 percentage points.

To be sure, those share-price declines were far larger than the drawdown in global equities over the past week.

But so far, there is little indication that the selloffs are based on expectations of significantly deteriorating economic conditions and company profits are mostly beating expectations. With roughly half of S&P 500 companies having reported their fourth-quarter earnings, 78% have beat analysts' expectations, compared with 64% in a typical quarter, according to Thomson Reuters data.

"Really, there is no recessionary risk out there that's telling you not to invest in bonds paid for by the cash flow of companies," said Ewan McAlpine, senior client portfolio manager at Royal London Asset Management.

Data on Monday continued to point to an acceleration in global growth that should be supportive for both stocks and credit. The IHS Markit eurozone January purchasing-managers index reached its highest level since June 2006, while the U.S. Institute for Supply Management's nonmanufacturing PMI rose to 59.9, well above the 56.5 expected.

The credit market "is a supportive factor in my view that I don't think we've hit the turn in the equity markets," said Dave Lafferty, chief market strategist at Natixis Investment Managers.

So why are stocks falling?

The difference between the two asset classes this week may in part reflect stocks' more exuberant start to the year. Equity markets drew record inflows and the S&P 500 rose 5.6% in January, its biggest monthly gain since March 2016. Since the beginning of the year, credit spreads on both the euro and dollar iBoxx corporate indexes have declined by roughly 0.1 percentage point.

"All of the discussion at the moment that is negative about the equity market, none of it is about the economics, it's all about those valuations and ratios," Mr. McAlpine said.

Investors have been debating whether U.S. stocks look expensive, and what valuation should be used to measure that. The S&P 500's 12-month rolling price/earnings ratio, a popular valuation measure, reached 23.4 in January, its highest level since 2002.

But not everyone believes that the message from corporate-debt markets is the correct one.

On Monday, S&P Global Ratings warned that the global proportion of highly leveraged companies, with a debt-to-earnings ratio above 5 to 1, has risen by 5 percentage points since 2007, to 37%.

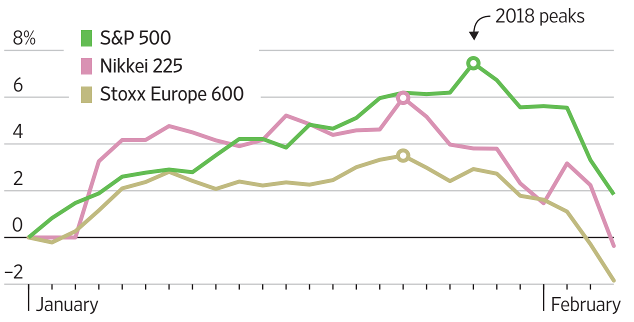
Higher debt levels leave companies vulnerable to unexpected fast increases in interest rates, which would make it more costly to pay off their debt.

"When you are seeing this type of volatility, it does raise the question of whether credit spreads should be trading near all-time tights," said Sunil Krishnan, head of multiassets funds at Aviva Investors.

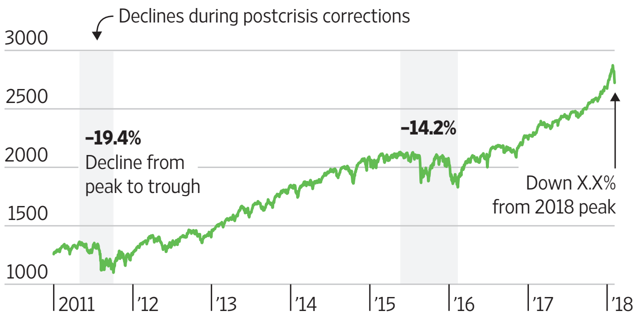
"I don't think you're getting very good compensation for volatility."

Corporate credit spreads are at their lowest point in more than a decade

Index performance, year to date



S&P 500



Sources: FactSet (credit spreads); WSJ Market Data Group (stock indexes)

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Email: heard@wsj.com FINANCIAL ANALYSIS & COMMENTARY WSJ.com/Heard

Fed Walks Fine Line on Stimulus

Investors are suddenly worried about just how much the Fed might tighten policy, sending the Dow Jones Industrial Average down over 1,800 points in just two days. They are right to be concerned.

Federal Reserve tightening cycles always tend to get messy. Throw in fiscal stimulus hitting the economy just as the Fed will be trying to cool it down and already-steep bond and stock-market valuations, and this cycle looks messier than most.

Last Friday's job report provided some of the strongest evidence yet that a tight labor market is finally throwing off faster wage growth. The Dow promptly had its largest point loss since 2008. That wage strength is a sign for the Fed that inflationary pressures are building, opening the possibility that the central bank may have to raise rates faster than it has forecast.

This is a phase that has always been tricky for the Fed. It mustn't tighten so little that it falls behind the curve, but not so much that it sends the economy into recession. It is something the Fed has done only occasionally, most notably in the so-called soft landing it helped guide the economy to in 1994.

The tax package that got signed into law late last year only complicates things. Lower corporate-tax rates and the tax-cut-related bump many consumers are now seeing in their paychecks will boost the economy this year.

The Fed faces a situation in which it will be tapping the brakes as the fiscal policy is pushing on the accelerator.

Then there is the matter of markets: Even after the recent selloff, the 10-year Treasury's yield of 2.84% remains historically low. As a result, it would take much less of an increase in yields to send bond prices down significantly than at the 4% the notes yielded just before the last recession started.

And stocks are expensive, in large part because low Treasury yields have made them seem relatively attractive to many investors. Even after the recent selloff, the S&P 500 trades at 17.5 times expected earnings, according to FactSet, near the highest since 2004. That means that stocks could be unusually sensitive to Fed tightening.

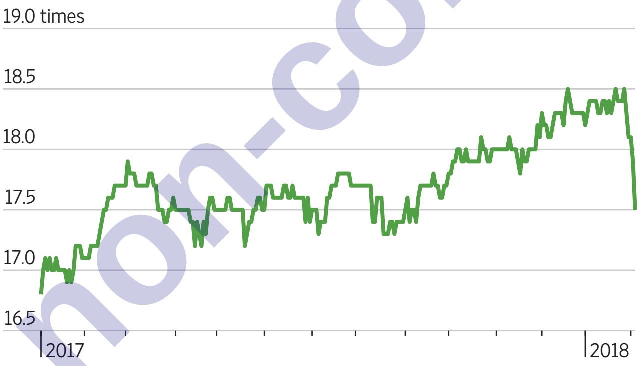
The situation might have been very different if today's fiscal stimulus had come in, say, 2012, points out Robert Barbera, co-director for the Center for Financial Economics at Johns Hopkins University. Back then there was plenty of slack in the economy, with the unemployment rate averaging 8.1%, so the Fed wouldn't have had to worry about overheating. It also might not have had to buy assets so aggressively—actions that contributed to today's richly valued stock and bond markets.

The tax cuts and high valuations so many have been cheering could end up being the bull market's undoing.

—Justin Lahart

Price Cut

The S&P 500's forward price/earnings ratio



Source: FactSet

THE WALL STREET JOURNAL.

OVERHEARD

Monday was a bad day for the entire stock market. That meant investors were in no mood to forgive any extra disappointment.

Shares of embattled bank **Wells Fargo** fell 9% after the Federal Reserve had announced last week it had limited the bank's ability to grow its assets amid a scandal surrounding the bank's selling practices.

Metal-products manufacturer **Arconic** sold off 9% after unveiling 2018 profit guidance that was below Wall Street analyst consensus.

Biotech company **Prothena** announced Monday morning that its chief medical officer had resigned, and the firm would conduct a search for a replacement. Shares dove 19%.

There was no relief in sight even after the market mercifully closed for the day. Shares of **Lululemon Athletica** were down 6% in after-hours trading, after the company announced that CEO **Laurent Potdevin** had resigned effective immediately.

Worries Over Korea Reform Persisting

Talk about convenient timing. **Samsung Electronics'** de facto leader, Lee Jae-yong, has been released from jail just in time to watch the Winter Olympics in Pyeongchang.

Samsung has hardly missed the younger Mr. Lee, after all. Shares of Samsung have gained 46% since he started being investigated in late 2016, part of a scandal that led to the ouster of South Korea's then-president. The company has delivered record profits on the back of a boom in the global memory-chip market.

Samsung may benefit from Mr. Lee's return when it comes to longer-term decision making. Mr. Lee walked free on Monday after appealing the term handed to him when he was convicted on bribery and embezzlement charges. The case could go to South Korea's Supreme Court.

The broader question is what this means for efforts to shake up South Korea's chaebols, the family-run conglomerates that dominate the economy. President Moon Jae-in was elected last year on a promise to cut ties between government and business that have in the past allowed corruption to run rampant.

The younger Mr. Lee's trial and conviction last year seemed a hopeful sign of progress.

Instead, the same cycle of apparent toughness quickly followed by leniency is being repeated. South Korean stocks deservedly trade at a discount to those in other markets.

Investors should enjoy the speedskating at this month's Olympics. Like South Korean corporate reform, it involves a lot of going round in circles. But at least it is fast.

—Jacky Wong

Broadcom Forces Qualcomm to Make a Difficult Decision

Broadcom just made it harder—though not impossible—for **Qualcomm** to say no.

Broadcom boosted its unsolicited offer for Qualcomm on Monday morning by 17% to $82 a share. That brings the deal's total value to about $121 billion. Broadcom sweetened the bid by throwing in an additional $12 of its own stock per share, keeping the cash portion of the offer at $60 a share. Qualcomm responded that it will evaluate the bid, having formally turned down Broadcom's first offer in early November about a week after it was made.

The calculus for Qualcomm's board will be more complicated this time. For one, the price is better. Broadcom also added new provisions, including a commitment to a significant termination fee if the deal fails to clear regulatory hurdles, as well as a "ticking fee" that increases the cash portion of the offer if the deal fails to close within a year.

While the value of both those measures was unspecified, their inclusion was clearly designed to lower the risk of the more problematic aspects of the proposed deal. The combination of Broadcom and Qualcomm would create the third-largest chip company by annual revenue, as well as a powerhouse controlling key components used in smartphones and other wireless devices. Chinese handset makers Oppo, Vivo and Xiaomi have already aired concerns about the combination, indicating the deal could face regulatory resistance in that key market.

Qualcomm's hand has strengthened a little since the first offer. The company's proposed acquisition of **NXP Semiconductors** earned approvals from European and South Korean regulators last month and is now awaiting approval only from China.

Qualcomm also announced a new licensing deal last week with **Samsung Electronics**, which had reportedly been an influence behind the South Korean government's probe into Qualcomm's licensing practices.

As part of the deal, Samsung has agreed to remove its opposition to Qualcomm's practices in South Korea.

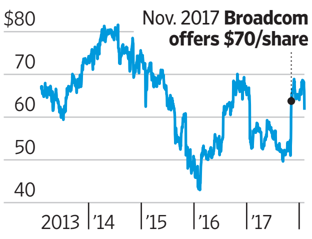
If Qualcomm's board rejects the deal, the next step is Qualcomm's annual meeting, which is a month away. Shareholders will have a chance then to vote on an alternative board slate proposed by Broadcom.

So Qualcomm's board faces a difficult choice now, especially with the stock now fetching a 20% discount to Broadcom's offer. If that gap persists, shareholders may make that choice for them.

—Dan Gallagher

Hang Ups

Qualcomm share price



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