THE WALL STREET JOURNAL.

DOW JONES | News Corp ****** TUESDAY, SEPTEMBER 19, 2017 ~ VOL. CCLXX NO. 67 WSJ.com ★★★★ $4.00

DJIA 22331.35 ▲ 63.01 0.3% NASDAQ 6454.64 ▲ 0.1% STOXX 600 381.95 ▲ 0.3% 10-YR. TREAS. ▼ 8/32, yield 2.230% OIL $49.91 ▲ $0.02 GOLD $1,306.30 ▼ $14.10 EURO $1.1954 YEN 111.57

What's News

Business & Finance

Toys 'R' Us filed for bankruptcy protection, undone by its hefty debt load and consumers' rapid shift to online shopping. **A1**

◆ **The Fed is set** to announce it will start slowly shrinking the $4.2 trillion portfolio of bonds bought to stabilize the economy. **A1**

◆ **Northrop's move** to buy Orbital for $7.8 billion reflects the rising competition among defense firms for supremacy in space. **B1**

◆ **Equifax dealt** with an unrelated incident in March, two months before the hack that may have compromised millions of consumers' data. **B1**

◆ **The credit-reporting** firm's work supplying ID-verification for the government has become a concern. **B2**

◆ **JBS has sparked** fierce criticism by putting the Brazilian meatpacker's founder back in charge after his sons were jailed. **B2**

◆ **China is expanding** its bitcoin crackdown, banning all channels for buying and selling the virtual currency. **B1**

◆ **The Dow** rose 63.01 points to 22331.35, its fifth-straight record, on gains in industrial and financial stocks. **B13**

◆ **Cisco's chairman** is stepping down after over two decades leading the network-equipment maker. **B4**

◆ **Teva is selling** its remaining women's-health assets for $1.38 billion as the firm grapples with debt. **B3**

◆ **May and Trudeau said** they would press Boeing to drop its trade complaint against Bombardier. **B3**

World-Wide

◆ **Trump will lay out** a worldview rooted in nationalism and call for more burden sharing among nations in his first U.N. address. **A1**

◆ **GOP senators** are considering a budget that would allow for up to $1.5 trillion in tax cuts over the next decade. **A1**

◆ **The cabinet** is split over the number of refugees to admit to the U.S., with DHS pushing to lower the fiscal 2018 cap to 40,000. **A6**

◆ **The White House** reiterated that the Trump administration's stance on the Paris climate agreement hasn't changed. **A4**

◆ **The Senate passed** the defense policy bill 89-8, in a broad show of support for lifting military spending well above the current cap. **A4**

◆ **Republicans pushed** ahead with a last-minute effort to repeal most of the health-care law. **A6**

◆ **Iran's vice president** accused the U.S. of violating the nuclear deal at the start of key talks on the accord. **A8**

◆ **Russia and China** began joint war games in the North Pacific, showcasing a budding military alliance. **A8**

◆ **The U.S. has** military options for North Korea that won't put South Korea at grave risk, Mattis said. **A8**

◆ **Hurricane Maria** barreled into the Caribbean's eastern islands, with Puerto Rico in its sights. **A2**

◆ **Flynn's family** launched a fund to help defray the ex-Trump aide's legal costs related to the Russia probe. **A4**

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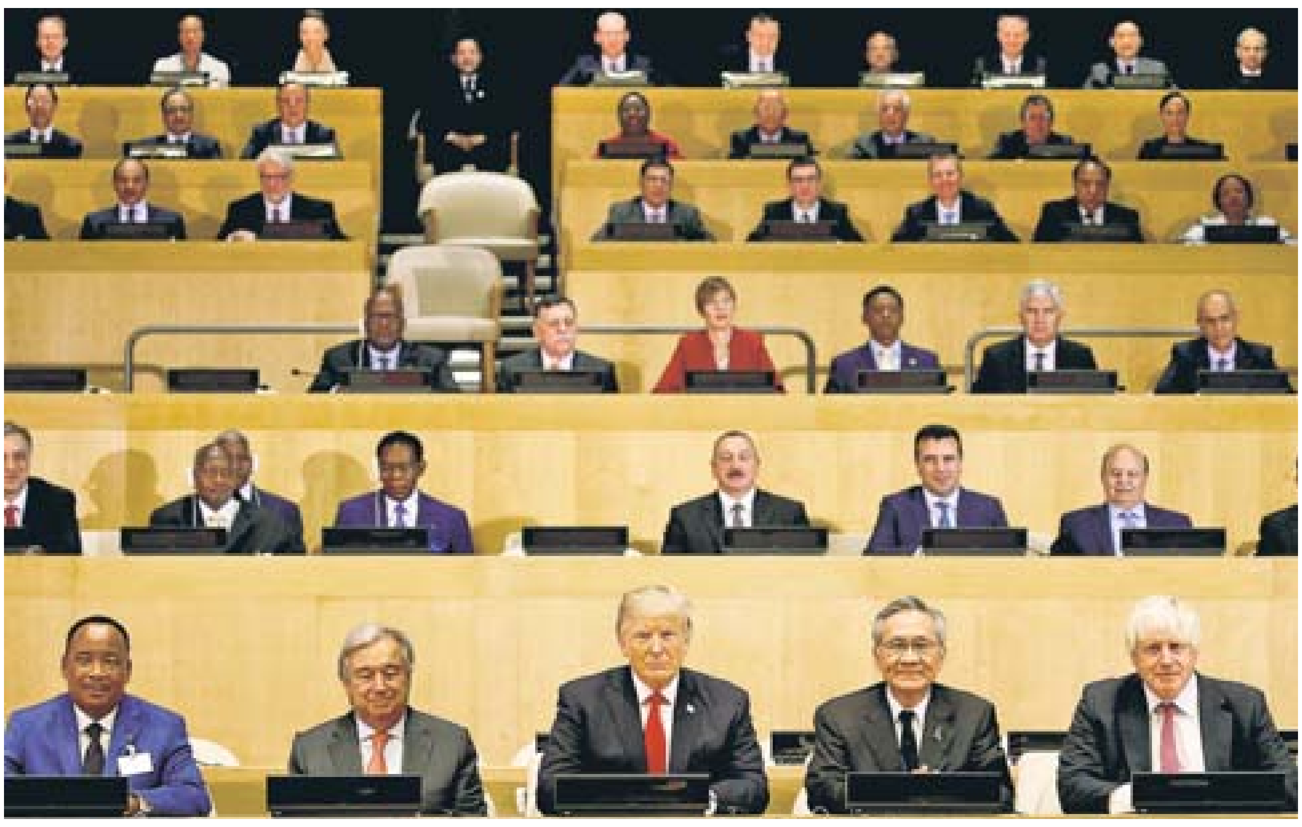
Trump to Push Nationalist Policy

At U.N., president will appeal to others' self-interest on North Korea, Iran and terror

By Farnaz Fassihi And Eli Stokols



KEVIN LAMARQUE/REUTERS

President Donald Trump took part in a meeting of international officials as the annual United Nations General Assembly got under way Monday.

UNITED NATIONS—President Donald Trump's first address to the United Nations General Assembly on Tuesday will lay out a foreign policy rooted in his view of nationalism and sovereignty and anchored by "America First" principles, according to a senior White House official.

Mr. Trump will call for more burden sharing and cooperation among countries on issues including the fight on terrorism, North Korea's nuclear and military threat, and Iran's adherence to a multinational nuclear deal.

He will also mention reforms at the U.N. and the role countries play in enabling North Korea's regime, though it wasn't clear whether Mr. Trump will blame specific nations for keeping Pyongyang's economy afloat despite global sanctions. He is expected also to address the crisis in Venezuela.

The address will combine the nationalistic theme of his campaign with an appeal to the national interests of other countries as a new basis for international cooperation, the senior official said.

"It will be a foreign policy that is driven by outcomes, not by ideologies," the official said. "What the president is doing is explaining how the principle of America First is not only consistent with the goal of international cooperation, but is a rational basis for every country to engage in cooperation."

The official said Mr. Trump dedicated considerable time to drafting, developing and fine-tuning his speech with his advisers because he viewed Tuesday's address as "an incredible moment and an enormous opportunity to demonstrate U.S. leadership and U.S. values."

Mr. Trump's speech will be delivered with the use of a Teleprompter—although he is best known for speaking informally and off the cuff—in an effort to convincingly present a foreign-policy doctrine.

Mr. Trump also will air a frequent grievance of his that the U.S. is shouldering too much of the financial and military burden as a global leader. He will call on Tuesday for more partic-

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Global Stage

THE FED BRACES FOR THE GREAT UNWINDING

Central bank will soon start letting go bonds bought to prop up economy

By Nick Timiraos

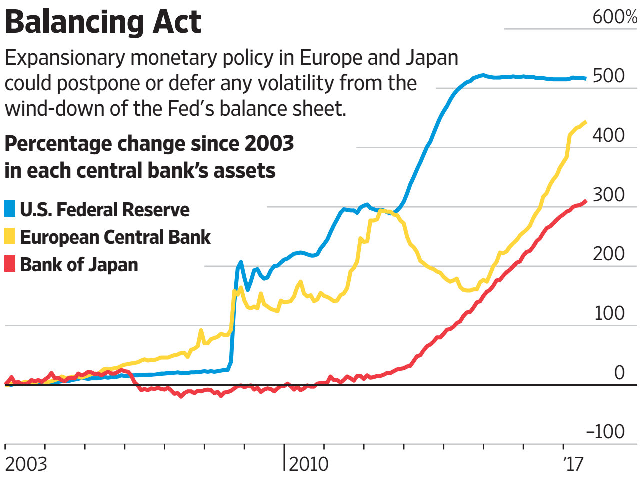
WASHINGTON—The Federal Reserve resorted to a series of shock-and-awe stimulus campaigns to stabilize the economy after the financial crisis. Now the Fed is preparing the final move to unwind its support—and it wants to be as boring as possible.

The central bank is likely to announce Wednesday it will start slowly shrinking its $4.2 trillion portfolio of mortgage and Treasury bonds purchased during and after the financial crisis. It will do so passively by allowing some bonds to mature without replacing them next month.

The markets haven't blinked at Fed signals for many months that this moment was nearing. But plenty could still go wrong. The central bank has never before had such a large balance sheet or attempted to do this.

Balancing Act

Expansionary monetary policy in Europe and Japan could postpone or defer any volatility from the wind-down of the Fed's balance sheet.



Sources: Bank of Japan, European Central Bank and U.S. Federal Reserve via Federal Reserve Bank of St. Louis

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If it succeeds, the central bank will quietly close a chapter on an extraordinary policy experiment that lowered borrowing costs for homeowners, businesses and consumers, and will provide a model for other central banks that followed suit. A misstep could disrupt growth at a time when major econo-

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GOP Budget Targets $1.5 Trillion Tax Cut

By Richard Rubin And Siobhan Hughes

WASHINGTON—Senate Republicans are considering writing a budget that would allow for up to $1.5 trillion in tax cuts over the next decade, said people familiar with the discussions.

Budget talks are continuing and no final decision has been reached yet.

A budget that creates fiscal room for a $1.5 trillion tax cut, if adopted, would then be followed by a tax bill that would specify rate cuts and other policy changes that don't exceed that figure. Calling for a tax cut in the budget would let Republicans lower tax rates while making fewer tough decisions on what tax breaks to eliminate to help pay for the cuts.

Republicans contend that some expiring tax cuts would have been extended anyway and that their plan would boost economic growth and generate revenue, reducing the actual impact on the deficit below whatever overall number they agree on. Still, they may need to make some of the tax cuts expire after 10 years, leaving decisions to a future Congress they may not control.

With this latest turn in budget talks, Republicans are gradually shifting away from an earlier stance some took in favor of a tax plan that fully paid for itself in the first decade. Budget Committee member Mike Crapo (R., Idaho) said on Monday that the tax cut should be "as big as we can get."

The budget is an essential first step to the major tax bill Republicans want to pass this year. If the House and Senate agree on a budget, they can fast-track a tax bill through the Senate on a simple-majority vote through a process known as reconciliation, rather than seek a bigger 60-vote majority that would require support from Democrats.

The budget sets the maximum size of any tax cut over the next 10 years, making it a crucial fiscal marker in this fall's tax debate. A budget with a tax plan that is revenue-neutral would effectively pay for

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When It Comes to Gefilte Fish, People Rarely Mince Words

* * *

Manischewitz reinvents 'ultimate Jewish comfort food' to lure back picky palates

By Lucette Lagnado

NEWARK, N.J.—Can this jar of gefilte fish be saved?

A staple of Jewish cuisine, gefilte fish—Yiddish for stuffed fish—has been a fixture for Manischewitz Co., which started selling jars of the beige dumplings of minced carp, pike and whitefish in the late 1940s. Families still snap up the jars for holiday dinners, such as Rosh Hashana, the Jewish New Year, which begins Wednesday evening.

Gefilte fish jar

Traditional jar fans haven't gone away by any means, but times and tastes have changed. In an artisanal food world, Manischewitz is struggling to make its shelf-stable product hook a new, more-finicky generation of eaters.

Among its more popular innovations are gluten-free gefilte fish and a "Premium Gold" version. A new secret variation is yet to come.

The emphatic response from Jewish foodies? Don't bother.

"I ate gefilte fish from the jar as a child," says Chanie Apfelbaum, a gourmet cook and kosher blogger from Brooklyn. "I still have nightmares."

Ms. Apfelbaum says traditional Jewish foods are making a comeback—but the nostalgia doesn't extend to gefilte fish with a four-year pantry life. She says people have "moved on."

These days, she buys frozen gefilte fish, which she fashions into small cakes then fries with a crust of panko.

Philadelphia chef Michael Solomonov has offered gefilte fish escabeche with fiddleheads and artichokes as a Passover special. A Brooklyn company, the Gefilteria, makes "artisanal gefilte fish" from

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Balloon Bursts for Toys 'R' Us

By Lillian Rizzo And Suzanne Kapner

Toys 'R' Us Inc., the rainbow-colored toy emporium that for decades was the go-to spot for birthday and holiday gifts, filed for chapter 11 bankruptcy protection late Monday night, undone by a hefty debt load and the rapid shift to online shopping.

As part of the restructuring process, Toys 'R' Us plans to close some underperforming stores, according to people familiar with the matter. Its remaining locations would be reconfigured to be more experienced-based, incorporating amenities such as in-store play areas, they added.

The company expects most of its stores will be open for the holidays and it will use $3 billion in bankruptcy financing to continue buying merchandise and funding its operations, the people said.

The company, which operates about 1,600 stores around the world, was a classic example of a "category killer," a huge specialty store with low prices that squeezed independent shops. It swallowed up several rivals that have themselves filed for bankruptcy protection, including FAO Schwartz and Kay Bee Toys, a mall-based chain that liqui-

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U.S. NEWS

NOAA/AGENCE FRANCE-PRESSE/GETTY IMAGES

'The winds are merciless!' Dominica Prime Minister Roosevelt Skerrit posted on Facebook Monday.

Maria, Now Category 5, Slams Eastern Caribbean

By Dudley Althaus And José de Córdoba

FAJARDO, Puerto Rico—Hurricane Maria barreled into the eastern Caribbean late Monday as a dangerous Category 5 storm, ripping roofs from homes and knocking out electricity on the island of Dominica, and threatening others in the region already ravaged by Hurricane Irma.

The storm made landfall in Dominica around 9:15 p.m. local time, with maximum sustained winds near 160 miles per hour, according to the U.S. National Hurricane Center. The storm was expected to move toward Puerto Rico and the Virgin Islands late Tuesday and Wednesday. Some additional strengthening was possible overnight, the center said.

Dominica Prime Minister Roosevelt Skerrit said in posts on his Facebook page that "merciless" winds ripped the roof off his house, and that the house was flooding, adding shortly afterward that he had been rescued.

"The winds are merciless! We shall survive by the grace of God," he posted.

Early Monday, the prime minister urged people in flood-prone areas to move to safety with friends or relatives, or into shelters. "This is not a time for heroism," he said at a press conference.

Several callers to Dominica radio reported strong winds and rain, and loss of electrical power and damage to roofs.

'At the end of the day, my friends, this is still going to be a very dangerous hurricane.'

Although Maria is currently tracking south of the islands devastated by Hurricane Irma two weeks ago, tropical storm-force winds and rain are expected to hit St. Martin and the U.S. Virgin Islands this week.

Maria's current path is expected to take it 22 miles south of St. Croix, the southernmost U.S. Virgin Island that was largely spared the previous storm's wrath.

But Gov. Kenneth Mapp of the U.S. Virgin Islands warned residents Monday that the storm could easily shift direction. Even tropical storm-force winds and rain can cause a lot of destruction, especially on St. Thomas and St. John, which suffered heavy damage from Irma.

"Just remember this is a live animal," Mr. Mapp warned the territory's 105,000 residents in a televised briefing. "At the end of the day, my friends, this is still going to be a very dangerous hurricane," he said.

In addition to Dominica, forecasters were warning of hurricane conditions for Guadeloupe, Martinique, St. Kitts, Nevis and Montserrat on Monday. They advised Puerto Rico, where electricity remains off in some areas because of Irma's glancing blow, to monitor the storm closely.

"We are screwed," said Luis Díaz, who operates a taxi service in Fajardo, a port town on Puerto Rico's northeastern coast. He said Maria's trajectory was similar to Hurricane Hugo, which devastated the island in 1989.

—Anthony Harrup contributed to this article.

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U.S. WATCH

WISCONSIN

Governor Approves Foxconn Incentives

Wisconsin Gov. Scott Walker signed a bill that would give Taiwan's **Foxconn Technology Group** $3 billion in economic incentives to open a mega-plant in the state.

Foxconn, formally known as Hon Hai Precision Industry Co., plans to invest $10 billion to build a 20 million square-foot campus in southeastern Wisconsin that could employ up to 13,000 workers over a period of six years.

The facility would build liquid-crystal display technology, or LCD screens.

In addition to the jobs created directly from the plant, Mr. Walker had argued the deal would help turn the state into a technology hub that could attract young workers.

Democrats raised concerns about the price tag and whether the deal would actually bring the number of jobs promised to the state. A state fiscal analysis found that taxpayers wouldn't recoup their investment until the 2042-43 fiscal year.

—Shayndi Raice

MEDICINE

U.C. Irvine Receives $200 Million Pledge

The University of California, Irvine, landed a $200 million pledge from the co-founder of **Broadcom** Corp. and his wife to establish a new health sciences college focused on integrative health.

The donation, the school's largest ever, will fund the launch of a program that incorporates medicine, nursing and pharmacy studies, as well as public health and alternative and complementary treatments like acupuncture and nutrition.

"This will change the way leading health centers in the country organize themselves," said Irvine Chancellor Howard Gillman. "You can't just keep throwing new treatments at diseases. You have to think about getting people not sick in the first place."

Henry and Susan Samueli had previously given about $70 million to UC Irvine.

—Melissa Korn

CORRECTIONS & AMPLIFICATIONS

The first name of Rick Heisey, computer operations and network manager at PDP Group, was incorrectly given as Ralph in a Journal Report article on Monday about companies that store backup data on tape.

A photo of a homemade bomb used in Friday's London subway attack that appeared on Page One on Saturday was provided by Agence France-Presse/Getty Images, credited to Twitter user @sylvainpennec. In some editions, the photo was incorrectly credited to Adrian Dennis, Agence France-Presse/Getty Images.

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

After Disaster, City Booms

Massive floods in 2008 gave Cedar Rapids, Iowa, a chance to reinvent itself

By Shayndi Raice

Crowds gathered for an outdoor concert near formerly flood damaged buildings in the NewBo area of Cedar Rapids, Iowa, this month. Below, pedestrians walk outside the NewBo City Market.

KC MCGINNIS FOR THE WALL STREET JOURNAL (2)

CEDAR RAPIDS, Iowa—This once-bustling city was facing all the challenges of former manufacturing hubs across the country when it wrote a 25-year plan to revive its business and residential life.

The plans didn't go very far, though—until the Cedar River flooded in 2008. Judged at the time to be one of the worst natural disasters in U.S. history, the flood left 10 square miles, or 14% of Cedar Rapids including City Hall and much of downtown, underwater.

In the years since, the city has worked with businesses, charitable foundations and nearly $1 billion in federal, state and local funds to transform itself, trading in dilapidated buildings and meatpacking plants for new office towers, loft-style condos, trendy coffee shops and bike lanes.

"Many, many people in our community will say they would not wish a flood like that on anyone, but it's the best thing that happened to us," said Chuck Peters, chairman of Folience, an employee-owned holding company that owns the local newspaper, the Gazette.

Severe storms like Hurricane Harvey in Texas and Hurricane Irma in Florida are happening with increasing frequency. Houston, an energy hub with a rapidly changing economy, is expected to bounce back from Harvey; New Orleans struggled for years after Hurricane Katrina in 2005 to fully recover. Cedar Rapids was able to use its disaster as a springboard into its future as a modern, more vibrant metropolis.

Two factors were critical to the transformation, local officials say. Cedar Rapids had a plan ready that it could quickly put in place, and the city was willing to jump in ahead of the private sector, despite a developing financial crisis, to get things started.

Cedar Rapids was a late 19th- and early 20th-century hub for food processing, steel manufacturing and technology. Aviation tech firm Rockwell Collins got its start here as Collins Radio in 1933 and is still the city's largest employer. The scent of Crunch Berries cereal wafting over downtown on certain days is a reminder that Quaker Oats has been here since 1873.

But by the turn of the millennium, Cedar Rapids was in rough shape, battered by the late-1990s telecom bust and the 21st-century U.S. manufacturing slump. Downtown was all but dead on evenings and young people fled for bigger cities.

Snow melt after a harsh winter and heavy spring rains caused the Cedar River to flood, cresting at over 31 feet on June 13, 2008, to surpass the previous record of 20 feet and overwhelm the city's flood defenses. The flood affected 4,766 homes and caused an estimated $6 billion in damage, according to data provided by the office of the city manager.

Investments from the private sector, coupled with disaster relief funds, have paid off. Gross domestic product for Cedar Rapids, Iowa's second-largest city with a population of some 131,000, has grown by nearly 40% to $18 billion in 2015, the most recent year available, from $13 billion in 2007, the year before the flood, according to Bureau of Economic Analysis data.

The number of area businesses has grown 25% since 2007, and downtown now has 674 residential units, a 62% jump, according to the Cedar Rapids Metro Economic Alliance. Total property values have risen 18%, the city says.

"We had an opportunity with a lot of federal and state money to really transform the place," said Doug Neumann, executive director of the economic alliance. "We did 25 years of development in five years."

Bar Goes From Leather to Lycra

Once a rat-infested district of abandoned meatpacking plants, the neighborhood south of the office towers in downtown Cedar Rapids adds something the city has long lacked—a trendy arts and culture district.

Called NewBo, the neighborhood, a haven for Czech immigrants in the 19th century, underwent a stark transformation post-flood. First, the city built a large farmer's market. Private developers followed.

Joe Ahmann, a local developer, says he has invested about $40 million in NewBo. He has built and developed multiuse projects surrounding the city market, filled with coffee shops, day spas and apartments.

Mr. Ahmann said the city's attitude toward developers changed shortly after the flood, when Mayor Ron Corbett and a new city manager took over. "It's running the city like a business," Mr. Ahmann said.

Ben Kaplan, a 30-year-old photographer who has lived and worked in NewBo for the past six years, said he has watched the area's transformation into the "jewel of the city," with restaurants, shops and places to work and live.

The pre-flood NewBo had bars, but they were mostly the type that attracted rough-edged bikers. "Now, it's full of cyclist bars," said Mr. Kaplan. "They replaced leather with Lycra."

—Shayndi Raice

Suit Seeks To End Trapping For Fur

By Sara Randazzo

KAREN NICHOLS/DAILY INTER LAP

Animal-advocacy groups seek to halt the trapping of coyotes and other animals in California.

Animal-advocacy groups are attempting to abolish commercial fur trapping in California through a recently filed lawsuit that contends the state's fees are illegally low.

The suit claims the California Department of Fish and Wildlife and the state's Fish and Game Commission are violating a state law effective in 2013 that requires certain program costs to be covered by the fees they generate.

Revenue from commercial fur-trapping permits, about $13,500 in the most recent season, falls far short of the resources needed to monitor and regulate trapping, the suit claims.

The commission and department said they don't comment on pending litigation.

The plaintiffs, including the Center for Biological Diversity and Project Coyote, say the fees would have to rise at least 10-fold to comply with the state law. Such a fee boost, they say, would effectively end trapping of animals such as coyotes, badgers, raccoons, mink and weasels.

"We're not living in the realm of...survival anymore, which is how trapping came about," said Jean Su, a staff attorney at the Center for Biological Diversity.

Trapping in California has already been severely curtailed. Bobcat trapping was eliminated in 2015 at the urging of preservation groups. Other animals banned from trapping include river otter and red foxes.

In the 2015-16 season, 1,829 animals were killed by trapping, with a total fur value of about $10,000, the suit says.

James Schmerker Jr., vice president of the California Trappers Association, said fur trapping is almost dead in the state, in part because of layers of regulations. "It's kind of a field for retired old guys...people trying to hang on to their heritage," said Mr. Schmerker, 53, who runs a wildlife-control business that uses traps.

Just 120 commercial trapping licenses were purchased in the most recent season, the suit says.

Congregation to Unveil Rare Torah by Woman

By Melanie Grayce West

One of the oldest documents in humanity is getting a modern twist at a synagogue in lower Manhattan in New York City.

The downtown congregation Tamid will unveil a new Torah copied by a woman—a rarity—as Rosh Hashana services this week. Rosh Hashana is the Jewish New Year.

Julie Seltzer, the Torah scribe, is one of maybe two dozen soferets, as they are known, in the world. This is the third Torah scroll, which contains the Five Books of Moses, that Ms. Seltzer has completed solo. And it is Tamid's first Torah, though the congregation has for the past few years used a Torah from a now-closed congregation, according to Tamid's leader, Rabbi Darren Levine.

Tamid, an independent congregation, was founded in 2011 and worships at Episcopal St. Paul's Chapel, part of Trinity Church Wall Street.

Tamid is believed to be the second congregation in New York City with a Torah copied by a woman; Congregation Beth Elohim in Brooklyn is believed to be the first. There are around two dozen Torahs copied by women scattered across North America, according to Jen Taylor Friedman, who has worked as a scribe for the last decade and mentored others.

The roughly $90,000 needed to pay for the Torah was crowdfunded through fundraising site Kickstarter. Tamid congregants also had the opportunity to sit with Ms. Seltzer and write a letter in the Torah by placing their hands on top of hers.

The 304,805 letters in the Torah are written by hand in Hebrew calligraphy, by scribes who are classically trained in the practice. The vast majority of those scribes are Orthodox men, who are commissioned by a synagogue for the work.

Working fast, a scribe could complete a Torah in less than a year, but it is a painstaking, precise effort that requires proofreading and other skills. Fixing a mistake could take moments or a week, said Ms. Seltzer, 42 years old.

A Torah typically takes a year and half for Ms. Seltzer to complete. Her primary income comes from running a Jewish education program and other small projects. She began working as a scribe about a decade ago, drawn to a love of Hebrew text. She initially found calligraphy videos online and then apprenticed.

Rabbi Levine says that his congregation didn't set out to find a woman scribe for their new Torah, though doing so was "completely consistent with our mind-set of egalitarianism and equality of Jewish men and women."

U.S. NEWS

Key Question: What Does North Korea Want?

CAPITAL JOURNAL
By Gerald F. Seib

KCNA/AGENCE FRANCE-PRESSE/GETTY IMAGES

In this undated picture released Saturday by North Korea's state-controlled news agency, North Korean leader Kim Jong Un inspects the launch of the ballistic rocket Hwasong-12 at an undisclosed location.

As President Donald Trump and other world leaders gather at the United Nations this week, a lot of important questions hang in the air, but none more important than this one: What does North Korea want?

That is, what is North Korea's real goal in its relentless, reckless pursuit of nuclear weapons as well as missiles that can carry them as far as the United States? The answer will determine whether it's even possible to push the country off the nuclear path at this point, or whether a strategy of regime change or containment of a nuclear-armed country are the most realistic options—or, most ominously, whether armed conflict is likely.

The international community is, of course, casting about for ways to deter North Korea, and U.S. officials say there will be conversations this week about imposing more-severe economic sanctions than the ones already implemented in a pair of U.N. Security Council resolutions this year. Chinese and Russian companies doing business with North Korea are likely targets.

Yet devising a strategy requires reaching some determination of what it would take to change North Korea's course. Nobody knows for sure what is going on in the mind of North Korea's bombastic, 33-year-old leader, Kim Jong Un, and it's possible he is simply improvising. But the systematic effort he has undertaken suggests otherwise.

The most frightening possibility is that Mr. Kim considers nuclear weapons an existential requirement for his survival internally. Michael Pillsbury, a longtime Asian analyst now at the Hudson Institute, says some experts believe the North Korean nuclear program is the result of a deal with the North Korean military made long ago by Mr. Kim's father and grandfather, when they were in charge: "You keep us in power, and we'll deliver the nuclear weapon to you."

That possibility raises a troubling prospect, he adds: "Are we really dealing with something that is not negotiable....Is this a business deal and we haven't found the right price yet, or is it something sacred?"

Mr. Pillsbury, a former Pentagon official and author of a book about the long-term struggle between the U.S. and China, says he thinks many Chinese leaders subscribe to the theory that the nuclear program is the result of such a pact with the military—one that Mr. Kim can't afford to reverse.

It's also possible that Mr. Kim sees the nuclear program as necessary to protect himself not from some internal threat, but rather to guarantee survival against external threats. This has been the more widely held theory over the past two decades.

It holds that Mr. Kim, like his father and grandfather, sees North Korea at perpetual risk of a hostile regime-change effort by South Korea and the U.S., and perhaps even by Pyongyang's nominal allies in China. The best way to keep that overthrow effort at bay is to brandish the possibility that the regime could respond with a nuclear strike.

In that case, there may be a deal to be struck. In theory, at least, if regime survival—as well as simple international respect and perhaps some handsome monetary reward for backing down—is the reason to possess nuclear weapons, then the need for those weapons goes away if the world provides a guarantee of regime survival and help entering the real global economy.

The third possibility is that North Korea wants nuclear arms for blackmail purposes. The Kim regime's real goal, under this theory, is to reunite North and South Korea under its rule, and it plans to use military might someday to achieve that goal.

The principal obstacle standing in the way is the U.S. commitment to defend South Korea. North Korea's way to eliminate that problem is to be able to say to the U.S. that Pyongyang will strike it with a nuclear weapon if American forces come to the aid of South Korea. Would the U.S. defend Seoul if that meant putting Seattle at risk?

The differences among these possible goals deeply affect the approach the U.S. and its allies take. Secretary of State Rex Tillerson is signaling that the Trump administration wants escalated economic pressure to compel Mr. Kim into meaningful negotiations over its nuclear program. Perhaps only in such negotiations is it possible to discern North Korea's real aims.

If diplomacy ultimately can't reverse the nuclear program, the U.S. and its allies likely will be looking at a long-term strategy of containing a nuclear-armed North Korea and all that entails: far more spending on missile-defense systems, a bigger American military presence in Asia, military buildups in Japan and South Korea, possibly the reintroduction of American tactical nuclear weapons into South Korea.

Such a containment strategy worked with the Soviet Union for half a century. It is an expensive and frightening proposition—though perhaps not as frightening as war on the Korean Peninsula.

Flynn Gets a Legal-Defense Fund

By Rebecca Ballhaus

CAROLYN KASTER/ASSOCIATED PRESS

Former national security adviser Michael Flynn was ousted from his post in February.

The family of former national security adviser Mike Flynn launched a legal-defense fund to help defray the former Trump administration official's costs associated with the investigation into Russian meddling during the 2016 U.S. presidential election.

The fund won't disclose how much it has raised or the identities of its donors, according to a person close to Mr. Flynn. It will not accept donations from President Donald Trump's campaign or the Trump Organization, or from the president himself, out of concern for "appearance issues," the person said.

It also won't accept foreign donations. The decision to shield the identities of donors supporting a former adviser whom Mr. Trump has called a "very good man" could raise questions about potential conflicts of interest, experts said.

Paul Ryan, vice president of policy and litigation at the transparency advocacy group Common Cause, said the fund should disclose its donors, given Mr. Flynn's involvement in the continuing investigation, which he called a "very important matter of national security."

"This is one instance in which it's fair to expect a former public official to go above and beyond what any transparency laws require," Mr. Ryan said.

The fund's website talks up Mr. Flynn's ties to the president, noting that he was "considered a vice presidential candidate" during the campaign, and that he introduced Mr. Trump at "numerous campaign events across the country."

The fund hasn't decided whether to accept donations from White House employees, the person close to Mr. Flynn said.

"There are many kinds of contributions that could present appearance issues, and decisions will have to be made in the future as those contributions are made, which can be accepted, and which cannot," the person said. The fund plans to refund any donations if officials can't discern the identity of the donor.

Mr. Flynn was ousted in February after he misled Vice President Mike Pence about his contacts with Russian officials before the inauguration. Since then, Mr. Trump has frequently praised him.

In March, after The Wall Street Journal reported that Mr. Flynn had told the Federal Bureau of Investigation and congressional officials that he would testify in exchange for immunity, Mr. Trump in a tweet urged his former national security adviser to seek immunity and called the investigation a "witch hunt" of "historic proportion."

Special Counsel Robert Mueller, who is investigating potential coordination between the Trump campaign and Russia in the 2016 election, is examining what role, if any, Mr. Flynn might have played in a private effort to obtain Democratic presidential candidate Hillary Clinton's emails from Russian hackers, according to people familiar with the matter.

Senate Passes Bill to Boost Defense Outlays

By Kristina Peterson

WASHINGTON—The Senate on Monday passed the annual defense policy bill, in a broad show of support for boosting military spending well above the current limits set by law.

The measure passed overwhelmingly Monday evening, in an 89-8 vote.

"For too long our nation has asked our men and women in uniform to do too much with far too little," Senate Armed Services Committee Chairman John McCain (R., Ariz.) said.

Mr. McCain urged lawmakers to support higher military spending not only in the defense policy bill, but later this year in negotiations over the spending bills that would actually translate it into more money for the military in fiscal year 2018.

"We still have no path to actually appropriate the money that we are about to authorize," Mr. McCain said. "That requires a bipartisan agreement to adjust the spending caps."

Senate negotiators now have to hammer out a compromise with the House, which passed its own version of the defense policy bill in July. Both chambers approved legislation authorizing military spending well above the level established by spending caps known as the sequester, which was born out of a 2011 deal aimed at winnowing the federal budget deficit.

The Senate bill would authorize $640 billion in base military spending, plus $60 billion in an emergency war fund not subject to the sequester. Under current law, base military spending is capped at $549 billion for fiscal year 2018.

Earlier this month, Congress passed an extension of the government's current funding through Dec. 8. Lawmakers from both parties are trying to work out a new budget agreement in the hopes of passing a longer-term spending bill in December.

Republicans are adamant about boosting military spending, but some conservatives have said they would balk at lifting nonmilitary spending.

Democrats, meanwhile, have generally said they would insist on boosting domestic spending if military spending is increased. Although in the minority, Democrats will have leverage in December, since spending bills require 60 votes to clear procedural hurdles in the Senate, where Republicans hold 52 seats.

"We've been clear on the Democratic side that we think the artificial sequester caps are hurting not only our military readiness, but also our economy," said Sen. Chris Van Hollen (D., Md.).

WASHINGTON WIRE

MILITARY

Navy-Ship Collisions Prompt Dismissals

The U.S. Navy fired two senior commanders in the Pacific region in connection with recent deadly collisions of Navy ships as part of a sweeping purge of leadership in the Japan-based fleet.

Monday's announcement comes a day before the top U.S. Navy officer and the Navy secretary are scheduled to go to Capitol Hill for a hearing on the ship crashes.

Vice Adm. Phil Sawyer, commander of the Navy's Japan-based 7th Fleet, fired Rear Adm. Charles Williams and Capt. Jeffrey Bennett, citing a loss of confidence in their ability to command.

—*Associated Press*

PRESIDENT

Trump Contemplates July 4 Military Parade

President Donald Trump said he is considering having an armed forces parade in Washington on the Fourth of July to showcase the nation's military might.

Mr. Trump met Monday with President Emmanuel Macron of France on the sidelines of the United Nations General Assembly meetings.

Mr. Trump reminisced about how much he enjoyed watching France's military parade while in Paris on Bastille Day.

He then said he was considering ordering up a similar spectacle for Pennsylvania Avenue, potentially as soon as next year.

—*Associated Press*

U.S. Says It Hasn't Shifted on Climate Accord

By Emre Peker

UNITED NATIONS—The White House reiterated on Monday that the Trump administration's stance on the Paris climate accord hasn't changed, following signals over the weekend that the U.S. was exploring ways to remain in the 2015 pact.

"We are withdrawing from the Paris Agreement unless we can re-engage on terms more favorable to the United States. This position was made very clear," a senior White House official said after top Trump economic aide Gary Cohn hosted a closed-door meeting with about a dozen international climate-action representatives.

Monday's breakfast meeting in New York came on the heels of a ministerial gathering Saturday in Montreal, where, according to several participants, the U.S. broached revising its greenhouse-gas emissions targets instead of scrapping the deal.

Mr. Cohn, who is leading the White House's efforts on the climate pact, joins other top White House officials who in recent days expressed an openness to renew cooperation under the accord. But he hasn't laid out what modifications of the Paris accord would satisfy U.S. demands, according to officials familiar with the discussions.

"There was some confusion over the weekend and I think we removed all the confusion," Mr. Cohn said after his meeting. He didn't provide details beyond saying the meeting was "very constructive."

Canada, China and the European Union, which organized the Montreal gathering, have been leading an effort to bolster the Paris accord since Mr. Trump said in June that the U.S. would withdraw from the pact, citing sovereignty and economic concerns.

The U.S. 'position was made very clear,' an official said after a Trump aide's meeting.

The president had, however, left an open door to renegotiate the agreement or broker an "entirely new transaction, on terms that are fair to the United States."

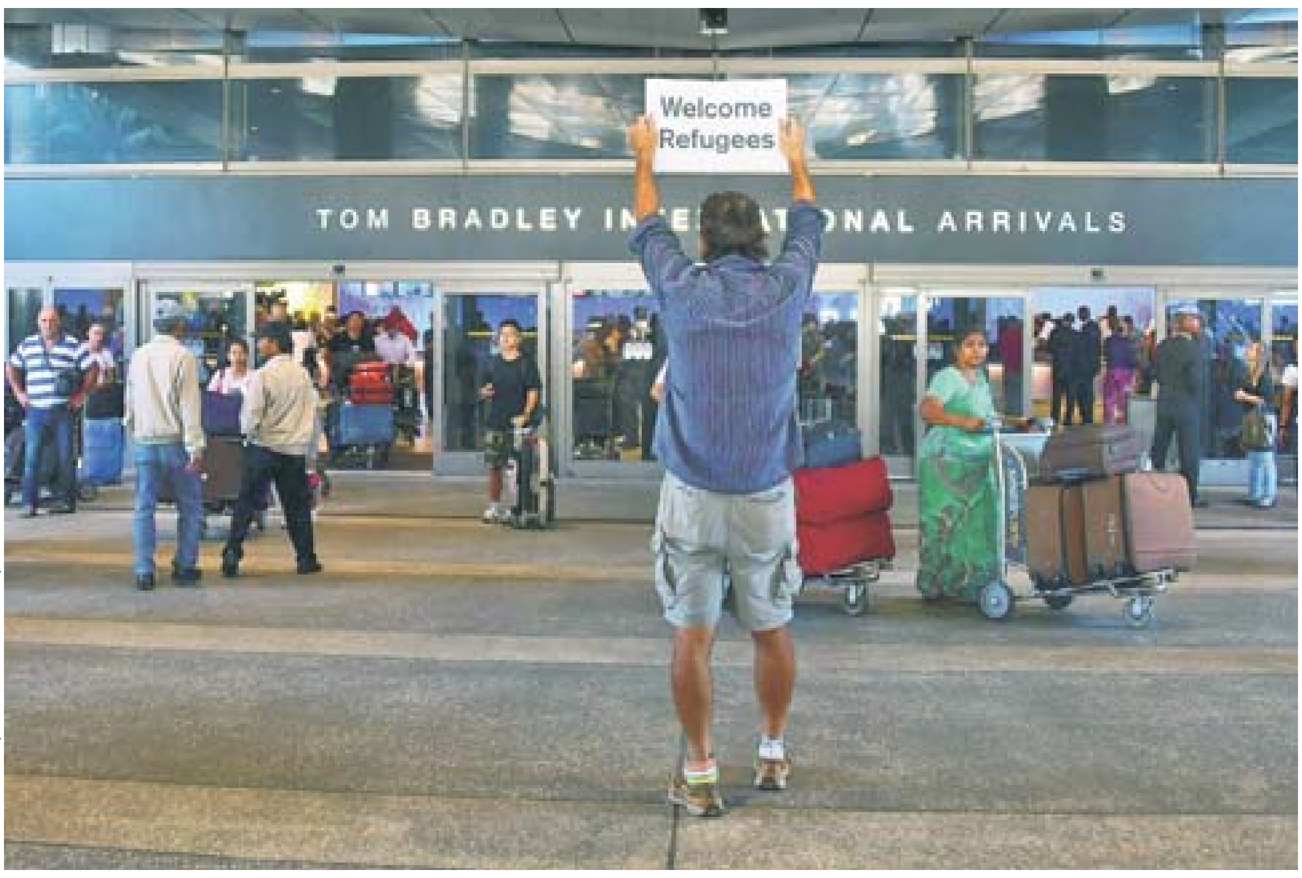
International heavyweights led by China and the EU have made clear that they won't engage in renegotiations of the Paris agreement. That leaves Mr. Trump with two options.

He could submit a written request at the end of a three-year no-exit period in November 2019, pulling the U.S. out after one year. Alternatively, he could revise U.S. commitments to reduce its nonbinding carbon-emission targets within the Paris accord.

According to an official familiar with the climate talks of recent days, Mr. Cohn told the participants that the "U.S. could remain in the Paris Agreement under the right conditions, but these are not there yet."

Cabinet Splits on Refugee Numbers

By Felicia Schwartz
And Laura Meckler



FREDERIC J. BROWN/AGENCE FRANCE-PRESSE/GETTY IMAGES

Refugees were welcomed in Los Angeles in June. Trump aides are debating capping annual refugee numbers at 40,000 or 50,000.

President Donald Trump's cabinet is divided over where to set the limit on refugee admissions for the coming year, with the Homeland Security Department pushing to lower the cap to 40,000, and the State Department and Pentagon wanting to keep it at 50,000, according to current and former U.S. officials.

Mr. Trump is expected to receive a final recommendation from the cabinet on Wednesday, with a final decision due by the start of the fiscal year on Oct. 1, according to officials.

Mr. Trump has already lowered the cap once. A year ago, former President Barack Obama said the U.S. would accept as many as 110,000 refugees in 2017. After taking office, Mr. Trump revised that to 50,000 and sought to suspend refugee admissions altogether in order to review vetting procedures.

The State Department, Pentagon and others are arguing that there are humanitarian and national security reasons for accepting a robust number of refugees, and are pushing to maintain the ceiling at 50,000. They also point to economic benefits.

The economic argument is backed up in a draft report written by the Department of Health and Human Services that was ordered as part of implementing the president's executive order, which has been written but not yet submitted to the White House. The report found that refugees have a net positive fiscal impact on the government, when considering taxes paid, as well as benefits collected.

Specifically, over 10 years, refugees generated $63 billion for the federal, state and local governments combined. When refugees and their nonrefugee spouses and children are considered, they are still a net benefit to the federal government, but a net cost to state and local governments.

Trump administration officials disputed the findings. White House spokesman Raj Shah said the draft was leaked by "someone with an ideological agenda, not someone looking at hard data." He provided what he said was the accurate HHS report, which he said was the version formally submitted to the State Department. It concluded refugees draw down more benefits from HHS programs than members of the general U.S. population do. It didn't make estimates or account for taxes paid by refugees.

"Refugees with few skills coming from war-torn countries take more government benefits from the Department of Health and Human Services than the average population, and are not a net benefit to the U.S. economy," Mr. Shah said. The report he provided tallied the total cost over 10 years of HHS programs supporting or benefiting refugees at more than $96 billion.

An HHS official added that any effort to estimate economic effects beyond HHS programs would be beyond the agency's scope.

Homeland Security officials, backed by Attorney General Jeff Sessions, are pushing to lower the cap to 40,000, several officials said. They are supported by Trump policy adviser Stephen Miller, a former Sessions aide, who advocated for the cap to go even lower—to as few as 15,000 refugees, people familiar with the process said.

The U.S. began setting refugee admission caps in 1980, and until this year, the cap had never been set below 67,000. In the early 1990s, it topped 110,000 every year, but more recently, the cap hovered between 70,000 and 80,000.

DHS is arguing that admitting fewer refugees will allow the agency to direct more of its resources toward vetting applications for asylum. Refugees remain outside the U.S. while their applications are considered; asylum applicants are filed by people who are already here.

The State Department is advocating for the 50,000 limit based on Mr. Trump's order earlier this year, though many officials there would prefer a higher number, people familiar with the deliberations say. Officials there argue that accepting more people is a humanitarian imperative at a time when the world is undergoing a dramatic refugee crisis.

Effort to Repeal ACA Gets New Push

By Stephanie Armour
And Michelle Hackman

WASHINGTON—Republicans pushed ahead with a last-minute effort to repeal most of the Affordable Care Act, preparing for a meeting of GOP senators Tuesday to discuss the latest version as opponents mobilized to block it.

The legislation by Republican Sens. Lindsey Graham of South Carolina and Bill Cassidy of Louisiana is gaining attention after senators of both parties assumed the GOP health push was dead. The bill will be the subject of committee hearings next week.

On Monday, Arizona Gov. Doug Ducey said he supported the effort, which could help gain support from Sen. John McCain (R., Ariz.), who voted against an earlier repeal bill.

Mr. McCain said he was still evaluating the latest bill.

The legislation would largely turn over federal funding from the ACA to states that could then set up their own health systems.

The interest in the proposal has caught Democrats and other ACA supporters by surprise, providing the GOP arguably its last chance to deliver on its seven-year pledge to repeal the current health law.

The measure could win Senate approval only under a process known as reconciliation, which allows bills to pass with 50 votes plus a tiebreaking vote by the vice president, instead of the usual 60. Reconciliation is set to expire Sept. 30, giving backers a narrow window.

TAXES

Continued from Page One

itself, meaning any reduction in tax rates would be offset by reducing breaks or other revenue-raising measures. A budget with $1.5 trillion in tax cuts wouldn't be revenue-neutral.

Republicans face internal tension in trying to bridge the gap between those warning about large federal debt levels and the desire of many to cut taxes. The Senate Budget Committee, led by Mike Enzi (R., Wyo.) hasn't yet scheduled a committee vote or released a draft budget.

Any plan would face hurdles in the Senate and the House. On the Senate floor, the budget would need support from at least 50 senators and Republicans have just 52 seats. The House budget came out of committee in July but hasn't gotten a vote in the full chamber amid disputes over spending levels and the details of the tax plan. The House budget calls for a tax bill that doesn't cut tax revenue, but that assumes economic growth already. It also isn't clear how big a tax cut the Trump administration will support.

Sen. Pat Toomey (R., Pa.), a Budget Committee member, said in an interview Monday that he has been advocating a $2 trillion tax cut. Mr. Toomey's preference is partly based on arguments that the tax bill, which is still being written, would generate significant economic growth that would yield additional tax revenue on its own and make the actual hit to the budget from tax cuts smaller.

The GOP tax-cut target may include more than $400 billion in extensions of expired or expiring tax breaks. Under congressional scorekeeping conventions, retaining those breaks or replacing them would count as tax cuts.

The tax-cut number will dictate how much Republicans can reduce tax rates on individuals and corporations. It will also affect their ability to move forward on desired breaks, such as accelerated depreciation for some business investment.

> *The budget is an essential first step to the major tax bill Republicans want.*

Mr. Toomey said he hoped Budget Committee members would reach a decision this week. The number, he added, would likely end up below $2 trillion; he said a $1.5 trillion target would be possible.

"It's tough to squeeze in the optimal tax reform into that window, but it would be possible to certainly make a lot of progress relative to where we are now," he said.

The tax-rate cuts Republicans want for corporations, other businesses, estates and individuals would likely increase budget deficits by far more than $2 trillion, so in their tax bill they would still need to find savings elsewhere in the tax code, likely by getting rid of some tax breaks.

"We're going to do as much base-broadening as we possibly can," Mr. Toomey said. "That will allow us to lower marginal rates and move somewhat in the direction" of faster capital write-offs.

Faster growth likely couldn't cover all of a $1.5 trillion tax cut, which would reduce projected federal revenue by more than 3%. The high end of the nonpartisan Joint Committee on Taxation's estimate of revenues from economic growth in a 2014 tax plan was $700 billion.

"For every economist, there's an equal and opposite economist, and they're usually wrong," said Budget Committee member John Kennedy (R., La.), who said a middle-class tax cut such as a bigger standard deduction is his top priority.

Under the fast-track budget reconciliation rules, bills can increase deficits for the duration of the budget, typically 10 years. After that, they can't increase deficits, without 60 votes in the Senate.

That could lead to a repeat of the 2001 and 2003 tax cuts under President George W. Bush, which were scheduled to expire in 2010, then were largely extended through 2012. Most survived and had expiration dates removed by a bipartisan majority in 2013.

Republicans such as Mr. Toomey and House Speaker Paul Ryan (R., Wis.) have argued that the tax cuts should be as permanent and long run as possible to encourage businesses to invest.

"If anything needs to get a sunset, it should be a provision that does not complicate planning and budgeting and investment decisions," said Mr. Toomey, pointing specifically to new tax rules for U.S. companies' foreign profits.

Republicans have a one-vote margin on the Budget Committee, meaning they have to bridge the differences between tax cutters such as Mr. Toomey and lawmakers who talk more about budget deficits, such as Sen. Bob Corker (R., Tenn.).

TOYS

Continued from Page One

dated hundreds of stores before it was sold.

"They are the last major free-standing toy retailer in the U.S.," said Jim Silver, the chief executive of TTPM, a website that reviews thousands of toys each year for consumers. As the testing ground for new products, Toys 'R' Us often identifies hits before rivals, as it did with Zhu Zhu pets in 2009, Mr. Silver said.

But like many other big-box chains, including Borders, Circuit City and Sports Authority, Toys 'R' Us struggled with the rise of discounters like Wal-Mart Stores Inc. and Target Corp., and more recently, Amazon.com Inc. It was late to develop and expand its e-commerce business and placed big bets on licensed toys for "Star Wars" and Lego movies that missed expectations.

The filing in U.S. Bankruptcy Court for the Eastern District of Virginia was triggered by vendors and suppliers tightening terms with the company ahead of the key holiday selling season, which accounted for 40% of its $11.5 billion in revenue last year. For the past several years, the company has lost money in each quarter except its holiday quarter.

"None of the suppliers want this company to disappear, but they have a fiduciary responsibility to their own shareholders," said a person familiar with the situation.

The toy industry is in tumult. Lego AS earlier this month reported its first quarterly-sales decline in 13 years and announced plans to cut 8% of staff. Mattel Inc., the maker of Barbie and Hot Wheels, replaced its CEO earlier this year after weak holiday sales.

Shares of Mattel and Hasbro Inc. fell Monday after The Wall Street Journal and others reported last week that Toys 'R' Us was preparing to seek bankruptcy protection before the holidays.

Mattel and Hasbro are among Toys 'R' Us's biggest unsecured creditors. Mattel is owed more than $135 million, while Hasbro is owed $59 million, according to court papers.

It is "probably a little bit of a perfect storm," said Mark Carson, president of Fat Brain Toys, which began selling its educational and learning toys to Toys 'R' Us a little over a year ago. "There is a lot of general pressure on brick and mortar retail."

In addition, he said, "they are obviously having to account for some of the sins of the past in their structure and their financing."

REUTERS

Crowds outside Toys 'R' Us in New York's Times Square on the day after Christmas in 2015.

The internet has also reshaped the marketing of new toys. Companies once relied on TV commercials to generate excitement for that season's must-have items. But ratings for networks such as Nickelodeon and Cartoon Network have suffered as young viewers have turned to commercial-free streaming services such as Netflix. Children don't have Facebook accounts, making it difficult for digital marketers to find ways to pick up the slack.

Toys 'R' Us, based in Wayne, N.J., had hired restructuring advisers at law firm Kirkland & Ellis and was working with Lazard to try to refinance its debt, which stood at about $5 billion as of the end of April. CEO Dave Brandon said in a statement that "we expect that the financial constraints that have held us back will be addressed in a lasting and effective way."

Vanessa Mota, a lawyer from Forest Hills, N.Y., visited the combination Toys 'R' Us/Babies 'R' Us store in the Rego Center shopping mall on Monday afternoon to buy a doll for her 7-year-old daughter. While she occasionally buys online, where she says prices are better, she likes to visit stores "to touch it, to look at it, to walk around."

The only thing she doesn't like about shopping in the store? "The noise," she said.

A Toys 'R' Us restructuring would add to a list of more than 20 retailers, including RadioShack and Payless Shoe Source Inc., that have filed for bankruptcy since the beginning of 2017. Another big-box chain, Staples Inc., recently agreed to be taken private in a leveraged buyout.

Toys 'R' Us was purchased for $6.6 billion in 2005 by Vornado Realty Trust and private-equity firms Bain Capital and KKR & Co. The company remains heavily indebted from the buyout. That has limited its ability to invest in growth initiatives such as e-commerce.

The company was founded in 1948 by Charles Lazarus, a World War II veteran who started a baby furniture store in Washington, D.C., to cater to the postwar baby-boom era. In 1957 he opened the first Toys "R" Us store. It was a novel concept: a toy supermarket with a broad assortment of products that customers picked off shelves to fill shopping carts. A cartoon giraffe named Geoffrey became the official company mascot appearing in TV and print ads.

The business was sold to a retail conglomerate that later filed for bankruptcy in 1974. Mr. Lazarus took over the restructuring and divested all the nontoy businesses. He took the company public in 1978 and it opened hundreds of stores in the 1980s. The founder stepped aside as CEO in 1994. Two years later, the company opened its first Babies 'R' Us store, which now account for about 650 of the company's locations.

During the 1990s, Toys 'R' Us was on a collision course with Wal-Mart, which, like rival Target, had made a play for toy sales by offering cut-rate prices during the holiday season. To differentiate itself, Toys 'R' Us focused on the depth and selection of merchandise. The strategy bred some success, with Toys 'R' Us often being one of the last destinations for people to buy a hot toy before Christmas, long after its competitors had sold out.

After going private in 2005, Toys 'R' Us experienced several years of sales growth and the company filed for an IPO in 2010. But those plans were withdrawn as its financial performance weakened. Sales have fallen each year since fiscal 2012 and profits have been uneven. In the year ended January 2017, the company lost $36 million on sales of $11.5 billion.

—Miriam Gottfried, Michelle Ma and Ruth Simon contributed to this article.

Rivals Vie for Edge as ISIS Falters

U.S.-backed forces are in a contest with the Syrian and Russian militaries in Deir Ezzour

In the last Syrian province largely under Islamic State control, U.S.-backed forces are on a collision course with the Syrian and Russian militaries as both sides scramble to strengthen their hands ahead of postwar negotiations.

By Maria Abi-Habib and Raja Abdulrahim in Beirut and Nathan Hodge in Okeirbat, Syria

AHMED DEEB FOR THE WALL STREET JOURNAL

A fighter with the U.S.-backed Syrian Democratic Forces watches Islamic State movements on the eastern outskirts of Deir Ezzour.

The contest for territory is playing out in Deir Ezzour, an oil-rich province where Islamic State has fought to protect its revenue streams and preserve what remains of its rapidly shrinking caliphate.

The Syrian government, backed by Russia and Iran, wants Deir Ezzour's resources to repair a shattered economy and replenish its coffers by exporting oil. It could also help Tehran establish a route over land to Beirut to support its Lebanese allies.

The U.S.-backed forces, who are led by Kurds, are also fighting Islamic State but wary of giving ground to the Syrian regime. Kurdish leaders want to use the province's wealth as a bargaining chip that could help them secure greater autonomy in Syria.

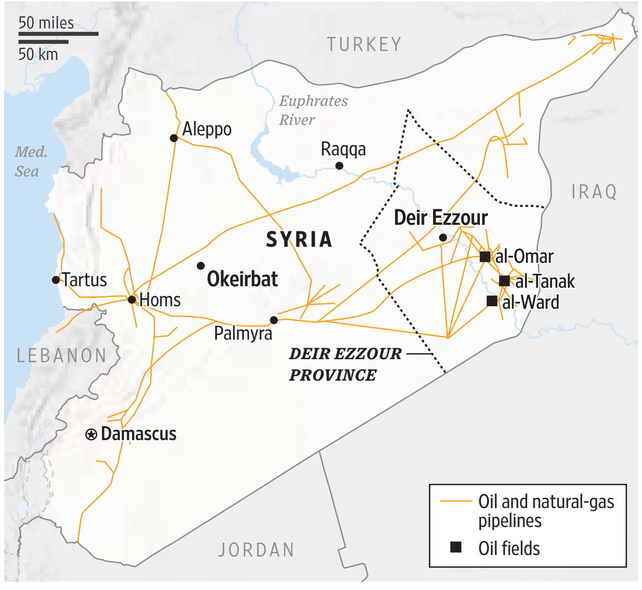
"The Kurds are trying to get as many cards in their hands as possible for the time when everyone sits around the table to play the big game. The scorecards that everyone will be looking at when they sit around the table and think, 'Who has the most and can ask for the most?' " said a senior Western diplomat who is based in the Middle East and focused on the Syria conflict.

With these different armed groups closing in on Deir Ezzour, forces backed by the U.S. and Russia are sometimes fighting within a few miles of each other, raising the risk of missteps that could inflame tensions.

On Saturday, Russian military forces attacked a location in Deir Ezzour east of the Euphrates River where they knew troops from the U.S.-led coalition and allied Syrian rebels were operating, the U.S. military said.

The strike injured several members of the U.S.-backed group, known as the Syrian Democratic Forces, according to a statement from the U.S.-led coalition. The statement added that the U.S. would seek talks with its Russian counterparts to avoid future conflicts.

The Russian military provided extensive air support to Syrian government forces during their lightning advance on Deir Ezzour. And this past week, Russia's defense ministry launched a major public-relations offensive to capitalize on those gains by the central government.



Source: U.S. Energy Information Administration

THE WALL STREET JOURNAL.

Russian military helicopters ferried international news crews to Deir Ezzour on Friday, capturing scenes of life returning to a semblance of normalcy in government-held areas of the provincial capital, also known as Deir Ezzour.

The Russian military also brought reporters to Okeirbat, a town in central Syria that was recaptured from Islamic State militants at the beginning of the month, enabling the government advance.

Over the past two months, the U.S. has pushed for a deconfliction line along the Euphrates River to coordinate the separate battles to retake Islamic State-held territory in Deir Ezzour. Washington has reached agreement with its Russian counterparts on deconfliction in other parts of Syria.

The talks between Washington and Moscow stalled, according to a U.S. official, and earlier this month Damascus and its allies advanced into Deir Ezzour city.

Days later, the Kurdish-led Syrian Democratic Forces, backed by the U.S. military, pushed south to box in regime forces, potentially cutting off Damascus and Moscow from advancing farther east, toward the Iraqi border and the province's lucrative oil fields.

Kurds Set For Vote Despite Ruling

A ruling from Iraq's Supreme Court halting an independence referendum next week in the semiautonomous Kurdish region will have no bearing on the vote, the Kurdish region's foreign relations minister said Monday, vowing to proceed with the plebiscite anyway.

By Ben Kesling in Baghdad And Paul Sonne at the United Nations

Falah Mustafa, foreign relations minister for the Kurdistan regional government, said the judicial system in Iraq had been politicized long ago and had failed to uphold constitutional guarantees to the Kurds.

"We don't have the feeling that there is a judiciary system in this country that's functioning in order to protect law, order and also rights," Mr. Mustafa said in an interview on the sidelines of the United Nations General Assembly in New York. "This decision in no way will affect the region of Kurdistan."

Iraq's Supreme Court ruled Monday that the Kurdish region should temporarily halt the independence referendum scheduled for next week, marking the latest opposition—both local and international—to the vote the Iraqi Kurds have called aiming to carve a new country out of Iraq.

The temporary court order came after Prime Minister Haider al-Abadi filed a request to the court to declare the vote unconstitutional.

The White House on Friday issued a statement against the effort. The United Nations also opposes the timeline, saying it will distract against the fight against Islamic State. Kurdish forces have played a critical role in the U.S.-led campaign.

Tehran Accuses U.S. of Violating Accord

Iranian vice president says Washington is looking to undermine the 2015 nuclear deal

By Laurence Norman

DON EMMERT/AGENCE FRANCE-PRESSE/GETTY IMAGES; LEONHARD FOEGER/REUTERS (RIGHT)

United Nations Secretary-General António Guterres, left, greeted Iranian President Hassan Rouhani at the U.N. on Monday, while IAEA Director General Yukiya Amano, above right, said Tehran has complied with its commitments under the nuclear agreement.

VIENNA—Iranian Vice President Ali Akbar Salehi accused the U.S. of violating the spirit and letter of the 2015 nuclear deal, escalating a clash between the two countries at the start of a crucial week of talks on the accord's future.

President Donald Trump has said he expects not to certify Iran's compliance with the accord when a decision comes due in October, a move that could unravel the agreement. Failure to certify the accord would give Congress an opportunity to decide whether to reimpose U.S. sanctions that were suspended as part of the 2015 deal.

Speaking on Monday at the annual conference of the International Atomic Energy Agency, which oversees Iran's compliance with the accord, Mr. Salehi said Iran was complying fully with the agreement. Under the pact, Tehran significantly reduced its nuclear program.

"The American administration's overtly hostile attitude and actual foot-dragging policies and measures aim at undermining the nuclear deal and blocking Iran's legitimate benefits from its full implementation," said Mr. Salehi, who also heads Iran's atomic agency. That is "contrary to the letter and spirit" of the nuclear deal.

Mr. Salehi's comments took place as world leaders gather for the annual United Nations General Assembly.

A meeting of foreign ministers from Iran and the six countries that negotiated the agreement will take place on Wednesday, the highest-level meeting between Iranian and U.S. officials since Mr. Trump took office.

Before a meeting with Israeli Prime Minister Benjamin Netanyahu in New York on Monday, Mr. Trump, responding to a question on whether the U.S. intends to withdraw from the Iran nuclear deal, said "You'll see very soon."

Mr. Netanyahu described the deal as "terrible" and said he and Mr. Trump would discuss how to address "Iran's growing aggression in the region."

Supreme Leader Ali Khamenei, who steers Iran's foreign-policy decisions, on Sunday warned that any "wrong move by domineering powers" on the accord would draw an Iranian response.

Iran has complained that the U.S. is undercutting the accord by increasing sanctions on Iran and by pressing international partners not to do business with Iran. U.S. Secretary of State Rex Tillerson said while Iran may be in "technical compliance" with the accord, it has violated the spirit of the accord through its missile tests, support for terrorism and its regional actions in Syria and Yemen.

So far, the body that oversees implementation of the agreement has said all sides are complying.

U.S. Energy Secretary Rick Perry, also speaking in Vienna, again pressed the IAEA to step up its oversight of Iran's activities. U.S. Ambassador to the U.N. Nikki Haley said last month, following a visit to the IAEA, that there were hundreds of sites in Iran where suspicious activities could be taking place.

Mr. Perry said on Monday that the U.S. "strongly encourages the IAEA to exercise its full authorities to verify Iran's adherence to each and every nuclear commitments" under the agreement. "We will not accept a weakly enforced or inadequately monitored deal."

In an interview Monday evening, the IAEA's Director General Yukiya Amano pushed back against U.S. concerns, saying his agency wouldn't change its approach to its work.

Mr. Amano wouldn't say whether the agency has visited military sites but he said Iran has complied with its commitments under the accord. On no occasion, he said, had Iran deliberately denied or delayed inspectors access to a site. He acknowledged however that on occasion, it had taken some time to arrange visits.

Russia, China Launch War Games

By Thomas Grove

SMITYUK YURI/TASS/ZUMA PRESS

A Chinese naval frigate arrives in the port of Vladivostok for a joint Russian-Chinese military exercise.

MINSK, Belarus—Russia and China launched joint war games in the North Pacific on Monday, showcasing a budding military partnership and giving Moscow a venue to double up on its display of military might as world leaders convene at the United Nations.

Chinese and Russian forces are set to conduct eight days of land and sea drills, including defending ships from attack by air or by other surface ships, the Chinese Defense Ministry said.

No formal military alliance exists between Russia and China, but they are developing common equipment and techniques that allow them to train and fight together.

"They are building a de facto alliance," said Vasily Kashin, a military expert and China specialist at the Higher School of Economics. "They want to understand on a granular level how their two militaries can cooperate."

At the same time, Russia is winding down one of its biggest military exercises since the Cold War. As leaders began to assemble for the annual U.N. General Assembly, Russian President Vladimir Putin made the pointed gesture of staying in Russia on Monday to observe the military games, known as Zapad, just outside his hometown of St. Petersburg.

For Russia, the latest exercises are a form of diplomacy in their own right. Moscow is facing lingering problems over international refusal to recognize its annexation of the Black Sea peninsula of Crimea from Ukraine in 2014. It is also facing broader sanctions from the U.S.

"Russia is trying to show Europe and the United States that it is ready for a full-scale war and that is why we should all sit down and talk about geopolitics on Russia's terms," said Arseny Sivitsky, director of the Belarus-based Center for Strategic and Foreign Policy Studies, which is close to the Belarusian foreign and defense ministries.

The latest series of exercises began on Monday as a detachment of Chinese naval vessels entered Russia's far-eastern port of Vladivostok and were greeted by an artillery salute, the Russian military said.

Though the exercises with China highlight Moscow's relationship with a powerful partner, Russia and China are in many respects rivals.

The Soviet Union fought a brief border war with China in 1969, and many Russians are anxious about the long-term aims of its populous and resource-hungry neighbor.

But with tensions rising between Russia and the West, Mr. Putin has increasingly tried to make inroads with Beijing and Chinese President Xi Jinping.

Last month, Beijing invited Russian soldiers to China to let them familiarize themselves with Chinese-made small arms and artillery.

Russia and China are increasing military cooperation as the U.S. steps up its own military presence in the Pacific region in response to challenges from North Korea and China's rising power.

The joint drills are taking place in the Sea of Japan, where the two sides held exercises in 2013, and for the first time in the Sea of Okhotsk, long used by Moscow for operations with nuclear missile submarines.

—Jeremy Page and Xiao Xiao in Beijing contributed to this article.

Mattis Hints at Korea Military Options

By Gordon Lubold in Washington, D.C. and Laurence Norman in Vienna

The U.S. has military options available for North Korea that won't put South Korea at grave risk of counterattack, Defense Secretary Jim Mattis said Monday, but he refused to spell out what those are.

Mr. Mattis also said in an impromptu meeting with reporters at the Pentagon that the U.S. isn't likely to try to shoot down the type of missiles launched so far by North Korea because they haven't threatened the U.S. or its interests.

Asked whether the U.S. was holding discussions with South Korea about the possibility of basing tactical nuclear weapons on the Korean Peninsula, Mr. Mattis said: "We have an open dialogue with our allies on any issue; we are not only friends we are trusted allies, and we bring up all issues."

U.S. and allied officials and military experts have repeatedly warned that any military attack on North Korea would bring a massive conventional counterattack against South Korea. While Mr. Mattis didn't explain what military options could avoid such a retaliation, the U.S. considers actions such as military maneuvers and aircraft flyovers to be among options they use to pressure North Korea militarily. So far, such options haven't resulted in a North Korean attack.

Mr. Mattis's comments came as world leaders gathered at the United Nations this week grapple with the threat of armed conflict. President Donald Trump plans to make North Korea's drive for an intercontinental nuclear missile a major issue of his address there Tuesday and in his meetings with counterparts.

If a diplomatic resolution emerges, the head of the U.N. nuclear watchdog agency said in an interview Tuesday, monitors would be able to keep check on North Korea's nuclear-related activities.

Yukiya Amano told The Wall Street Journal that the International Atomic Energy Agency could quickly have inspectors on the ground to oversee any agreement on a freeze or a rollback.

The IAEA has recently stepped up work on North Korea, eight years after Pyongyang kicked the organization's inspectors out of the country.

Mr. Amano has ordered increased satellite monitoring and established a unit on North Korea in the agency's executive body to ensure inspectors are ready if international talks opens the way for their return. "We cannot say for 100%, but we have a good understanding of the nuclear program," he added.

TRUMP

Continued from Page One

ipation from other countries in the defining battles of the early 21st century, echoing themes of his campaign rallies and previous speeches.

In his first international address as president, in June in Saudi Arabia, Mr. Trump called on the Muslim world to join the U.S. and other countries in the fight against terrorism, echoing a theme voiced by his predecessors. A month later, in Warsaw, the president attempted to rally Europe to defend "the West" and its civilization, asking pointedly: "Do we have the confidence in our values to defend them at any cost?"

Mr. Trump's speech will be closely watched by world leaders, diplomats and U.N. officials looking to gauge Washington's policies under an administration that has kept countries guessing on whether the U.S. will honor or abandon the Iran deal, or pursue diplomatic or military options on North Korea.

On some issues, such as pressuring North Korea and combating terrorism, Mr. Trump has the support and sympathy of the international community, and thus more leeway to push for the U.S. agenda. On other issues, such as the Iran nuclear deal and climate change, he faces stern opposition for demanding changes to previous agreements.

"The [Iran nuclear] agreement is solid and we will make sure the agreement is strictly implemented," French Foreign Minister Jean-Yves Le Drian told reporters Monday morning in New York, adding that so far there had been no indications of a breach by Iran.

Mr. Trump will share the stage on Tuesday with French President Emmanuel Macron, who is expected to praise the Iran deal and the Paris Climate Agreement as successes of international diplomacy.

Mr. Macron may end up being seen as the anti-isolationist and anti-nationalist leader of the West during the General Assembly this week, with Germany's chancellor Angela Merkel absent this year because of elections at home.

Also absent this year are other prominent leaders who typically would speak on the General Assembly's first day, such as Russia's President Vladimir Putin and China's President Xi Jinping.

Despite possible differences in views among leaders, analysts said what Mr. Trump says matters simply because he is the U.S. president.

TIMOTHY A. CLARY/AGENCE FRANCE-PRESSE/GETTY IMAGES

President Trump and U.N. Ambassador Nikki Haley on Monday

"They [world leaders] will look for Trump to balance the rhetoric with some statements making a case for international cooperation," said Richard Gowan, an expert on the U.N. at the European Council on Foreign Relations. "What Trump can do is say, 'You help me with North Korea and U.N. costs and I will stick with this organization.' As long as he gives that pitch, a large number of diplomats and politicians will be relatively happy."

Mr. Trump pressed his case on the cost of U.S. support for the organization on Monday while chairing a meeting of more than 100 international leaders. He called on the U.N. to "focus more on people and less on bureaucracy," in comments during the meeting of international officials as the General Assembly got under way.

The "ways of the past," he said, are "not working."

"We must ensure that no one and no member state shoulders a disproportionate share of the burden, and that's militarily and financially," Mr. Trump said. His remarks were similar to those made by previous U.S. leaders.

Mr. Trump on Monday also met with Israeli Prime Minister Benjamin Netanyahu, saying the two continue pressing for Middle East peace.

"I think there's a good chance that it could happen," Mr. Trump said. "Historically, people say it can't happen. I say it can happen."

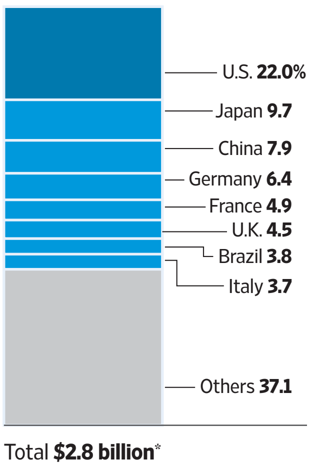
The U.S. and Israeli leaders both have criticized the 2015 international nuclear agreement with Iran, though Mr. Trump wouldn't say in response to a question whether he intends to withdraw from the agreement.

"You'll see very soon," Mr. Trump said.

—Emre Peker contributed to this article.

Membership Fees

Contributions to the United Nations, by share, 2017



Total $2.8 billion*

*Gross total Source: United Nations

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PAID ADVERTISEMENT

The blockade against Qatar violates human rights.

5,137
mothers ripped away from their families

+

1,337
children forced to leave their families

+

5,306
students banned from education

+

1,250
citizens unable to express their religious beliefs

+

1,594
violations to right of work

+

26,474
basic human rights violated

The illegal blockade against Qatar is trying to take away our basic rights. But the people of Qatar will never back down from freedom. **It's time to lift the blockade and respect our human rights.**

Learn the truth at LiftTheBlockade.com

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WORLD WATCH

EUROZONE

Inflation Projected To Slow in Early '18

Inflation will probably slow to 0.9% in the first quarter of 2018, some way from the ECB's target of just below 2%, the bank said on Monday in its monthly report. Inflation had accelerated to 1.5% in August.

The expected slowing reflects year-to-year developments in oil and unprocessed food prices, which are important but volatile components of broader inflation data, the ECB said. Both rose strongly at the start of 2017 but have since moderated, which will weigh on annualized price growth in early 2018, it said.

—*Tom Fairless*

UNITED KINGDOM

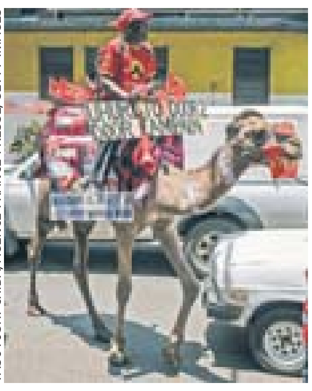
Pressure on Prices Is Expected to Linger

Britain faces a prolonged spell of inflationary pressure as it re-orients its economy away from the European Union, Bank of England Gov. Mark Carney said.

In remarks prepared for delivery in Washington, Mr. Carney said the U.K.'s planned departure from the EU in 2019 is already fueling faster inflation in the U.K. as weak investment and falling immigration restrain the economy's capacity to expand.

He reiterated the BOE's view that interest rates may need to rise "within months" to restrain price growth, after annual inflation hit 2.9% in August, higher than the BOE's 2% target.

—*Jason Douglas*


YASUYOSHI CHIBA/AGENCE FRANCE-PRESSE/GETTY IMAGES

LOYAL: Camel wrangler Peter Mwaniki rides to support Kenya's President Uhuru Kenyatta and his Jubilee Party.

WORLD NEWS

Britain Weighs Arming More Police

By Amanda Coletta

LONDON—In a police station in a crime-plagued South London district, Sgt. Guy Mantoura recently sent his night-duty officers off on their beats with batons, incapacitating spray, handcuffs and six Tasers. In a tradition many see as quintessentially British, none was issued a gun.

But after five terrorist attacks in seven months, along with a recent rise in crime, pressure is increasing on police in tradition-bound Britain to reassess their 188-year-old policy of not routinely arming officers, except in Northern Ireland.

The National Police Chiefs' Council, which is responsible for coordinating national police functions, announced in July it was conducting an unprecedented review of the country's armed response to terrorism. In England and Wales, only 5% of police officers carry firearms.

In the past, opposition to arming police has come from the officers themselves, who have argued they don't need guns because tough restrictions limited the circulation of legal and illegal guns.

But that is changing. London's Metropolitan Police says the number of guns being smuggled into the U.K. is "worrying," and there are fears terrorists might use them to carry out attacks. Only 6% of Metropolitan Police officers surveyed in January by their union said there were enough armed officers.

"There is a much stronger movement for arming the ordinary bobby than I can ever remember," said Clive Emsley, a professor of history and criminology at the Open University. One factor likely animating that shift was the fatal stabbing of unarmed police Constable Keith Palmer as he stopped terrorist Khalid Masood from entering the Parliament buildings in March.

Senior police officials say they have foiled six terrorist plots since then in what they have called a "summer like no other." But driving home the persistence of the threat, a homemade bomb exploded on a subway train in southwest London on Friday, injuring more than two dozen people.

In the police station in Peckham, a South London neighborhood with some of the U.K.'s highest violent-crime rates, Constable Damon Blackman endorses the rethink. A police medic trained to carry a Taser, he responded to the June 3 terrorist attack at London Bridge that left eight people dead. He said he believed more lives could have been saved if the first responders had been able to shoot the attackers before they rampaged through nearby Borough Market.

"If you're dealing with someone with a knife, [Tasers don't] give the same level of security as a firearm," Mr. Blackman said.

His colleague Constable Lorcan Searson, however, said arming police could hurt relations with the public.

"I've been in a few fights and I've never really felt like I needed a gun," he said as he patrolled a street dotted with fried-chicken joints. Moments later, he and his partner responded to a request for backup at a street skirmish. Without guns, the officers took 10 minutes to calm the situation, arresting one man. "You can talk 98% of the people down," Mr. Searson said.

Few in Britain believe it makes sense to arm every officer. Metropolitan Police Commissioner Cressida Dick, London's top cop, said after the London Bridge attack that routine arming was neither sensible nor practical.

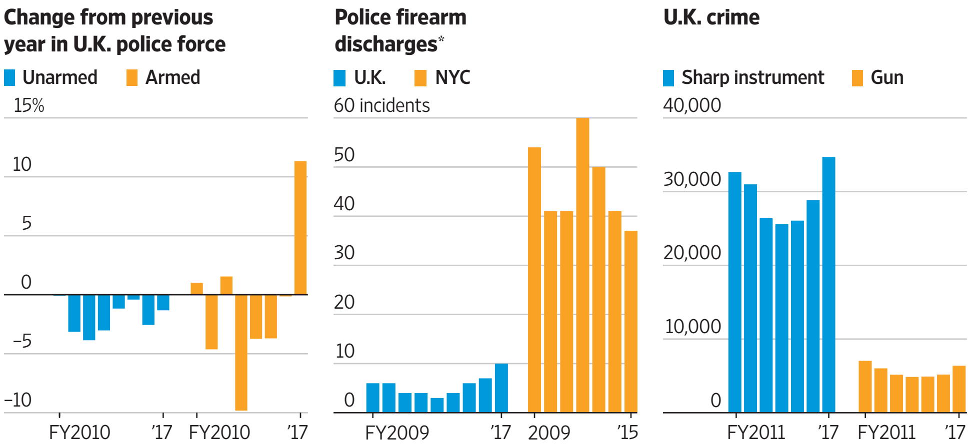
But she has been open to putting more armed officers on London streets. She has asked the government for more resources, arguing that ordinary bobbies are being diverted from basic policing to deal with what she called a "shift in the terror threat."

The government committed £144 million ($191 million) last year to raise the number of armed officers by 1,500, but they haven't all been recruited.

Many police complain their forces have been whittled to the bone by public spending curbs since 2010, and would need government cash to procure guns and put officers through training to use them.

Gearing Up

Only a handful of police officers in the U.K. are armed with guns and they open fire infrequently. But the growing specter of violent crime and terrorism is pushing police to re-evaluate the policy.



Note: Fiscal year ends March 31. *Excludes accidental, animal destruction, police training and tire deflation

Sources: Home Office (force size); National Police Chiefs' Council and Home Office (U.K. firearm discharges); New York Police Department (NYC firearm discharges); Home Office (crime)

THE WALL STREET JOURNAL.


MARY TURNER FOR THE WALL STREET JOURNAL

A London constable's belt holding a baton, handcuffs and a Taser.

Why 'Bobbies' Have Long Been Unarmed

LONDON—The decision not to arm British police officers was made when Sir Robert Peel, then the home secretary, founded the Metropolitan Police in 1829. Police officers were nicknamed "bobbies" after him, and a conscious effort was made to differentiate them as much as possible from the heavily armed British army, which the public then viewed with considerable hostility.

"From the very beginning, every effort was made to portray the police as a civilian force, as just a bunch of ordinary guys," said Jim Waddington, a professor of social policy at the University of Wolverhampton.

That marked the beginning of a tradition of "policing by consent"—the idea that a police officer's primary duty is to the public rather than to the state, as it is elsewhere. In the U.S., for instance, police power is derived from the states under the 10th Amendment, which recognizes states' right to manage their affairs.

Outfitted in top hats and tightly buttoned blue tunics—a deliberate color choice to set them apart from the red coats of the British army—the first bobbies patrolled their beats on foot, equipped with nothing but a wooden truncheon and a whistle. Those in particularly dangerous areas carried cutlasses.

There have been some changes since then. In 1863, police adopted the high-top "custodian" helmets some still wear now. Current officers outside tourist areas rarely wear the helmets, and now have a range of tools at their disposal. Only for a relatively tiny group of specialists does that includes guns.

—*Amanda Coletta*

U.K. Foreign Secretary Tests Prime Minister's Brexit Plans

By Jenny Gross

LONDON—As Brexit negotiations hit a critical juncture, Prime Minister Theresa May is finding some of her biggest adversaries are in London, not Brussels.

Mrs. May is struggling to quell dissension from cabinet ministers as she prepares to deliver a major policy speech on Britain's departure from the European Union, underscoring her tenuous position after a failed election gamble in June left her without a majority in Parliament.

Boris Johnson, Britain's colorful and unpredictable foreign secretary, over the weekend outlined his own vision, undercutting Mrs. May ahead of her closely watched speech in Florence—her first on Brexit in six months—and fueling speculation he is positioning himself to succeed her.

In a 4,000-word piece in the Daily Telegraph, Mr. Johnson said Britain "will succeed mightily" outside the bloc. He made no mention of a transitional period in which EU rules would continue to apply and revived a discredited referendum promise that a post-Brexit Britain would be able to spend £350 million ($475 million) more a week on its public health-care system.

Just as the cabinet had coalesced around the idea of a transitional period, Mr. Johnson's intervention underscored the pressure Mrs. May still faces from a Conservative Party contingent that says she should be firmer.

"Boris is Boris," Mrs. May said Monday when asked about Mr. Johnson's article. "This government is driven from the front and we are all going to the same destination because we are all agreed," she told reporters on a flight to Canada, which she is visiting for a day before the United Nations General Assembly meeting in New York.

'Boris is Boris,' Mrs. May said when asked about Mr. Johnson's newspaper article.

Mrs. May's cabinet, however, includes ministers on both sides of the Brexit debate, and senior officials have clashed over immigration policy and access to the EU's single market.

Mr. Johnson challenged Mrs. May's plans on several fronts. While he said the U.K. shouldn't pay for access to the single market and customs union, Mrs. May hasn't ruled out such payments. Mr. Johnson said much of the £350 million a week some Brexit campaigners have said would be reclaimed from the EU should be spent on the National Health Service, while Mrs. May has avoided questions on the amount of savings and how it would be allocated.

David Norgrove, chairman of the U.K. statistics watchdog, on Sunday wrote in a letter to Mr. Johnson that he was "surprised and disappointed" he used the figure.

"It is a clear misuse of official statistics," Mr. Norgrove said. The figure, widely used by the Leave campaign in the run-up to the referendum, doesn't take into account a substantial U.K. rebate that never leaves the U.K. Treasury, he said, as well as payments from the EU to the U.K.

◆ Trudeau, May press Boeing in spat with Bombardier.......... B3


LEON NEAL/PA WIRE/ZUMA PRESS

Foreign Secretary Boris Johnson, right, listening to Prime Minister Theresa May in London in June.

FISH

Continued from Page One

scratch. Susie Fishbein, author of books on elegant kosher cooking, has a recipe for "tri-color gefilte fish" with dill.

"What can you do with a jar of Manischewitz?" Ms. Fishbein says. "I am sorry, but there is nothing to do—no magic spice, no magic touch."

She confesses a fondness for the company and once did a TV segment for Manischewitz's brisket spices. But she isn't touting its gefilte fish. "If I put a jar of it on my table, no one will even think to open it," she says. Her guests would assume it was vintage table decoration.

At the end of the 20th century, Manischewitz was selling 1.5 million jars of gefilte fish, but in recent years, sales have fallen by about 2% a year, the company says.

Rabbi Aron Yonah Hayum, who oversees production at Manischewitz, is trying to help revive gefilte fish's appeal. "To keep the category alive," he deadpans, "we have to bring it to the 1990s, at least."

The kosher-food company, founded in 1888, has tried to freshen up its fish before and Rabbi Hayum, a 23-year Manischewitz veteran, can rattle off every experiment. In the late 1980s, Manischewitz unveiled a salmon gefilte fish. "They thought that it would generate buzz," he says.

Unfortunately, the industrial cooking process washed out the natural pink color, he says, and turned the fish an unappetizing shade of gray.

Manischewitz tried jalapeño gefilte fish in the early 1990s, hoping customers were ready

JOHN UHER/ARTSCROLL PUBLICATIONS

LAUREN VOLO

CHAYA BIALESTOCK PHOTO

Chanie Apfelbaum with her panko-crusted gefilte fish. Top left, tri-color gefilte fish from the cookbook 'Kosher by Design' by Susie Fishbein; lower, an artisanal gefilte fish dish by Liz Alpern and Jeffrey Yoskowitz, co-authors of 'The Gefilte Manifesto.'

for a zesty flavor. "Not so much," says the rabbi.

Next up was "Mediterranean" gefilte fish, made with rosemary and oregano. While he liked it, the product had a weird look, Rabbi Hayum says. "We put real spices and you could see little green dots and stems," floating through the jar. "Too wacko."

Rabbi Hayum is an avid collector of company memorabilia. Items line his office and grace glass cases in the company's halls—from a canvas "Borscht belt" with names of old Catskill hotels, to a Roberta Flack record album, signed "To Manischewitz with Love." There is also a jar containing a "loaf" of gefilte fish the company once tried to market. It was a no-go.

European Jewish immigrants brought the specialty with them to America. Making it from scratch meant securing live fish—which homemakers parked in the bathtub—that had to be killed, deboned, minced and seasoned.

"Gefilte fish took a whole day to make, and Jewish women had carefully made it in Europe," says Jonathan Sarna, professor of American Jewish history at Brandeis University.

When Manischewitz began mass-producing its gefilte fish, it was embraced by homemakers seeking relief from the arduous preparation.

The jar, says Prof. Sarna, was "a metaphor for America itself—Jewish women no longer had to slave all day long."

Now consumers have gravitated from the jar to frozen gefilte fish, which yields a cream-colored loaf.

The frozen version lets cooks be creative, Prof. Sarna says. "You might *patschke* [fuss] with it a little bit. The frozen gefilte fish allowed you to add some of your own carrots, some of your own spices, and it didn't take very long."

The Gefilteria's co-owners Liz Alpern and Jeffrey Yoskowitz suggest a return to pre-jar days. It is far less labor-intensive to make gefilte fish now, Ms. Alpern says, with one of their recipes taking 1½ hours at most. And, she adds, no need to store fish in a bathtub. Buy fish filets and use a food processor.

Some of Manischewitz's innovations have worked. Rabbi Hayum says the gluten-free gefilte fish, which uses potato starch instead of matzo meal, is popular, as is the Premium Gold variety, which uses less carp and more whitefish. He says Manischewitz is hoping to try its new secret variation in the spring.

The company says it sells 1.2 million jars annually, retailing from $6.26 to $8.99 for the 24-ounce jar.

Rabbi Hayum knows keeping the jar alive is an uphill battle. But he believes it is important. For many American Jews, he says, the jar of gefilte fish on the supermarket shelf "is their last connection to Judaism."

Manischewitz, now part of Bain Capital Credit after churning through several owners, recently laid off workers and said it would manufacture products, including gefilte fish, in other facilities. David Sugarman, CEO, said Manischewitz was taking "necessary steps to preserve and position the business" to grow "over the next 129 years."

Karen Blum, of Westlake Village, Calif., answered an online Facebook survey by Manischewitz on gefilte fish. She recalled how after she had her tonsils removed as a 4-year-old, she refused any nourishment, even ice cream and Jell-O. Instead, she says, "I pointed to the jar of gefilte fish."

She says she still favors the version from the jar: "It is the ultimate Jewish comfort food."

FED

Continued from Page One

mies are finally expanding in sync.

Chairwoman Janet Yellen's management of the process will shape the final verdict on whether the bond-buying was successful, which in turn could determine whether it remains a policy tool for future downturns.

"She has reached agreement in a way that is really impressive. Markets didn't freak out. Nobody said 'boo,' " said Austan Goolsbee, who headed the White House Council of Economic Advisers in 2010-2011. Now, he said, "The final exam, with the grade yet to be determined, is can the Fed actually get out of this stuff."

Other central banks that adopted such programs are watching, particularly the European Central Bank, which is considering whether to wind down its asset purchases next year.

When central bankers began these unconventional campaigns, "we had no idea what we should buy, how much, for how long," said David Blanchflower, a Dartmouth College economist who was on the Bank of England's monetary policy committee from 2006 to 2009. Similarly, "there is no idea on the way going out."

Calm reaction so far

Markets' ho-hum reaction so far prompted J.P. Morgan Chase & Co.'s James Dimon to warn this summer against complacency. The Fed's withdrawal "could be a little more disruptive than people think," the CEO said at a conference in Paris. With other central banks set to pull back on stimulus, "the tide is going out."

Added Matthew Jozoff, J.P. Morgan's mortgage-debt strategist: "We have never seen a central bank exit out of $1 trillion of mortgage-backed securities, so we are concerned about how this is going to go."

What could go wrong is hard to predict. When the Fed discussed plans to pare its purchases of new bonds in 2013, a tumble in prices sent yields soaring, in what was called the taper tantrum. The unanticipated turmoil included capital outflows from emerging markets. Fed officials' desire to avoid a replay has driven careful planning for the balance-sheet wind-down, according to current and former Fed officials.

The Fed launched its bond buying in late 2008, at the depth of the financial crisis, to shore up money-market funds, companies and banks.

A government takeover of housing-finance giants Fannie Mae and Freddie Mac had failed to thaw the mortgage market. So the Fed began buying hundreds of billions of dollars of their debt and mortgage-backed securities to get mortgage rates down. Rates fall as bond prices rise.

The Fed later decided it needed to do more to support the economic recovery, and over the next three years it launched two other bond-buying rounds to lower long-term interest rates and keep inflation from going below zero.

Buying long-term bonds sends some investors into riskier assets, buoying stocks, corporate bonds and real estate. Ultralow interest rates allowed millions of Americans to refinance, reducing foreclosures and freeing up cash for spending.

Problems some critics warned about, such as roaring inflation and currency debasement, haven't materialized. Labor markets have tightened, leaving unemployment at a 16-year low in July, while price pressures have been muted.

At the same time, the bond-buying has fueled concerns about frothy asset values, such as in commercial real estate. And while financial markets have boomed, economic growth and business investment have been unspectacular.

Term Premium

Research published by the Fed in April estimated its purchases have reduced by around one percentage point what economists call a "term premium," the extra yield investors demand for the risk of lending over a longer term.

Fed economists estimated this stimulus would decline slightly this year as markets anticipate a reduction in bond reinvestments. When the Fed's balance sheet returns to a more normal level, the term premium could still be around 0.25 percentage point lower than if the bond programs had never occurred.

The Fed, though it stopped adding to its holdings of bonds in 2014, has continued to reinvest the proceeds of those that mature. It owns $1.7 trillion in mortgage bonds issued by government-related entities, or around 29% of the market, and around $2.4 trillion in Treasurys, which is 17% of that market.

In June, the Fed said when it started to shrink its balance sheet it would do so by allowing a small initial amount of bonds—$4 billion of mortgages and $6 billion in Treasurys per month—to run off the portfolio without reinvestment. Every quarter, it will let a slightly larger amount do so, up to a maximum of $20 billion in mortgages and $30 billion in Treasurys per month.

For the next year or so, the Fed should still end up buying bonds in most months, since only a small fraction will mature and go not replaced, said Richard Clarida, an economist at Pacific Investment Management Co., or Pimco. He compared the start of the plan to losing weight by eating only two desserts a day instead of three.

How low to go?

One question the central bank hasn't yet decided: How large should its balance sheet be at the end of the process?

Its holdings have swelled to $4.5 trillion from less than $900 billion before 2008. Though they will fall, the Fed will end up with more assets than it had before the crisis because its liabilities have grown—there's more currency in circulation. The balance sheet size could settle out at between $2.4 trillion and $3.5 trillion sometime early next decade, New York Fed President William Dudley said in a speech earlier this month.

That would mean the Fed would end up allowing only around $1 trillion to $2 trillion in securities to mature after having added $3.7 trillion between 2008 and 2014.

One reason markets have been relatively unfazed is that central banks in Europe and Japan are still purchasing assets. David Spector, CEO of mortgage originator PennyMac Financial Services Inc., expects the start of the Fed's unwinding to have little effect on mortgage rates, which in early September hit their lowest levels of the year.

The Fed wants to move now because the economy is on stronger footing. Its large holdings have become a political liability, with critics saying the mortgage-debt buying, in particular, exceeded the Fed's mandate once normal market functioning had been restored.

Central bankers are "comfortable with the extraordinary actions they took during the crisis, and they know that everybody is," said Lou Crandall, chief economist at financial research firm Wrightson ICAP. "If the unwind is successful, it will bolster the case for" similar bond buying in the future.

Hanging over the discussions has been the question of who will lead the Fed next year. Ms. Yellen's term expires in February, and Vice Chairman Stanley Fischer is giving up his seat. There are three other vacancies on the seven-seat board of governors.

By reaching unanimous agreement on the balance-sheet plan this year, the Fed has essentially resolved the issue for any Yellen successor and given more certainty to markets, just as Ben Bernanke in 2013 announced plans to gradually reduce the Fed's purchases before his term as chairman ended in 2014.

The balance-sheet plan bears hallmarks of Ms. Yellen's meticulous, leave-nothing-to-chance leadership, say current and former Fed officials. The core of it came together three years ago. Officials said they would raise the federal-funds rate before starting on the balance sheet, and wouldn't be bond sellers.

The rate-setting committee ramped up discussions at its March 2017 meeting, weighing questions such as whether to set a fixed calendar or to condition a wind-down on economic conditions; the pros and cons of a phasing out of reinvestments vs. stopping cold turkey; and whether to treat mortgage bonds and Treasurys differently.

After the March discussion, a majority—around 10 of the committee's 17 members—appeared to form a consensus: The Fed's plans should be predictable and passive. Tapering the pace of bond reinvestments would extend the process by a year, reducing the chance of a spike in bond yields.

It should be as exciting as watching paint dry, Philadelphia Fed President Patrick Harker later said.

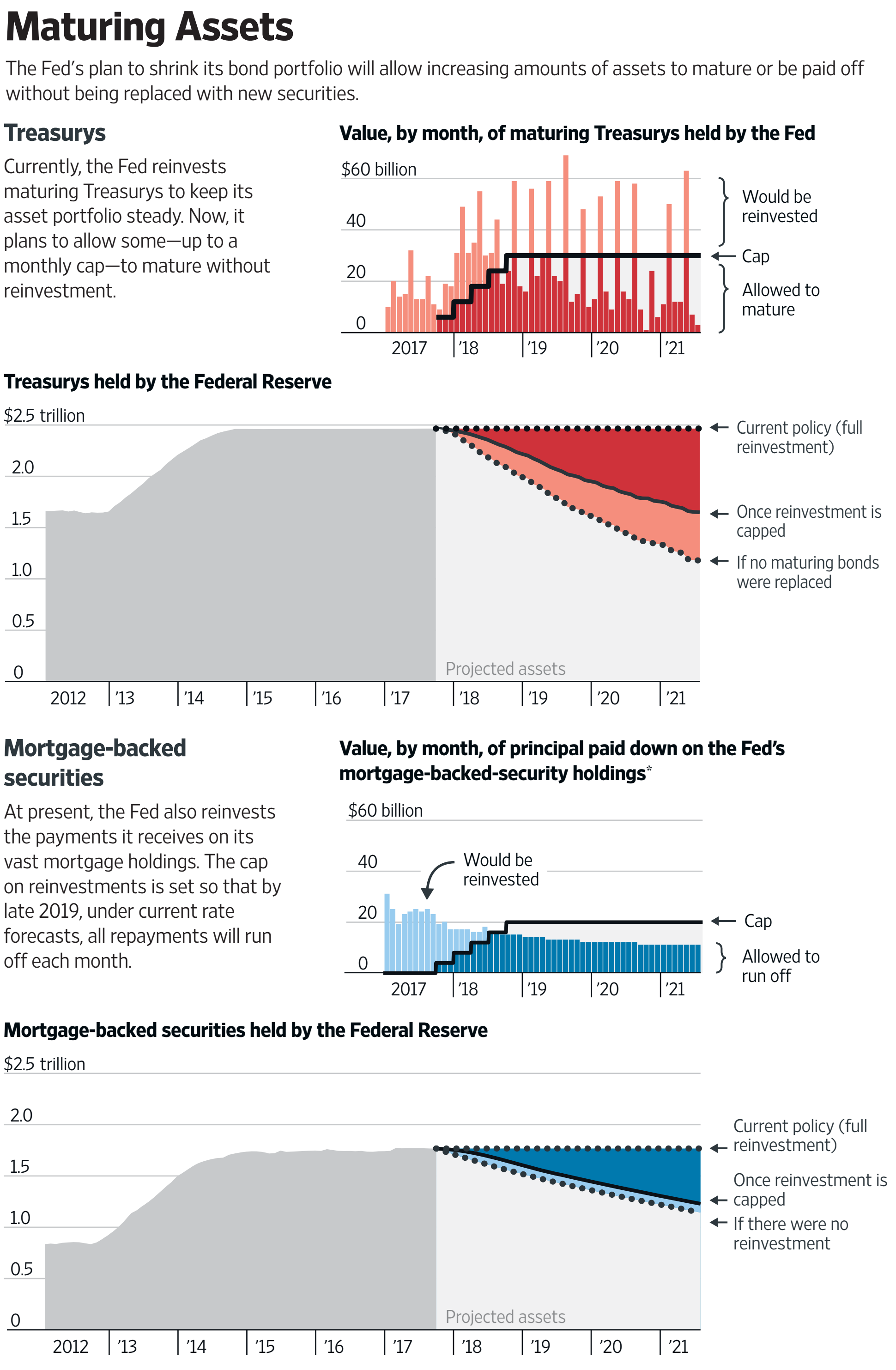
In regular calls and meetings to gain more feedback from committee members after the March meeting, Ms. Yellen gently highlighted the growing consensus to those who had different ideas.

The Fed has never before had so large a balance sheet or tried a maneuver like this.

Meantime, when minutes of the meeting revealed details of the discussion, markets shrugged, helping to move off the fence some who worried about acting too soon. By the Fed's June meeting, officials who were uneasy about moving ahead with rate increases voiced little concern about starting the balance-sheet plan, largely because it was so gradual.

"We won't know until we actually take the action, but I'm reasonably confident that it's not likely to be much of an event," said Boston Fed President Eric Rosengren.

"We communicated it better this time."



*Assumes forecast in which interest rates do not fall significantly.
Note: Scenarios assume portfolio size normalizes in 2021 at around $3.3 trillion and that the plan starts in October.
Source: Federal Reserve Bank of New York
Nick Timiraos and Andrew Van Dam/THE WALL STREET JOURNAL.

GREATER NEW YORK

Some K-12 Schools Top $50,000 a Year

Bill still may not cover full cost of education at private institutions; 20% of pupils get aid

By Leslie Brody

Five years ago, parents gulped when the price for attending some private K-12 schools in New York City hit $40,000 a year.

Now, a few have crossed the $50,000 threshold.

Some parents say they have become resigned to fast-rising bills at elite schools that regularly place students at Ivy League colleges. But many are concerned that these private schools increasingly are dominated by the city's most affluent families, even when about one-fifth of their students overall get financial aid.

"It's just a bad problem getting worse," said John Allman, head of Trinity, where tuition plus fees rose to $50,355 for 12th-graders this fall. "The funding model for independent schools like ours is broken."

The cost of private education in the city has long risen faster than inflation, and is almost double the national average for such schools. Median tuition and fees at Manhattan private schools climbed to $44,050 last school year, up 23% from $35,867 five years earlier, according to the National Association of Independent Schools.

At Riverdale Country School, tuition and fees for books, food, class trips and other items bring its bill to $52,050 this fall.

A spokeswoman for Riverdale declined to comment. Spence and Collegiate, which didn't respond to requests for comment, set inclusive charges of $49,800.

The charges, many private-school leaders say, don't cover the full cost of the rigorous educations provided. Their customers want small classes, arts, extracurricular activities, intensive college advising and teachers with advanced degrees. Leaders of these institutions say most depend on fundraising to fill the yearly shortfalls, in addition to holding capital campaigns for new construction.

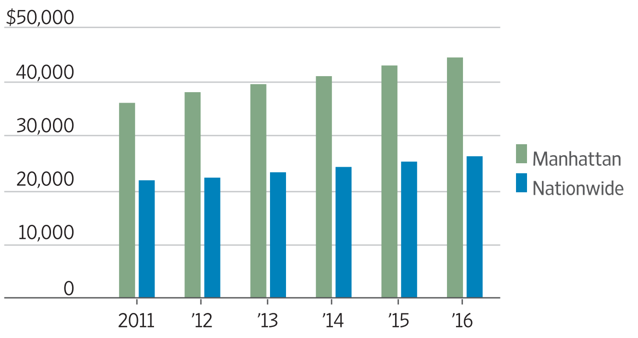
Tuition "seems exorbitant, but there's a gap,'' said Jill Roosevelt, parent of a third-grader at a private boys' school. "If you're outside New York, you'd think it's insane."

Drivers of mounting tuitions include teacher salaries, health insurance, technology

Please see COSTS page A10B

Rising Costs

Median tuition and fees in independent day schools



Note: Dates are for academic years beginning in year shown
Source: National Association of Independent Schools

THE WALL STREET JOURNAL.

CLAUDIO PAPAPIETRO FOR THE WALL STREET JOURNAL

An MTA bus and a charter bus collided Monday in Flushing, Queens. Mayor Bill de Blasio called the accident scene 'just shocking.'

Queens Bus Crash Leaves Three Dead

By Zolan Kanno-Youngs

A charter bus slammed into a city bus in Queens and then struck a building and another vehicle, killing three people and injuring 17, authorities said.

The commercial bus hit a Q20 Metropolitan Transportation Authority bus at about 6:20 a.m. Monday in the Flushing neighborhood, an MTA spokesman said.

Among those killed was a pedestrian, Henry Wdowiak, 68 years old, of Queens, who was pinned by a vehicle, the MTA spokesman said.

The charter-bus driver, Raymond Mong, 49, and a passenger on the MTA bus, Gregory Liljefors, 55, both Queens residents, died at local hospitals.

"This is an absolutely very painful moment," Mayor Bill de Blasio said. "We know that one of those who was lost was simply walking down the sidewalk on Monday morning, maybe on their way to work, and out of nowhere this happens."

Mr. de Blasio called the accident scene "just shocking."

"Hard to compare to anything I've ever seen—the sheer destruction from the impact of this collision," he said.

'Hard to compare to anything I've ever seen—the sheer destruction.'

Police said 14 passengers on the MTA bus and its driver were taken to hospitals. Two others in a private vehicle that was struck suffered non-life-threatening injuries.

The northbound MTA bus was making a right turn from Main Street onto Northern Boulevard when it was hit by the charter bus, which was traveling east on Northern Boulevard, police said.

The charter bus then rammed into a commercial building at the intersection and another vehicle, the New York Police Department said. Firefighters were assessing structural damage to the building.

MTA Chairman Joseph Lhota said the force of the collision caused the buses to spin around. "We're very concerned about the speed," he said.

The state Public Transportation Safety Board is investigating. Mr. Lhota said the MTA bus driver was in stable condition and talking to investigators.

The charter bus was owned by Dahlia Group Inc. A man who answered the phone at Dahlia Travel and Tours in Queens confirmed that one of its buses was involved in the crash, but declined to say how many people were on the bus or to give his name.

Mr. Liljefors, the MTA bus passenger who was killed, was on his way home from work as a security guard when the accident occurred, said his wife, Audris Liljefors.

"He was the kindest man I knew," she said. "He did everything for family."

According to records from the Federal Motor Carrier Safety Administration, in February 2016 one person was killed and 36 injured aboard a Dahlia Group bus that was headed to a casino when it crashed and flipped over in Madison, Conn. Federal records don't show a determination of a cause of the crash.

Christine Chiang, chief executive of Dahlia Group, didn't respond to a request for comment.

—Paul Berger, Melanie Grayce West and Jim Oberman contributed to this article.

Police Are Slow To Release Data

By Thomas MacMillan

Many police departments across the state of New York lack the technology and resources to maintain detailed records of their law-enforcement practices, according to a two-year study by the New York Civil Liberties Union.

The civil rights group filed Freedom-of-Information requests to 23 New York police departments about stops, complaints of misconduct, use of force, surveillance and racial profiling, and found it difficult to get the data requested in most cases. Eventually, 19 departments fulfilled the requests.

Michelle Kelson, corporation counsel for the city of Newburgh, called the study "a little unfair." She said the NYCLU submitted a seven-page request for 39 categories of records, going back more than three years. The city eventually provided all the data, but it took 23 months. "We tried very hard to comply," she said.

The state's current Freedom-of-Information laws amount to an unfunded mandate that can be especially burdensome for smaller jurisdictions like hers, which has a staff of only three to handle FOIL requests, she said.

Under state law, there is a five-day window for police to acknowledge FOIL requests from the public and disclose information within a reasonable period, which isn't defined.

The NYCLU encountered "massive delays," said Johanna Miller, NYCLU advocacy director. Only three of the departments responded to the FOIL requests in the time required. The NYCLU filed multiple appeals—and lawsuits in Buffalo and Ramapo—to compel police departments to release information, Ms. Miller said.

Police departments in Binghamton, Hempstead, Buffalo, Mount Vernon, and Ramapo didn't respond to requests for comment.

Delays are endemic to the Freedom-of-Information process nationwide and at the federal level, said David Pozen, a Columbia University law professor. "Often Freedom-of-Information laws in this country have quite strict response-time requirements and agencies often complain that they are unrealistically strict."

The NYCLU study emerged from an attempt to collect information about local policing in New York. The NYCLU chose a mix of urban and suburban, medium to large-size departments and asked for records under the state's law.

"We were actually surprised about how few police departments even maintain the records we were looking for," Ms. Miller said.

Syracuse took the longest to meet NYCLU's request: 25 months, according to the report. Joseph Fahey, the city's corporation counsel, said it was a "costly and time-consuming process" that produced 4,400 pages, "the most voluminous request in the history of the Syracuse Police Department."

"We have recently acquired and added new FOIL software as well as opening a data portal to enable more information to become available to the public," Mr. Fahey said.

The NYCLU report didn't include the New York Police Department.

Cuomo Endorses de Blasio for Re-Election

By Mike Vilensky

Gov. Andrew Cuomo said Monday that he supports Mayor Bill de Blasio's re-election bid, a belated nod that comes after years of tension between them.

A Democratic governor endorsing a Democratic mayor in a general election is rarely surprising, but Messrs. Cuomo and de Blasio have had an unusually combative relationship.

Earlier this month, Mr. Cuomo declined to back the incumbent mayor over long-shot primary opponent Sal Albanese. Mr. de Blasio hasn't said if he supports Mr. Cuomo's expected bid for a third term.

But on Monday, the governor said he supports Mr. de Blasio's campaign for a second term at City Hall—though he didn't offer a ringing endorsement.

"The mayor won the Democratic primary, I am a Democrat, I support Democrats, I'll support Mayor de Blasio in the general," Mr. Cuomo said during a radio interview on WNYC. "In this contest, he is the best person."

A spokesman for the de Blasio campaign didn't comment on the endorsement, saying: "Our campaign is focused on vigorously engaging people across the five boroughs."

DOUGLAS HEALEY/BLOOMBERG NEWS

Gov. Andrew Cuomo, left, and Mayor Bill de Blasio, both Democrats, have squabbled over the years.

Mr. de Blasio, who decisively won the Democratic primary this month, is the front-runner in the Nov. 7 election against Assemblywoman Nicole Malliotakis, a Staten Island Republican.

"It's sad that Gov. Cuomo chose party politics over what's right for New Yorkers," Ms. Malliotakis said after the governor endorsed her opponent.

Mr. Cuomo has said he plans to run for a third term in 2018, and Mr. de Blasio hasn't ruled out backing a potential liberal challenger to the governor's campaign.

Although they worked together in President Bill Clinton's administration and have a host of mutual political allies, the two have sparred over a wide range of issues since Mr. de Blasio took office in 2014, with Mr. Cuomo frequently offering a more moderate approach to Mr. de Blasio's liberal instincts.

The feud hit a boiling point when Mr. de Blasio, disappointed that Mr. Cuomo rejected his legislative agenda, denounced the governor at a 2015 news conference as vindictive. Mr. Cuomo's office, in turn, called Mr. de Blasio "incompetent."

MGM Resorts Plans Casino in Bridgeport

By Joseph De Avila

MGM Resorts International said Monday it plans to build a $675 million casino on the waterfront in Bridgeport, Conn., seeking a possible fourth casino in the state and adding another battle to a continuing feud with the state's Indian tribes about the future of gambling in the region.

MGM, along with real-estate firm the RCI Group, will seek legislative approval for the casino and a 300-room hotel at Steelpointe Harbor, a waterfront development that has been under construction for several years.

"We are going to Hartford to have this debate about the economic ramifications of the project," said Uri Clinton, legal counsel for MGM. The companies said the new casino would be an economic boon for a community that is short of jobs.

MGM's plans for Bridgeport escalates the company's ongoing dispute with the Mashantucket (Western) Pequot Tribal Nation and the Mohegan Tribe. Both tribes have longstanding agreements with the state for exclusive rights to operate casinos in Connecticut. Foxwoods Resorts Casino, run by the Pequots, and Mohegan Sun, operated by the Mohegans, generated a combined $264.1 million in revenue for the state in the fiscal year that ended in June.

Connecticut passed a law earlier this year allowing the tribes to open a third casino in the state in East Windsor to compete with a new casino MGM has planned in nearby Springfield, Mass. The tribes have said opening a third casino would protect against financial and job losses at their existing facilities due to competition from MGM's Springfield casino.

A spokesman for the tribes called MGM's Bridgeport announcement a "stunt." He said if the state approves MGM's proposed casino, this "would immediately end the slot payments that currently send the state hundreds of millions a year in much-needed revenue."

Gov. Dannel Malloy was cool to the idea of an MGM casino in Bridgeport when asked about the project. "I can't imagine entering into an agreement with any entity that would endanger our agreement with the tribal nations," he said.

MGM in 2015 sued Connecticut in U.S. District Court over a state law passed that year allowing the two tribes to open casino negotiations with towns interested in hosting one. MGM said Connecticut discriminated against other competitors by not allowing them to bid on casino licenses. The lawsuit was dismissed last year, and the U.S. Court of Appeals for the Second Circuit reaffirmed that decision in June.

It isn't the first time casino developers have eyed Bridgeport. Donald Trump tried to launch a casino project in the city in the 1990s that ultimately was unsuccessful.

MGM officials said the Bridgeport casino would target the New York City market, which is about 60 miles away and accessible by commuter rail. The company said it is prepared to give the state $50 million in licensing fees and more than $300 million in annual tax revenue.

Bridgeport Mayor Joe Ganim supports the project. MGM officials said the casino would produce 2,000 permanent jobs.

DOUGLAS HEALEY/BLOOMBERG NEWS
Bridgeport Mayor Joseph Ganim on Monday. He is in favor of MGM's proposed casino in the city.

COSTS

Continued from page A10A

upgrades, more services for students with learning disabilities, and maintenance for expanded facilities, school leaders said.

"You've got to keep up a little bit with the other schools," Ms. Roosevelt said. "If you're the only one without a gym building, it may not be as appealing to prospective students."

School leaders said they strive for socioeconomic diversity. Some have stretched tuition to cover items that used to cost extra, such as music lessons, so students on scholarships won't be excluded.

According to the National Association of Independent Schools, about 20% of the students got financial aid at the 45 member schools citywide that submitted data during the past five years. The median aid per recipient was $31,249.


MARK KAUZLARICH FOR THE WALL STREET JOURNAL
Tuition and fees rose to $50,355 this fall for Trinity 12th-graders.

Rising prices have led more families to consider public-school options, said Gina Malin, executive director of the Parents League of New York, a nonprofit that advises on private-school admissions.

"We're seeing more and more parents exploring public schools" in the past five years, she said.

Dana Haddad, an education consultant at New York Admissions, said some families "are turned off by very entitled populations," but others are determined to stay enrolled in private institutions even when their finances get tight. She has seen clients cancel vacations, golf-club memberships and expensive hobbies such as horseback riding. "Private-school tuition is the last thing people will compromise on," she added.

Private schools with progressive roots see particular tensions in increasing charges. Their leaders worry about a "barbell effect," where students' families can either easily afford to pay or need significant aid.

Bank Street School for Children, for example, said it traditionally has attracted middle-income families and promotes its commitment to social justice. Its tuition is $47,913 for fifth through eighth grades, and 36% of students get financial aid.

Jed Lippard, its head, said schools have to be increasingly creative to find ways to be accessible. "We view diversity as essential to our academic program," he said. "How do you live into those values if the population of students comes only from a certain socioeconomic sphere?"

High demand shelters private schools from pressure to curb price increases. According to the National Association of Independent Schools, about a fifth of New York City private schools accepted less than a fifth of applicants for fall of 2016.

Parents believe the investment pays off in many ways, including college entry. At Brearley, where tuition and fees are $47,650, a school report showed 16 of the 49 students in the Class of '17 headed to Ivy League colleges.

"We are very proud of our historic commitment to access for talented students of all socio-economic backgrounds," Jane Foley Fried, Brearley's head of school, said in an email.

Even a new school with no local track record fetches tuition and fees of $45,500 for 3-year-olds. Wetherby-Pembridge School is an offshoot of the London-based Wetherby School, alma mater to Britain's Princes William and Harry. It opened Sept. 11 on the Upper East Side with 29 students in nursery school and kindergarten, and plans to expand through eighth grade.

"We believe our fees in New York are competitive for the standard of education on offer," said Kate Bailey, head of the school, in an email.

At Calhoun, where tuition and fees total $48,999 for most grades, Head of School Steven Solnick said grappling with concerns about cost and access will be key when developing a new strategic plan in 2018.

School Grapples With Disparity

Trinity, one of the most sought-after K-12 private schools in New York City, was founded in 1709 to serve the indigent free of charge. In that era, most children were taught at home and the poor needed a place to learn.

These days, most of Trinity's roughly 1,000 students come from wealth. Its Upper West Side campus has two theaters, two tennis courts, two swimming pools and a rooftop athletic field. Last year, it ended a $120 million fundraising campaign.

Its head, John Allman, said the school would like to educate students across a broader range of income. "We've gone from serving students who couldn't afford education to a school dominated by affluent families," he said.

Like many private schools, "we're stymied in trying to figure out a way into a different funding model that looks really sustainable for families across the economic spectrum."

Trinity's tuition and fees have risen faster than inflation. This year they total $50,355 for seniors and $49,795 for other grades. The school says it gives financial aid to about 20% of its students. This year the awards range from 8% to 99% of the bill, based on family incomes of $15,000 to $475,000.

To be accessible to middle-income families, a handful of city private schools offer tuition on a sliding scale; parents can submit financial data and pay fees according to income. Mr. Allman said such a flexible model is worth considering.

The main driver of cost increases are salaries and benefits, which accounted for 64% of the $49 million annual budget for 2015-16.

While economic diversity is difficult to achieve, the school says it enrolls many students of color. Overall 38% are African-American, Asian or Hispanic.

One of the school's missions is helping students understand differing views and experiences, Mr. Allman said. "Class differences are some of the most difficult to discuss," he said, "but we've tried to lean into that challenge."

—*Leslie Brody*

GREATER NEW YORK WATCH

NEW YORK STATE

New Rules Coming For Ratings Firms

Gov. Andrew Cuomo on Monday proposed new regulations requiring credit-ratings firms to register with the state and comply with New York's cybersecurity protocols.

The directive comes after credit-reporting company Equifax said hackers accessed its database, potentially compromising the personal information of some 143 million people.

The new regulations don't require legislative approval and the administration expects the state Department of Financial Services to adopt them. The regulations will give the state the authority to reject credit-ratings firms from doing business in New York for a variety of reasons.

—*Mike Vilensky*

NEW JERSEY

Man on Train Tracks Is Struck and Killed

Authorities say a man has died after being hit by an NJ Transit train in Morris County.

The agency says the accident occurred around 10:25 a.m. Monday at the Convent Station in Morris Township. It isn't clear why the man was on the tracks.

None of the 50 passengers and crew aboard the Morris and Essex Line train were injured.

—*Associated Press*

LIFE & ARTS

ART

Next Stop on The Art Circuit: Saskatoon

The $63 million Remai Modern hopes to put Canadian contemporary art on the map

BY KELLY CROW

SETTLED AMONG the wheat fields and mineral mines of the Canadian plains, the city of Saskatoon is hardly a hotbed for contemporary art. Yet having watched art lovers descend on out-of-the-way locales like Arkansas' Bentonville and Colombia's Bogota, Saskatoon is determined to join the global circuit this fall.

For bait, the Canadian government spent $63 million on a 130,000-square-foot, Jenga-like museum complex sheathed in copper and glass called Remai Modern. The space, designed by Toronto firm KPMB, is named after a local collector, Ellen Remai (pronounced "RAY-mee"), who gave additional funds and art. It opens Oct. 21 in downtown Saskatoon.

The inaugural show, "Field Guide," will survey some of Canada's best-known contemporary artists like Vancouver's Stan Douglas, Ian Wallace and Jeff Wall while also playing up the museum's intentions to commission and show international art—a local-global mix that's become the norm for destination museums.

"Our art may speak with a Canadian accent, but we need to be fully engaged with the international scene," said director Gregory Burke.

Mr. Burke said the museum will be the first in Canada to show Mr. Douglas's "Secret Agent," a 2015 film about a terrorist plot loosely inspired by a Joseph Conrad novel. The film plays in snippets across six screens arranged so that viewers can walk in and around the scenes. The effect is hypnotic, like "being inside the movie," Mr. Burke added.

The museum also plans to showcase Mr. Wallace, a pioneering conceptual photographer known for shooting everyday city scenes and hanging them beside monochrome canvases—a combination that serves as a visual segue from painterly abstraction to street photography. One signature example in the show is 2011's "At the Crosswalk IX," in which images of two businesspeople at a Vancouver intersection face each other across a pair of blue and gray canvases. The show will also include a lightbox image of a blacked-out window by Mr. Wall, a former student of Mr. Wallace.

Mr. Wallace said Canadian artists aren't typically as curious about exploring their national identity as U.S. artists—or museums—so Remai's focus could help shape the art world's perspective on Canadian art, including its indigenous and expatriate artists. "We don't wave the flag that much," Mr. Wallace said, "but regionality matters. It makes the work authentic."

In the future, watch for the museum to organize shows that tease out the who-knew role that Saskatoon's University of Saskatchewan campus played when it invited major abstract-expressionist critic Clement Greenberg to host artist workshops in the nearby Emma Lake area. The retreats were later led by major artists like Barnett Newman and Donald Judd in the 1950s and 1960s.

Minimalist Agnes Martin was also born just outside of town, making her paintings of pale lines a "top priority" on the museum's wishlist, Mr. Burke said. For now, he said the museum is paying homage by showing the Martin-like drawings and "Dear Agnes" diaries of a local artist, Tammi Campbell.

The museum also invited several rising-star artists like Pae White and Ryan Gander to interact with the new building and the roughly 8,000-piece modern art collection it inherited. These include 406 Pablo Picasso linocut prints donated by Ms. Remai, once the biggest set in private hands.

Mr. Gander's "FieldWork" installation is more subtle but no less complicated: He will set a chair facing what appears to be a shop window that will feature an object, like a gutted Teddy bear or a black balloon, rolling past on a hidden conveyor belt. One of these 34 items will be a metal spike, the kind waitresses use to pile up paid receipts. Instead of meal orders, Mr. Gander will impale 148 copies of Picasso self-portraits that he painstakingly copied from actual Picasso prints in the museum's collection.

The museum, above and below, was designed by Bruce Kuwabara. The collection includes Ryan Gander's 'Attempt at a facsimile of Pablo Picasso's Portrait de Jacqueline accoudée,' left and a film still of 'The Secret Agent' by Vancouver artist Stan Douglas

Mr. Gander said he initially approached the idea of copying Picasso as a lark, but the task took longer—and took more out of him—than he anticipated. "When you're wrestling with Picasso, you have to take it seriously," he said.

Five New Art Exhibits Worth the Trek

Contemporary art lovers are heading to museums opening in far-flung locales this fall

SOUTH AFRICA
On Sept. 22 , the first major contemporary art museum in Africa—the Zeitz Museum of Contemporary Art Africa—will open in a converted grain silo on Cape Town's waterfront. Among the inaugural shows will be a retrospective of South African artist Nandipha Mntambo, who drapes cowhides into shapes so that they evoke figures.

TEXAS
Reaching the tiny, Texas town of Marfa requires a three-hour drive from the nearest airport in El Paso, but it has been an art-world destination ever since minimalist Donald Judd moved there in 1971 and transformed a former military base into a haven for his art and others he admired like Claes Oldenburg and Dan Flavin. On Oct. 6, expect pilgrims to make the trek to his Chinati Foundation to see the unveiling of a new work, Bridget Riley's striped "Wall Painting, Liverpool Hospital, 1983-2017."

INDONESIA
Chemical trader—and yuca planter—Haryanto Adikoesoemo spent years amassing an 800-piece art collection, including signature examples by Indonesian artists Raden Saleh and S. Sudjojono. On Nov. 7, he will open the Museum of Modern and Contemporary Art in Nusantara, the first museum of its kind in Indonesia. Expect art lovers en route to Hong Kong to detour to see Indonesia's art icons displayed alongside Western favorites like Robert Rauschenberg and Yayoi Kusama.

UNITED ARAB EMIRATES ▲
Louvre Abu Dhabi, the French museum's first outpost in the Arab world, **above,** will open Nov. 11 in a Jean Nouvel-designed space capped by a vast metal dome studded in a geometric, star-like pattern. The encyclopedic museum will feature heavyweight loans from 13 French museums—including Leonardo da Vinci's portrait of a brunette in a red dress, "Portrait of a Woman, Called 'La Belle Ferronnière,'" as well as pieces by living artists like Ai Weiwei, Giuseppe Penoni and Jenny Holzer.

CHINA
Design Society, China's equivalent to London's Victoria & Albert Museum, will open Dec. 2 in Shenzhen in a white, cantilevered space designed by Japanese architect Fumihiko Maki. The museum, which will explore edgy trends in art and design, plans to show at least 50 artists and designers in a maze-like opening show, "Minding the Digital," and the V&A has signed on to lend an additional 250 pieces from its permanent collection to show how designs have altered over time.

CLOCKWISE FROM TOP: ADRIEN WILLIAMS (2); LOUVRE ABU DHABI/MOHAMED SOMJI (PHOTO); STAN DOUGLAS/DAVID ZWIRNER, NY; RYAN GANDER/COLLECTION OF REMAI MODERN

YOUR HEALTH | By Sumathi Reddy

A QUESTION FOR ANYONE GETTING AN MRI

Patients need to know if the doctor plans to use contrast, or gadolinium, because it may leave harmful metal deposits; a new FDA warning

MOST PATIENTS getting an MRI don't know to ask a critical question: Will the MRI use gadolinium or not?

Magnetic resonance imaging with a gadolinium-based contrast agent, called a GBCA, leaves metal deposits in the body's organs and tissues including the brain, research shows. Scientists are exploring whether the deposits harm patients.

Gadolinium is a metal dye injected into the veins to help radiologists better read an MRI scan. The dye is used, experts estimate, in as many as half of the millions of MRIs performed annually in the U.S., generally for scans that are looking for tumors, severe inflammation or blood vessels. Doctors say the dye makes it possible to detect and diagnose more detail. MRIs to look at bone and joint issues don't need a contrast agent for doctors to make a diagnosis.

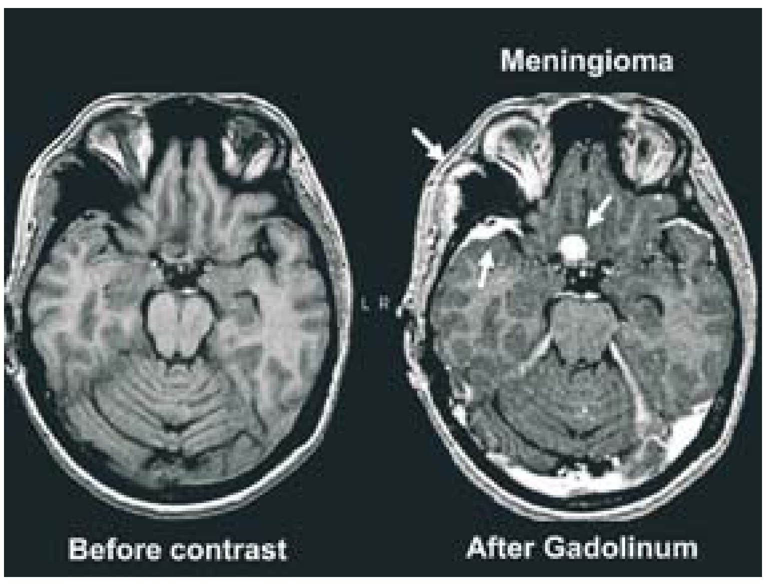
Some patients with healthy kidneys are reporting getting sick from the dye and are pressing for more research and warnings to the public. Doctors have for years cautioned patients with serious kidney problems about getting MRIs that use gadolinium because their kidneys can't always fully flush out the metal toxins.

Earlier this month an advisory committee to the U.S. Food and Drug Administration voted 13 to 1 in favor of adding a warning on labels that gadolinium can be retained in the brain, even in patients with healthy kidneys. Certain types of agents, called linear GBCAs, have a greater retention than others, such as macrocyclic GBCAs, the committee warned. It also voted to request that manufacturers of GBCAs perform more studies to see if there is a need for additional regulatory actions, such as restricting their use in pregnant women and children.

"People understand the incredible value that MR with contrast has brought to medicine," says Kimberly Applegate, a member of

Please see HEALTH page A12

HOWARD A. ROWLEY, MD, DEPARTMENT OF RADIOLOGY, UNIVERSITY OF WISCONSIN-MADISON



Both scans are from the same patient. The arrows, on the scan on the far right, point out a brain tumor or meningioma. It is difficult to see the tumor on the other image, which didn't use contrast.

BURNING QUESTION

What's the Best Way to Take a Nap?

A sleep expert explains theories behind why humans have evolved to make time for a short midday snooze

BY HEIDI MITCHELL

MARK MATCHO

SETTLING IN for a midday snooze has gotten a bad rap. Getting caught napping is often code in the U.S. for being lazy. Yet many cultures build catnaps into their normal routines, and dozens of studies have shown that grabbing a few Zs in the daylight hours is healthy.

So what's the best way to take a nap? One expert, David Dinges, the chief of the Division of Sleep and Chronobiology in Psychiatry at the University of Pennsylvania Perelman School of Medicine, explains how to optimize midday shut-eye.

Two Kinds of Naps

Dr. Dinges, who is also a member of the American Academy of Sleep Medicine, says that naps come in two forms: voluntary and involuntary. A voluntary nap, he says, is where a person makes a conscious decision to catch some relief before continuing her day.

"Those are naps that fill in additional sleep needs, and they have many health benefits," he says. Involuntary naps, often the kind that happen when you're caught napping, are considered to be a mark of someone who lacks the fortitude to stay awake. Dr. Dinges calls voluntary, or intentional, sleep the best way to fill up a person's "sleep tank."

"So if you live on a schedule where you only get six hours of sleep a night and you get 45 minutes of intentional naps a day, you don't develop much of a sleep debt," he says. Doctors recommend that adults get at least seven hours of sleep in a 24-hour period.

You're Getting Sleepy...

Studies have shown that work hours and commute times are the two largest sources of sleep debt for Americans, Dr. Dinges says. This is why when sleep-deprived people get on the train or bus to commute home, they frequently doze off. The first sign of falling asleep is that the muscles relax. "First go the arms, then the hands, then the eyelids," says Dr. Dinges, whose book, "Sleep and Alertness: Chronobiological, Behavioral and Medical Aspects of Napping," dives deep into the science of siestas. "Next goes the neck, so your head falls over."

That triggers the part of your brain that feels you're falling, which wakes you up. These involuntary sleep attacks don't provide much benefit, because "the brain doesn't progress into sleep far enough for recovery, so it's more like a disturbed night of sleep," Dr. Dinges says. One way to prevent them is to drink caffeine, a natural stimulant that aids in alertness. The better way is to set yourself up for a proper, preventive nap.

A Window of Opportunity

Humans are biologically programmed to sleep at night, and to take a nap in the midafternoon, though scientists aren't sure why. "There is no melatonin triggering the sleep. It just seems to be this harmonic phenomenon," Dr. Dinges says. The consensus among his colleagues, he says, is that human civilization evolved mostly in equatorial climates, where it got very hot later in the day, and napping during the extreme heat optimized work performance.

To make the most of this biological need, don't overthink it. Find a cool, dark, quiet place to lie down or put your head down. And put all your electronics away. The light from screens can mess with your ability to fall asleep.

A napper has to feel safe, which is why napping in public (or in a glass-walled office) is often less than ideal. "Set an alarm so you don't oversleep" more than 15 to 60 minutes so as not to affect nighttime sleep. To alleviate the post-nap sleep inertia, have a cup of coffee.

Even a 15-minute nap is enough to relieve some sleep pressure, since the brain goes into light non-REM sleep, which contributes to recovery. "Being awake is like carrying a bag on your back. The longer you're awake, the more bricks you add," he says. "And when you take a nap, you remove some of those bricks."

HEALTH

Continued from page A11

the committee and professor of radiology and pediatrics at the University of Kentucky in Lexington, speaking as an individual and not on behalf of the committee. "We need to image gently."

Robert McDonald, senior associate consultant of neuroradiology at the Mayo Clinic in Rochester, Minn., says studies he and others have done using animals and postmortem human tissue have shown that residual gadolinium is retained in tissues and organs. "We're trying to understand to what extent it's happening in the tissues of the body and also the clinical significance, if any," says Dr. McDonald who was at the FDA committee hearing after several manufacturers asked him to attend. General Electric Co., one of the manufacturers of GBCAs, paid for his travel expenses.

"The big question is whether or not these deposits are biologically active," he says. "So far we haven't been able to see any evidence of tissue injury."

A spokeswoman for GE Healthcare Life Sciences, one of several manufacturers of GBCAs, says GE strongly supports the FDA vote and "agree that further research is needed in this area."

"It's a critical tool for the detection and diagnosis of many diseases," says Scott Reeder, a professor of radiology at the University of Wisconsin, Madison who spoke at the FDA hearing representing the International Society for Magnetic Resonance in Medicine and the Society of Computed Body Tomography and Magnetic Resonance.

The term "gadolinium deposition disease" was coined by Richard Semelka, until recently director of MRI Services and a professor of radiology at UNC Hospitals in Chapel Hill, N.C., in a paper published last year in the American Journal of Roentgenology. He estimates that about one in 11,000 people with gadolinium deposits in their body will get sick

> The FDA warned that gadolinium can be retained in some organs, including the brain.

from it. "We have to figure out who these people are," he says. "They appear to be people who have a genetic problem with handling heavy metals."

Lori Combs was among the patients to testify at the FDA hearing. Ms. Combs was in the insurance industry for 30 years before going on disability last year due to complications such as muscle weakness that she believes stem from gadolinium deposition from an MRI done in 2006.

"I was in the absolute prime of health," says the 55-year-old, who lives in a suburb near Cleveland. "I was out hiking and slipped and fell and hit the back of my neck on a log."

A doctor recommended an MRI of her brain. She says she immediately felt burning and strokelike symptoms after the MRI and could barely walk by the time she got home. She was rushed back to the emergency room with seizures and discharged after doctors couldn't find anything wrong with her. "I have never been the same since," she says. Symptoms have included burning sensations in her body, sunburn-like rashes, blistering, tremors and difficulties walking, as well as cognitive declines.

The FDA advisory committee's action, she says, is not enough. "A patient isn't going to see the label," she says.

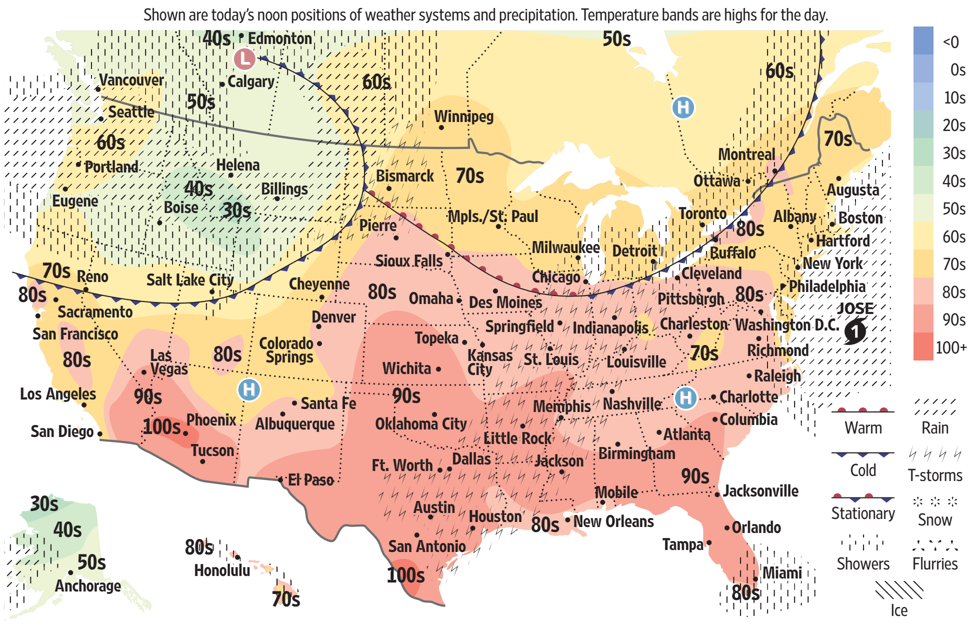
Brent Wagner, a staff physician at the South Texas Veterans Health Care System in San Antonio and a nephrologist, says his laboratory studies have found that human cells exposed to gadolinium show signs of fibrosis, or scarring. He says the symptoms that patients with healthy kidneys have complained about are similar to the ones exhibited by kidney patients who develop nephrogenic systemic fibrosis (NSF) from gadolinium exposure, a rare disease that causes severe pain and scarring all over the body and in the internal organs.

Dr. Wagner is now using animal models to identify the mechanism that results in patient symptoms. The goal is to develop a screening tool to identify the patients who are at a higher risk of having a bad reaction to the gadolinium. He ultimately hopes to invent a way to lessen their risk of a bad reaction.

Weather

AccuWeather.com

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



U.S. Forecasts

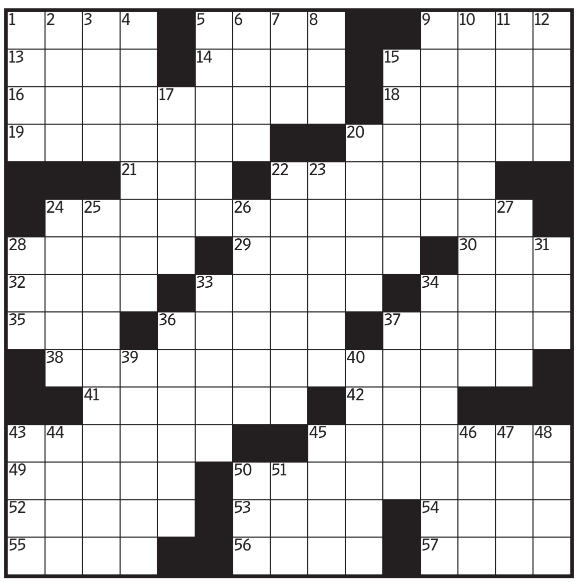
s...sunny; pc... partly cloudy; c...cloudy; sh...showers; t...t'storms; r...rain; sf...snow flurries; sn...snow; i...ice

City	Today Hi	Today Lo	Today W	Tomorrow Hi	Tomorrow Lo	Tomorrow W
Anchorage	56	46	pc	55	47	s
Atlanta	87	70	s	86	70	pc
Austin	94	75	pc	95	75	pc
Baltimore	80	66	c	85	64	s
Boise	57	46	c	60	40	sh
Boston	68	63	r	70	64	r
Burlington	80	61	c	78	56	c
Charlotte	86	65	s	88	66	pc
Chicago	80	66	pc	89	70	pc
Cleveland	81	63	t	84	61	pc
Dallas	97	77	pc	97	77	s
Denver	85	47	pc	81	53	s
Detroit	78	63	c	81	62	pc
Honolulu	89	77	pc	88	76	pc
Houston	92	76	pc	92	76	pc
Indianapolis	84	66	t	88	67	pc
Kansas City	86	72	pc	88	69	s
Las Vegas	91	69	s	91	68	s
Little Rock	90	72	t	90	72	t
Los Angeles	77	65	pc	75	64	pc
Miami	91	77	sh	91	77	pc
Milwaukee	74	65	pc	82	66	pc
Minneapolis	79	67	pc	78	55	t
Nashville	87	68	t	88	68	pc
New Orleans	88	75	pc	88	73	pc
New York City	72	67	r	80	68	pc
Oklahoma City	91	72	s	92	72	s
Omaha	85	67	s	82	63	s
Orlando	90	70	pc	90	71	pc
Philadelphia	75	67	sh	85	69	pc
Phoenix	100	74	s	100	74	s
Pittsburgh	81	61	pc	83	61	pc
Portland, Maine	69	60	r	74	60	r
Portland, Ore.	64	53	r	60	49	r
Sacramento	78	56	s	77	52	s
St. Louis	88	72	pc	94	72	pc
Salt Lake City	63	48	pc	75	53	pc
San Francisco	73	61	s	71	58	s
Santa Fe	82	47	s	81	47	s
Seattle	59	50	r	60	49	r
Sioux Falls	80	57	pc	74	52	s
Wash., D.C.	81	68	pc	86	68	s

International

City	Today Hi	Today Lo	Today W	Tomorrow Hi	Tomorrow Lo	Tomorrow W
Amsterdam	63	51	sh	63	51	pc
Athens	94	75	s	89	71	s
Baghdad	113	80	pc	114	78	pc
Bangkok	94	79	t	92	78	t
Beijing	86	55	s	83	56	pc
Berlin	62	44	pc	61	47	sh
Brussels	62	47	sh	62	47	pc
Buenos Aires	73	60	s	76	50	pc
Dubai	105	88	s	106	86	s
Dublin	62	54	pc	63	45	r
Edinburgh	60	49	pc	63	50	sh
Frankfurt	60	43	sh	62	43	sh
Geneva	56	42	sh	64	42	pc
Havana	89	69	pc	89	70	pc
Hong Kong	90	82	pc	91	81	pc
Istanbul	84	70	s	89	73	s
Jakarta	93	76	pc	91	75	pc
Jerusalem	83	65	s	81	62	s
Johannesburg	78	58	s	82	57	s
London	63	50	pc	64	53	pc
Madrid	81	53	s	83	56	s
Manila	90	79	t	89	79	t
Melbourne	56	42	pc	67	53	pc
Mexico City	76	59	pc	76	58	pc
Milan	72	49	pc	75	48	pc
Moscow	55	46	c	62	49	pc
Mumbai	86	80	r	88	80	r
Paris	63	42	sh	64	46	pc
Rio de Janeiro	83	67	s	83	68	s
Riyadh	106	77	s	106	77	s
Rome	69	51	t	70	52	pc
San Juan	87	80	r	84	79	r
Seoul	77	61	t	77	60	pc
Shanghai	87	71	c	75	71	sh
Singapore	87	77	t	86	78	t
Sydney	74	51	s	68	52	pc
Taipei	95	77	pc	96	79	pc
Tokyo	80	70	pc	80	69	pc
Toronto	79	61	pc	78	59	pc
Vancouver	61	47	r	62	48	r
Warsaw	63	51	pc	56	51	t
Zurich	57	43	sh	59	40	sh

The WSJ Daily Crossword | Edited by Mike Shenk



PIRATED | By Charlie Oldham

Across

1 Pirate attack
5 Apple device since 2001
9 Apple assistant since 2011
13 Alan with six Emmys
14 Factual
15 Mortise's mate
16 Some plays by Kareem Abdul-Jabbaaarrr!
18 Come around again
19 Cardinal point?
20 Arizona hockey player
21 Pewter, in part
22 Precisely right
24 Exercise regimens performed resting on one's foreaaarrrms!
28 Parallel to
29 Don Draper and his colleagues
30 Do some pirating
32 Foxhound's feet
33 Unvarying
34 France, once
35 Overtime cause
36 "___ Tag" (German greeting)
37 Spacek of "Carrie"
38 Nickname for the site of Glacier National Paaarrrk!
41 Potato chips, in Portsmouth
42 Peter who battled pirates
43 White Rabbit's lament
45 Suggests
49 Discontinue
50 Sea creature that resembles the maaarrrlin!
52 Surname of a famed racing family
53 Letter before Quebec in the phonetic alphabet
54 Tennis star Nastase
55 With 7-Down, solve
56 Skater's turning jump
57 Be a rover

Down

1 Cheering cries
2 Oodles
3 Someone to look up to
4 People from Pierre, e.g.
5 Start for Descartes
6 The Pirates and the Buccaneers, e.g.
7 See 55-Across
8 ___ Moines
9 "Bye!"
10 Compared (to)
11 Decisive defeat
12 Concerning
15 Crushed, in a way
17 Seeking damages
20 Encrusted
22 Six-time World Series champs
23 Royal fur
24 Make pigtails
25 Proletariat
26 "Hold on!"
27 Boozer
28 Fitting
31 Global traveler Nellie
33 Charlotte ___ (cream-filled dessert)
34 Tall tree of the Pacific coast
36 Spat
37 Greet the judge
39 Rubs off?
40 Corkscrew shape
43 Hosp. sections
44 List of choices
45 All that was left in Pandora's box
46 Rural sight
47 Laos locale
48 Yonder folks
50 Place for pampering
51 Batik need

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

Previous Puzzle's Solution

ART REVIEW

Portrait of a Collector And Collection

Big names—Thomas Eakins, Man Ray, Cindy Sherman and more—and atypical prints with a focus on the art of portraiture

BY RICHARD B. WOODWARD

Washington

DESIGNING exhibitions of gifts from donors can be among the happier tasks for a museum curator. Weighty expectations attached to histories or retrospectives—is the scholarship innovative and sound?—are lifted, with neither critics nor the public going to see an argument.

The high number of outstanding and atypical prints in “Posing for the Camera: Gifts From Robert B. Menschel” is reason enough to visit the National Gallery of Art in the next four months. Along with his brother, Richard, Mr. Menschel has been a prominent collector of photographs—as well as a supporter of its institutions—for more than 40 years. Of late, museums have reciprocated by displaying generous samples of his donations.

Last year, when the Museum of Modern Art mounted “The Shape of Things: Photographs From Robert B. Menschel,” chief curator Quentin Bajac presented the 99 prints as a 150-year chronology of the medium. The NGA show has roughly the same timeframe (1840s-1990s) but is more compact (some 70 works in two rooms), and senior curator Sarah Greenough has opted to focus mainly on portraiture.

The invention of photography, cheaper and faster than any earlier picture technology, allowed people who had never before sat for a drawn or painted portrait a chance to have their likeness recorded for posterity. The various daguerreotypes from the 1840s-60s, arranged together in a glass case, are prime examples of this freedom and self-regard. An adult and a child (farmers?) stare with upturned faces toward the lens, each keeping a hand on their dog while their horse stands close behind. In a portrait from antebellum Philadelphia, a seated African-American man wears a look of confidence on his face, unlike that on two African-American servants who, in two other portraits, pose uneasily with the white children in their care.

The highlight of this section is the album titled “Our Pastor's Circle” by James Tyler. Each of the 24 women in this church group from the town of Hampden, Mass., has her own daguerreotype portrait. And yet, with their similar dress and demeanor, the impression they prefer to leave is that they are members of a single congregation.

Exceptions to prevalent black-and-white are noteworthy. Of camp value—and mysterious purpose—are the five hand-painted studio portraits from 1866 by Oliver H. Willard of a Civil War-era soldier (or actor), who changes poses and uniforms according to his portrayal of rank and function (cavalry bugler, sergeant for ordnance). Commissioned by Montgomery C. Meigs, Quartermaster of the U.S. Army and an architect of Arlington National Cemetery, the pictures may have been intended to remember the war as more glamorous than it really was.

Two life-size cyanotypes (c. 1900-20) of a cadaver's cross-section jump out like ghouls from the walls. Presumably made from body slices for medical students, they offer views of internal organs that X-rays could not perceive.

Among the 19th-century masterworks is Lewis Carroll's dual portrait (1860) of Alice Liddell and her sister Lorina. Dressed in Chinese silks, neither little girl seems altogether pleased to be enlisted in an adult oriental fantasy.

Thomas Eakins's 1884 portrait of his father-in-law, William H. Macdowell, leaning against a shed in a side-yard exhibits the same stripped-down pictorial language found in his painted portraits, but without their usual psychological tension—the platinum print softening the reality of old age.

Man Ray's models never knew how they would look once he went into the darkroom. For “Électricité,” done in 1931 as an ad campaign for a French power company, he projected nude transparencies of his lover Lee Miller on photographic paper that he covered with electric cords. In the two photo-gravures here, Miller's body is enmeshed in white lines, as if turned on by the current.

A vitrine containing five anonymous snapshots (c. 1900-70) proves that the ingenuity of amateurs in posing themselves or their friends—in one image, a man does a one-armed handstand on another man's head—could at times equal that of the pros.

The selection from the post-World War II era has many familiar names, from Robert Frank to Cindy Sherman. Most poignant to me were Walker Evans's unidealized laborer striding beside a factory; Roy DeCarava's close-up of a Civil Rights marcher in Mississippi; and four photographs by Lee Friedlander of his wife, Maria, taken over 33 years of their marriage, which she has admitted has not always been smooth.

One of the most recent gifts funded in part by Mr. Menschel is the complete set of Carrie Mae Weems's “Kitchen Table Series” (1990). Installed in a gallery on the mezzanine of the East Building, it tells the story of a busted romance with a man from the woman's POV, in 14 text panels and 20 black-and-white photographs. Her fiery eloquence is contrasted with the elemental staging by Ms. Weems, of herself and others seated at a kitchen table, the traditional female site of domestic power.

A visit to the show would not be complete without spending time with this extraordinary photo-novella.

Mr. Woodward is an arts critic in New York.

Posing for the Camera: Gifts From Robert B. Menschel
National Gallery of Art, through Jan. 28, 2018

James Tyler's 'Our Pastor's Circle' (c. 1855): Each of the women in this Massachusetts church group has her own daguerreotype

FROM TOP: ROBERT B. MENSCHEL AND THE VITAL PROJECTS FUND (2); NATIONAL GALLERY OF ART, WASHINGTON

Lewis Carroll's 'Lorina and Alice Liddell in Chinese Dress' (1860), above, and Thomas Eakins's 1884 portrait of his father-in-law, 'William H. Macdowell,' top

SPORTS

FOOTBALL

Why Scoring Has Nosedived in the NFL

At its current pace, this season would mark the biggest scoring decline in the Super Bowl era

BY ANDREW BEATON

Above, the Panthers' Cam Newton was sacked six times on Sunday. Below, Benardrick McKinney sacks the Bengals' Andy Dalton.

T-B: GRANT HALVERSON, JOE ROBBINS (GETTY IMAGES)

THE BIGGEST question of the new NFL season defies the direction the game had been headed for years. For some teams, it's as concerning as it is baffling.

That question: Why has scoring across the league collapsed?

Regardless of the reason, it's happening. Two weeks into the season, offenses that have been among the most productive in the league have fallen off a cliff. Others that were supposed to struggle have been even worse than previously imagined.

The result is a scoring dip so precipitous that it's unprecedented. Through the season's first 30 games, teams are averaging 20.3 points per game, which is 2.4 fewer than a year ago. If it continues throughout the season, it would mark the largest drop-off in the Super Bowl era.

This is jarring because it flies in the face of an offensive explosion the league has experienced in recent years.

Points have never come easier than they did in recent years, thanks to an evolution in playing style, officiating and the enforcement of pass-friendly rules. Teams have been throwing the ball more and better than before, scoring more than they ever had. The five highest scoring years in modern NFL history also happen to be the previous five seasons.

Then came these first two weeks of the 2017 NFL season. And its possible after years of getting methodically torched and outgunned, defenses have begun exacting their revenge.

"These defensive coordinators are smart," said former NFL quarterback and analyst Trent Dilfer. "They're starting to understand this throw-first mentality and how to limit some of these wide-open offensive philosophies. They've adapted."

It hasn't taken long for some teams to abandon their plans on offense and instead seek to adapt to defensive adjustments. In Houston, it took all of 30 minutes of action for coach Bill O'Brien to bench the quarterback who won an offseason quarterback competition. That replacement, rookie Deshaun Watson, managed to win his Week 2 start against the Bengals—in a 13-9 snore.

"It wasn't pretty," O'Brien told his team in the locker room after that win.

For the Bengals, it was even uglier. After a historically futile start to their season, they fired their offensive coordinator. Cincinnati is the first team in more than half a century to begin its season with two games at home—and not score a touchdown in either.

"I am shocked," Bengals coach Marvin Lewis said. "We should be better."

Then on Sunday, Carolina's 9-3 win over the Bills sank even lower on the scoreboard. And this game had something that has become a hallmark early in this season: sacks. And then more sacks.

Buffalo's Tyrod Taylor was sacked three times. That's three fewer than the six times the Bills got Cam Newton.

Entering Monday night's action, quarterbacks have been sacked on 7% of their dropbacks this season. That's the highest rate since 2000 and a main reason net yards per pass attempt have fallen by 4.6% this season, according to pro-football-reference. Which is why coaches have been lamenting breakdowns on the offensive line in these first two weeks.

To be sure, there's a possibility that these numbers represent nothing more than an early-season swoon. The reduction in offseason practice time, and increase in reluctance to play important players for long stretches in preseason, have created a plausible argument that it's more difficult to get going early in the season for highly-complex offensive systems.

But not even that would seem to explain the eye-popping drop. Over the previous three years, Week 1 scoring trailed season-long scoring—but by fewer than three tenths of a point.

The offensive dip is unwelcome at a time when the NFL is suddenly fighting for fans' attention, both in the stands and in living rooms. Conventional wisdom says these low-scoring snoozers aren't the product to electrify the season.

The problem in this regard may not just be the defensive stalemates, either. Many of the high-scoring games so far this season simply haven't been competitive: There have been twice as many 20-plus point blowouts than in the first two weeks of 2016.

There's another potential cause the numbers are down: the age of quarterbacks. Some of the quarterbacks who ushered in the league's tidal wave of offensive bonanzas are pushing the limit of their playing primes, and it may be starting to show.

In recent years, the league's older crop of quarterbacks has been a source of amazement. They weren't just the savviest and smartest. In many cases, they engineered the NFL's most productive offenses.

Now this golden generation that buoyed the league's passing numbers is showing signs of decay. The Week 1 starting quarterbacks this year were the oldest in more than two decades.

Offensively Bad

A look at per team per game scoring and passing in the last decade.

YEAR	POINTS	PASS YARDS	NET YARDS PER PASS ATT.	SACK %
2017	20.3	222.7	6.08	7.0
2016	22.7	241.5	6.37	5.8
2015	22.8	243.8	6.41	6.1
2014	22.6	236.8	6.35	6.3
2013	23.4	235.6	6.21	6.7
2012	22.8	231.3	6.25	6.2
2011	22.2	229.7	6.32	6.4
2010	22.0	221.6	6.17	6.1
2009	21.5	218.5	6.17	6.1
2008	22.0	211.3	6.16	5.0

Source: Pro-Football-Reference WSJ

The winless Saints and 38-year-old Drew Brees haven't topped 21 points this season. Neither have the 0-2 Chargers and their potential Hall of Fame quarterback Philip Rivers. The Cardinals needed overtime to just squeak past the Colts 16-13, while Carson Palmer, 37, has completed just 54.8% of his passes and thrown four interceptions this year. And the Giants' Eli Manning, 36, mustered only three points in his season-opening loss to the Cowboys.

There have even been pauses for doubt in New England. Tom Brady began his 40-year-old season with one of the worst performances of his career against the Chiefs. He rebounded with a three-touchdown, 447-yard show against the Saints on Sunday, but that defense has been one of the league's worst.

The aging of the NFL's elite quarterback corps doesn't bode well for fans who have become addicted to the high-scoring shootouts of recent years. The last time the league's Week 1 starters were older than this year's was 1993. And that year was the league's lowest-scoring season since the 1970s.

BOXING

AFTER AN UNSATISFYING DRAW, WILL FIGHT FANS BUY IN AGAIN?

BY JIM CHAIRUSMI

JOHN GURZINSKI/AGENCE FRANCE-PRESSE/GETTY IMAGES

Saul 'Canelo' Alvarez, right, and Gennady 'GGG' Golovkin fought to a 12-round draw on Saturday.

LAS VEGAS—As the clock approached midnight on Saturday, workers outside T-Mobile Arena began dismantling signs advertising the megabout between Saul "Canelo" Alvarez and Gennady "GGG" Golovkin.

It won't be surprising if these banners are rolled out again next year, though it isn't entirely clear if fight fans will be on board.

The action-packed 12-round middleweight fight ended in a controversial split draw, with two distinct reactions to the result. On one hand, some feel the decision—especially judge Adalaide Byrd's one-sided scorecard in favor of Alvarez—embodied many of the sport's difficulties in delivering must-see fights with satisfying results.

That struggle is particularly acute as boxing desperately tries to move past the money grab that was the late August bout between Floyd Mayweather Jr. and UFC star Conor McGregor.

With Golovkin as the aggressor and more active fighter during most of the bout, most ringside observers appeared to think that he won on Saturday. Golovkin landed 218 of 703 punches (31%), while Alvarez landed 169 of 505 punches (33%), according to CompuBox. Yet Byrd scored the fight 118-110 in favor of Alvarez.

After the fight, Golovkin echoed what many fans thought. "This is terrible. It's not correct. It's terrible for boxing," he said.

Bob Bennett, the executive director of the Nevada Athletic Commission, said Byrd wouldn't face any discipline but he planned to order a meeting to discuss her scoring.

"Like in any profession, you have a bad night," Bennett said.

But the other take on the bout is that a good controversy is just what is needed to bring back casual fans who on Saturday were introduced to two of the sport's most dynamic fighters.

Golden Boy Promotions CEO Oscar De La Hoya, the fight's promoter, said the aftermath can be a "win, win" as both Mexico's Alvarez and Kazakhstan's Golovkin gained familiarity with U.S. audiences.

"It could have gone either way. It was such a great fight," he said. "I think this is what the sport needed, a fight like this."

After the bout, Golovkin's promoter, Tom Loeffler, agreed. "Enough drama, let's get them back into the ring," he said.

The trick isn't making a rematch seem like yet another money grab.

With pay-per-view sales for Saturday's fight expected to be in the 1.5 million to 2 million range and a $30 million gate, the bout could become the largest non-Floyd Mayweather Jr. fight in Nevada boxing history.

Alvarez was guaranteed $5 million for the bout, with Golovkin getting $3 million. Both boxers will also earn a share of the pay-per-view revenue. The prospect of even bigger purses is likely to bring them back together again.

Yet history provides a cautionary tale.

Nearly two decades ago, a similar decision in a high-profile fight was said to have given the sport a black eye.

In 1999, Lennox Lewis landed 218 more punches than Evander Holyfield in their heavyweight unification bout yet the three judges at ringside were unable to reach a consensus on a winner and the fight was declared a draw.

"This is what is killing boxing," the late trainer Emmanuel Steward, who was in Lewis's corner for the bout, said at the time.

The heavyweight clash drew 1.2 million pay-per-view buys, which at the time was the second-highest boxing PPV event that didn't involve Mike Tyson. Eight months later, Lewis and Holyfield fought again. This time, the fight drew only 850,000 PPV buys.

De La Hoya said Alvarez would exercise a rematch clause in his contract for another fight. But a member of Alvarez's team later clarified that the fighter was planning to take the rest of the year off and discussions for a rematch would take place at a later date. If the fighters are to fight again, it would probably be in May or September of 2018, dates that would align with holidays when the fight would be likely to draw the biggest crowds.

OPINION

A Confederacy of Dunces

MAIN STREET
By William McGurn

Spare a thought for poor Bill de Blasio. As cities across the South are shedding their Confederate memorials faster than you can say Stonewall Jackson, what New York's mayor wouldn't give for a larger-than-life Robert E. Lee bronze in full "Gone With the Wind" glory that he could order taken down.

Instead, he had to content himself with the announcement, days after last month's deadly protest in Charlottesville, that the violence there had led him to order a 90-day review of "all symbols of hate on city property."

Alas for the mayor, the Confederate pickings in his Yankee city are slim. The president of Bronx Community College found busts of Jackson and Lee and removed them. The Episcopalians took down two plaques commemorating a maple tree that Lee planted outside a now-closed church when he was stationed at Brooklyn's Fort Hamilton in the 1840s. The tree itself lives, despite its Confederate roots.

But it was left to the Metropolitan Transportation Authority to embrace the full absurdity of the moment when it declared that a mosaic at a Times Square subway stop is not in fact meant to be a Confederate flag—but will be altered anyway because it too closely resembles one.

Polls show most Americans oppose the removal of Confederate memorials, at least by mobs or politicians winking at them. Even so, the vandals are ascendant. In recent days Francis Scott Key joined a list of statuesque notables, from Joan of Arc to Wall Street's Charging Bull, that have been toppled or otherwise despoiled.

Mr. de Blasio is hardly the only pol to grandstand here. But as mayor of the nation's largest city—and America's self-styled progressive-in-chief—his eagerness helps illuminate why these hunts for hate hold such an attraction for the Democratic left.

One big reason is that the left's identity politics is not about healing old wounds. It's about picking at them. Is there anyone in New York who believes a de Blasio panel rummaging through the city's monuments for evidence of "hate" will contribute to either greater reconciliation or a deeper appreciation for the complexities of the Civil War?

Second, even where the charge of hate is outrageous, the accusation puts political opponents on the moral defensive. Look at the Southern Poverty Law Center. Most of Washington understands the SPLC's hate designations are arbitrary and political. But in a confirmation hearing earlier this month for Amy Barrett, an eminently qualified nominee for the Seventh U.S. Circuit Court of Appeals, Sen. Al Franken berated her for having appeared before an SPLC-designated "hate group."

The "hate group"? The Alliance Defending Freedom, a religious-liberty outfit whose "hate" turns out to be holding traditional Christian views on marriage and sexuality.

Still, the last reason driving Mr. de Blasio to the soapbox may be the most telling: Railing at dead white hateful males is lots more fun than doing the hard work required to improve city life for New Yorkers. Because in the real world, the progressive agenda doesn't work very well.

Mayor Bill de Blasio goes hunting for 'hate' on New York City property.

Now, if Mr. de Blasio were truly looking to tear down monuments that actively contribute to racial injustice, he would find plenty in his city. These include a failing public school system in which only a small fraction of African-American students test at grade level; a new, state-mandated $15 minimum wage, which will further price young black men out of jobs when it goes into effect; and the misguided welfare programs that undermine the black family.

Compare this state of affairs with what Joel Kotkin's Center for Opportunity Urbanism found when it looked at the best cities for racial minorities to get ahead. The center ranked cities by homeownership, entrepreneurship and median household income. When it crunched the numbers, 13 of the top 15 cities for African-Americans turned out to be in the former Confederacy.

That might be embarrassing, if the mayor were interested in improving actual outcomes. Instead, His Honor is now caught up with a new, non-Confederate target: the Christopher Columbus statue high atop a column on Columbus Circle. After the speaker of the city council, Melissa Mark-Viverito, suggested Columbus should come down too, Mr. de Blasio refused to rule it out, generating a whole new controversy.

The New York Post wisely suggested Mr. de Blasio "take a mulligan" on his statue-killing commission. But he shows no inclination to do so. And he says he will still march in the Oct. 9 Columbus Day parade, despite the possibility of jeers from Italian-Americans protective of the Genoese explorer.

In the post-Charlottesville press conference that got him into so much trouble, Mr. Trump pointed to the Robert E. Lee statue whose removal was the ostensible reason for the initial Charlottesville protest—and suggested George Washington might well be the next week's target. "Where does it stop?" he asked.

Mayor de Blasio and his fellow progressives have given their answer: It doesn't.

Write to mcgurn@wsj.com.

Winning Again Is Merkel's Easiest Task

By Walter Russell Mead

Berlin

As Sunday's German election approaches, sighs of relief can be heard across Europe. When much of the world seems to be spinning out of control, Germany remains reassuringly dull, plodding soberly along in the usual way. Angela Merkel is all but certain to return for a fourth term as chancellor. Although many votes remain undecided, her Christian Democrats (and their Bavarian allies, the Christian Social Union) have a healthy lead. The only question appears to be whether Mrs. Merkel will renew her coalition with the center-left Social Democrats or turn to smaller parties in its place.

The European Union establishment—shaken by Brexit, staggered by Donald Trump, challenged by Russia, and worried about the rise of populist and nationalist parties around the Continent—wants stability above all, and Germany seems to be the only country that can keep Europe on an even keel.

This is a major historical shift. From the rise of Bismarck in the 1860s through World War II, Germany kept European politics on the boil. As recently as 1990, both British Prime Minister Margaret Thatcher and French President François Mitterrand tried to stop unification in its tracks. Unable to block it, Mitterrand insisted that Germany bind itself to the rest of Europe by giving up the deutsche mark for the euro. Then-Chancellor Helmut Kohl agreed and promised to build a "European Germany" rather than a "German Europe."

A generation later, Thatcher and Mitterrand might feel their fears were justified. Politically and economically, Germany has become the most powerful and successful EU member state: In today's Europe, all roads lead to Berlin. Yet as nervous as Germany's strength makes some of its neighbors, the real question is whether Berlin can meet the expectations they are placing on it. Germany might look relatively strong, prosperous and stable, but the world may be expecting more from Berlin than the Germans are willing or able to give.

The world may be expecting more than Germany is able to deliver.

The economies of Southern Europe, still struggling with the fallout from the 2008-09 financial crisis, look to Germany for relief. The Baltic states and Poland look to Germany for European leadership against Russia. France wants Germany to accept it as the co-leader of Europe—an ambition that makes countries like Poland and Italy suspicious. German diplomats labor to pacify the Balkans and take the front line in Europe's growing confrontation with Turkey's President Recep Tayyip Erdogan. EU officials in Brussels look to Germany for leadership in dealing with the legal and political challenges populist governments in Poland and Hungary pose to European institutions. The Trump administration wants Germany to increase military spending, to reduce its trade surplus, and to do more to lead the North Atlantic Treaty Organization. Britain wants Germany to ease the path of Brexit.

Chancellor Merkel's fourth term will not be easy. Even if her party, as expected, scores a decisive victory at the polls, she will face serious constraints. The Alternative für Deutschland—a populist, nationalist and anti-euro party—is running third in national polls and seems certain to enter the Bundestag. That would be the first time in postwar German history that a far-right party has been seated in the national legislature. The AfD usually runs strongest in the former East Germany, where many factories closed following unification and wages still lag. But recently the AfD has made inroads in the prosperous west. It now holds seats in the legislatures of 13 of Germany's 16 states.

The danger for Mrs. Merkel and the German political establishment is that issues like migration and reform of the eurozone trigger the kind of populist backlash that feeds antiestablishment parties like AfD and Die Linke, successor to the East German Communist Party.

The economic outlook is also mixed. Looking ahead, it is not clear how long the old manufacturing economy can continue to underwrite German success. The automobile industry faces disruptive changes with an impending shift toward electric and autonomous vehicles. China continues to move up the value chain, increasingly looking to compete for the high-value-added precision work over which German industry has long reigned supreme. Automation will continue to put pressure on manufacturing employment, even in Germany. And with protectionist winds blowing world-wide, Germany's export-oriented economic model may struggle to repeat past success.

Mitterrand and Thatcher opposed German reunification because they feared a rich and powerful Germany would dominate Europe. Today, their successors must hope that Germany remains both powerful and rich enough to lead. The alternatives are grim.

Mr. Mead is a fellow at the Hudson Institute and a professor of foreign affairs at Bard College.

How to End ObamaCare in Two Pages

By James F. Blumstein

The GOP's push to repeal the Affordable Care Act is running out of steam—and time. Unless Republicans can agree by Sept. 30, they won't be able to pass a bill without 60 Senate votes. So here's a wild idea: Instead of repealing ObamaCare, make it unconstitutional.

Recall how the Supreme Court split when it upheld ObamaCare in 2012. Four justices thought the law's individual mandate—the requirement that Americans buy health insurance or pay a penalty—was unconstitutional. Another four thought it was hunky dory. What broke the tie was a novel opinion by Chief Justice John Roberts, who upheld the penalty by declaring it a tax.

With good lawyering, the GOP can take advantage of that premise. Republicans could pass a two-page bill clarifying that Congress did not intend to use its taxing power to enforce the individual mandate and disavows the same going forward. Congress could state that it intends ObamaCare to contain no severability provision—meaning that, as the four dissenting justices agreed in 2012, the entire law must fall if the mandate is unconstitutional.

Call John Roberts's bluff by disavowing the taxing power.

The Senate considered a "skinny" repeal bill in July, and this would be even skinnier—call it the "twiggy" repeal. But given that it clearly relates to taxes, it ought to be able to pass with 51 votes under budget reconciliation.

What would happen next? The Justice Department could declare the Affordable Care Act unenforceable in its entirety, relying on the new legislation and the 2012 decision. This would be within the executive branch's power to enforce the law in a proper, constitutional manner. Congress could provide a phase-out period by revoking the taxing authority for ObamaCare effective, say, in two years.

This would reset the baseline of the health-care debate. Once the spinach of repeal is swallowed, the conversation would turn to adding back benefits, albeit structured in a better way. Lawmakers in both parties would be motivated to implement real reforms.

The ObamaCare model simply doesn't work. The law substitutes an unpopular and unworkable system of coercion for market incentives. Because insurers are required to cover pre-existing conditions, people can wait to take out policies until they become sick. That's like letting people buy fire insurance after their homes are ablaze. The individual mandate was supposed to prevent such gaming, but the weakness of the penalties and the mandate's unpopularity have undermined that strategy.

A better approach is to assign people with pre-existing conditions to a high-risk pool that government subsidizes directly, perhaps by committing to these pools a fixed portion of Medicaid or any other funds allocated to the states. Society would be making a judgment to help these people, and then it would do so transparently.

Passing "twiggy" repeal may not be easy. There is tension in the GOP ranks between hard-liners who want straight ObamaCare repeal and moderates who fear upsetting the apple cart. But the ground may have shifted since the Senate's failed July vote-a-thon. Or a phased-in "twiggy" repeal could be added to the Graham-Cassidy bill that seems to be gaining some momentum. There's no way to know until Republicans try—and as Sept. 30 nears, this might become the only option remaining.

Mr. Blumstein is the director of Vanderbilt University's Health Policy Center.

BOOKSHELF | By Burton G. Malkiel

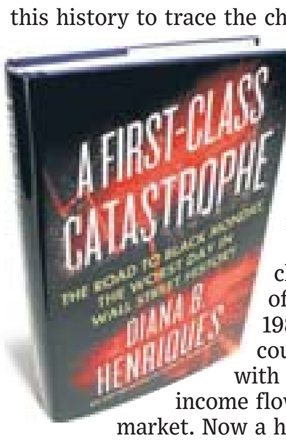
Anatomy Of a Crash

A First-Class Catastrophe

By Diana B. Henriques
(Holt, 393 pages, $32)

On Monday, Oct. 19, 1987, the U.S. stock market fell by 22.6%—the biggest one-day decline in its history. In "A First-Class Catastrophe," a chronicle of the Black Monday crash, Diana Henriques, a veteran financial journalist, presents a compelling account of the event itself and offers an analysis of its causes.

In addition to describing Black Monday's frantic activity, Ms. Henriques presents a narrative history of the seven years preceding the crash. It is rich in interviews and archival research and personalized with vivid descriptions of the actors and conflicts involved. Ms. Henriques uses this history to trace the changes in market structure and portfolio management that, she believes, were responsible for the market collapse. Her writing is so skillful that even mathematical risk-mitigation techniques and arcane turf wars between regulatory agencies are infused with life.



First on Ms. Henriques's list of changes is the institutionalization of financial markets. By the late 1980s, she notes, no longer were countless individual investors, each with different spending needs and income flows, participating in the stock market. Now a handful of large institutions were dominating trading, and these "titans and their trading toys," as she puts it, were directing the course of markets, especially when they acted in unison.

The "toys" to which Ms. Henriques alludes include program trading, index arbitrage and, not least, ever more intricate futures contracts. Such contracts involve the obligation to purchase (or deliver) a commodity (or a financial instrument) at a particular price at some specific future time. In the late 1980s, financial futures were increasingly being used by index funds and by institutional investors hedging their portfolios. At the time, trading in the Chicago futures (and options) markets was the most rapidly growing part of the securities business and had begun to overshadow in importance the trading of actual securities in New York.

Meanwhile, the markets in Chicago and New York were being linked by the technique of index arbitrage. Suppose, for example, the value of the S&P 500 index based on New York trading prices was 2400 but the futures price in Chicago was 2350. An arbitrageur could profit by selling short the stocks in New York and buying the futures contract. The sale could be made quickly in a program trade—that is, by entering the trade directly into the markets' computer systems. In this way, selling pressure that started in the futures market was rapidly transmitted to the cash markets.

The effect of such developments—dominant institutions and newly popular trading techniques—was varied. They made capital more productive, but they also, Ms. Henriques argues, made markets more subject to sudden shifts—and thus, she believes, more in need of centralized regulation. She singles out one other technique—portfolio insurance—for blame. Such insurance involves selling stock-index futures at the first sign of a market decline in order to protect against future losses. If the market declines still further, more sales are made. Portfolio insurance can have exacerbating effects, especially when it is adopted by more and more institutional investors. It is impossible to get out the door when everyone in the room is trying to exit at the same time.

New 'trading toys' no doubt played a role in Black Monday's market collapse in 1987. But were there sound financial reasons as well?

Such was the background to the cascading collapse of stock prices on Oct. 19, 1987. On the day itself, the Dow Jones Industrial Average dropped 9% in the first 90 minutes of trading. Ms. Henriques argues that index arbitrageurs, instead of buying S&P 500 futures, "held back, waiting for even lower prices in Chicago. And by not buying, of course, they helped guarantee that prices in Chicago would continue to fall." After a brief rally, the Dow "sank under wave after wave of sell orders from all kinds of professional investors." By mid-afternoon, "the market was falling into history."

After the crash, commissions were formed to examine the causes of the meltdown and offer recommendations. Ms. Henriques cites approvingly the Brady Commission Report, which emphasized the role played by the financial instruments and trading techniques she has described. The commission called for increased margin requirements, on the theory that, if investors had been required to put up more of their own money for securities or future contracts, the market would have been less volatile. It also called for putting financial markets under the scrutiny of a single regulator.

But the Brady Report should not be taken as holy writ. A Chicago Mercantile Exchange study, for example, concluded that the futures market was a net absorber of selling pressure and that increased margin requirements would have restricted buying and made the decline even worse. A single regulator, it was noted, might also limit financial innovation and the development of helpful hedging techniques.

Ms. Henriques dismisses the idea that there were rational causes—as opposed to structural or technical ones—for a dramatic revision of valuation levels on Black Monday. But such causes are worth considering. The market had rallied sharply during the preceding five years: Valuations were stretched. Price-earnings multiples were over 20 at the same time that interest rates were unusually high, having just risen to over 10%. In addition, Congress had threatened to impose a "merger tax" that would have made merger activity prohibitively expensive and could well have ended the merger boom that had inflated stock prices. What is more, James Baker, the Treasury secretary, had recently threatened to encourage a further fall in the price of the dollar, increasing risks for foreign investors and frightening domestic investors as well.

To be sure, portfolio-insurance trades magnified the decline on Black Monday. But markets all over the world declined just as sharply as the U.S. market, and they didn't have similar futures markets. Moreover, markets remained below their 1987 summer peak for the next two years. It is unsupportable to claim that the institutional structure of the U.S. market and a lack of unified regulation were responsible for the crash.

Mr. Malkiel is the author of "A Random Walk Down Wall Street."

OPINION

REVIEW & OUTLOOK

The Fed's Long March to Normal

Why the central bank needs to unwind its balance sheet.

The Federal Reserve this week, at long last, may announce plans to begin unwinding its nearly nine-year experiment with unconventional monetary policy known as quantitative easing. The move is welcome, even if it brings more financial volatility, because for the sake of the economy and its own credibility the Fed needs to return to a more modest view of central banking.

Financial markets seem to be anticipating the decision without angst, and for that the Fed deserves some credit. Chair Janet Yellen and her colleagues have signaled the move well in advance, including what is an agonizingly slow wind down in its $4.5 trillion balance sheet. The Fed has said it expects to pare that by only $10 billion a month for three months, then $20 billion for another three, before rising to $50 billion a month within a year. This means the return to monetary normalcy won't arrive before 2021 or 2022 at the earliest, assuming no recession along the way.

This reflects the Fed's inherent caution and perhaps a belief in its own QE advertising. Keep in mind how former Chair Ben Bernanke sold the concept: By buying long-duration Treasurys and mortgage securities, the Fed would drive down bond yields and force investors into riskier assets as they searched for yield.

This was supposed to lift asset prices and spur faster economic growth. The faster growth never arrived—despite Fed predictions for years that 3% annual GDP growth was right around the corner—in what has been the slowest modern expansion on record. But prices have risen in stocks, real estate, emerging-market plays and other assets.

If the Fed calls that a success on Mr. Bernanke's terms, then shouldn't the reverse happen as the Fed unwinds? That is, as the Fed unloads long-duration bonds, will investors sell some of those riskier assets to buy the Treasurys and mortgage debt the Fed won't be buying? Will we see naked bodies if the tide recedes in some asset classes?

If we knew the answer, we'd be rich, but there's certainly a chance for more financial volatility as investors react. This concern may explain the Fed's slow unwinding, especially as it now pays such close attention to the stock market. The Fed seems to fear the effect of any stock correction on the "wealth effect," even if corrections are useful in heading off investor manias that can become bubbles. (See the dotcom Nasdaq, year 2000.)

The effect on the real economy may be more sanguine, and in that sense the Fed's timing is fortuitous. The world's major economies are all growing at once for a change, and bank balance sheets in the U.S. are strong. The Trump Administration and Congress are moving toward what we hope is a pro-growth tax reform. The dollar has weakened considerably so there is little fear that monetary tightening will lead to an overvalued greenback. Inflation is contained, though it bears watching.

As David Malpass has argued on these pages, paring the Fed balance sheet might even be a growth stimulus. The Fed's post-crisis policies have favored big business and governments that have been able to borrow at bargain rates. But that has meant less credit to the rest of the economy, especially small businesses that create most new jobs. Fed policy has also favored the affluent who have financial assets at the expense of savers and the middle class. Reversing all this could unleash more bank lending and perhaps more small-business hiring.

We are using "might" and "could" here because no one really knows. No central bank in a large, modern economy had previously embarked on such a vast bond-buying experiment, and thus none has ever tried to unwind it. Some modesty is warranted.

* * *

Yet that is all the more reason for the Fed to begin the long march back to normalcy. Whether or not you think its post-2008 exertions succeeded, they have taken the Fed far from its legal mandate.

Its purchase of mortgage securities in particular are a form of credit allocation that distorts financial markets and investment decisions. Its meddling in the long bond market abetted federal government borrowing by disguising the long-term cost of debt repayment. The Fed offered a free lunch for the Obama Administration with the bill presented to future Presidents and taxpayers.

The Fed needs to shrink these financial and political footprints. History shows central bankers have a hard enough time guiding interest-rate policy without producing either inflation or recessions. The longer they are viewed as economic maestros, or the wizards of helicopter money, the more they are able distort investment decisions and hijack economic policy from elected political actors.

One danger of this QE experiment is that too many in the political class and inside the Fed are already eager to call it a success and repeat it during the next recession. Historically slow growth and tepid income gains during an eight-year expansion aren't our idea of success, and they don't justify a Fed that continues to dominate economic decision-making.

Pelosi Faces Her Constituents

These days, no good compromise goes unpunished.

Now Nancy Pelosi knows how Charles Murray, or any conservative speaker at Berkeley, feels. The House Minority Leader was confronted by angry protesters in San Francisco Monday as she and two other California Democrats sought to explain her tentative agreement last week with President Trump to provide legal protection to young undocumented immigrants.

The event was intended as a call for Congress to pass the Dream Act that would protect some 700,000 so-called Dreamers from being deported. And you'd think that Mrs. Pelosi would be thanked for getting Mr. Trump to move off his campaign rhetoric and support legalization—especially when Democrats are in the minority on Capitol Hill.

But dozens of young people instead rushed the stage and began chanting, "we are not a bargaining chip" and "all or us or none of us." They also demanded a "clean bill" without any provisions for additional border security, as Mr. Trump said he wants.

Perhaps before they're granted legal status, these kids should be required to understand how America works. If they want legal status under the U.S. Constitution, Congress must pass a law and Republicans now have a majority. This requires compromise, and Mrs. Pelosi is trying to cut a deal that will stop these protesters from being deported. They're fortunate that a requirement of legal status isn't an IQ test.

Trump's Western Firefighters

Interior reverses years of neglect on forest management.

The current hurricane season is capturing most media attention, but Westerners have been living through another nasty season of wildfires. So full marks for Interior Secretary Ryan Zinke, who is reversing years of federal neglect to prevent more fires.

Last week Mr. Zinke issued a memo instructing his land managers and park superintendents to use the "full authority" of their bureaus to begin clearing the dead and dying trees and brush that clog federal lands and are a tinderbox for Western wildfires. This is the first time in more than 20 years that Interior will, as the memo notes, "proactively work to prevent forest fires through aggressive and scientific fuels reduction management to save lives, homes, and wildlife habitat."

Forest Service policies have contributed to a fuels buildup for more than a century. But Bill Clinton turbocharged the mismanagement in the 1990s when he sharply reduced logging and road-building in federal forests. This has let disease and insect infestations run rampant, and fire proliferation is one result.

The number and intensity of Western megafires is growing, and this year some 47,000 wildfires torched eight million acres—an area the size of Maryland. Bigger and more intense fire seasons now also routinely destroy thousands of homes, and more than 450 firefighters have been killed on duty since 1990.

Before the Clinton era, the Forest Service spent about 16% of its annual budget fighting fires once underway. In 2015 it had to spend more than half for the first time in its 110-year history. The rising costs mean the Forest Service must poach money from programs aimed at *preventing* fires through better forest restoration and management.

Forest cleanup has become a local, bipartisan cause in the West, as state officials, land owners and others coalesce for more active debris removal and forest thinning. The opposition comes from environmental groups, often out of state, that dislike forest management and swoop in to stop the deals.

In Montana, where 200,000 acres are burning, the Alliance for the Wild Rockies and Friends of the Wild Swan recently sued to stop a proposal for tree-thinning and limited burning in the Flathead National Forest. They are fighting a mere 1,800-acre commercial timber harvest. The same groups that fret about climate change and pollution don't mind policies that result in the burning of entire carbon sinks that spew smoke and noxious chemicals.

Beyond Mr. Zinke's memo, Congress can help with legislation to reduce frivolous litigation and streamline permitting for active forest management. Reform should include changes to the National Environmental Policy Act's environmental review process and the infamous Equal Access to Justice Act, which green groups have exploited to sue and then force taxpayers to cover their litigation costs.

The federal government owns upward of 50% of the land in many Western states. The GOP Congress has a chance to build bipartisan coalitions to better manage federal lands and reduce the fire damage that scars the West each year.

LETTERS TO THE EDITOR

Mayor Emanuel's Chicago School Flimflam

Chicago Mayor Rahm Emanuel's "Chicago's Schools Finally Get Fair Funding" (Letters, Sept. 8) contains a drop of truth in a waterfall of flimflam. It's true that Illinois is "dead last" in the percentage of state funding provided to public schools (26% versus a national average of 46% in 2013-14), but this doesn't mean Illinois skimps on K-12 education spending ($12,972 per pupil versus a national average of $12,131). And Chicago students aren't short-changed either, with per-pupil operational spending of $15,378 in 2014-15 versus a state-wide figure of $12,821.

Do Illinois legislators skimp on funding the Chicago Public Schools (CPS) as Mayor Emanuel claims? No. The CPS receives almost half of its revenues from the state (34%) and federal government (15%) while the average Illinois school district receives one-third (25% and 8% respectively). The CPS spending is about $16,500 per student and supports an average salary of $70,366 for CPS teachers.

Mayor Emanuel claims CPS students are "are state and national leaders in academic progress," citing math and reading gains and a "record" high-school graduation rate. But according to the state report card, only 25% are academically prepared to move to the next level. It's not surprising that only 30% are ready for college work and that 70% must take remedial college-prep classes to learn what CPS failed to teach them. If this is Mayor Emanuel's idea of success, what does failure look like?

GEORGE A. CLOWES
The Heartland Institute
Arlington Heights, Ill.

Mr. Emanuel asserts that we lucky Chicagoans no longer need fear what he incorrectly calls "double taxation" resulting from the state's refusal to fund the city's bloated teachers' pension system. The appropriate focus is on the amount of tax dollars we will all bleed as a result of the new funding agreement. Historically punitive Chicago property taxes will increase 2.5%, state personal income taxes will rise 32% and state corporate-income taxes will soar by one-third. This is on top of the largest-ever increase in Chicago property taxes, approved two years ago to foot the bill for police and fire pensions. Remember, these new taxes are for pensions, not for teacher or first responder salaries, or infrastructure, much less for books and supplies for CPS students.

Is it any wonder that both Chicago and Illinois led the country in population decline last year?

I would ask Mr. Emanuel this: If Chicago's public schools are so good, why does he send his own children to the University of Chicago Laboratory Schools, a private school located some 15 miles from his home? Is it for the same reason that Arne Duncan, former secretary of education under President Obama, attended the Lab Schools instead of his local public school? Or that then-Sen. Barack Obama sent his two children to the Lab Schools? I know the answer to this question, and it has not changed over the decades, no matter how much money CPS, our mayor and our state legislators extract from taxpayers.

MARYANNE SPINNER
Chicago

The SPLC's Ratings Are Fair and Balanced

In the fourth attack against us published by the Journal in the last three months, former Vanderbilt professor Carol Swain describes what she says is "What It's Like to Be Smeared by the Southern Poverty Law Center" (op-ed, Sept. 12). It would be more appropriate for us to ask the question in reverse, not only about her, but also about the Journal itself.

In a nutshell, Ms. Swain says we criticized her for endorsing a film we said was made by a bigot (something she has claimed she didn't know) in retaliation for her criticizing our "silence" after members of the New Black Panther Party showed up at a polling place in 2008 in "paramilitary regalia." Conveniently, Ms. Swain fails to acknowledge that we had named the NBPP a hate group eight years earlier because of its incendiary anti-Semitic, racist rhetoric.

More important, she fails to acknowledge that we criticized her endorsement of the film, not because of the supposedly secret racism of the filmmaker, but rather because the film itself is thoroughly infected by his racism. Even James Taranto, the Journal's editorial features editor, acknowledged this point, calling the film "seriously flawed" and writing that it reflects its maker's "own resentments and prejudices."

Need more proof? The film was screened three times by the Council of Conservative Citizens—a white supremacist group whose website was instrumental in radicalizing Dylann Roof, who massacred nine African-Americans in Charleston, S.C. So who's smearing whom, Ms. Swain?

J. RICHARD COHEN
President
Southern Poverty Law Center
Montgomery, Ala.

Carol Swain is right on with her history and criticism of the SPLC. Although I stopped contributing some 15 years ago, I still receive solicitations labeled "member since . . . ." I wonder whether their voice represents nearly the numbers they suggest.

DALE FRUMAN
Export, Pa.

Trump Must Govern, Even if With Democrats

Your editorial "The Pelosi-Schumer-Trump Congress" (Sept. 7) speaks factually but misses the mark. Belittling President Trump's deal on the federal debt ceiling by alleging it came out of pique at Republican congressional leaders perpetuates media fixation with the president's emotions. Reality speaks otherwise, in that the deal avoided a manufactured crisis (the debt ceiling) in the midst of two natural calamities.

Recent experience shows that the demands of House special-interest Republican caucuses could never be satisfied if their votes controlled extended debt-ceiling deadlines. Combined with Senate Never Trumpers, GOP leaders had no chance of enacting their extended debt-ceiling proposals. We "deplorables" support the decision, conceding that since the GOP can't govern legislatively, our president must engage enough votes in Congress from any source to move, yes, even a diluted agenda forward. His reforms of the executive bureaucracy continue.

The Deferred Action for Childhood Arrivals issue belongs to Congress. We'll have to see if what used to be our party learns any lessons.

ILSE AND FRED EHMANN
New Milford, Pa.

Politically speaking, your editorial makes sense, but here's the deal. Trump supporters trust President Trump and don't trust any of the political lifers in Congress. Of course, we don't trust Nancy Pelosi or Chuck Schumer, but we no longer trust Mitch McConnell or Paul Ryan either. The Republicans have been a big disappointment this year, but they're part of the swamp.

MIKE O'DONNELL
Aurora, Ill.

Phony 'Disparate Impact' Policy Kills Order in Schools

In "Another Obama Policy Betsy DeVos Should Throw Out" (Upward Mobility, Sept. 13), Jason Riley again shows his uncommon common sense. What the Obama administration called "disparate impact" is an untrue, improper and incorrect measure. The question should not be whether more members of a minority were punished by school suspension (or prison time, etc.) for an offense than the majority, but whether everyone, regardless of race, who committed the same offense under similar conditions received similar, consistent punishments or treatment.

HAL DANTONE
Kingsville, Texas

Letters intended for publication should be addressed to: The Editor, 1211 Avenue of the Americas, New York, NY 10036, or emailed to wsj.ltrs@wsj.com. Please include your city and state. All letters are subject to editing, and unpublished letters can be neither acknowledged nor returned.

Pepper ... And Salt

THE WALL STREET JOURNAL

"It's slander and an insult and an outrage, but I see their point."

Higher Ed's Latest Taboo Is 'Bourgeois Norms'

By Heather Mac Donald

To the list of forbidden ideas on American college campuses, add "bourgeois norms"—hard work, self-discipline, marriage and respect for authority. Last month, two law professors published an op-ed in the Philadelphia Inquirer calling for a revival of the "cultural script" that prevailed in the 1950s and still does among affluent Americans: "Get married before you have children and strive to stay married for their sake.

An op-ed praising 1950s values provokes another campus meltdown—from the deans on down.

Get the education you need for gainful employment, work hard, and avoid idleness. . . . Eschew substance abuse and crime." The weakening of these traditional norms has contributed to today's low rates of work-force participation, lagging educational levels and widespread opioid abuse, the professors argued.

The op-ed triggered an immediate uproar at the University of Pennsylvania, where one of its authors, Amy Wax, teaches. The dean of the Penn law school, Ted Ruger, published an op-ed in the student newspaper noting the "contemporaneous occurrence" of the op-ed and a white-supremacist rally in Charlottesville, Va., and suggesting that Ms. Wax's views were "divisive, even noxious." Half of Ms. Wax's law-faculty colleagues signed an open letter denouncing her piece and calling on students to report any "bias or stereotype" they encounter "at Penn Law" (e.g., in Ms. Wax's classroom). Student and alumni petitions poured forth accusing Ms. Wax of white supremacy, misogyny and homophobia and demanding that she be banned from teaching first-year law classes.

Ms. Wax's co-author, Larry Alexander, teaches at the University of San Diego, a Catholic institution. USD seemed to be taking the piece in stride—until last week. The dean of USD's law school, Stephen Ferruolo, issued a schoolwide memo repudiating Mr. Alexander's article and pledging new measures to compensate "vulnerable, marginalized" students for the "racial discrimination and cultural subordination" they experience.

USD's response is more significant than Penn's, because it is more surprising. While USD has embraced a "social justice" mission in recent decades, the law school itself has been less politicized. It has one of the highest proportions of nonleftist professors in the country—about a quarter of the faculty. Mr. Ferruolo, a corporate lawyer with strong ties to the biotech industry, presented himself until recently as mildly conservative. If USD is willing to match Penn's hysterical response to the Wax-Alexander op-ed, is there any educational institution remaining that will defend its faculty members against false accusations of racism should they dissent from orthodoxy?

Two aspects of the op-ed have generated the most outrage. Ms. Wax and Mr. Alexander observed that cultures are not all "equal in preparing people to be productive in an advanced economy." Their critics pounced on this statement as a bigoted, hate-filled violation of the multicultural ethic. In his response, Penn's Dean Ruger proclaimed that "as a scholar and educator I reject emphatically any claim that a single cultural tradition is better than all others." But that wasn't the claim the authors were making. Rather, they argued that bourgeois culture is better than underclass culture—specifically, "the single-parent, antisocial habits, prevalent among some working-class whites; the anti-'acting white' rap culture of inner-city blacks." The authors' criticism of white underclass behavior has been universally suppressed in the stampede to accuse them of "white supremacy."


ISTOCK/GETTY IMAGES

At the University of Pennsylvania faculty lounge?

The op-ed's other offense was extolling the 1950s for that decade's embrace of bourgeois virtues. "Nostalgia for the 1950s breezes over the truth of inequality and exclusion," five Penn faculty assert in yet another op-ed for the student newspaper. In fact, Mr. Alexander and Ms. Wax expressly acknowledged that era's "racial discrimination, limited sex roles, and pockets of anti-Semitism."

None of the professors' high-placed critics have engaged with any of their arguments. Mr. Ferruolo's schoolwide letter was one of the worst examples. The dean simply announced that Mr. Alexander's "views" were not "representative of the views of our law school community" and suggested that they were insensitive to "many students" who feel "vulnerable, marginalized or fearful that they are not welcomed." He did not raise any specific objections to Mr. Alexander's arguments, or even reveal what the arguments were.

Instead, he promised more classes, speakers and workshops on racism; more training on racial sensitivity; and a new committee to devise further diversity measures. Stronger racial preferences will most certainly follow. The implication of this bureaucratic outpouring is that the law-school faculty is full of bigots. In reality, Mr. Alexander and his colleagues are among the most tolerant people in human history, and every University of San Diego law student is among the most privileged—simply by virtue of being at an institution with such unfettered intellectual resources. The failure of administrators like Mr. Ferruolo to answer delusional student narcissism with obvious truth is an abdication of their responsibility to lead students toward an adult understanding of reality.

What are university administrators and faculty so afraid of? The Wax-Alexander op-ed confronted important issues responsibly and with solid grounding in social-science research. Each of these administrative capitulations sends a message to professors not to challenge the reigning ideology. The result is an ever more monolithic intellectual environment on American campuses, where behavioral analyses of social problems may not even be whispered. What happens to America if those banned ideas turn out to be true?

Ms. Mac Donald is a fellow at the Manhattan Institute and author of "The War on Cops" (Encounter, 2016).

Ukraine Has Many Problems, and Only One of Them Is Russia

By Judith Miller

Kiev, Ukraine

Ukraine will soon enter the fourth year of a low-intensity war with Russia. More than 7% of its territory remains occupied by its aggressive neighbor. Will Ukraine survive as a free, independent, pro-Western nation?

"It's 50-50," a veteran European diplomat who knows the region well told me this weekend in Kiev. His gloomy assessment was echoed by many of the 350 current and former officials, academics, businessmen and journalists attending the 14th annual Yalta European Strategy conference, a two-day gathering sponsored by pro-Western oligarch Victor Pinchuk that has become a popular stop on Europe's conference circuit. While Ukrainian President Petro Poroshenko expressed confidence in his country's future, concerns surfaced repeatedly at the meeting's sessions and more often in quiet, candid conversations.

To its credit, Ukraine has overcome challenges that could have destroyed a less determined country. Russia's invasion and illegal annexation of Crimea in 2014 and its continuing occupation of part of the Donbas region, Ukraine's eastern industrial heartland, initially threatened to turn the country into a financial and political basket case. After the invasion, gross domestic product fell 17%, inflation soared to more than 60%, and Ukraine's currency lost nearly 60% of its value. Yet after two years of contraction, Ukraine's economy stabilized in 2016 and has started growing again. According to World Bank projections, it will grow by 3.5% in 2018 and 4% in 2019. Moody's recently upgraded Ukraine's creditworthiness from stable to positive. And this week, Ukraine is returning to the sovereign debt market by issuing $2.5 billion in new Eurobonds, the most important reflection to date of its remarkable recovery.

Much of this is due not only to Western aid and $17.5 billion from the International Monetary Fund, but to government reform that has boosted investor confidence. Since Mr. Poroshenko's election in 2014, Ukraine has adopted a business-friendly tax code, closed failing banks and recapitalized others, raised domestic energy tariffs, and enacted a more transparent public procurement system. It has negotiated a free-trade agreement with the European Union, and in June Ukrainians began enjoying visa-free travel to EU countries.

Ukraine is no longer dependent on Russian natural gas, which before 2013 accounted for more than 99% of its supplies. Finally, the country boasts a cantankerous free press and vibrant civil society, empowered by the Euro-Maidan Revolution, the mass public protests in Kiev's main square in 2014 that prompted the corrupt, pro-Russian President Viktor Yanukovych to flee the country.

Yet all is not rosy. Corruption remains endemic and the pace of reform has slowed. Ukraine's civil service ranks second-lowest in effectiveness in Europe, just above Moldova, according to the World

It has overcome challenges that would have destroyed a less determined country, but there's trouble ahead.

Bank Governance Indicators. Government pledges of land reform and the privatization of some of the 3,300 state enterprises have not been implemented. Discontent is widespread and growing.

"The government has done a lot, but not enough," Svitlana Zalishchuk, a young member of Ukraine's Parliament, told participants at the conference. "Reform postponed," warned Suma Chakrabarti, head of the European Bank for Reconstruction and Development, "is transformation [to a post-Soviet society] postponed."

In 2014, under heavy pressure from Western governments and the IMF, Ukraine's government created a new independent National Anti-Corruption Bureau. Kiev also empowered a special prosecutor, who has since opened hundreds of corruption cases. Yet VoxUkraine, a nonpartisan research group critical of the government, asserted that due to corruption in the court system, only three senior officials have actually been jailed since 2016. Prosecutor General Yuri Lutsenko told the conference that three bribe-takers were being prosecuted every day, but even he complained about the delay in creating a special anticorruption court.

Mr. Poroshenko is himself the subject of many corruption rumors and complaints. "The president has not helped overcome corruption," Ms. Zalishchuk asserted last week. Storefronts featuring the chocolate brand Roshen, which helped make Mr. Poroshenko an oligarch, are ubiquitous in the capital. And despite the war, the president stopped making chocolate in Russia only after President Vladimir Putin moved to shut his factory down. Several Ukrainians told me they think their president views his office as a business opportunity first and foremost.

Ukraine spends $5 billion, or 5% of gross domestic product, on defense. Mr. Poroshenko's appointment of two former business partners to key posts related to military spending has sparked war profiteering charges. "The president is one of the main beneficiaries of the defense budget," Oksana Syroyid, a member of Parliament, told the Kyiv Post.

If demography is destiny, Ukraine also has cause for concern. In this country of 45 million, the annual death rate exceeds the number of live births. Martin Schumacher, the German CEO of wholesaler Metro Cash & Carry Ukraine, estimates that as many as 200,000 Ukrainians, often young and skilled, emigrate each year. "There is virtually no immigration," he said. A tech worker can make three times his Ukrainian salary in Poland. In Germany, he added, salaries are almost 10 times higher.

The number of young political activists is shrinking as well, said Aivaras Abromavicius, Ukraine's former minister for economic development and trade. Whereas 60 of the country's 3,000 graduates of Western schools had senior posts in government a year ago, only about 10 do today. Young activists have become discouraged about the prospects of reform from within, Mr. Abromavicius told me after a conference session. "There are islands of reform and hope," he said, "but we need more of them."

Ms. Miller is a contributing editor of City Journal and a Fox News contributor.

Kill the Loopholes, Including the One for 'Low-Income Housing'

By Chris Edwards
And Vanessa Brown Calder

As tax reform begins to wind its way through the legislative process, President Trump should not forget his call last month to get "rid of the loopholes and complexity that primarily benefit the wealthiest Americans and special interests." Resistance to eliminating these features of the tax code will be stiff, but the more such unjustified breaks are eliminated, the more tax rates can be cut.

Consider the Low Income Housing Tax Credit, created by the 1986 tax reform. This $9 billion credit masquerades as an antipoverty program, but it mainly subsidizes developers, investors and the financial industry.

To stimulate low-income housing construction, the federal government allots a share of tax credits to the states, which dole them out to selected developers. The credits cover part of the construction costs of multifamily housing projects. The developers must cap rents for a share of the units, so the benefits of the tax credit are meant to flow to tenants in the form of lower rents. Yet the developers usually sell the credits to banks and investors, often using syndication companies as intermediaries. The investors, developers and middlemen—not poor families—end up grabbing most of the benefits.

Gregory Burge of the University of Oklahoma estimated in a 2010 study that the value of the rent savings for tenants was a mere 35% of the value of the tax benefits going to developers. Economists Edward Glaeser and Joseph Gyourko concluded two years earlier that the low-income housing credit "is not very effective along any important dimension—other than to benefit developers and their investors."

Although the credit subsidizes a lot of construction, it mainly displaces private building that would have occurred without the program. A 2005 study in the Journal of Public Economics by Todd Sinai and Joel Waldfogel found that half or more of housing would have been produced even without the credit. And a 2010 study for the Journal of Public Economics by Michael Eriksen and Stuart Rosenthal found that as much as 100% of development subsidized by the credit is offset by declines in private development.

The housing credit is also a prime target for abuse. Earlier this year a National Public Radio reporter profiled a Miami-area business that stole $34 million from 14 low-income-credit housing projects

Developers and investors, not the poor, benefit most from the credit. It should not survive tax reform.

by submitting inflated construction cost data to the government. Another Miami company discussed by NPR stole $4 million from four projects by the same method.

The NPR report concluded that "little public accounting of the costs exists, even among government officials and regulators charged with monitoring the program." This is consistent with a 2015 Government Accountability Office report, which concluded that federal oversight of the credit is "minimal." The federal government has audited the low-income credit activities of less than 20% of state housing agencies.

This credit is the exact sort of corporate tax loophole that Congress should repeal in exchange for a lower corporate tax rate. Instead the Senate Finance Committee held a hearing this summer to explore *expanding* the credit. Members are swayed by lobbyists such as the chairman of the National Association of Home Builders, who claimed at the hearing: "If we want to provide affordable rental housing for lower-income households, it is financially impossible to do so without a subsidy."

That is not true. To increase supply, Americans need fewer local zoning regulations that inflate housing costs, not more federal subsidies. A 2005 study found that restrictive regulations have doubled the price of housing in cities such as San Jose and San Francisco, as well as in the New York City borough of Manhattan. Numerous academic studies suggest that zoning reduces the supply of multifamily housing, which hits low-income families the hardest.

Housing affordability is a serious problem in many cities, but the low-income credit is a misdirected federal solution for a local problem. GOP tax reformers should put it—and other loopholes like it—on the chopping block.

Mr. Edwards is director of tax policy studies at the Cato Institute, where Ms. Calder is a housing policy analyst.

Notable & Quotable: Hillary '84

From Hillary Clinton's new book, "What Happened":

Attempting to define reality is a core feature of authoritarianism. This is what the Soviets did when they erased political dissidents from historical photos. This is what happens in George Orwell's classic novel *Nineteen Eighty-Four,* when a torturer holds up four fingers and delivers electric shocks until his prisoner sees five fingers as ordered. The goal is to make you question logic and reason and to sow mistrust toward exactly the people we need to rely on: our leaders, the press, experts who seek to guide public policy based on evidence, ourselves.

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TECHNOLOGY: CISCO'S CHAIRMAN TO STEP DOWN, ENDING AN ERA B4

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Equifax Had Other Cybersecurity Episode

Firm says earlier incident was unrelated to hack in May that led to data theft

BY ROBERT MCMILLAN AND ANNAMARIA ANDRIOTIS

Equifax Inc. hired cybersecurity experts to deal with an incident on its corporate networks in March, two months before the massive hack began that it has said led to the potential compromise of personal data belonging to 143 million U.S. consumers.

Equifax late Monday said that the March episode was unrelated to the May hack of its networks that led to the massive data theft. The credit-reporting company said that at the time of the earlier incident it had hired cybersecurity firm FireEye Inc.'s Mandiant investigations group—the same group it hired in August to investigate the May break-in.

"Earlier this year, during the 2016 tax season, Equifax experienced a security incident involving a payroll-related service. The incident was reported to customers, affected individuals and regulators," Equifax said in a statement. "Mandiant has investigated both events and found no evidence that these two separate events or the attackers were related."

A FireEye spokesman declined to comment Monday.

A person briefed on the March episode said Equifax contacted Mandiant after noticing suspicious activity on its corporate networks. The Equifax spokeswoman didn't respond to messages seeking further comment.

Equifax hasn't previously disclosed suffering any security-related incident in March. The Atlanta-based company is under fire from regulators, lawmakers and others for its handling of the May hack, which potentially exposed personal information, including dates of birth and Social Security numbers for the majority of U.S. adults.

The company has said it discovered that breach July 29, but it didn't disclose it until Sept. 7. Its revelation has shaken confidence in the company and in the credit-reporting system, a central element of the financial system.

Avivah Litan, an analyst with industry-research firm Gartner Inc., said Equifax should have also disclosed any earlier breach if one occurred. "If they were hacked in March, they should have disclosed it as soon as they knew about it," she said.

News of the March incident was reported earlier Monday by Bloomberg News.

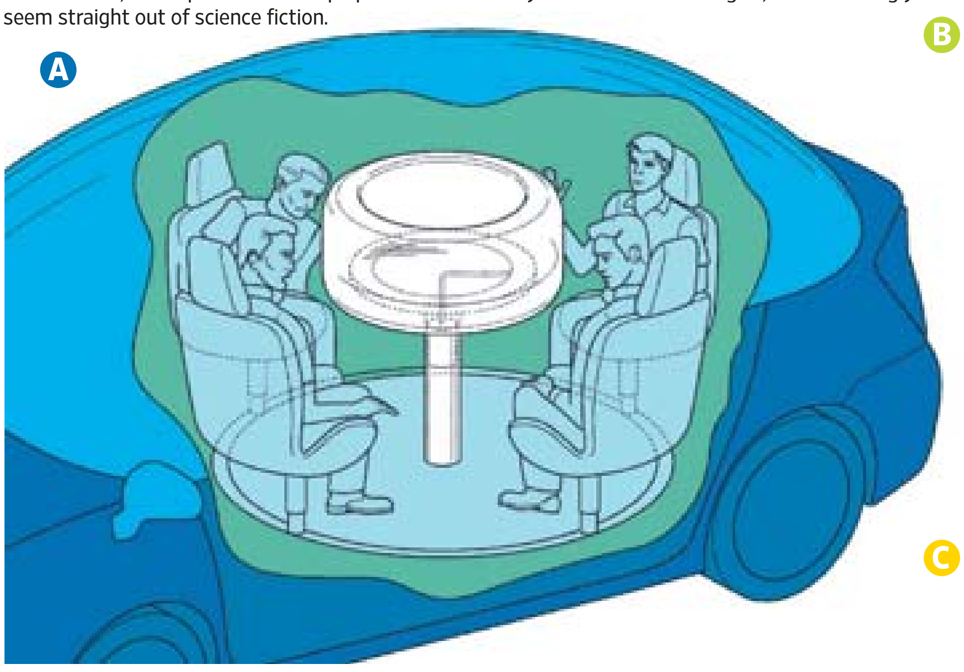
March is an important month in the timeline of the Equifax hack. On March 8, the nonprofit Apache Software Foundation disclosed that it had discovered a flaw in its Apache Struts software, which includes tools that help speed up the development of interactive websites.

Equifax last week said its security team believed it had addressed the Apache Struts

Please see DATA page B2

Weird Today, Here Tomorrow

Auto makers, under pressure to keep up with Silicon Valley on new car technologies, are increasingly seeking to patent innovations that seem straight out of science fiction.



A **Air-bag table** – **Ford**, envisioning its self-driving cars will have conference-style seating, seeks to patent a special air bag for the center table to protect occupants facing each other during a crash.

B **Thermal feedback** – **Toyota** wants to patent a wearable device helping blind people navigate their surroundings, an example of how the car maker is looking to innovate beyond the vehicle market.

C **Cloaked pillars** – **Toyota** is also looking to patent technology that makes certain car parts such as the door pillars appear to be see-through.

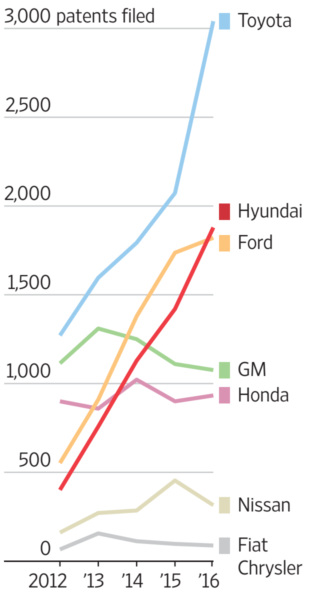
Source: Toyota and Ford U.S. patent applications

THE WALL STREET JOURNAL.

Auto Makers in Push for Patents

Big Ideas

Number of U.S. patent application filings by major car makers.



Source: Oliver Wyman

THE WALL STREET JOURNAL.

BY CHRISTINA ROGERS

DETROIT—Car fanatics wanting a glimpse at the auto industry's next big thing used to flock to auto shows. Now, many of them flip through online patent filings.

Auto makers, pressured to keep up with Silicon Valley companies working on autonomous-car technology and ride sharing, have sharply boosted their U.S. patent filings over the past five years. In 2016, 10 of the world's largest car makers submitted 9,700 patent applications, up 110% from 2012, according to consulting firm Oliver Wyman.

"The pressure is for us to invent before the Valley does," said Bill Coughlin, chief executive of Ford Global Technologies LLC, which handles the Dearborn, Mich., auto giant's patent and copyrights. "The last thing we want is to be a fast follower."

A growing number of these filings seem straight out of science fiction, covering inventions intended to help people pay less attention to the road while they drive—or while they aren't actually driving at all.

Ford Motor Co. seeks a patent for a drone system that would locate passengers who call a self-driving robo-taxi, while another Ford filing, envisioning self-driving cars with conference-room-style seating, seeks to patent a special air bag that will fit into a center table to protect the occupants facing it.

For its part, **BMW** AG wants to patent a system that would allow an autonomous vehicle to communicate with pedestrians or human drivers in other vehicles, through visual signs, beeps or even speech.

Hyundai Motor Co., meanwhile, seeks to protect a device that would allow a driver to exit from the car and then push a button to park it, while **Toyota Motor** Corp. is looking to patent a technology that makes certain car parts such as door pillars appear to be see-through.

Patent holders have exclusive rights on an invention for as long as two decades after the grant date, an important weapon for vehicle companies looking for a technological edge in an evolving industry. While patent disputes rarely make news in the car business, first-movers often enjoy benefits, such as revenue from licensing their creations to others.

Toyota, long the industry leader in patent filings, innovated several hybrid-vehicle technologies that rivals eventually needed when looking to compete in combo gas-electric cars. Technology from its groundbreaking Prius was licensed by Ford, for instance.

"We're not just a company that's looking at putting some nuts and bolts on a vehicle," said Fred Mau, Toyota's lead

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Northrop's Deal Fuels Space Race

BY DOUG CAMERON

Northrop Grumman Corp.'s move to acquire rocket maker **Orbital ATK** Inc. reflects the rising competition among defense giants for supremacy in space, a rapidly evolving military battleground.

Space has been shifting from a largely passive platform for surveillance to a more strategic military arena, with countries such as China developing the capability to disable satellites and disrupt communications.

Northrop's proposed $7.8 billion acquisition of Orbital, announced Monday, would help Northrop to produce and launch large and small spy and communications satellites and develop new high-speed weapons and missile-defense systems to deter potential adversaries such as Russia, China and North Korea.

The proposed deal is the largest with a big military space element since Harris Corp. agreed to buy Exelis Inc. for $4.6 billion in 2015.

Northrop is the fourth-largest U.S. defense company by sales after **Lockheed Martin** Corp., **Boeing** Co. and **Raytheon** Co., all of which have been investing in new space-related capabilities.

Northrop, based in Falls Church, Va., makes fuselages and radars for the F-35 combat jet, large military drones, and satellites along with surveillance and communications systems, many of them classified. Dulles, Va.-based Orbital ATK produces space rockets, engines for missiles, and smaller satellites.

Aerospace and defense companies are combining to respond to pressure from commercial and government customers to cut costs and to vertically integrate their operations and gain more control of their supply chains.

China and Russia have been investing heavily in space capabilities, and Pentagon leaders have expressed concern about the U.S. losing its technological advantage.

The Pentagon is also looking to make U.S. space assets less vulnerable by launching larger numbers of smaller satellites, and pursuing research into new weapons such as hypersonic missiles able to travel at more than 5,000 miles an hour. That would enable them to hit any target on the globe in minutes.

Pentagon officials have been pushing for more, warning of falling behind in space. "The No. 1 problem we face is being outpaced by our adversaries," Air Force Gen. John Hyten, head of the U.S. Strategic Command.

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INSIDE

BOEING UNDER FIRE FROM U.K. AND CANADA

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ABOUT €100,000 IS FLUSHED DOWN TOILET

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Beijing Draws a Bead On Virtual Currency

BY CHAO DENG

BEIJING—Chinese authorities are moving toward a broad clampdown on bitcoin trading, testing the resilience of the virtual currency as well as the idea that its decentralized nature protects it from government interference.

Regulators have decided on a comprehensive ban on channels for the buying or selling of the virtual currency in China that goes beyond plans to shut commercial bitcoin exchanges, according to people familiar with the matter.

Officials communicated the message to several industry executives at a closed-door meeting in Beijing on Friday, according to people who were at the meeting. Until last week, many entrepreneurs in China's bitcoin circles had thought authorities might shut down only commercial trading activity while tolerating peer-to-peer, or over-the-counter, bitcoin platforms, which enable buyers and sellers to find each other and trade directly.

Word of a more serious tightening spread after the meeting, and at least one Chinese platform last week said it would halt one-on-one trading services per official instructions.

The Chinese plan represents some of the most draconian measures any government has taken to control bitcoin, created by an anonymous programmer nearly a decade ago as an alternative to official currencies, and word of it sent another wave of anxiety through the Chinese bitcoin community.

China has digitized its financial sector faster than any

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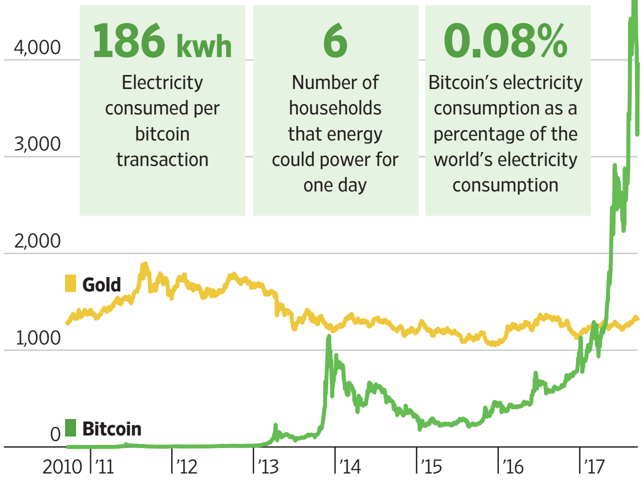
STREETWISE | By James Mackintosh

What Should Bitcoin Actually Be Worth?

Even Less Green Than the Greenback

Bitcoin has surged while gold has done little in the past few years. But bitcoin's support system is sucking up electricity.

$5,000 per troy ounce of gold or per bitcoin



Sources: Thomson Reuters (gold); Coindesk (bitcoin); Digiconomist (electricity estimates)

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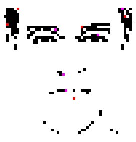

Behind every bubble is a good idea bursting to get out, and bitcoin kind of looks like a good idea, at least if you squint a bit. A digital currency without borders that governments can't control and that allows secret online transactions? I'm in. Bitcoin itself? Not so much.

So is a single bitcoin worth $500,000, $5,000, $500 or $0? I'm inclined to say $0, especially if bitcoin's value depends on it being adopted as a global digital currency to replace dollars. There is no chance whatsoever that bitcoin can displace the dollar, for the simple reason that it is badly designed. Bitcoin can handle a pathetically small number of transactions, and uses an inordinate amount of electricity to do so, making it entirely unsuitable to replace ordinary money.

Even if bitcoin worked better, it is in a Catch-22 because of Gresham's law, the nostrum that bad money drives out good. Given the choice of spending inflationary government-issued money or something which holds its value, everyone would spend the bad paper stuff and hoard the bitcoin.

There are two somewhat less ambitious claims for bitcoin that could give it value. The first is that it is a limited form of money because of its usefulness for dealing illegal drugs and dodging capital controls. The second is that it is a form of digital gold: an insurance that will keep its value even if governments confiscate or inflate

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BUSINESS & FINANCE

Furor Builds at Brazil Meatpacker

By Samantha Pearson And Luciana Magalhaes


RODRIGO FONSECA/AGENCE FRANCE-PRESSE/GETTY IMAGES
JBS was founded in 1953 as a small-town slaughterhouse.

SÃO PAULO—Brazil's **JBS** SA, the world's largest meatpacker, has sparked fierce criticism by putting its 84-year-old founder back in charge of the family-run company after both his sons were jailed, ignoring shareholders' pleas to bring in outside management.

José Batista Sobrinho will take over as chief executive until May 2019, steering JBS through a mammoth corruption scandal with the help of his 26-year-old grandson as an adviser. Shares in the company, which owns brands Swift and Pilgrim's Pride in the U.S., closed down 4% Monday.

JBS's announcement Sunday came in stark contrast to the strategy of Brazil's other scandal-hit giants such as construction group **Odebrecht** and steelmaker **Gerdau**, which are booting out their founding families from the companies' management to win back investors' trust.

"The families of these companies will have to be completely removed or the companies will have to be sold—otherwise they do not have much chance of survival," said Marcelo Godke, a law professor at the Insper business school in São Paulo, referring to firms involved in Brazil's corruption investigations.

The family-run business model has prospered in Brazil over the past century, as it has across Latin America, and is generally praised for making companies more stable and better able to withstand the region's economic turmoil.

But it also makes recovering from a corruption scandal particularly tricky. With the heirs in jail, companies implicated in what is called the "Car Wash" investigation have struggled to move on while they are still owned by and named after their disgraced founding families.

JBS was thrust to the center of the investigation earlier this year when JBS's controlling shareholders, through their holding company, admitted they bribed close to 2,000 politicians, including President Michel Temer. Initially granted immunity in exchange for the confession, Joesley Batista, the billionaire heir and former JBS chairman, was arrested this month on accusations he omitted information from his testimony—allegations he denied. His brother, Wesley Batista, JBS's then-CEO, was arrested last Wednesday, accused of insider trading for allegedly dumping the company's shares and stockpiling U.S. dollars before the market-moving scandal became public—allegations he also denies.

Mr. Batista Sobrinho, Joesley and Wesley's father, who founded JBS after his initials in 1953 as a small-town slaughterhouse, said in a statement Sunday he was proud to become the top boss again and has "a lot of confidence in the performance of our leadership."

JBS also promoted his grandson, Wesley Batista Filho, to a "global leadership team" tasked with helping the aging founder make decisions, the company said.

The management shake-up was met with skepticism by analysts and opposition from BNDES, Brazil's state development bank, whose investment arm holds a 21.3% stake in JBS.

"It was a desperate situation," said Shin Lai, an investment strategist at São Paulo-based independent research company Upside Investor. "The best solution would have been someone from the market aligned to the interests of minority shareholders," he said.

BNDES, which has been pushing the Batista family to loosen its grip over the company ever since it admitted wrongdoing, still hopes to annul Mr. Batista Sobrinho's appointment, said a person close to the bank.

Paulo Rabello de Castro, head of BNDES, told Brazil's Folha de S.Paulo newspaper that he didn't approve of the move, even though a representative of the bank on JBS's board signed off on the appointment. He told the newspaper that JBS had previously agreed to hire a headhunter to search for a new CEO.

JBS said in a statement Monday that the CEO appointment was in the best interests of the company and its shareholders.

In Brazil around 43% of nonfinancial companies listed on the country's Bovespa stock exchange are family-owned, of which 63% have a family member as the CEO, according to Luiz Ricardo Kabbach de Castro, an economics professor at the University of São Paulo.

While family-run companies aren't necessarily less professional, firms that are controlled by only a few investors may be less nimble when responding to crises such as the one facing JBS, he said.

Equifax Work for Government Shows Its Broad Reach

By Michael Rapoport And AnnaMaria Andriotis

Equifax Inc., the credit-reporting firm that suffered a massive breach of consumer data, also supplies identity verification services to the U.S. Social Security Administration and works with the federal Centers for Medicare and Medicaid Services to verify people's eligibility for health-insurance subsidies.

The government work, which generates more than $20 million in revenue for Equifax annually according to federal procurement data, highlights how deeply rooted Equifax is in the financial life of the country—helping establish the very basic credentials of identity for U.S. citizens.

That broad reach is now cause for concern given the company's announcement earlier this month of a breach that disclosed vital personal information of potentially 143 million Americans. That information included Social Security numbers, along with names, addresses and dates of birth.

The attack is being probed by the Federal Bureau of Investigation, while the company is facing inquiries from regulators and Congress.

At the Social Security Administration, Equifax has supplied identity-verification services for the agency's "my Social Security" portal. This helps consumers do things like check their benefits and request replacement Social Security cards.

The CMS uses employment and income data from Equifax's "Work Number" database business to verify people's eligibility for subsidies to buy health insurance under the Affordable Care Act.

The CMS business, with annual contracts around $20 million, according to procurement data. Equifax reported $3.15 billion in revenue last year.

There is no indication that Social Security Administration or CMS systems have been compromised due to the Equifax hack. When the company announced the breach on Sept. 7, it said only "certain files" were affected, adding, "The company has found no evidence of unauthorized activity on Equifax's core consumer or commercial credit reporting databases."

Following news of the breach, the Social Security Administration posted a statement that said, "Although we sometimes use Equifax to help verify your identity when setting up a mySocial Security account, Social Security never shares Social Security numbers with Equifax." The SSA on Monday didn't respond to a request for additional comment.

Government work generates more than $20 million in revenue annually.

A Equifax spokesman said the company doesn't comment on the terms of customer contracts. But he said the company provides identity verification and authentication "through various methods for the my Social Security system."

Separately, it emerged Monday that Equifax suffered a data incident in March that was separate from the hack that led to the widespread exposure of consumer data. In a statement, Equifax said it had retained Mandiant, the cyber investigations division of FireEye Inc., to look into the incident but didn't elaborate further. Mandiant also was called in to investigate the massive data hack discovered in late July. "The two events are not related," Equifax said. The earlier March incident was previously reported by Bloomberg News.

Late last week, Sens. Sherrod Brown (D., Ohio.) and Bill Cassidy (R., La.) wrote to the Social Security Administration's acting commissioner saying the Equifax breach "raises serious questions as to whether the personal data SSA maintains on behalf of all Americans may be at risk of identity theft or other cybersecurity threats."

The CMS didn't respond to a request for comment.

The SSA contract is detailed in the Federal Procurement Data System, showing successive one-year contracts between an Equifax subsidiary, Equifax Information Services LLC, and the SSA. The current contract, which was earlier reported by Salon, is scheduled to run until Feb. 24, 2018 and pays around $4.5 million, the records show.

"This partnership will help protect the millions of online transactions the SSA manages annually," an Equifax official said in a 2016 statement.

Until the breach disclosure this month, Equifax's arrangements with the two U.S. government agencies were small examples of what appeared to be a successful metamorphosis of the company under Chief Executive Richard Smith. Mr. Smith became CEO in 2005 when the company was almost entirely focused on maintaining and selling credit reports to lenders.

He viewed that as a static business, one that was producing meager growth for the company, according to remarks Mr. Smith made at the University of Georgia last month. The credit-report data also didn't set Equifax apart from its primary rivals, **Experian** PLC and **TransUnion**.

Though still one of the largest credit-reporting firms in the U.S., Equifax's credit-reporting division accounts for a declining share of its overall revenue. While the company doesn't break this out in its filings, about a year ago a then-company spokeswoman told The Wall Street Journal that credit reports accounted for around 30% of revenue, down from around 80% in 2006.

To gain an edge, Mr. Smith and his deputies moved to acquire more databases on Americans and then sell that data. Beyond selling data to lenders, Equifax added more employers and insurance companies to its client roster.

Equifax also has a trove of employment records in large part due to its acquisition of Talx Corp. in 2007.

The company also expanded the number of people covered by its credit reports. It paid $1 billion in 2012 for Computer Sciences Corp.'s credit services unit, which had credit files in 15 Midwestern and central states representing about 20% of the U.S. population.

DATA

Continued from the prior page

bug in March, but it now says that hackers broke into its corporate networks in May by leveraging the Struts flaw, and then proceeded to steal data for the next two months.

It couldn't be determined on Monday whether the March incident in any way involved Apache Struts software.

Many other questions about the May break-in remain unanswered. Investigators and Equifax itself are focusing on the company's actions leading up to the breach and on the identities of the hackers responsible. To date, the information stolen during the intrusion hasn't surfaced on hacker forums, a sign that the breach may not have been financially motivated, people familiar with the investigation said.

Teva Sells Women's Health Assets

By Ezequiel Minaya

Teva Pharmaceutical Industries Ltd., the world's biggest seller of generic drugs, said Monday it will sell the remaining assets in its specialty global women's health business for $1.38 billion, the company's latest move to grapple with high debt.

The company has been selling off noncore assets in a bid to pay down some $35 billion in debt.

Teva said Monday it has entered into an agreement with **CVC Capital Partners** to sell it a portfolio of contraception, fertility, menopause and osteoporosis products for $703 million in cash. In addition, Teva has entered an agreement under which Foundation Consumer Healthcare, owned by affiliates of **Juggernaut Capital Partners** and **Kelso** & Co., will pay $675 million in cash for Teva's Plan B One-Step and other brands of emergency contraception.

Last week, Teva announced it had sold its Paragard contraceptive-device business to **Cooper** Cos. for $1.1 billion.

$35B

Amount of debt generic-drug maker Teva Pharmaceutical has

The sales "demonstrate Teva's commitment to delivering on our promise to generate net proceeds of at least $2 billion from the divestiture of noncore assets," said Yitzhak Peterburg, Teva's interim CEO.

Like other generic drugmakers, Teva faces tough price competition that is squeezing profit margins. It also owes about $35 billion, much of it from last year's acquisition of Allergan PLC's generics unit for $40.5 billion, Teva's biggest-ever deal.

Last week, Teva appointed Kare Schultz, a nearly 30-year pharmaceutical industry veteran, as the company's new chief executive. The company hasn't yet said when Mr. Schultz will assume his post.

Teva has searched since February for a new chief executive to fill the shoes of longtime leader Eli Hurvitz, who is credited with turning the company from a small-time pharmaceutical firm into a global generics drugs seller.

Mr. Hurvitz was chief executive for more than 25 years and involved in Teva until his death in 2011. Since then, the firm has gone through a series of CEOs that have struggled to manage global expansion.

The Israeli drugmaker in August posted disappointing second-quarter results, cut its full-year outlook and slashed its dividend, blaming the rapid deterioration of its U.S. generic-drug business.

—Rory Jones contributed to this article

Canada and U.K. Target Boeing

Prime ministers want U.S. aircraft maker to end trade complaint against Bombardier

By Paul Vieira

DHIRAJ SINGH/BLOOMBERG NEWS

Canadian aircraft maker Bombardier has been accused by Boeing of unfairly benefiting from Canadian government support.

OTTAWA—The prime ministers of the U.K. and Canada vowed Monday to join forces and press **Boeing** Co. and the Trump administration to bring an end to the aerospace company's pursuit of a trade complaint against Montreal's Bombardier Inc.

The dispute between the North American aircraft makers, over allegations that Bombardier unfairly benefits from Canadian government support, prompted Canadian Prime Minister Justin Trudeau to issue his most direct threat regarding Boeing's behavior at a joint press conference involving the two Group of Seven leaders.

Mr. Trudeau said a failure to resolve the matter could prompt Canada to scrap previously announced plans to buy roughly $5 billion in Boeing jet fighters, as he said he has no intention to do business "with a company that's trying to sue us."

U.K. Prime Minister Theresa May has been drawn into the dispute because it could affect a factory in Northern Ireland that makes parts for Bombardier's 100-plus-seat C Series aircraft.

That carries political implications for Mrs. May's minority Conservative government, which depends on support from 10 lawmakers belonging to Northern Ireland's Democratic Unionist Party to pass critical legislation, including on Britain's exit from the European Union.

"We have discussed how we can work together to see a resolution to this issue, which from my point of view, I want to see a resolution which protects those jobs in Northern Ireland," Mrs. May told reporters. She added she would raise the Bombardier dispute with President Donald Trump when she meets with him later this week at the United Nations General Assembly.

"I will be impressing on him the significance of Bombardier to the United Kingdom, and obviously to jobs in Northern Ireland," she said.

The rhetoric and vow from London and Ottawa to fight together emerges before the International Trade Commission is scheduled to issue next week a preliminary ruling on Boeing's complaint.

Boeing alleges Canadian state subsidies have allowed Bombardier to sell its C Series in the U.S. at below cost, and this poses an unfair competitive threat to Boeing's own 737 passenger jets. Boeing wants U.S. authorities to impose tariffs on C Series imports to the U.S.

"In need of a big name sale in the United States, Bombardier offered planes at absurdly low prices, millions lower than in its home market. This is a classic case of dumping," Boeing said in a recent statement.

The Canadian government and Bombardier deny Boeing's allegations.

Aerospace analysts say plane makers including Boeing routinely sell new plane models below what they cost to make to win market traction. Bombardier's C Series is smaller than any Boeing jet, and the U.S. company didn't make an offer last year on the contract that Bombardier secured from **Delta Air Lines** Inc. Bombardier has a backlog of 360 of the jets, and Delta is due to take the first of its 75 planes next spring.

Mr. Trudeau said Boeing is pursuing this complaint due "to their narrow economic interest to harm a potential competitor, and is not in keeping with the kind of openness in trade that benefits citizens all around the world."

This escalated rhetoric also comes as the U.S., Canada and Mexico are set to meet for the next round of trilateral talks aimed at revamping North American Free Trade Agreement, known as Nafta. Those talks are unfolding while Mr. Trump continues to threaten to withdraw from the pact unless the U.S. gets better terms.

—Jenny Gross in London contributed to this article.

GETTY IMAGES

Laura Ingraham will host 'The Ingraham Angle' starting Oct. 30.

Fox News Shuffles Lineup

By Joe Flint

Fox News is shaking up its prime-time lineup again.

Joining the network in the 10 p.m. slot is Laura Ingraham, a frequent contributor to Fox News and a well-known conservative radio host, the network announced Monday. A former clerk for Supreme Court Justice Clarence Thomas, Ms. Ingraham has been a vocal supporter of President Donald Trump and spoke at last year's Republican National Convention.

She takes over the home long occupied by Sean Hannity, who will move up to 9 p.m. "The Five," a panel show that was moved from 5 p.m. to 9 p.m. earlier this year, will return to its early evening slot.

Ms. Ingraham's show will be titled "The Ingraham Angle" and will debut on Oct. 30. However, Mr. Hannity's show will move to 9 p.m. Monday, where he will be head-to-head with **MSNBC**'s Rachel Maddow. Fox News will use rotating hosts at 10 p.m. until "The Ingraham Angle" makes its debut.

In the announcement of Ms. Ingraham's hiring, Fox News said her show will "aim to cut through the Washington chatter to speak directly with unexpected voices and the actual people who are impacted by the news of the day."

Fox News parent company **21st Century Fox** and News Corp, owner of The Wall Street Journal, share common ownership.

Fox, Host Hit With Allegation

By Joe Flint

Scottie Neil Hughes, a former on-air guest on the Fox News Channel and **Fox Business Network**, alleged in a lawsuit that she was blacklisted by the network and defamed after accusing an anchor of rape and assault.

The suit, filed Monday in federal court in New York, stems from her earlier allegation that she was raped and assaulted by Fox Business Network anchor Charles Payne, on whose show she often appeared.

Ms. Hughes also claims that after making a formal complaint to a law firm retained by Fox News, Fox News leaked her name to the media and disseminated emails that suggested she and Mr. Payne had a consensual relationship.

Besides Fox News and Mr. Payne, the suit's other defendants include Fox News general counsel Dianne Brandi and spokeswoman Irena Briganti, and the channel's parent company, **21st Century Fox** Inc.

Through his attorney, Mr. Payne denied the allegations. "My client Charles Payne vehemently denies any wrongdoing and will defend himself vigorously against this baseless complaint. We are confident that when the evidence is presented in this case, Mr. Payne will be fully vindicated and these outrageous accusations against him will be confirmed as completely false," said Jonathan Halpern, a partner at the law firm of **Foley & Lardner** LLP.

The allegations are the latest claim of sexual misconduct at Fox News. The suit was filed by attorney Douglas Wigdor.

Fox News denied that it retaliated against Ms. Hughes. Network spokeswoman Jessica

> *The allegations are the latest claim of sexual misconduct at Fox News.*

Jensen said in a statement that covered all defendants: "The latest publicity stunt of a lawsuit filed by Doug Wigdor has absolutely no merit and is downright shameful. We will vigorously defend this. It's worth noting that Doug is Ms. Hughes's third representative in the last six months to raise some variation of these claims which concern events from four years ago, since it apparently took some time to find someone willing to file this bogus case."

Said Mr. Wigdor in a statement: "Regardless of the fact that the sexual assault and rape, as alleged, happened in 2013, the events exposing Fox's liability exposure (as opposed to Payne) occurred less than 2 months ago when Fox Executives at the highest levels leaked Ms. Hughes's name to a tabloid. The 'representatives' that Fox refers to in its statement include her agent and a lawyer not admitted in NY, so the suggestion that Ms. Hughes was shopping for a lawyer, is yet another desperate attempt at avoiding the real issues and blaming the victim. Sadly, nothing has changed at Fox."

21st Century Fox and Wall Street Journal parent **News Corp** share common ownership.

Ms. Hughes appeared as a network contributor from 2013 to 2016. She alleged that Mr. Payne made sexual advances toward her, and that in July 2013 he raped and assaulted her in a New York hotel room. The suit says she was too shocked and ashamed to speak out and didn't tell anyone about the alleged incident. Thereafter, she was coerced into a sexual relationship by him in exchange for career benefits, the suit alleges.

Fox News suspended Mr. Payne from his Fox Business duties in July. He was recently reinstated after the network said it had completed its review, providing no further comment.

SAJJAD HUSSAIN/AGENCE FRANCE-PRESSE/GETTY IMAGES

'India will leapfrog markets like the U.S. and Europe' in mobile-payments adoption, said Google Vice President Caesar Sengupta.

Google Adds India Pay App

Many consumers have switched to digital services following a cash crunch last year

By Newley Purnell

NEW DELHI—**Alphabet** Inc.'s Google is aiming for a piece of India's booming—but increasingly crowded—mobile-payments business.

The Mountain View, Calif., tech giant on Monday launched its first-ever smartphone app that lets users transfer money to individuals and businesses in the country without the use of a credit or a debit card, a crucial factor since many here lack plastic.

Millions of Indian consumers have been ditching bills in favor of mobile-payments apps after the government's surprising move last year to take 86% of currency out of circulation in an effort to curb corruption and bring more people into the tax net. The move triggered a cash crunch.

"India will leapfrog markets like the U.S. and Europe" in terms of adoption of mobile payments, Caesar Sengupta, a Google vice president, told the media in New Delhi. Services such as **Apple** Inc.'s Apple Pay and **Samsung Electronics** Co.'s Samsung Pay are increasingly popular in some developed countries. But they face competition from widely used credit cards and haven't really taken hold in emerging markets.

Google's app, called Tez, lets Android and Apple users send money from their bank accounts or receive it via a simple interface that resembles a chat app and works in seven Indian languages.

The app's launch is Google's latest move to customize products for India's nascent internet economy, which analysts say it wants to tap to ramp up advertising revenue globally. The firm has joined with the Indian government to provide free Wi-Fi at railway stations and has released special apps for the market, such as a version of YouTube that works even with patchy internet connections.

"Google is late on this thing but they can easily scale it up," said Tarun Pathak, an analyst at research firm Counterpoint. Some 96% of smartphone users in India are on Google's Android mobile-operating system, he said, and the service could grow quickly if users flock to it.

While Google says it isn't charging users or merchants for the service, Mr. Pathak said Google could one day use it to collect data for advertising purposes. Google declined to say if it has plans to bring the app to additional emerging countries, like Indonesia and Brazil, but said it holds promise for such markets.

Google's new app faces some serious rivals. India's market leader, Paytm, boasts more than 225 million users and in May raised $1.4 billion from Japan's SoftBank Group Corp., which it is using to fuel its expansion.

India's biggest local messaging app, Hike, in June launched a mobile-payments feature, while Facebook Inc.'s WhatsApp—which has some 200 million users in India—is exploring adding digital payments in India.

"We see our primary competitor as cash," said Google Vice President Diana Layfield, stressing that the company views mobile payments as being in their infancy in India.

Ad Remedy Offered in Europe for Rivals

By Natalia Drozdiak

BRUSSELS—**Alphabet** Inc.'s **Google** has proposed overhauling its shopping search results so that rivals can bid for space to display products for sale, as part of the tech giant's efforts to comply with the European Union's antitrust order, according to people familiar with the matter.

Under the proposal, Google would bid against rivals to display products for sale in the space above its general search results, according to the people. Google would set itself a price cap that it wouldn't be able to bid above, but competitors could do so if they wished.

Rival shopping sites have hit back, saying an auction-based remedy wouldn't assuage the EU regulator's demands that the company treat its competitors' offerings and its own shopping service equally.

The European Commission ordered Google to make the changes to its search results by late September as part of its decision to fine Google a record €2.42 billion ($2.89 billion) in June for discriminating against rival comparison-shopping sites in its search ranking.

MICHAEL NAGLE/BLOOMBERG NEWS

Google is proposing to overhaul its shopping search results.

The remedies would have to apply in all European countries where Google offers its shopping service.

Google submitted a plan to the EU in August that sketched out how it would amend its search results to comply, but declined to provide details at the time. A Google spokesman couldn't be reached for comment Monday.

"The [European] Commission can confirm that, as required by the commission decision, it has received information from Google on how the company intends to ensure compliance with the commission decision by the set deadline," a commission spokeswoman said Monday.

Should Google's proposed remedies fall short, the EU could hit it with penalties of up to 5% of average daily global revenue for the period it is deemed not to be complying.

The proposal is similar to one offered by Google several years ago as part of settlement talks with the previous EU antitrust chief, Joaquín Almunia. Those talks crumbled under pressure from complainants and politicians in France and Germany, paving the way for EU regulators to fine the company and demand changes.

Google's final binding offer in February 2014, which the EU made public, would have meant results pages that displayed Google shopping ads would also have included shopping results from rivals. Those results would have appeared in a shaded box next to Google's shopping ads, according to screenshots the EU published at the time. Complainants at the time objected that Google would make them bid for the space via an auction mechanism, essentially making money from the settlement.

Now, complainants are again objecting to Google's proposed remedies for similar reasons.

"While we have yet to see details of Google's proposal, it seems unlikely that Google could have devised an auction-based remedy that does not fall far short of the equal treatment standard stipulated by the [commission's] decision," said Shivaun Raff, chief executive of Foundem.co.uk, a comparison-shopping website that was the first company to file a formal antitrust complaint about Google to the EU.

The auction-based remedy could force Google's competitors to bid away the majority of their profits to Google, Ms. Raff said. Google could set a high price cap for its own bids, pushing the bids of competitors higher. Google and the commission are still discussing the level of the company's self-imposed price cap, according to one of the people familiar with the situation.

Cisco's Chambers Will Step Down

By Rachael King And Cara Lombardo

Cisco Systems Inc. Executive Chairman John Chambers is stepping down in December, ending a run of more than two decades in which he steered the network-equipment maker through two U.S. recessions and grappled with upstart rivals trying to reimagine the market he pioneered.

Mr. Chambers became chairman in 2006 and executive chairman in July 2015, when he gave up the chief executive role to Chuck Robbins, a 17-year company veteran. Still, the 68-year-old remained a presence on the executive floor at Cisco's San Jose, Calif., headquarters.

The board had elected to keep Mr. Chambers as executive chairman to provide a smooth transition, said Carol Bartz, the lead independent board director, in an interview Monday. The two executives worked well together, she said, and the board appreciated the times when they had differences of opinion.

"A couple of times, John said he would do something one way, and we said we'd support what Chuck wanted to do," she said, declining to elaborate. "We are not trying to find a Mini-Me." The board knew it needed a balance between relying on Mr. Chambers's knowledge and reputation, and giving Mr. Robbins authority, said Ms. Bartz.

Larger-than-life CEOs like Mr. Chambers, though, can cast a large shadow, said Peter Crist, chairman for executive recruiter Crist|Kolder Associates.

"As long as that previous CEO is in the room in any capacity, they have a voice and everybody listens to that voice," he said.

Mr. Chambers joined Cisco in 1991, the year following its initial public offering, as a senior vice president in charge of sales. The company grew rapidly during the dot-com era, selling hardware that sends data quickly over the internet and through corporate networks.

During his tenure as CEO, Mr. Chambers built Cisco into the networking leader with a market value at one point exceeding $500 billion. He delivered a return 17 times over to shareholders, including dividends, while at the helm. Based mostly on shareholder return, Harvard Business Review in 2015 named Mr. Chambers the second-best performing CEO in the world out of 907 executives.

Mr. Chambers was particularly good at communicating clearly with his team and getting them to understand what customers needed, said John Doerr, chairman of venture-capital firm Kleiner Perkins Caufield & Byers.

"He's visionary and plain-speaking and irrepressibly optimistic," Mr. Doerr said.

In an email to Cisco's board, Mr. Chambers said it was time for Cisco to move on to new leadership and for him to move on to something new. He is expected to spend more time coaching startups and investing in new technologies. Earlier this year he co-led a $15 million funding round in drone-security startup Dedrone Inc.

PATENTS

Continued from page B1

intellectual-property attorney in North America. "It's about being prepared for, 'What's the next big thing?' "

One of the Japanese company's most recently published inventions is a system that uses cameras and data storage to create a road-trip storybook. Toyota has also sought to patent a digital necklace to help the blind sense their surroundings, an example of how the car maker is looking beyond the vehicle market to innovate.

Auto executives feel the heat from tech companies, as richly funded startups and corporate heavyweights develop their own moonshot ideas.

For instance, Google parent **Alphabet** Inc.'s Waymo autonomous-car division in 2015 filed a patent application for a shape-shifting vehicle that would become flexible in a collision. **Amazon.com** Inc., which is following **Uber Technologies** Inc. and **Apple** Inc. in creating an in-house driverless-technology division, recently patented a system to help autonomous vehicles better navigate differing roadway configurations.

Juergen Reiner, a partner at Oliver Wyman, said car companies have an edge in creating automotive hardware, but will struggle to catch up on the software front. Unlike Silicon Valley companies, traditional vehicle makers face huge overhead and capital requirements for their factories and product lines.

"It's not a well-balanced battle," Mr. Reiner said. "They need to develop cars and have other distractions."

Patent filings aren't the most efficient way to spy on big ideas at their gestation because they aren't made public until 18 months after submission. However, because they include the inventor names, they are good for identifying talent. "These are not the names you would ever read in the press," said Reilly Brennan, a partner at Trucks venture-capital, a fund that invests in transportation startups. While under the radar, these engineers are working on projects that are "more exciting than [anything] I'd ever seen at an auto show."

Some car companies aren't moving as aggressively on the patent front, even if they are trying to lead the technology chase. **General Motors** Co., for instance, has bought or invested in Silicon Valley firms working on autonomous technology but narrowed its own patent filings to about 1,000 in the U.S. last year, down 3.4% from 2012.

GM said it trimmed its patent requests to focus more on emerging technologies, including advanced materials, and sensors and other things linked to connectivity. "We're not looking at patent volume," a GM spokesman said. "We're looking at patent quality."

Toyota's U.S. filings climbed to over 3,000 last year from 1,271 in 2012, and to 7,000 globally, from 9,950 in 2012. Ford submitted 5,000 globally, a fivefold increase over 2012, according to Oliver Wyman. Ford says it sees the potential to boost its licensing revenue; its income from royalties, which includes licensing, totaled $714 million in 2016.

Toyota, Ford and several global rivals have ramped up research centers in Silicon Valley. Ideas like in-vehicle health monitors and removable steering wheels or pedals for self-driving cars are among recent inventions Ford has sought to patent.

Ford Links Up With Indian Firm

Ford Motor Co. again is distancing itself from crosstown rival **General Motors** Co., saying it will work with an Indian auto maker on boosting its prospects in an important emerging market where profits have been hard to come by.

Ford said Monday that it is linking up with Indian auto maker **Mahindra & Mahindra** Ltd. in a three-year partnership to explore potential areas of collaboration on new technologies and retail sales. Such areas could include everything from co-developing electric vehicles to collaborating on new mobility ventures and connected-car services. Ford also is looking at ways to leverage the two companies' dealer networks to expand into new markets.

Ford's move closely follows GM's exit from India, where the auto maker will stop selling vehicles so it can redirect investment to more lucrative markets. GM is also spending heavily on autonomous-vehicle and electric-car development.

India is the world's fifth-largest car market by sales. Mahindra has struggled to establish itself and its lineup of rugged SUVs in mature markets.

Ford's market share in India is 2.5%.

—Christina Rogers

Countries Urged to Weigh Issuing Digital Currencies

Central banks need to assess participation in a quickly changing landscape, BIS says

BY STEVEN RUSSOLILLO

Central banks should consider introducing their own cryptocurrencies to counter the risks from the explosive growth of bitcoin and other virtual currencies, the Bank for International Settlements said in a report.

The 16-page analysis, tucked into a broader quarterly review from the consortium of major central banks, based in Basel, Switzerland, comes as prices of digital currencies have skyrocketed until recently. They fell sharply last week after China started cracking down on domestic trading venues for bitcoin.

The surging popularity of trading in virtual currencies—of which bitcoin is the largest—is creating a dilemma for central banks, whose role is to manage their country's currency and money supply and maintain stability in the financial system.

Soaring cryptocurrency prices have sparked concerns about the pitfalls often associated with speculative trading and raised the specter of authorities potentially losing control over their monetary systems.

The BIS report, which highlighted what it called "a new taxonomy of money," discussed the pros and cons of central banks issuing their own digital currencies.

It noted the potential for digital currencies' underlying technology—used to process and record transfers—and the uncertainty related to possible unintended consequences.

"While it seems unlikely that bitcoin or its sisters will displace sovereign currencies, they have demonstrated the viability of the underlying blockchain or distributed-ledger technology," the BIS said.

Blockchain is the open-ledger technology that processes bitcoin transactions by recording them on a public ledger.

Some central banks, including the Bank of England and Bank of Canada, have experimented with ways to use blockchain technology, such as dealing in interbank payments. India's central bank, the Reserve Bank of India, is considering issuing its own digital currency and is looking for ways to use blockchain technology in the financial sector, according to a person familiar with the matter.

If central banks were to issue digital cash, it would mean that money could exist in digital wallets outside of bank accounts, allowing consumers and businesses to potentially bypass banks when making payments to one another.

The BIS report highlighted how central banks could issue a digital-cash substitute that would allow transactions for goods and services to be anonymous, just as they are with traditional cash.

"The prospect of central bank crypto- or digital currencies is attracting considerable attention," the BIS wrote in its report. "But making sense of all this is difficult."

The dollar price of each bitcoin, which peaked above \$5,000 this month, currently is about \$3,900, according to research site CoinDesk. A fund manager survey released last week by Bank of America Merrill Lynch found bitcoin was "the most crowded trade." Its price is up more than 500% from a year ago, according to CoinDesk.

Overall, the debate about how central banks should best consider embracing cryptocurrencies is more important in countries such as Sweden, where cash use is dwindling rapidly, according to the BIS report.

"In making this decision, central banks will have to consider not only consumer preferences for privacy and possible efficiency gains—in terms of payments, clearing and settlement—but also the risks it may entail for the financial system and the wider economy, as well as any implications for monetary policy," the BIS said.

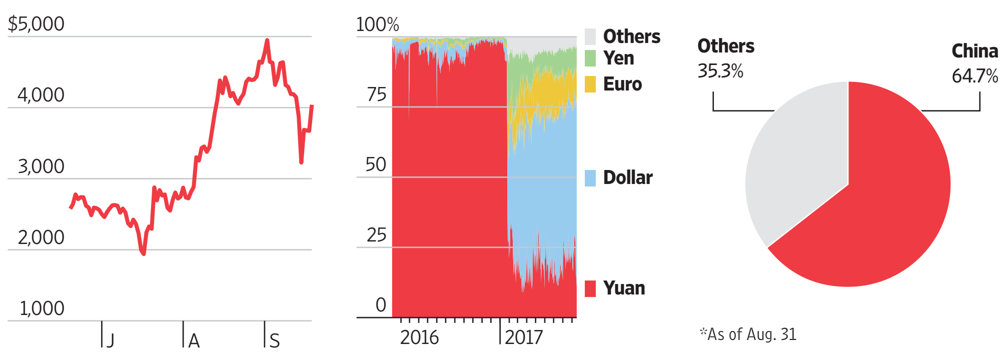
—Manju Dalal contributed to this article.


QILAI SHEN/BLOOMBERG NEWS

A bitcoin mining facility in China last month. The popularity of bitcoin and other cryptocurrencies is raising concerns about whether the central banks will be able to maintain stability in their financial systems.

Bit of Uncertainty

China's clampdown on bitcoin has hurt global prices and domestic trading volumes; for now the country remains a major center for bitcoin mining.



Sources: coindesk (price as of 6:00 p.m. EST); bitcoinity.org (trading volume, mining)

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CHINA

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other nation. Authorities continue to support the trend, though their public comments also suggest concern that bitcoin could weaken official control of the country's money supply.

The crackdown on the bitcoin ecosystem represents Beijing's possibly biggest effort to limit expansion of a system to rival the yuan. In a previous crackdown, in 2009, the central bank banned the use of tokens valued at billions of dollars created in China's large online-gaming networks for real-world purchases.

A quasiregulatory body called the National Internet Finance Association of China, or NIFA, warned investors about virtual-currency trading in a statement last week and said that bitcoin platforms lack legal basis to operate in the country.

A goal of China's monetary regulation is to ensure that "the source and destination of every piece of money can be tracked," Li Lihui, a NIFA official, told a technology conference in Shanghai on Friday.

A lack of clarity from regulators has fueled worries about how far the government will go. One uncertainty is whether the ban will affect bitcoin deals made over social-messaging apps such as WeChat. People in the industry say a wave of bitcoin users in recent days migrated from WeChat to the encrypted messaging service Telegram.

A broader clampdown will likely include blocking mainland access to websites of foreign bitcoin exchanges such as Coinbase in the U.S. and Bitfinex in Hong Kong, say people familiar with the matter.

Last weekend, the largest domestic bitcoin exchanges—BTCC, Huobi and OKCoin—all said they would halt trading services in coming weeks, sending prices of bitcoin on the global market tumbling. Bitcoin traded at \$3,947 on Monday evening in Beijing, roughly 20% off its high of \$4,960.72 on Sept. 1.

Industry advocates hail bitcoin for allowing users to transact with each other without the involvement of a central authority. In reality, users access the market for virtual currencies via services and businesses that are centralized in real locations and, therefore, are susceptible to third parties. Any attempt by China to interfere broadly in the bitcoin network would test that notion further.

On the flip side, if bitcoin does prove resilient, China could be shutting itself out of an expanding global market. As recently as last year, China accounted for the bulk of global bitcoin trading activity, but its share has dropped significantly since the government started attempting to cool the market. China now accounts for less than 15% of bitcoin-trading volume. Blocking overseas exchange sites would add them to a long list of websites Beijing considers too sensitive, including Google and Facebook.

Chinese authorities haven't made public their stance on virtual-currency trading. The People's Bank of China and the Ministry of Internet and Information Technology didn't respond to requests for comment on bitcoin measures.

A document passed around at Friday's meeting and reviewed by The Wall Street Journal instructs Beijing-based exchanges to unwind their operations and provide information on bank accounts used for clients' deposits by Wednesday.

While China's sway in bitcoin-trading volumes has faded, the country remains a big creator of new bitcoin through a process called mining. Chinese bitcoin miners operate a vast collection of computers to create new bitcoin in remote areas where they can access cheap electricity. Until now, Chinese miners considered themselves immune from Beijing's evolving stance on bitcoin trading. One entrepreneur said miners are worried about authorities moving to limit their operations. "Using VPNs as a workaround will be difficult," he said, referring to virtual private networks that allow users to circumvent China's "Great Firewall," its vast array of censors and tools to block access to some parts of the internet.

The stepped-up tightening by regulators comes as China's leaders have been vocal about battling money laundering, in advance of an important leadership transition this fall. Last week, China's State Council released guidelines aimed at better coordination between regulators to address the transfer of capital for illicit purposes.

—James T. Areddy in Shanghai and Liyan Qi in Beijing contributed to this article.

STREET

Continued from page B1

away the buying power of the currencies they issue.

Let us unpack the idea of bitcoin being based on illegal transactions. Dan Davies, a bank analyst at Frontline Analysts in London, came up with a value thanks to bitcoin's built-in limit of 21 million in circulation.

In any currency, the money supply multiplied by how often it circulates equals the price level times the number of transactions. For bitcoin we can estimate three of the four variables, Mr. Davies says. He observed that even criminals don't set prices in bitcoin, but rather in dollars, and then immediately convert. Assume that all drug dealing moves online, that bitcoins circulate as rapidly as ordinary currencies and estimate a \$120 billion-a-year market for illegal drugs, and the formula spits out an ultimate value of \$571 for a single bitcoin.

Drug dealers might be willing to put up with the limitations of bitcoin, notably the uncertain time taken to complete a purchase and the high transaction costs. Laundering dollars is more expensive.

But studies cited by the United Nations Office on Drugs and Crime suggest that cryptocurrency-based online drug dealing remains relatively small, and focused on retail, meaning fewer and smaller transactions than Mr. Davies's limiting assumption, so justifying a much lower bitcoin price.

On this basis the recent price of \$3,950 is mostly speculation. Bitcoin is "being driven all over the place by speculative portfolio flows," says Mr. Davies.

Digital gold might be more appealing for bitcoin's true believers, who would surely prefer to avoid basing a currency on illegal activity.

Gold is hopeless if you want to pay the mortgage or buy bread, but is useful insurance because we can be confident that if a government currency collapses the shiny metal will roughly hold its value.

It helps that history holds plenty of examples of currencies losing all their value to hyperinflation while gold could still be bartered for food and shelter.

Gold has a value far above what is justified by its uses in electronics and jewelry only because (almost) everyone agrees that it has value. That "network effect" is what bitcoin needs to establish itself, and the more attention it garners, the more likely it is to become established. Yet gold has had thousands of years and a history of being used to back money to support its position.

Still, the potential to replace gold gives us some figures to work with. Thomson Reuters GFMS estimates there were 2,155 metric tons of gold held in exchange-traded funds. Switch all of that into bitcoin and it would justify a price of about \$5,500 for the 17 million bitcoins currently outstanding.

We could be more optimistic and think bitcoin might replace gold coins and bars. Leave aside that the gold is better than bitcoin because gold doesn't depend on having an electricity supply, and the 24,000 metric tons GFMS estimates have been bought for investment in the past half-century would justify a price of \$61,000 for every bitcoin.

If we assume that bitcoin will either succeed completely in displacing gold or fail and be worth zero, it helps explain why the digital token has been so incredibly volatile, with a 40% loss in two weeks, and a 33% rebound since Friday's low. Based on the simple choice between total success and failure, we can very roughly say that bitcoin at 70% of the gold ETF-derived price suggests a 70% chance of displacing so-called paper gold as society's chosen emergency store of value, and a 6% chance of displacing physical gold.

Even digital dreamers should accept that is far too high.

MARKETS DIGEST

EQUITIES

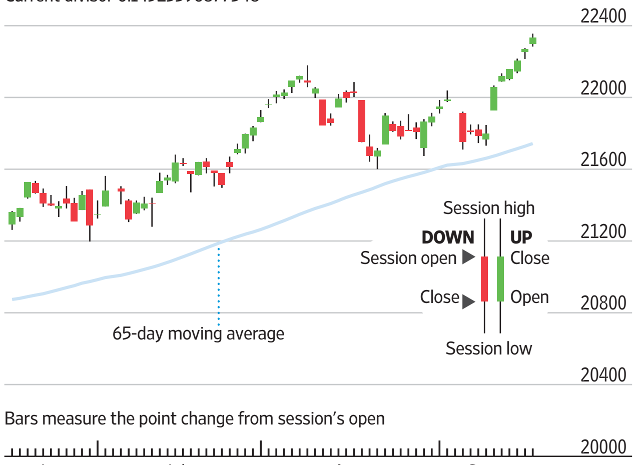
Dow Jones Industrial Average

22331.35 ▲63.01, or 0.28%

High, low, open and close for each trading day of the past three months.

	Last	Year ago
Trailing P/E ratio	20.43	19.64
P/E estimate *	18.80	17.56
Dividend yield	2.31	2.60
All-time high	22331.35, 09/18/17	

Current divisor 0.14523396877348



Weekly P/E data based on as-reported earnings from Birinyi Associates Inc.

S&P 500 Index

2503.87 ▲3.64, or 0.15%

High, low, open and close for each trading day of the past three months.

	Last	Year ago
Trailing P/E ratio	24.11	24.47
P/E estimate *	19.10	18.25
Dividend yield	1.99	2.14
All-time high:	2503.87, 09/18/17	

Nasdaq Composite Index

6454.64 ▲ 6.17, or 0.10%

High, low, open and close for each trading day of the past three months.

	Last	Year ago
Trailing P/E ratio *	26.03	23.82
P/E estimate *	21.67	19.92
Dividend yield	1.10	1.22
All-time high:	6460.19, 09/13/17	

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	22355.62	22283.35	22331.35	63.01	0.28	22331.35	17888.28	23.2	13.0	9.0
Transportation Avg	9564.24	9510.01	9514.64	-31.61	-0.33	9742.76	7792.38	22.1	5.2	3.1
Utility Average	746.42	733.32	738.71	-7.54	-1.01	754.80	625.44	8.8	12.0	10.1
Total Stock Market	25958.53	25881.74	25922.02	56.29	0.22	25922.02	21514.15	17.0	11.4	7.3
Barron's 400	658.66	654.38	657.35	3.99	0.61	661.93	521.59	20.5	9.3	7.0
Nasdaq Stock Market										
Nasdaq Composite	6477.77	6438.41	6454.64	6.17	0.10	6460.19	5046.37	23.3	19.9	12.0
Nasdaq 100	6012.95	5963.17	5981.12	-6.88	-0.11	6004.38	4660.46	24.7	23.0	13.4
Standard & Poor's										
500 Index	2508.32	2499.92	2503.87	3.64	0.15	2503.87	2085.18	17.1	11.8	7.6
MidCap 400	1763.71	1757.44	1762.22	8.31	0.47	1791.93	1476.68	15.0	6.1	7.3
SmallCap 600	869.19	862.00	867.15	6.31	0.73	876.06	703.64	16.4	3.5	9.2
Other Indexes										
Russell 2000	1444.27	1431.75	1441.08	9.37	0.65	1450.39	1156.89	16.9	6.2	7.5
NYSE Composite	12123.74	12091.73	12111.46	31.32	0.26	12111.46	10289.35	14.6	9.5	3.2
Value Line	529.06	526.46	528.21	1.75	0.33	533.62	455.65	11.1	4.4	1.9
NYSE Arca Biotech	4202.23	4165.61	4178.71	1.37	0.03	4232.90	2834.14	24.3	35.9	10.3
NYSE Arca Pharma	548.07	544.83	545.87	-0.36	-0.07	549.20	463.78	5.4	13.4	0.4
KBW Bank	95.24	93.99	95.02	1.21	1.29	99.33	69.71	34.4	3.5	8.7
PHLX§ Gold/Silver	87.86	86.51	86.84	-1.54	-1.75	99.20	73.03	-5.9	10.1	-0.9
PHLX§ Oil Service	135.64	133.22	134.87	1.02	0.76	192.66	117.79	-10.0	-26.6	-21.5
PHLX§ Semiconductor	1168.03	1153.74	1160.90	14.21	1.24	1160.90	796.64	44.6	28.1	20.9
CBOE Volatility	10.42	9.88	10.15	-0.02	-0.20	22.51	9.36	-34.6	-27.7	-5.5

§Philadelphia Stock Exchange

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
Micron Technology	MU	8,257.1	35.63	0.20	0.56	35.64	34.65
SPDR S&P 500	SPY	7,023.6	249.72	...	unch.	249.78	249.29
Microsoft	MSFT	6,235.8	75.11	-0.05	-0.07	75.73	75.08
iShares Russell MC Value	IWS	5,579.3	84.01	-0.55	-0.65	84.56	84.01
LendingClub	LC	4,421.5	6.12	-0.02	-0.33	6.14	6.12
Cerner	CERN	4,299.0	71.48	2.18	3.15	71.48	69.30
Bank of America	BAC	4,227.4	24.70	...	unch.	24.72	24.61
iShares MSCI EAFE ETF	EFA	3,889.0	68.00	-0.15	-0.22	68.16	68.00

Percentage gainers…

Company	Symbol	Volume (000)	Last	Net chg	After Hours % chg	High	Low
Steelcase	SCS	252.1	15.20	0.85	5.92	15.90	14.30
Nabriva Therapeutics	NBRV	352.4	9.36	0.49	5.52	9.59	8.69
Dicerna Pharmaceuticals	DRNA	8.1	4.19	0.20	5.01	4.20	4.00
Hackett Group	HCKT	22.0	15.55	0.73	4.93	15.55	14.82
AMC Entertainment Holding	AMC	9.6	17.45	0.80	4.80	17.45	16.20

…And losers

Company	Symbol	Volume (000)	Last	Net chg	After Hours % chg	High	Low
Ollie's Bargain Outlet	OLLI	9.0	41.30	-4.70	-10.22	46.40	41.30
McEwen Mining	MUX	97.7	2.23	-0.20	-8.23	2.43	2.23
Supernus Pharmaceuticals	SUPN	52.9	47.00	-2.65	-5.34	50.00	46.45
Beacon Roofing Supply	BECN	44.7	46.91	-2.33	-4.73	49.24	46.40
DexCom	DXCM	25.3	66.12	-3.14	-4.53	69.50	66.12

Trading Diary

Volume, Advancers, Decliners

	NYSE	NYSE Amer.
Total volume*	821,221,308	11,309,980
Adv. volume*	484,347,690	4,727,100
Decl. volume*	322,731,514	6,023,459
Issues traded	3,075	336
Advances	1,676	160
Declines	1,273	149
Unchanged	126	27
New highs	167	4
New lows	14	5
Closing tick	47	23
Closing Arms†	0.82	1.30
Block trades*	6,681	129

	Nasdaq	NYSE Arca
Total volume*	1,853,583,949	198,962,766
Adv. volume*	1,092,596,113	99,936,280
Decl. volume*	713,446,910	98,574,191
Issues traded	3,068	1,295
Advances	1,768	803
Declines	1,148	461
Unchanged	152	31
New highs	252	312
New lows	30	32
Closing tick	53	42
Closing Arms†	1.01	1.57
Block trades*	7,028	1,208

* 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	Close	Net chg	Latest % chg	YTD % chg
World	The Global Dow	2896.07	5.93	0.21	14.4
	DJ Global Index	376.04	0.89	0.24	15.3
	DJ Global ex U.S.	255.16	0.71	0.28	19.3
Americas	DJ Americas	604.63	1.12	0.19	11.9
Brazil	Sao Paulo Bovespa	75990.41	233.89	0.31	26.2
Canada	S&P/TSX Comp	15236.67	63.64	0.42	-0.3
Mexico	S&P/BMV IPC	50258.42	336.58	0.67	10.1
Chile	Santiago IPSA	3950.05	...	Closed	22.6
EMEA	Stoxx Europe 600	381.95	1.24	0.33	5.7
Eurozone	Euro Stoxx	382.82	1.40	0.37	9.3
Belgium	Bel-20	3968.31	0.79	0.02	10.0
France	CAC 40	5229.32	15.41	0.30	7.5
Germany	DAX	12559.39	40.58	0.32	9.4
Israel	Tel Aviv	1424.96	9.86	0.70	-3.1
Italy	FTSE MIB	22364.74	135.25	0.61	16.3
Netherlands	AEX	529.31	2.53	0.48	9.5
Russia	RTS Index	1119.14	-4.29	-0.38	-2.9
Spain	IBEX 35	10338.40	21.00	0.20	10.5
Sweden	SX All Share	568.34	1.58	0.28	6.3
Switzerland	Swiss Market	9048.11	20.06	0.22	10.1
U.K.	FTSE 100	7253.28	37.81	0.52	1.5
Asia-Pacific					
Australia	S&P/ASX 200	5720.60	25.60	0.45	1.0
China	Shanghai Composite	3362.86	9.24	0.28	8.4
Hong Kong	Hang Seng	28159.77	352.18	1.27	28.0
India	S&P BSE Sensex	32423.76	151.15	0.47	21.8
Japan	Nikkei Stock Avg	19909.50	...	Closed	4.2
Singapore	Straits Times	3241.85	32.29	1.01	12.5
South Korea	Kospi	2418.21	32.14	1.35	19.3
Taiwan	Weighted	10631.57	51.16	0.48	14.9

Sources: SIX Financial Information; WSJ Market Data Group

Percentage Gainers…

Company	Symbol	Latest Session Close	Net chg	% chg	52-Week High	Low	% chg
Dimension Therapeutics	DMTX	5.90	1.70	40.48	9.98	1.05	-38.2
Nabriva Therapeutics	NBRV	8.87	2.01	29.30	14.10	6.52	...
Silver Spring Networks	SSNI	16.10	3.10	23.85	16.18	9.68	17.4
Orbital ATK	OA	132.25	22.21	20.18	133.39	71.52	81.3
GlycoMimetics	GLYC	13.97	2.15	18.19	16.94	3.82	93.0
GSE Systems	GVP	2.75	0.40	17.02	3.85	2.35	5.8
Cohu	COHU	23.27	3.24	16.18	23.50	10.72	105.9
Fanhua ADR	FANH	12.08	1.59	15.16	12.25	6.79	49.1
Cadiz	CDZI	12.50	1.60	14.68	16.25	6.76	78.8
Opiant Pharmaceuticals	OPNT	27.56	3.44	14.28	51.90	5.00	263.1
Quidel	QDEL	40.91	5.10	14.24	41.09	18.25	83.4
Kandi Technologies Group	KNDI	5.30	0.65	13.98	6.50	3.40	-6.4
Veritone	VERI	34.23	4.16	13.83	34.60	7.76	...
Applied Optoelectronics	AAOI	66.29	7.99	13.70	103.41	18.85	200.9
Arbutus Biopharma	ABUS	5.65	0.65	13.00	5.90	2.35	51.5

Percentage Losers

Company	Symbol	Latest Session Close	Net chg	% chg	52-Week High	Low	% chg
Xcel Brands	XELB	3.60	-0.65	-15.29	5.30	1.80	-17.2
Zedge Cl B	ZDGE	1.91	-0.34	-15.11	4.46	1.65	-55.4
Kala Pharmaceuticals	KALA	21.99	-3.28	-12.98	26.75	16.38	...
LM Funding America	LMFA	2.84	-0.41	-12.62	8.40	1.11	-64.9
Aethlon Medical	AEMD	1.95	-0.26	-11.76	5.40	1.34	-59.6
Calyxt	CLXT	21.87	-2.81	-11.39	29.45	9.25	...
Universal Security	UUU	1.95	-0.25	-11.36	4.26	1.50	-38.1
Farmers Merchants Bancp	FMAO	67.11	-8.15	-10.83	87.79	30.81	120.0
Aaron's Inc	AAN	38.41	-4.49	-10.47	48.22	22.37	53.6
CRH Medical	CRHM	2.60	-0.30	-10.34	9.25	2.15	-34.0
KEYW Holding	KEYW	6.21	-0.70	-10.13	13.57	6.18	-40.7
VelocityShares 3x	DGAZ	20.64	-2.29	-9.99	47.55	13.50	-26.9
Sonic Foundry	SOFO	3.15	-0.34	-9.74	6.49	3.05	-48.3
Exela Technologies	XELA	5.05	-0.54	-9.66	10.15	5.05	-49.0
Pier 1 Imports	PIR	4.71	-0.49	-9.42	9.68	3.96	14.9

Most Active Stocks

Company	Symbol	Volume (000)	% chg from 65-day avg	Latest Session Close	% chg	52-Week High	Low
Advanced Micro Devices	AMD	82,080	15.0	12.80	4.47	15.65	6.08
Bank of America	BAC	63,760	-8.5	24.70	1.31	25.80	14.81
Rite Aid	RAD	53,028	57.3	2.73	3.80	8.77	2.21
General Electric	GE	49,455	28.5	24.46	2.21	32.38	23.58
VanEck Vectors Gold Miner	GDX	45,798	4.3	23.73	-1.66	28.56	18.58
Finl Select Sector SPDR	XLF	43,517	-23.6	25.06	1.17	25.59	18.94
NVIDIA	NVDA	41,186	128.3	187.55	4.13	191.20	62.74
SPDR S&P 500	SPY	39,405	-38.6	249.72	0.21	250.32	208.38
iShares MSCI Emg Markets	EEM	35,356	-27.7	45.75	0.35	45.96	33.94
Teva Pharmaceutical ADR	TEVA	33,133	71.8	16.99	-6.13	51.61	15.22

* 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	Low
Nabriva Therapeutics	NBRV	17,080	35348	8.87	29.30	14.10	6.52
Silver Spring Networks	SSNI	22,653	8162	16.10	23.85	16.18	9.68
VicSh EM Vol Wtd	CEZ	387	5642	29.35	-1.71	29.92	23.90
Tortoise NA Pipeline Fund	TPYP	609	4116	23.74	-0.47	25.09	21.72
PowerShs Dynamic Leisure	PEJ	409	2792	40.43	0.04	42.92	34.71
Orbital ATK	OA	7,336	2783	132.25	20.18	133.39	71.52
Ubiquiti Networks	UBNT	11,727	2147	50.62	-7.89	67.80	45.71
New Ireland Fund	IRL	213	1830	14.01	-0.07	14.33	11.30
Vantage Energy Acqn Cl A	VEAC	478	1795	9.81	-0.30	9.95	9.73
Vanguard SC 600 VI ETF	VIOV	116	1566	122.43	0.79	125.02	100.64

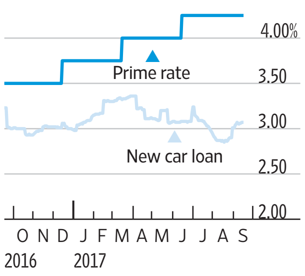
* Common stocks priced at $5 a share or more with an average volume over 65 trading days of at least 5,000 shares †Has traded fewer than 65 days

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

New car loan

Bankrate.com avg†:	**3.07%**
Think Mutual Bank	**1.89%**
Rochester, MN	800-288-3425
Lake Elmo Bank	**1.99%**
Lake Elmo, MN	651-777-8365
TrustCo Bank	**2.37%**
Albany, NY	518-436-9043
De Witt Savings Bank	**2.45%**
Clinton, IL	217-935-6342
Gate City Bank	**2.49%**
Fargo, ND	701-293-2485

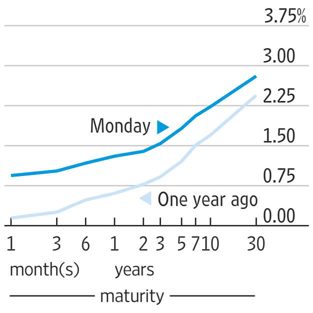
Interest rate	Yield/Rate (%) Last	Week ago	52-Week Range (%) Low	High	3-yr chg (pct pts)
Federal-funds rate target	1.00-1.25	1.00-1.25	0.25	1.25	1.00
Prime rate*	4.25	4.25	3.50	4.25	1.00
Libor, 3-month	1.33	1.32	0.84	1.33	1.09
Money market, annual yield	0.27	0.27	0.24	0.36	-0.15
Five-year CD, annual yield	1.43	1.45	1.17	1.47	0.03
30-year mortgage, fixed†	3.83	3.73	3.44	4.33	-0.48
15-year mortgage, fixed†	3.07	2.99	2.70	3.50	-0.33
Jumbo mortgages, $424,100-plus†	4.33	4.24	4.22	4.88	-0.35
Five-year adj mortgage (ARM)†	3.33	3.22	3.13	4.03	-0.35
New-car loan, 48-month	3.07	3.06	2.85	3.36	-0.15
HELOC, $30,000	4.78	4.65	4.57	5.22	0.39

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

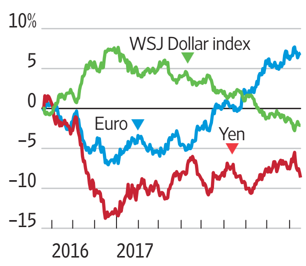
Treasury yield curve

Yield to maturity of current bills, notes and bonds



Forex Race

Yen, euro vs. dollar; dollar vs. major U.S. trading partners



Sources: Ryan ALM; Tullett Prebon; WSJ Market Data Group

Corporate Borrowing Rates and Yields

Bond total return index	Close	Yield (%) Last	Week ago	52-Week High	Low	Total Return (%) 52-wk	3-yr
Treasury, Ryan ALM	1467.047	1.975	1.880	2.237	1.321	-1.404	2.959
10-yr Treasury, Ryan ALM	1747.248	2.230	2.125	2.609	1.556	2.005	3.126
DJ Corporate	378.384	2.984	2.945	3.390	2.567	2.408	4.413
Aggregate, Barclays Capital	1941.280	2.500	2.430	2.790	1.920	0.795	2.920
High Yield 100, Merrill Lynch	2850.473	5.041	5.186	6.448	4.948	8.839	3.865
Fixed-Rate MBS, Barclays	1987.170	2.750	2.720	3.120	2.000	0.503	2.629
Muni Master, Merrill	522.762	1.814	1.752	2.516	1.514	1.460	3.003
EMBI Global, J.P. Morgan	806.886	5.340	5.301	6.290	5.197	6.051	6.109

Sources: J.P. Morgan; Ryan ALM; S&P Dow Jones Indices; Barclays Capital; Merrill Lynch

U.S.-dollar foreign-exchange rates in late New York trading

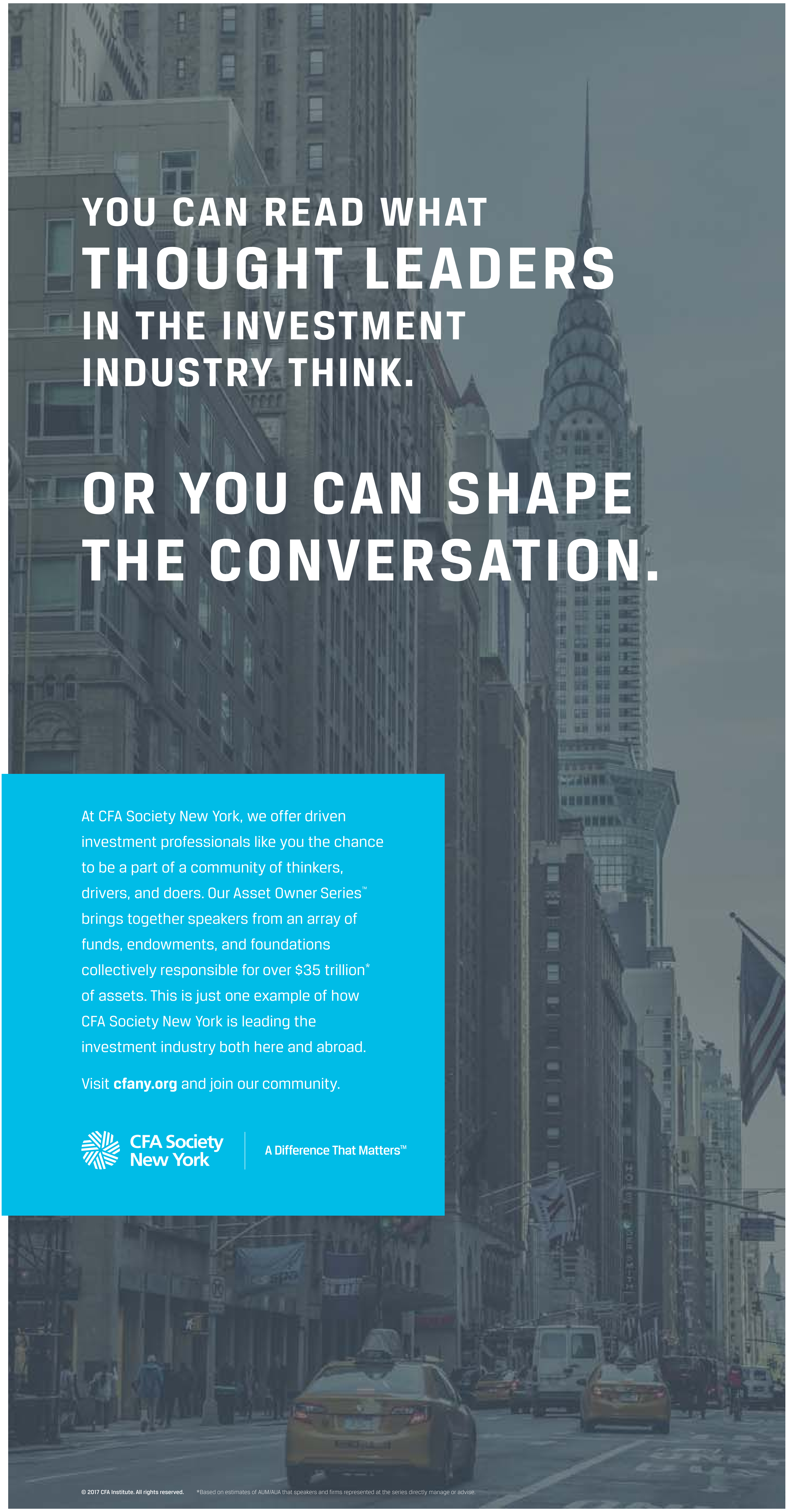
Country/currency	Mon in US$	Mon per US$	US$ vs. YTD chg (%)
Americas			
Argentina peso	.0585	17.0983	7.7
Brazil real	.3187	3.1377	-3.6
Canada dollar	.8136	1.2292	-8.6
Chile peso	.001599	625.20	-6.7
Colombia peso	.0003438	2908.83	-3.1
Ecuador US dollar	1	1	unch
Mexico peso	.0563	17.7617	-14.3
Peru new sol	.3081	3.246	-3.2
Uruguay peso	.03465	28.8600	-1.7
Venezuela b. fuerte	.099855	10.0146	0.2
Asia-Pacific			
Australian dollar	.7961	1.2561	-9.5
China yuan	.1521	6.5742	-5.3
Hong Kong dollar	.1279	7.8168	0.8
India rupee	.01558	64.185	-5.6
Indonesia rupiah	.0000753	13273	-1.9
Japan yen	.008963	111.57	-4.6
Kazakhstan tenge	.002942	339.90	1.9
Macau pataca	.1241	8.0589	1.8
Malaysia ringgit	.2387	4.1895	-6.6
New Zealand dollar	.7265	1.3765	-4.7
Pakistan rupee	.00949	105.325	0.9
Philippines peso	.0195	51.265	3.3
Singapore dollar	.7418	1.3480	-6.9
South Korea won	.0008851	1129.85	-6.5
Sri Lanka rupee	.0065355	153.01	3.1
Taiwan dollar	.03322	30.104	-7.2
Thailand baht	.03021	33.100	-7.6
Vietnam dong	.00004400	22725	-0.2
Europe			
Czech Rep. koruna	.04578	21.846	-15.0
Denmark krone	.1606	6.2249	-11.9
Euro area euro	1.1954	.8366	-12.0
Hungary forint	.003863	258.84	-12.0
Iceland krona	.009419	106.17	-6.0
Norway krone	.1277	7.8330	-9.4
Poland zloty	.2785	3.5908	-14.2
Russia ruble	.01724	58.020	-5.3
Sweden krona	.1256	7.9623	-12.6
Switzerland franc	1.0398	.9617	-5.6
Turkey lira	.2865	3.4901	-0.9
Ukraine hryvnia	.0383	26.1350	-3.5
UK pound	1.3494	.7411	-8.5
Middle East/Africa			
Bahrain dinar	2.6517	.3771	-0.01
Egypt pound	.0566	17.6690	-2.6
Israel shekel	.2836	3.5264	-8.4
Kuwait dinar	3.3186	.3013	-1.4
Oman sul rial	2.5968	.3851	0.03
Qatar rial	.2747	3.641	0.02
Saudi Arabia riyal	.2666	3.7505	-0.01
South Africa rand	.0752	13.3049	-2.8

	Close	Net Chg	% Chg	YTD % Chg
WSJ Dollar Index	85.39	0.32	0.37	-8.12

Sources: Tullett Prebon, WSJ Market Data Group

COMMODITIES

	Close	Monday Net chg	% Chg	52-Week High	Low	% Chg	YTD % chg
DJ Commodity	587.01	-0.59	-0.10	589.81	520.71	12.73	3.48
TR/CC CRB Index	183.73	-0.32	-0.17	195.14	166.50	1.15	-4.56
Crude oil, $ per barrel	49.91	0.02	0.04	54.45	42.53	15.27	-7.09
Natural gas, $/MMBtu	3.146	0.122	4.03	3.93	2.56	7.23	-15.52
Gold, $ per troy oz.	1306.30	-14.10	-1.07	1346.00	1127.80	-0.55	13.59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BIGGEST 1,000 STOCKS

How to Read the Stock Tables

The following explanations apply to NYSE, NYSE Arca, NYSE MKT and Nasdaq Stock Market listed securities. Prices are composite quotations that include primary market trades as well as trades reported by Nasdaq OMX BXSM (formerly Boston), Chicago Stock Exchange, CBOE, National Stock Exchange, ISE and BATS.
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:
▲-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, September 18, 2017

Stock	Sym	Close	Net Chg
NYSE			
ABB	ABB	24.60	0.17
AES	AES	11.27	-0.08
Aflac	AFL	83.15	0.34
AGCO	AGCO	71.74	1.35
AT&T	T	37.42	0.32
AbbottLabs	ABT	52.08	0.32
AbbVie	ABBV	85.32	-2.05
Accenture	ACN	136.94	1.59
AcuityBrands	AYI	167.83	-2.67
Adient	ADNT	80.26	...
AdvanceAuto	AAP	98.58	-0.93
AdvSemiEngg	ASX	6.14	0.15
Aegon	AEG	5.79	0.10
AerCap	AER	49.24	-0.37
Aetna	AET	161.00	-1.68
AffiliatedMgrs	AMG	182.61	2.74
AgilentTechs	A	66.08	0.12
AgnicoEagle	AEM	47.25	-0.87
Agrium	AGU	108.02	2.90
AirProducts	APD	150.95	0.82
AlaskaAir	ALK	73.07	-2.21
Albemarle	ALB	131.02	3.73
Alcoa	AA	44.91	0.26
AlexandriaRealEst	ARE	120.42	-0.10
Alibaba	BABA	179.98	3.28
Alleghany	Y	568.32	-1.21
Allegion	ALLE	82.65	-0.12
Allergan	AGN	221.54	1.25
AllianceData	ADS	217.09	1.09
AllianceBernstein	AB	24.45	0.25
AlliantEnergy	LNT	42.49	-0.41
Allstate	ALL	90.48	-0.40
AllyFinancial	ALLY	22.90	0.32
AlticeUSA	ATUS	26.72	-0.58
Altria	MO	62.56	0.17
AlumofChina	ACH	21.03	0.53
Ambev	ABEV	6.77	0.05
Ameren	AEE	59.25	-0.56
AmericaMovil	AMX	18.52	0.03
AmericaMovil A	AMOV	18.36	0.13
AmCampus	ACC	48.60	0.38
AEP	AEP	72.27	-0.76
AmericanExpress	AXP	87.87	0.88
AmericanFin	AFG	101.46	0.76
AmerHomes4Rent	AMH	22.35	0.21
AIG	AIG	59.39	-0.23
AmerTowerREIT	AMT	144.77	-0.24
AmerWaterWorks	AWK	82.24	-0.44
Amerigas	APU	43.26	-0.43
Ameriprise	AMP	140.86	1.00
AmerisourceBrgn	ABC	80.67	-0.93
Ametek	AME	66.31	0.98
Amphenol	APH	82.80	0.22
AnadarkoPetrol	APC	43.76	0.11
Andeavor	ANDV	103.15	0.73
AB InBev	BUD	120.17	-0.69
AnnalyCap	NLY	12.37	0.02
AnteroMidstream	AM	33.36	0.29
AnteroResources	AR	20.52	0.04
Anthem	ANTM	185.00	-1.59
Aon	AON	144.05	0.74
Apache	APA	42.30	-0.22
ApartmtInv	AIV	45.70	0.11
ApolloGlobalMgmt	APO	30.06	0.43
AquaAmerica	WTR	33.79	-0.22
Aramark	ARMK	40.39	-0.08
ArcelorMittal	MT	27.11	0.37
ArcherDaniels	ADM	44.09	0.25
Arconic	ARNC	25.34	...
AristaNetworks	ANET	182.68	5.72
ArrowElec	ARW	79.80	0.28
AstraZeneca	AZN	32.42	-0.11
Athene	ATH	53.51	0.39
AtmosEnergy	ATO	86.50	-0.63
Autohome	ATHM	66.35	0.52
Autoliv	ALV	122.21	-3.24
AutoZone	AZO	563.40	-6.49
Avalonbay	AVB	183.17	-0.60
Avangrid	AGR	47.02	-0.49
AveryDennison	AVY	98.91	2.08
AxaltaCoating	AXTA	29.23	-0.02
BB&T	BBT	44.24	0.10
BCE	BCE	47.46	-0.22
BHPBilliton	BHP	42.27	0.45
BHPBilliton	BBL	36.52	0.31
BP	BP	36.65	0.07
BRF	BRFS	14.78	-0.01
BT Group	BT	19.54	0.06
BakerHughes	BHGE	37.36	0.43
Ball	BLL	40.78	0.25
BancoBilbaoViz	BBVA	8.85	0.06
BancodeChile	BCH	87.51	-0.19
BancoMacro	BMA	104.19	0.25
BcoSantChile	BSAC	29.44	-0.14
BancoSantander	SAN	6.71	0.05
BanColombia	CIB	47.35	-0.12
BankofAmerica	BAC	24.70	0.32
BankofMontreal	BMO	74.69	-0.52
BankNY Mellon	BK	51.70	0.14
BkNovaScotia	BNS	62.74	-0.43
Barclays	BCS	10.13	...
Bard CR	BCR	319.52	-0.05
BarrickGold	ABX	16.92	-0.38
BaxterIntl	BAX	61.49	0.23
BectonDickinson	BDX	195.61	0.27
Berkley	WRB	65.21	-0.29
BerkHathwy A	BRK/A	272480	220.00
BerkHathwy B	BRK/B	181.47	1.58
BerryGlobal	BERY	55.93	-0.62
BestBuy	BBY	57.35	-0.92
Bio-RadLab A	BIO	229.59	1.68
Bio-RadLab B	BIO/B	228.35	9.35
BlackKnightFin	BKFS	44.45	0.30
BlackRock	BLK	429.44	-0.73
BlackstoneGroup	BX	32.33	0.04
BoardwalkPipe	BWP	14.76	-0.07
Boeing	BA	253.08	4.08
BorgWarner	BWA	49.17	0.41
BostonProperties	BXP	121.68	-0.72
BostonScientific	BSX	28.99	0.06
Braskem	BAK	26.35	-0.05
Bristol-Myers	BMY	62.70	0.22
BritishAmTob	BTI	63.30	-0.69
BrixmorProp	BRX	19.33	-0.37
Broadridge	BR	78.82	-0.34
BrookfieldMgt	BAM	40.12	0.68
BrookfieldInfr	BIP	43.72	1.59
Brown&Brown	BRO	46.91	0.49
Brown-Forman A	BF/A	55.99	0.49
Brown-Forman B	BF/B	54.23	0.52
BuckeyePtrs	BPL	55.69	-0.25
Bunge	BG	72.84	0.31
BurlingtonStores	BURL	89.32	-0.81
CBD Pao	CBD	24.97	0.80
CBRE Group	CBG	36.65	0.03
CBS A	CBS/A	58.40	-0.16
CBS B	CBS	57.72	-0.51
CF Industries	**CF**	**35.10**	**2.21**
CGI Group	GIB	51.25	-0.23
CIT Group	CIT	46.33	0.51
CMS Energy	CMS	47.63	-0.24
CNA Fin	CNA	48.64	0.26
CNOOC	CEO	122.07	0.37
CPFLEnergia	CPL	17.33	-0.05
CRH	CRH	35.89	0.17
CVS Health	CVS	83.31	0.14
CabotOil	COG	26.52	-0.29
CamdenProperty	CPT	94.05	-0.15
CampbellSoup	CPB	48.07	-0.66
CIBC	CM	87.27	-0.63
CanNtlRlwy	CNI	81.73	0.09
CanNaturalRes	CNQ	32.78	-0.07
CanPacRlwy	CP	161.06	2.27
Canon	CAJ	34.50	-0.07
CapitalOne	COF	80.25	0.21
CardinalHealth	CAH	67.07	-0.43
Carlisle	CSL	98.29	1.52
CarMax	KMX	68.34	0.26
Carnival	CCL	65.19	-0.75
Carnival	CUK	65.44	-0.59
Caterpillar	CAT	123.83	2.46
Celanese A	CE	101.57	1.48
Cemex	CX	9.07	0.01
CenovusEnergy	CVE	9.14	0.10
Centene	CNC	94.58	-1.40
CenterPointEner	CNP	29.98	-0.29
CentraisElBras	EBR	6.89	0.07
CenturyLink	CTL	18.32	-0.66
Chemours	CC	51.35	0.99
Chevron	CVX	115.19	0.56
ChinaEastrnAir	**CEA**	**27.08**	**1.44**
ChinaLifeIns	LFC	15.42	-0.01
ChinaMobile	CHL	52.13	-0.32
ChinaPetrol	SNP	77.12	0.17
ChinaSoAirlines	ZNH	39.34	0.49
ChinaTelecom	CHA	50.86	-0.11
ChinaUnicom	CHU	14.14	-0.06
Chipotle	CMG	301.87	-11.22
Chubb	CB	143.57	0.06
ChunghwaTelecom	CHT	34.45	-0.21
Church&Dwight	CHD	50.61	0.18
Cigna	CI	185.30	-0.75
CimarexEnergy	XEC	107.25	0.53
Citigroup	C	70.60	1.56
CitizensFin	CFG	35.59	0.43
Clorox	CLX	136.81	0.63
Coach	COH	40.47	-0.93
Coca-Cola	KO	46.11	-0.07
Coca-Cola Euro	CCE	41.61	0.13
Coca-Cola Femsa	KOF	78.68	-0.03
Colgate-Palmolive	CL	72.39	0.11
ColonyNorthStar	CLNS	12.94	0.03
Comerica	CMA	70.68	1.59
SABESP	SBS	10.58	-0.19
ConagraBrands	CAG	34.09	-0.12
ConchoRscs	CXO	123.05	0.21
ConocoPhillips	COP	47.09	0.58
ConEd	ED	83.57	-0.87
ConstBrands A	STZ	203.90	0.50
ContinentalRscs	CLR	36.68	0.53
Cooper	COO	249.11	3.90
Copa	CPA	130.10	-3.91
Corning	GLW	29.54	0.19
Coty	COTY	16.93	0.07
Credicorp	BAP	211.65	-1.20
CreditSuisse	CS	15.47	0.03
CrestwoodEquity	CEQP	26.75	...
CrownCastle	CCI	104.49	-0.99
CrownHoldings	CCK	61.17	0.68
CullenFrost	CFR	94.09	1.31
Cummins	CMI	166.94	1.71
DCT Industrial	DCT	59.47	-0.11
DTE Energy	DTE	110.53	-0.92
DXC Tech	DXC	84.85	-0.22
Danaher	DHR	88.11	-0.10
Darden	DRI	84.37	0.51
DaVita	DVA	60.71	1.08
Deere	DE	119.89	0.88
DellTechnologies	DVMT	78.65	-0.15
DelphiAutomotive	DLPH	100.57	0.38
DeltaAir	DAL	47.96	-0.29
DeutscheBank	DB	16.57	0.03
DevonEnergy	DVN	33.97	0.32
Diageo	DEO	135.86	0.49
DigitalRealty	DLR	117.10	-0.49
DiscoverFinSvcs	DFS	60.25	0.82
Disney	DIS	98.10	-0.42
DolbyLab	DLB	58.67	0.38
DollarGeneral	DG	77.28	-0.32
DominionEner	D	78.55	-0.95
Domino's	DPZ	195.62	0.94
Donaldson	DCI	45.08	0.25
DouglasEmmett	DEI	38.73	0.01
Dover	DOV	90.05	0.24
DowDuPont	DWDP	69.77	-0.09
DrPepperSnapl	DPS	91.97	0.43
DrReddy'sLab	RDY	34.52	0.74
DukeEnergy	DUK	86.06	-1.24
DukeRealty	DRE	29.58	0.01
ENI	E	32.29	0.25
EOG Rscs	EOG	93.05	-0.17
EQT	EQT	64.32	-0.54
EQT MidstreamP	EQM	75.00	0.04
EastmanChem	EMN	85.41	0.45
Eaton	ETN	77.90	0.99
Ecolab	ECL	130.53	-0.15
Ecopetrol	EC	9.42	-0.03
EdisonIntl	EIX	80.55	-0.65
EdwardsLife	EW	112.69	-0.81
EmersonElectric	EMR	62.99	0.64
EnbridgeEnPtrs	EEP	15.52	0.01
Enbridge	ENB	40.96	-0.17
Encana	ECA	10.67	0.23
EnelAmericas	ENIA	10.12	-0.11
EnelChile	ENIC	5.89	0.03
EnelGenChile	EOCC	25.18	0.17
EnergyTrfrEquity	ETE	17.64	0.15
EnergyTransfer	ETP	18.77	-0.06
EnLinkMidPtrs	ENLK	16.15	-0.14
EnLinkMid	ENLC	17.80	-0.10
Entergy	ETR	78.37	-0.50
EnterpriseProd	EPD	26.14	0.03
EnvisionHlthcr	EVHC	47.62	-0.82
Equifax	**EFX**	**94.38**	**1.40**
EquityLife	ELS	88.10	-0.07
EquityResdntl	EQR	67.34	-0.54
EssexProp	ESS	260.17	-1.82
EsteeLauder	EL	110.27	0.58
EverestRe	RE	226.67	-4.99
EversourceEner	ES	61.69	-0.70
Exelon	EXC	37.60	-0.51
ExtraSpaceSt	EXR	79.40	0.33
ExxonMobil	XOM	80.09	0.02
FMC	FMC	91.36	1.80
FactSet	FDS	162.94	1.09
FederalRealty	FRT	127.53	-1.12
FedEx	FDX	215.08	0.45
Ferrari	RACE	112.33	2.28
FiatChrysler	FCAU	16.82	0.16
FibriaCelulose	FBR	13.15	-0.16
FidelityNatlFin	FNF	48.12	0.13
FNFV Group	FNFV	16.95	0.05
FidelityNtlInfo	FIS	93.54	1.53
58.com	WUBA	66.84	-0.31
FirstData	FDC	18.15	0.19
FirstRepBank	FRC	97.55	1.05
FirstEnergy	FE	31.25	-0.37
FleetCorTech	FLT	151.21	6.19
Fluor	FLR	40.20	-0.23
FomentoEconMex	FMX	98.01	1.34
FordMotor	F	11.63	0.01
Fortive	FTV	70.31	0.95
FortBrandsHome	FBHS	65.60	0.15
Franco-Nevada	FNV	80.02	-0.87
FranklinRscs	BEN	42.77	0.29
Freeport-McMoRan	FCX	14.13	0.25
FresenusMed	FMS	49.03	0.28
GGP	GGP	21.36	-0.46
Gallagher	AJG	60.40	0.02
Gap	GPS	26.23	-0.09
Gartner	IT	122.63	1.37
Gazit-Globe	GZT	9.71	-0.10
GeneralDynamics	GD	202.18	3.91
GeneralElec	GE	24.46	0.53
GeneralMills	GIS	56.43	0.63
GeneralMotors	GM	38.59	-0.29
GenuineParts	GPC	86.88	0.23
Gerdau	GGB	3.87	...
Gildan	GIL	30.75	...
GlaxoSmithKline	GSK	40.05	-0.19
GlobalPayments	GPN	96.99	0.57
GoDaddy	GDDY	44.41	0.60
Goldcorp	GG	12.97	-0.28
GoldmanSachs	GS	227.53	2.31
Graco	GGG	120.64	0.73
Grainger	GWW	171.02	2.07
GreatPlainsEner	GXP	30.56	-0.28
GpoAeroportuar	PAC	107.36	-0.84
GpoAeroportSur	ASR	203.07	-0.34
GpoAvalAcciones	AVAL	9.16	-0.03
GpoFinSantdMex	BSMX	9.96	-0.24
GrupoTelevisa	TV	25.16	0.11
GuidewireSoftware	GWRE	78.81	1.17
HCA Healthcare	HCA	77.68	-1.56
HCP	HCP	28.41	-0.25
HDFC Bank	HDB	99.90	0.59
HP	HPQ	19.99	0.12
HSBC	HSBC	49.80	0.37
Halliburton	HAL	42.62	0.31
Hanesbrands	HBI	24.73	-0.24
HarleyDavidson	HOG	48.56	0.55
Harris	HRS	128.98	2.11
HartfordFinl	HIG	53.83	0.12
HealthcareAmer	HTA	31.07	-0.08
Heico	HEI	87.70	3.13
Heico A	HEI/A	74.00	2.20
Herbalife	HLF	67.49	-1.00
Hershey	HSY	109.75	-0.75
Hess	HES	42.48	0.31
HewlettPackard	HPE	13.54	0.02
Hilton	HLT	66.56	-0.07
HollyFrontier	HFC	32.89	0.50
HomeDepot	HD	157.81	-0.59
HondaMotor	HMC	29.43	0.09
Honeywell	HON	137.67	-1.28
HormelFoods	HRL	31.65	0.27
DR Horton	DHI	37.49	0.32
HostHotels	HST	18.31	0.06
HuanengPower	HNP	25.06	0.03
Hubbell	HUBB	113.98	0.22
Humana	HUM	248.45	-0.83
HuntingtonIngalls	HII	215.57	3.16
Huntsman	HUN	28.64	0.82
HyattHotels	H	60.55	0.03
ICICI Bank	IBN	9.10	-0.06
ING Groep	ING	18.13	0.01
Invesco	IVZ	33.44	0.36
IDEX	IEX	123.50	1.91
IllinoisToolWks	ITW	146.54	1.30
Infosys	INFY	14.80	0.15
IngersollRand	IR	90.51	1.07
Ingredion	INGR	125.59	0.75
ICE	ICE	65.65	0.22
IntercontinentlHtl	IHG	50.07	-0.27
IBM	IBM	144.55	-0.27
IntlFlavors	IFF	144.14	0.36
IntlPaper	IP	57.05	-0.02
Interpublic	IPG	20.04	0.03
InvitationHomes	INVH	22.69	0.29
IronMountain	IRM	39.42	-0.05
IsraelChemicals	ICL	4.45	0.12
ItauUnibanco	ITUB	13.98	0.01
JPMorganChase	JPM	92.92	1.30
JacobsEngineering	JEC	56.76	0.81
JamesHardie	JHX	13.35	-0.08
JanusHenderson	JHG	33.52	0.26
J&J	JNJ	135.38	0.93
JohnsonControls	JCI	39.57	0.53
JuniperNetworks	JNPR	27.71	-0.09
KAR Auction	KAR	45.41	-0.39
KB Fin	KB	48.07	0.95
KKR	KKR	18.94	0.34
KT	KT	14.20	-0.07
KSCitySouthern	KSU	106.28	-0.98
Kellogg	K	68.61	0.29
KeyCorp	KEY	18.30	0.37
KeysightTechs	KEYS	41.62	0.25
KilroyRealty	KRC	68.99	-0.17
KimberlyClark	KMB	121.87	0.77
KimcoRealty	KIM	20.03	-0.52
KinderMorgan	KMI	19.33	0.03
KinrossGold	**KGC**	**4.53**	**-0.29**
Knight-Swift	KNX	39.82	...
Kohl's	KSS	44.89	-0.24
KoninklijkePhil	PHG	41.58	0.39
KoreaElcPwr	KEP	17.90	-0.34
Kroger	KR	21.44	-0.13
Kyocera	KYO	62.44	-0.17
LATAMAirlines	LTM	13.66	-0.08
L Brands	LB	39.98	-0.56
LG Display	LPL	14.89	0.15
LINE	LN	35.43	-0.03
L3 Tech	LLL	187.30	1.65
LabCpAm	LH	153.75	0.15
LambWeston	LW	46.28	-0.11
LasVegasSands	LVS	63.63	0.38
Lear	LEA	166.62	-0.55
Leggett&Platt	LEG	45.88	0.03
Leidos	LDOS	57.33	0.93
Lennar A	LEN	51.70	0.39
Lennar B	LEN/B	43.63	0.74
LennoxIntl	LII	167.24	-0.29
LeucadiaNatl	LUK	23.57	0.44
Level3Comm	LVLT	52.45	-0.92
LibertyProperty	LPT	42.70	-0.14
EliLilly	LLY	82.52	0.08
LincolnNational	LNC	70.67	1.06
LionsGate A	LGF/A	31.80	1.29
LionsGate B	LGF/B	30.28	1.24
LiveNationEnt	LYV	42.17	0.08
LloydsBanking	LYG	3.53	-0.01
LockheedMartin	LMT	303.80	1.50
Loews	L	47.50	0.01
Lowe's	LOW	77.67	-0.32
LyondellBasell	LYB	95.58	0.41
M&T Bank	MTB	151.67	1.68
MGM Resorts	MGM	31.68	-0.24
MPLX	MPLX	35.20	0.07
MSCI	MSCI	113.15	-0.15
Macerich	MAC	54.92	-1.01
MacquarieInfr	MIC	74.37	0.65
Macy's	M	22.10	-0.48
MagellanMid	MMP	70.99	-0.14
MagnaIntl	MGA	51.76	-0.15
Manpower	MAN	115.69	1.60
ManulifeFin	MFC	19.65	-0.26
MarathonOil	MRO	12.02	0.02
MarathonPetrol	MPC	53.58	0.62
Markel	MKL	1053.26	10.96
Marsh&McLennan	MMC	81.45	0.13
MartinMarietta	MLM	202.40	3.20
Masco	MAS	37.25	-0.06
Mastercard	MA	141.40	-0.18
McCormick	MKC	98.93	-0.01
McCormickVtg	MKC/V	99.14	-0.06
McDonalds	MCD	156.68	-0.24
McKesson	MCK	148.42	-1.46
Medtronic	MDT	82.40	0.28
Merck	MRK	65.99	-0.17
MetLife	MET	48.90	0.36
MettlerToledo	MTD	633.28	7.28
MichaelKors	KORS	44.65	-0.27
MidAmApt	MAA	108.26	0.04
MitsubishiUFJ	MTU	6.22	0.04
MizuhoFin	MFG	3.48	...
MobileTeleSys	MBT	10.51	-0.47
MohawkIndustries	MHK	254.34	-0.33
MolsonCoors B	TAP	86.13	-1.12
Monsanto	MON	119.12	0.85
Moody's	MCO	136.76	0.43
MorganStanley	MS	47.32	0.72
Mosaic	MOS	21.31	0.65
MotorolaSolutions	MSI	85.48	...
NRG Energy	NRG	23.84	0.91
NTTDoCoMo	DCM	22.89	-0.07
NVR	NVR	2794.55	44.36
NatlGrid	NGG	64.55	-0.83
NatlOilwell	NOV	34.77	0.32
NatlRetailProp	NNN	42.99	-0.18
NewOrientalEduc	EDU	87.16	0.12
NY CmntyBcp	NYCB	12.32	0.03
NewellBrands	NWL	42.99	-0.22
NewmontMining	NEM	37.78	-0.07
NextEraEnergy	NEE	148.30	-1.79
NielsenHoldings	NLSN	40.25	-0.40
Nike	NKE	53.50	-0.37
NiSource	NI	26.54	-0.45
NobleEnergy	NBL	26.09	0.04
Nokia	NOK	6.21	0.05
NomuraHoldings	NMR	5.67	0.05
Nordstrom	JWN	46.64	-0.10
NorfolkSouthern	NSC	127.35	-0.69
NorthropGrumman	NOC	275.97	8.94
Novartis	NVS	85.11	-0.47
NovoNordisk	NVO	48.67	0.68
Nucor	NUE	56.93	0.78
NuSTAREnergy	NS	41.13	0.47
OGE Energy	OGE	36.22	-0.09
ONEOK	OKE	56.10	-0.30
OccidentalPetrol	OXY	61.80	0.45
Och-Ziff	OZM	2.87	-0.01
OmegaHealthcare	OHI	32.65	-0.20
Omnicom	OMC	72.70	-0.34
Oracle	ORCL	48.33	-0.41
Orange	ORAN	16.76	0.09
OrbitalATK	**OA**	**132.75**	**22.21**
Orix	IX	80.26	0.12
Oshkosh	OSK	78.80	1.67
OwensCorning	OC	75.47	-0.03
PG&E	PCG	69.65	-0.62
PLDT	PHI	32.92	-0.10
PNC Fin	PNC	131.71	2.34
POSCO	PKX	70.00	0.36
PPG Ind	PPG	106.80	0.50
PPL	PPL	39.11	-0.20
PVH	PVH	128.01	-0.09
PackagingCpAm	PKG	116.22	0.34
PaloAltoNtwks	PANW	143.43	-0.02
ParkHotels	PK	27.19	-0.30
ParkerHannifin	PH	173.63	3.94
ParsleyEnergy	PE	25.61	-0.03
Pearson	PSO	7.67	-0.02
PembinaPipeline	PBA	33.96	-0.31
Pentair	PNR	65.04	0.44
PepsiCo	PEP	114.99	0.14
PerkinElmer	PKI	69.48	0.40
Perrigo	PRGO	86.62	-0.28
PetroChina	PTR	63.67	0.08
PetroleoBrasil	PBR	10.06	-0.02
PetroleoBrasilA	PBR/A	9.59	-0.06
Pfizer	PFE	35.55	0.19
PhilipMorris	PM	116.08	0.29
Phillips66	PSX	88.31	0.64
PinnacleFoods	PF	59.12	0.30
PinnacleWest	PNW	88.34	-0.93
PioneerNatRscs	PXD	137.00	-1.10
PlainsAllAmPipe	PAA	21.98	0.17
PlainsGP	PAGP	22.92	0.11
PolarisIndustries	PII	106.97	1.10
PostHoldings	POST	85.84	1.04
Potash	POT	19.19	0.45
Praxair	PX	134.16	0.52
PrincipalFin	PFG	62.42	-0.09
Procter&Gamble	PG	93.15	-0.12
Progressive	PGR	46.31	0.29
Prologis	PLD	65.03	-0.17
PrudentialFin	PRU	103.38	0.60
Prudential	PUK	47.50	0.19
PublicServiceEnt	PEG	45.05	-0.71
PublicStorage	PSA	215.85	1.70
PulteGroup	PHM	26.33	0.13
QuestDiag	DGX	103.86	-1.10
QuintilesIMS	Q	95.07	0.60
RELX	RENX	21.50	-0.08
RELX	RELX	22.39	-0.08
RPM	RPM	50.40	-0.10
RalphLauren	RL	86.70	-0.11
RaymondJames	RJF	80.92	1.15
Raytheon	RTN	183.31	0.81
RealtyIncome	O	59.56	-0.34
RedHat	RHT	107.44	0.14
RegencyCtrs	REG	63.95	-1.05
RegionsFin	RF	14.02	0.27
ReinsuranceGrp	RGA	135.62	0.12
RepublicServices	RSG	66.94	0.05
ResMed	RMD	79.53	0.30
RestaurantBrands	QSR	64.45	1.43
RiceEnergy	RICE	28.51	-0.16
RioTinto	RIO	48.24	0.61
RobertHalf	RHI	46.92	0.45
Rockwell	ROK	175.16	1.43
RockwellCollins	COL	130.56	-0.53
RogersComm B	RCI	51.79	0.03
Rollins	ROL	43.82	-0.19
RoperTech	ROP	237.81	-0.02
RoyalBkCanada	RY	74.97	-0.53
RoyalBkScotland	RBS	6.89	-0.01
RoyalCaribbean	RCL	118.80	-2.12
RoyalDutchA	RDS/A	57.46	-0.16
RoyalDutchB	RDS/B	59.31	0.06
SAP	SAP	110.06	0.32
S&P Global	SPGI	154.43	0.43
SINOPECShanghai	SHI	61.01	-0.22
SK Telecom	SKM	24.25	-0.20
SLGreenRealty	SLG	98.18	-0.26
Salesforce.com	CRM	95.74	1.11
Sanofi	SNY	48.64	0.21
Sasol	SSL	29.96	-0.18
Scana	SCG	58.73	-1.11
Schlumberger	SLB	67.87	0.63
SchwabC	SCHW	40.65	0.44
ScottsMiracleGro	SMG	95.77	0.40
SealedAir	SEE	42.89	-0.56
SempraEnergy	SRE	117.66	-1.63
SensataTech	ST	47.35	0.17
ServiceCorp	SCI	34.76	-0.27
ServiceMaster	SERV	46.96	0.28
ServiceNow	NOW	116.51	0.40
ShawComm B	SJR	22.61	-0.12
SherwinWilliams	SHW	339.70	-1.28
ShinhanFin	SHG	45.19	0.87
Shopify	SHOP	122.42	2.16
SimonProperty	SPG	161.52	-3.25
SmithAO	AOS	58.28	0.06
Smith&Nephew	SNN	36.71	-0.10
Smucker	SJM	111.06	0.84
Snap	SNAP	14.92	-0.33
SnapOn	SNA	146.66	...
SOQUIMICH	SQM	58.97	0.91
Sony	SNE	38.39	-0.27
Southern	SO	50.07	-0.57
SoCopper	SCCO	39.88	0.53
SouthwestAirlines	LUV	54.09	-0.63
SpectraEnerPtrs	SEP	44.42	0.02
SpectrumBrands	SPB	104.28	-0.52
SpiritAeroSys	SPR	77.75	0.63
Sprint	S	7.68	-0.01
Square	SQ	28.69	0.19
StanleyBlackDck	SWK	149.81	1.77
StarwoodProp	STWD	21.86	-0.01
StateStreet	STT	94.76	0.72
Statoil	STO	19.56	0.03
Steris	STE	86.73	0.09
STMicroelec	STM	19.60	0.47
Stryker	SYK	144.53	0.65
SumitomoMits	SMFG	7.62	0.05
SunCommunities	SUI	89.08	-0.10
SunLifeFinancial	SLF	38.41	-0.19
SuncorEnergy	SU	33.97	-0.16
SunTrustBanks	STI	55.56	0.73
SynchronyFin	SYF	29.26	0.24
Syngenta	SYT	92.01	0.58
Sysco	SYY	53.93	0.27
TAL Education	TAL	33.01	0.65
TE Connectivity	TEL	82.62	0.57
Telus	TU	36.22	-0.13
Ternium	TX	31.98	0.36
TIM Part	TSU	18.51	0.34
TJX	TJX	73.42	-0.22
TableauSoftware	DATA	75.97	0.55
TaiwanSemi	TSM	38.07	0.42
TargaResources	TRGP	47.23	0.30
Target	TGT	59.09	-0.87
TataMotors	TTM	31.82	0.54
TechnipFMC	FTI	27.25	0.19
TeckRscsB	TECK	21.41	0.35
TelecomArgentina	TEO	30.73	-0.20
TelecomItalia	TI	9.75	0.37
TelecomItalia A	TI/A	7.84	0.22
Teleflex	TFX	239.73	2.34
TelefonicaBras	VIV	16.50	0.06
Telefonica	TEF	10.90	0.09
TelekmIndonesia	TLK	35.31	-0.19
Tenaris	TS	29.05	0.05
Teradyne	TER	35.62	-1.25
TevaPharm	**TEVA**	**16.99**	**-1.11**
Textron	TXT	52.46	0.85
ThermoFisherSci	TMO	191.86	1.23
ThomsonReuters	TRI	45.42	-0.12
ThorIndustries	THO	113.98	1.62
3M	MMM	213.76	0.41
Tiffany	TIF	89.47	-0.84
TimeWarner	TWX	101.97	0.10
TollBros	TOL	39.95	0.54
Torchmark	TMK	77.53	0.31
Toro	TTC	60.59	-0.13
TorontoDomBk	TD	53.91	0.44
Total	TOT	53.81	-0.05
TotalSystem	TSS	66.37	-0.33
ToyotaMotor	TM	117.59	-0.10
TransCanada	TRP	50.29	0.20
TransDigm	TDG	264.64	8.49
TransUnion	TRU	42.35	0.74
Travelers	TRV	120.72	0.02
TurkcellIletism	TKC	8.36	0.10
TurquoiseHill	TRQ	3.01	...
Twitter	TWTR	17.60	-0.41
TylerTech	TYL	170.12	0.29
TysonFoods	TSN	67.41	0.54
UBS Group	UBS	16.81	0.11
UDR	UDR	38.92	-0.20
UGI	UGI	46.41	-0.46
US Foods	USFD	27.35	0.16
UltraparPart	UGP	24.75	-0.14
UnderArmour A	UAA	17.37	-0.42
UnderArmour C	UA	16.14	-0.32
Unilever	UN	60.63	0.38
Unilever	UL	59.23	0.25
UnionPacific	UNP	112.03	-1.37
UnitedContinental	UAL	58.11	-1.69
UnitedMicro	UMC	2.66	0.05
UPS B	UPS	117.59	-0.31
UnitedRentals	URI	129.43	1.33
US Bancorp	USB	52.38	0.57
US Steel	X	25.53	0.44
UnitedTech	UTX	112.16	-0.43
UnitedHealth	UNH	198.19	0.01
UniversalHealthB	UHS	108.92	-1.75
UnumGroup	UNM	48.97	0.54
VEREIT	VER	8.67	-0.01
VF	VFC	62.16	-0.27
Visa	V	104.83	-0.47
Vale	VALE	10.91	0.06
ValeroEnergy	VLO	72.00	1.07
Vantiv	VNTV	72.21	0.13
VarianMed	VAR	106.84	0.51
Vectren	VVC	66.35	-0.51
Vedanta	VEDL	20.48	0.48
Ventas	VTR	68.88	-0.48
Verizon	VZ	48.09	0.23
VipShop	VIPS	10.11	0.03
VistraEnergy	VST	17.91	0.21
VMware	VMW	109.98	-0.27
VornadoRealty	VNO	74.56	-0.55
VoyaFinancial	VOYA	38.51	0.59
VulcanMaterials	VMC	115.59	2.38
WABCO	WBC	142.97	0.73
WEC Energy	WEC	65.48	-0.59
W.P.Carey	WPC	69.70	0.04
Wabtec	WAB	73.90	1.55
Wal-Mart	WMT	80.00	-0.38
WasteConnections	WCN	68.99	-0.60
WasteMgt	WM	78.18	0.18
Waters	WAT	188.95	1.22
Watsco	WSO	154.48	-0.52
Wayfair	W	80.29	0.53
WellCareHealth	WCG	175.99	-1.80
WellsFargo	WFC	52.71	1.05
Welltower	HCN	74.31	-0.26
WestPharmSvcs	WST	96.75	0.84
WestarEnergy	WR	50.43	-0.64
WesternGasEquity	WGP	40.47	0.02
WesternGasPtrs	WES	51.46	-0.38
WesternUnion	WU	19.10	0.19
WestlakeChem	WLK	80.77	1.31
WestpacBanking	WBK	25.28	0.06
WestRock	WRK	57.74	0.18
Weyerhaeuser	WY	33.37	0.38
WheatonPrecMetals	WPM	19.28	-0.31
Whirlpool	WHR	170.84	-1.02
Williams	WMB	30.58	0.28
WilliamsPartners	WPZ	39.52	0.26
Wipro	WIT	5.76	-0.04
WooriBank	WF	46.95	1.07
Workday	WDAY	106.56	1.52
Wyndham	WYN	101.47	0.03
XPO Logistics	XPO	61.34	0.51
XcelEnergy	XEL	48.62	-0.46
Xerox	XRX	32.29	-0.35
Xylem	XYL	63.66	0.36
YPF	YPF	20.18	-0.10
YumBrands	YUM	75.71	0.46
YumChina	YUMC	38.86	1.48
ZTO Express	ZTO	14.89	-0.18
ZayoGroup	ZAYO	35.47	0.20
ZimmerBiomet	ZBH	116.30	0.83
Zoetis	ZTS	65.20	...
NASDAQ			
AGNC Invt	AGNC	21.35	0.24
Ansys	ANSS	123.59	1.77
ASML	ASML	166.99	4.58
Abiomed	ABMD	157.90	-0.68
ActivisionBlizz	ATVI	64.20	-0.80
AdobeSystems	ADBE	155.77	1.28
AkamaiTech	AKAM	47.57	0.23
AlexionPharm	ALXN	143.64	-3.05
AlignTech	ALGN	188.34	3.84
Alkermes	ALKS	52.02	...
AlnylamPharm	ALNY	76.00	-0.21
Alphabet A	GOOGL	929.75	-5.54
Alphabet C	GOOG	915.00	-5.29
Altaba	AABA	67.10	0.70
Amazon.com	AMZN	974.19	-12.60
Amdocs	DOX	64.13	1.64
Amerco	UHAL	387.56	0.03
AmericanAirlines	AAL	45.31	-0.69
Amgen	AMGN	186.47	-1.00
AnalogDevices	ADI	85.17	1.33
Apple	AAPL	158.67	-1.21
AppliedMaterials	AMAT	48.05	0.91
ArchCapital	ACGL	96.87	0.46
Atlassian	TEAM	36.25	0.75
Autodesk	ADSK	113.84	-0.29
ADP	ADP	106.55	-0.23
Baidu	BIDU	239.07	3.86
BankofOzarks	OZRK	44.44	1.00
Biogen	BIIB	318.18	-3.08
BioMarinPharm	BMRN	91.98	0.07
Bioverativ	BIVV	57.00	1.23
bluebirdbio	BLUE	133.05	1.45
BrighthouseFin	BHF	57.21	0.65
Broadcom	AVGO	249.82	0.29
CA	CA	32.99	-0.11
CBOE Holdings	CBOE	105.49	0.82
CDK Global	CDK	62.13	0.98
CDW	CDW	62.80	0.91
CH Robinson	CHRW	72.25	0.80
CME Group	CME	131.30	0.01
CSX	CSX	51.85	-0.63
CadenceDesign	CDNS	38.73	0.19
Carlyle	CG	24.10	0.55
Celgene	CELG	142.84	0.80
Cerner	CERN	69.30	-2.18
CharterComms	CHTR	368.17	-1.30
CheckPointSftw	CHKP	112.91	-0.09
ChinaLodging	HTHT	115.05	3.42
CincinnatiFin	CINF	76.08	0.86
Cintas	CTAS	134.30	0.15
CiscoSystems	CSCO	32.52	0.08
CitrixSystems	CTXS	76.47	0.25
Cognex	CGNX	114.44	2.49
CognizantTech	CTSH	72.04	0.22
Coherent	COHR	261.05	7.28
Comcast A	CMCSA	37.11	0.18
CommerceBcshrs	CBSH	55.78	0.61
CommScope	COMM	34.34	0.76
Copart	CPRT	32.86	0.34
CoStarGroup	CSGP	276.63	-1.17
Costco	COST	160.91	-1.39
Ctrip.com	CTRP	53.19	0.79
CyrusOne	CONE	62.16	0.37
DISH Network	DISH	52.85	-0.10
DentsplySirona	XRAY	58.71	-0.63
DexCom	DXCM	69.26	-1.03
DiamondbackEner	FANG	95.15	1.18
DiscoveryComm A	DISCA	23.75	-0.10
DiscoveryComm B	DISCB	21.32	-0.62
DiscoveryComm C	DISCK	20.14	-0.50
DollarTree	DLTR	83.19	-0.29
E*TRADE	ETFC	41.66	0.40
EastWestBancorp	EWBC	55.95	-0.02
eBay	EBAY	38.39	-0.01
ElbitSystems	ESLT	141.71	3.79
ElectronicArts	EA	119.96	0.54
Equinix	EQIX	450.15	-5.16
Ericsson	ERIC	5.72	-0.04
Exelixis	EXEL	27.58	0.01
Expedia	EXPE	142.16	0.03
ExpeditorsIntl	EXPD	56.89	-0.01
ExpressScripts	ESRX	62.01	-0.64
F5Networks	FFIV	116.90	0.28
Facebook	FB	170.01	-1.63
Fastenal	FAST	44.10	0.17
FifthThirdBncp	FITB	26.87	0.35
Fiserv	FISV	125.53	1.48
Flex	FLEX	16.74	0.05
Fortinet	FTNT	38.59	-0.07
Gaming&Leisure	GLPI	37.64	0.02
Garmin	GRMN	52.49	0.01
GileadSciences	GILD	82.97	0.61
Goodyear	GT	32.38	-0.05
Grifols	GRFS	20.76	0.02
HD Supply	HDS	33.21	0.75
Hasbro	HAS	93.24	-1.60
HenrySchein	HSIC	80.90	-1.90
Hologic	HOLX	37.36	-0.36
JBHunt	JBHT	102.76	1.19
HuntingtonBcshs	HBAN	13.09	0.33
IAC/InterActive	IAC	114.62	0.70
IdexxLab	IDXX	162.10	-3.13
IHSMarkit	INFO	47.53	0.13
INC Research	INCR	54.55	-0.30
IPG Photonics	IPGP	183.17	2.94
IcahnEnterprises	IEP	54.27	-0.13
Icon	ICLR	113.39	2.05
Illumina	ILMN	209.40	-1.32
Incyte	INCY	117.40	-0.37
Intel	INTC	37.00	...
InteractiveBrkrs	IBKR	42.87	0.99
Intuit	INTU	143.80	1.67
IntuitiveSurgical	ISRG	1046.29	8.26
IonisPharma	IONS	59.57	0.34
JD.com	JD	44.74	-0.17
JackHenry	JKHY	102.41	0.67
JazzPharma	JAZZ	152.65	1.17
JetBlue	JBLU	19.16	-0.22
KLA Tencor	KLAC	100.91	2.27
KitePharma	KITE	178.89	0.28
KraftHeinz	KHC	81.40	-0.03
LKQ	LKQ	35.23	-0.12
LamResearch	LRCX	177.31	4.32
LamarAdvertising	LAMR	63.39	-0.55
LibertyBroadbandA	LBRDA	96.29	-0.71
LibertyBroadbandC	LBRDK	98.00	-0.27
LibertyGlobal A	LBTYA	33.99	-0.62
LibertyGlobal B	LBTYB	33.65	-0.75
LibertyGlobal C	LBTYK	32.29	0.16
LibertyLiLAC A	LILA	24.43	-0.56
LibertyLiLAC C	LILAK	24.00	-0.49
LibertyQVC A	QVCA	23.35	0.28
LibertyQVC B	QVCB	22.73	-0.39
LibertyVenturesA	LVNTA	57.31	0.06
LibertyFormOne A	FWONA	36.24	-0.52
LibertyFormOne C	FWONK	38.78	-0.11
LibertyBraves A	BATRA	25.07	0.14
LibertyBraves C	BATRK	25.03	0.10
LibertySirius A	LSXMA	42.00	-0.28
LibertySirius C	LSXMK	41.95	-0.33
LincolnElectric	LECO	91.42	0.75
LogitechIntl	LOGI	37.52	0.33
LogMeIn	LOGM	112.90	1.70
lululemon	LULU	59.76	-0.84
MarketAxess	MKTX	180.43	1.25
Marriott	MAR	105.54	0.15
MarvellTech	MRVL	18.43	0.09
MatchGroup	MTCH	24.47	0.49
MaximIntProducts	MXIM	47.30	0.30
MelcoResorts	MLCO	23.01	0.41
MercadoLibre	MELI	289.71	7.00
MicrochipTech	MCHP	91.01	1.39
MicronTech	MU	35.43	0.78
Microsemi	MSCC	50.24	0.84
Microsoft	MSFT	75.16	-0.15
Middleby	MIDD	121.38	0.96
Momo	MOMO	36.90	0.33
Mondelez	MDLZ	40.71	-0.15
MonsterBeverage	MNST	56.67	0.49
Mylan	MYL	31.50	-0.53
NXP Semi	NXPI	112.99	0.15
Nasdaq	NDAQ	75.09	0.34
NationalBeverage	FIZZ	119.77	-0.03
NetApp	NTAP	40.63	-0.40
Netease	**NTES**	**293.30**	**22.23**
Netflix	NFLX	184.62	2.27
NewsCorp A	NWSA	13.09	...
NewsCorp B	NWS	13.45	...
Nordson	NDSN	110.50	1.30
NorthernTrust	NTRS	88.54	0.58
NorwegianCruise	NCLH	56.35	-0.39
NVIDIA	NVDA	187.55	7.44
OReillyAuto	ORLY	210.08	0.22
OldDomFreight	ODFL	101.48	1.15
ON Semi	ON	17.46	0.08
OpenText	OTEX	32.14	-0.10
PTC	PTC	54.95	0.30
Paccar	PCAR	70.86	0.94
Paychex	PAYX	58.08	0.23
PayPal	PYPL	62.92	0.42
People'sUtdFin	PBCT	17.04	0.13
PilgrimPride	PPC	29.54	-0.02
Priceline	PCLN	1854.18	10.98
Qiagen	QGEN	32.11	0.10
Qorvo	QRVO	74.35	-1.14
Qualcomm	QCOM	52.25	0.06
RandgoldRscs	GOLD	100.68	-1.89
RegenPharm	REGN	434.64	1.19
RossStores	ROST	60.81	0.10
RoyalGold	RGLD	90.47	-0.87
Ryanair	RYAAY	107.00	-1.15
SBA Comm	SBAC	150.53	0.54
SEI Investments	SEIC	57.95	0.37
Sina	SINA	115.06	-1.27
SS&C Tech	SSNC	38.12	0.08
SVB Fin	SIVB	172.65	2.06
ScrippsNetworks	SNI	85.66	-0.35
Seagate	STX	33.52	-0.03
SeattleGenetics	SGEN	52.89	-0.99
Shire	SHPG	155.66	-2.68
SignatureBank	SBNY	119.94	1.22
SiriusXM	SIRI	5.48	-0.03
Skyworks	SWKS	107.49	-2.06
Splunk	SPLK	68.49	1.27
Starbucks	SBUX	54.69	0.02
SteelDynamics	STLD	33.80	0.46
Stericycle	SRCL	71.00	-1.12
Symantec	SYMC	33.77	0.53
Synopsys	SNPS	80.43	0.63
TD Ameritrade	AMTD	45.65	0.40
TESARO	TSRO	118.44	1.28
T-MobileUS	TMUS	61.80	0.63
TRowePrice	TROW	85.35	0.63
TakeTwoSoftware	TTWO	100.82	0.43
Tesla	TSLA	385.00	5.19
TexasInstruments	TXN	86.14	1.30
TractorSupply	TSCO	61.35	-1.81
Trimble	TRMB	39.92	0.26
TripAdvisor	TRIP	43.59	-0.34
21stCenturyFoxA	FOXA	26.50	-0.55
21stCenturyFoxB	FOX	26.03	-0.62
UltaBeauty	ULTA	227.08	2.41
UltimateSoftware	ULTI	197.10	-0.31
UniversalDisplay	OLED	136.70	4.65
VEON	VEON	4.20	-0.16
VeriSign	VRSN	105.08	0.69
VeriskAnalytics	VRSK	81.77	0.74
VertexPharm	VRTX	153.20	-0.41
Viacom A	VIA	37.45	-0.40
Viacom B	VIAB	27.32	-0.35
Vodafone	VOD	28.62	0.12
WPP	WPPGY	91.77	-0.60
WalgreensBoots	WBA	82.60	0.10
Weibo	WB	104.93	-1.85
WesternDigital	WDC	89.18	0.66
WillisTowersWatson	WLTW	152.10	-1.04
WynnResorts	WYNN	143.84	0.62
Xilinx	XLNX	69.70	1.37
Yandex	YNDX	32.32	-0.32
ZebraTech	ZBRA	108.04	2.22
Zillow A	ZG	40.58	0.43
Zillow C	Z	40.77	0.45
ZionsBancorp	ZION	44.99	0.68
NYSE AMER			
ChenierEnergy	LNG	43.92	0.30
ChenierEnerPtrs	CQP	27.52	0.02
ChenierEnHldgs	CQH	24.69	0.04
ImperialOil	IMO	31.22	0.07

Exchange-Traded Portfolios | WSJ.com/ETFresearch

Largest 100 exchange-traded funds, latest session

Monday, September 18, 2017

ETF	Symbol	Closing Price	Chg (%)	YTD (%)
AlerianMLPETF	AMLP	11.31	0.35	-10.2
CnsmrDiscSelSector	XLY	89.32	-0.35	9.7
CnsStapleSelSector	XLP	55.30	0.14	6.9
DBGoldDoubleLgETN	DGP	26.61	-1.50	32.2
DBGoldDoubleShrt	DZZ	5.33	2.30	-22.2
DeutscheXMSCIEAFE	DBEF	30.58	0.46	9.0
EnSelectSectorSPDR	XLE	66.12	0.43	-12.2
FinSelSectorSPDR	XLF	25.06	1.17	7.8
GuggS&P500EW	RSP	94.52	0.16	9.1
HealthCareSelSect	XLV	82.57	-0.02	19.8
IndSelSectorSPDR	XLI	69.78	0.56	12.2
iShIntermCredBd	CIU	110.22	-0.02	1.9
iSh1-3YCreditBond	CSJ	105.42	0.03	0.5
iSh3-7YTreasuryBd	IEI	123.97	-0.09	1.2
iShCoreMSCIEAFEETF	IEFA	63.86	0.20	19.1
iShCoreMSCIEmgMk	IEMG	55.15	0.31	29.9
iShCoreMSCITotInt	IXUS	61.04	0.18	20.9
iShCoreS&P500ETF	IVV	252.71	0.23	12.3
iShCoreS&PMdCp	IJH	176.09	0.49	6.5
iShCoreS&PSmCpETF	IJR	71.34	0.79	3.8
iShS&PTotlUSStkMkt	ITOT	57.44	0.33	12.0
iShCoreUSAggBd	AGG	109.86	-0.05	1.7
iShSelectDividend	DVY	93.86	0.09	6.0
iShEdgeMSCIMinEAFE	EFAV	71.12	-0.06	16.2
iShEdgeMSCIMinUSA	USMV	50.73	0.10	12.2
iShGoldTr	IAU	12.57	-1.02	13.4
iShiBoxx$InvGrCpBd	LQD	120.90	-0.10	3.2
iShiBoxx$HYCpBd	HYG	88.37	-0.05	2.1
iShJPMUSDEmgBd	EMB	116.83	-0.20	6.0
iShMBSETF	MBB	107.29	-0.07	0.9
iShMSCIACWIETF	ACWI	68.70	0.19	16.1
iShMSCI EAFE	EFA	68.15	0.13	18.0
iShMSCIEAFESC	SCZ	61.43	0.15	23.3
iShMSCIEmgMarkets	EEM	45.75	0.35	30.7
iShMSCIEurozoneETF	EZU	43.08	0.23	24.5
iShMSCIJapanETF	EWJ	55.25	0.02	13.1
iShNasdaqBiotech	IBB	332.17	0.11	25.2
iShNatlMuniBdETF	MUB	111.20	-0.03	2.8
iShRussell1000Gwth	IWF	125.07	0.13	19.2
iShRussell1000ETF	IWB	139.65	0.25	12.2
iShRussell1000Val	IWD	118.14	0.41	5.5
iShRussell2000Gwth	IWO	173.93	0.89	13.0
iShRussell2000ETF	IWM	143.38	0.68	6.3
iShRussell2000Val	IWN	119.54	0.63	0.5
iShRussell3000ETF	IWV	148.60	0.27	11.7
iShRussellMid-Cap	IWR	195.89	0.31	9.5
iShRussellMCValue	IWS	84.56	0.23	5.1
iShS&PMC400Growth	IJK	199.42	0.44	9.5
iShS&P500Growth	IVW	143.67	0.06	18.0
iShS&P500ValueETF	IVE	107.40	0.36	5.9
iShUSPfdStk	PFF	38.89	-0.05	4.5
iShTIPSBondETF	TIP	114.45	-0.04	1.1
iSh1-3YTreasuryBd	SHY	84.50	-0.06	0.1
iSh7-10YTreasuryBd	IEF	107.27	-0.39	2.3
iSh20+YTreasuryBd	TLT	126.13	-0.58	5.9
iShRussellMCGrowth	IWP	112.18	0.45	15.2
PIMCOEnhShMaturity	MINT	101.73	0.02	0.4
PwrShQQQ1	QQQ	145.55	-0.13	22.8
PwrShS&P500LoVol	SPLV	45.90	0.14	10.4
PwrShSrLoanPtf	BKLN	23.05	0.00	-1.3
SPDRBloomBarcHYBd	JNK	37.16	-0.03	1.9
SPDR Gold	GLD	124.36	-0.93	13.5
SchwabIntEquity	SCHF	33.31	0.27	20.3
SchwabUS BrdMkt	SCHB	60.38	0.29	11.4
SchwabUS LC	SCHX	59.69	0.25	12.1
SPDR DJIA Tr	DIA	223.16	0.32	13.0
SPDR S&PMdCpTr	MDY	320.12	0.47	6.1
SPDR S&P 500	SPY	249.72	0.21	11.7
SPDR S&P Div	SDY	90.59	0.15	5.9
TechSelectSector	XLK	58.79	0.09	21.6
UtilitiesSelSector	XLU	54.19	-1.02	11.6
VanEckGoldMiner	GDX	23.73	-1.66	13.4
VangdInfoTech	VGT	151.97	0.11	25.1
VangdSC Val	VBR	125.22	0.51	3.5
VangdDivApp	VIG	94.86	0.29	11.4
VangdFTSEDevMk	VEA	43.36	0.16	18.7
VangdFTSE EM	VWO	45.02	-0.09	25.8
VangdFTSE Europe	VGK	58.14	0.16	21.3
VangdFTSEAWxUS	VEU	53.05	0.19	20.1
VangdGrowth	VUG	132.91	0.04	19.2
VangdHlthCr	VHT	153.87	0.03	21.4
VangdHiDiv	VYM	81.20	0.36	7.2
VangdIntermBd	BIV	84.99	-0.11	2.3
VangdIntrCorpBd	VCIT	87.96	-0.11	2.6
VangdLC	VV	115.30	0.18	12.6
VangdMC	VO	146.13	0.22	11.0
VangdMC Val	VOE	104.99	0.19	8.0
VangdREIT	VNQ	84.88	-0.54	2.8
VangdS&P500	VOO	230.49	0.17	12.3
VangdST Bond	BSV	79.93	-0.03	0.6
VangdSTCpBd	VCSH	80.08	-0.04	0.9
VangdSC	VB	138.63	0.55	7.5
VangdTotalBd	BND	82.11	-0.07	1.6
VangdTotIntlBd	BNDX	54.55	-0.09	0.5
VangdTotIntlStk	VXUS	55.09	0.16	20.1
VangdTotalStk	VTI	128.91	0.24	11.8
VangdTotlWrld	VT	70.87	0.34	16.2
VangdValue	VTV	99.58	0.44	7.1
WisdTrEuropeHdg	HEDJ	63.61	0.30	10.8
WisdTrJapanHdg	DXJ	53.77	0.73	8.5

Mutual Funds | WSJ.com/fundresearch

Explanatory Notes

Data provided by LIPPER

Top 250 mutual-funds listings for Nasdaq-published share classes with net assets of at least $500 million each. **NAV** is net asset value. Percentage performance figures are total returns, assuming reinvestment of all distributions and after subtracting annual expenses. Figures don't reflect sales charges ("loads") or redemption fees. **NET CHG** is change in NAV from previous trading day. **YTD%RET** is year-to-date return. **3-YR%RET** is trailing three-year return annualized.

e-Ex-distribution. **f**-Previous day's quotation. **g**-Footnotes x and s apply. **j**-Footnotes e and s apply. **k**-Recalculated by Lipper, using updated data. **p**-Distribution costs apply, 12b-1. **r**-Redemption charge may apply. **s**-Stock split or dividend. **t**-Footnotes p and r apply. **v**-Footnotes x and e apply. **x**-Ex-dividend. **z**-Footnote x, e and s apply. **NA**-Not available due to incomplete price, performance or cost data. **NE**-Not released by Lipper; data under review. **NN**-Fund not tracked. **NS**-Fund didn't exist at start of period.

Monday, September 18, 2017

Fund	NAV	Net Chg	YTD %Ret
American Century Inv			
Ultra	43.16	+0.05	23.7
American Funds Cl A			
AmcpA p	30.67	+0.09	14.3
AMutlA p	40.28	+0.05	11.0
BalA p	26.93	+0.02	10.2
BondA p	13.01	...	3.6
CapIBA p	62.61	-0.04	11.3
CapWGrA	51.08	+0.13	18.3
EupacA p	55.69	+0.23	26.0
FdInvA p	61.33	+0.16	14.8
GwthA p	49.38	+0.05	17.5
HI TrA p	10.45	...	5.8
ICAA p	40.06	...	11.8
IncoA p	23.12	+0.04	9.0
N PerA p	43.59	+0.11	23.4
NEcoA p	45.63	+0.23	26.9
NwWrldA	65.02	+0.30	26.4
SmCpA p	55.13	+0.11	19.9
TxExA p	13.05	...	4.7
WshA p	44.06	+0.11	11.7
Baird Funds			
AggBdInst	10.94	-0.01	3.9
CorBdInst	11.29	-0.01	4.2
BlackRock Funds A			
GlblAlloc p	20.13	-0.02	10.7
BlackRock Funds Inst			
EqtyDivd	22.42	+0.09	9.3
GlblAlloc	20.25	-0.02	10.9
HiYldBd	7.82	+0.01	6.6
StratIncOpptyIns	9.96	...	3.8
Bridge Builder Trust			
CoreBond	NA	...	NA
Del Invest Instl			
Value	20.70	+0.03	6.1
Dimensional Fds			
5GlbFxdInc	11.02	-0.01	2.2
EmgMktVa	30.63	+0.12	28.2
EmMktCorEq	22.56	+0.12	30.7
IntlCoreEq	13.96	+0.02	21.3
IntlVal	19.43	+0.04	18.0
IntSmCo	21.18	+0.02	23.4
IntSmVa	23.03	+0.03	21.4
US CoreEq1	21.30	+0.06	11.4
US CoreEq2	20.19	+0.08	9.3
US Small	34.78	+0.24	3.2
US SmCpVal	37.04	+0.27	-0.7
US TgdVal	24.06	+0.16	0.7
USLgVa	37.79	+0.17	8.7
Dodge & Cox			
Balanced	107.54	+0.13	6.7
GblStock	13.80	+0.02	15.9
Income	13.90	...	3.8
Intl Stk	46.57	+0.19	22.2
Stock	196.27	+0.43	8.8
DoubleLine Funds			
TotRetBdI	NA	...	NA
TotRetBdN	NA	...	NA
Edgewood Growth Instituti			
EdgewoodGrInst	28.98	+0.04	30.5
Federated Instl			
StraValDivIS	6.45	-0.02	11.8
Fidelity			
500IdxInst	87.94	+0.13	13.5
500IdxInstPrem	87.94	+0.13	13.5
500IdxPrem	87.94	+0.13	13.5
ExtMktIdxPrem r	60.52	+0.33	10.3
IntlIdxPrem r	42.39	+0.09	20.1
TMktIdxF r	72.54	+0.16	12.9
TMktIdxPrem	72.53	+0.16	12.9
USBdIdxInstPrem	11.66	-0.01	3.3
USBdIdxPrem	11.66	-0.01	3.3
Fidelity Advisor I			
NwInsghtI	31.97	+0.08	19.7
Fidelity Freedom			
FF2020	16.47	+0.02	11.6
FF2025	14.24	+0.03	12.5
FF2030	17.77	+0.03	14.4
Fidelity Invest			
Balanc	24.48	+0.02	12.0
BluCh	84.07	+0.08	27.4
Contra	121.00	+0.32	23.7
ContraK	120.98	+0.31	23.8
CpInc r	10.19	+0.01	9.0
DivIntl	40.78	+0.06	22.5
GroCo	175.54	+0.72	28.3
GrowCoK	175.47	+0.71	28.4
InvGB	7.96	-0.01	3.7
InvGrBd	11.33	-0.01	3.9
LowP r	51.34	-0.01	12.0
LowPriStkK r	51.29	-0.02	12.1
MagIn	101.39	+0.44	17.5
OTC	104.08	-0.08	30.6
Puritn	23.08	+0.04	13.0
SrsEmrgMkt	21.09	+0.13	34.3
SrsGroCoRetail	17.22	+0.07	28.9
SrsIntlGrw	15.86	+0.03	23.9
SrsIntlVal	10.66	+0.02	16.4
TotalBond	10.74	...	4.0
Fidelity Selects			
Biotech r	229.71	+0.92	32.0
First Eagle Funds			
GlbA	59.31	+0.10	9.3
FPA Funds			
FPACres	NA	...	NA
FrankTemp/Frank Adv			
IncomeAdv	2.36	+0.01	7.2
FrankTemp/Franklin A			
CA TF A p	7.51	...	5.4
Fed TF A p	12.04	...	3.5
IncomeA p	2.38	+0.01	7.1
RisDv A p	58.49	+0.22	11.8
FrankTemp/Franklin C			
Income C t	2.41	+0.01	7.0
FrankTemp/Temp A			
GlBond A p	12.26	+0.01	4.3
Growth A p	26.72	+0.08	13.4
FrankTemp/Temp Adv			
GlBondAdv p	12.21	+0.01	4.4
Harbor Funds			
CapApInst	72.64	+0.27	28.2
IntlInst r	70.04	+0.09	19.9
Harding Loevner			
IntlEq	NA	...	NA
Invesco Funds A			
EqIncA	11.07	+0.04	6.0
John Hancock Class 1			
LSBalncd	15.77	+0.03	11.4
LSGwth	16.79	+0.04	14.2
John Hancock Instl			
DispValMCI	23.20	+0.11	8.1
JPMorgan Funds			
MdCpVal L	39.09	+0.03	7.4
JPMorgan I Class			
CoreBond	11.68	-0.02	3.5
JPMorgan R Class			
CoreBond	11.70	-0.01	3.6
Lazard Instl			
EmgMktEq	19.53	+0.07	23.0
Loomis Sayles Fds			
LSBondI	14.32	-0.01	7.5
Lord Abbett A			
ShtDurIncmA p	4.29	...	2.2
Lord Abbett F			
ShtDurIncm	4.28	...	2.3
Metropolitan West			
TotRetBd	10.71	-0.01	3.0
TotRetBdI	10.71	-0.01	3.2
TRBdPlan	10.08	-0.01	3.3
MFS Funds Class I			
ValueI	40.00	+0.21	11.2
MFS Funds Instl			
IntlEq	24.94	+0.06	23.1
Mutual Series			
GlbDiscA	32.33	+0.15	7.5
GlbDiscz	32.99	+0.15	7.7
Oakmark Funds Invest			
EqtyInc r	33.16	+0.06	9.0
Oakmark	81.44	+0.34	12.4
OakmrkInt	28.56	+0.05	25.8
Old Westbury Fds			
LrgCpStr	14.63	+0.04	14.0
Oppenheimer Y			
DevMktY	NA	...	NA
IntGrowY	42.29	+0.08	21.9
Parnassus Fds			
ParnEqFd	43.04	+0.05	10.1
PIMCO Fds Instl			
AllAsset	NA	...	NA
TotRt	10.35	-0.01	5.2
PIMCO Funds A			
IncomeFd	NA	...	NA
PIMCO Funds D			
IncomeFd	NA	...	NA
PIMCO Funds Instl			
IncomeFd	NA	...	NA
PIMCO Funds P			
IncomeP	NA	...	NA
Price Funds			
BlChip	92.64	+0.09	27.6
CapApp	29.27	+0.02	11.8
EqInc	33.97	+0.14	8.8
EqIndex	67.54	+0.10	13.3
Growth	67.22	+0.05	26.2
HelSci	73.84	+0.03	25.0
InstlCapG	37.42	+0.01	28.0
IntlStk	18.99	+0.06	24.2
IntlValEq	15.15	+0.04	18.3
MCapGro	89.12	+0.32	18.2
MCapVal	30.44	+0.09	4.7
N Horiz	53.38	+0.18	23.3
N Inc	9.53	-0.01	3.6
OverS SF r	11.12	+0.02	22.6
R2020	22.85	+0.02	12.0
R2025	17.58	+0.02	13.4
R2030	25.84	+0.04	14.7
R2035	18.86	+0.03	15.8
R2040	27.06	+0.05	16.6
Value	37.57	+0.07	11.6
PRIMECAP Odyssey Fds			
Growth r	33.95	+0.04	18.5
Principal Investors			
DivIntlInst	13.76	+0.06	25.1
Prudential Cl Z & I			
TRBdZ	14.56	-0.02	5.5
Schwab Funds			
S&P Sel	39.05	+0.05	13.5
TIAA/CREF Funds			
EqIdxInst	18.73	+0.05	12.9
IntlEqIdxInst	19.89	+0.02	20.2
Tweedy Browne Fds			
GblValue	27.84	+0.10	11.2
VANGUARD ADMIRAL			
500Adml	232.24	+0.34	13.5
BalAdml	33.60	+0.04	9.0
CAITAdml	11.88	...	5.0
CapOpAdml r	149.44	+0.33	20.3
EMAdmr	37.45	+0.11	26.8
EqIncAdml	74.67	+0.16	10.7
ExtndAdml	79.73	+0.44	10.3
GNMAAdml	10.56	...	2.1
GrwthAdml	68.39	-0.02	20.0
HlthCareAdml r	89.56	-0.28	18.1
HYCorAdml r	5.98	+0.01	6.6
InfProAd	26.07	-0.01	2.6
IntlGrAdml	93.10	+0.73	38.3
ITBondAdml	11.49	-0.02	4.1
ITIGradeAdml	9.85	-0.01	4.3
LTGradeAdml	10.57	-0.02	8.2
MidCpAdml	180.93	+0.33	11.8
MuHYAdml	11.41	-0.01	6.5
MuIntAdml	14.26	...	4.8
MuLTAdml	11.70	-0.01	5.5
MuLtdAdml	11.02	...	2.8
MuShtAdml	15.82	...	1.4
PrmcpAdml r	129.17	+0.24	18.7
REITAdml r	120.33	-0.60	4.7
SmCapAdml	66.40	+0.35	8.1
STBondAdml	10.48	...	1.6
STIGradeAdml	10.70	-0.01	2.2
TotBdAdml	10.82	-0.01	3.4
TotIntBdIdxAdm	21.81	...	1.3
TotIntlAdmIdx r	29.58	+0.06	21.8
TotStAdml	62.74	+0.14	12.9
TxMIn r	13.92	+0.02	20.4
ValAdml	38.83	+0.14	8.4
WdsrIIAdml	67.33	+0.17	9.1
WellsIAdml	64.96	+0.02	6.8
WelltnAdml	72.51	+0.09	8.9
WndsrAdml	76.32	+0.28	11.2
VANGUARD FDS			
DivdGro	26.04	+0.02	12.8
HlthCare r	212.31	-0.64	18.1
INSTTRF2020	22.19	+0.02	10.2
INSTTRF2025	22.40	+0.03	11.4
INSTTRF2030	22.54	+0.03	12.4
INSTTRF2035	22.69	+0.03	13.5
INSTTRF2040	22.83	+0.03	14.5
INSTTRF2045	22.95	+0.04	14.9
IntlVal	38.45	+0.05	21.1
LifeCon	19.73	+0.01	8.0
LifeGro	32.43	+0.05	13.5
LifeMod	26.49	+0.03	10.8
PrmcpCor	25.77	+0.04	16.2
SelValu r	31.99	+0.04	11.2
STAR	26.64	+0.04	13.3
STIGrade	10.70	-0.01	2.1
TgtRe2015	15.73	+0.01	8.4
TgtRe2020	31.12	+0.02	10.1
TgtRe2025	18.20	+0.02	11.3
TgtRe2030	32.82	+0.04	12.4
TgtRe2035	20.12	+0.03	13.4
TgtRe2040	34.59	+0.06	14.5
TgtRe2045	21.71	+0.04	14.9
TgtRe2050	34.92	+0.06	14.9
TgtRetInc	13.51	...	6.3
TotIntBdIxInv	10.91	...	1.3
WellsI	26.81	+0.01	6.7
Welltn	41.98	+0.05	8.8
WndsrII	37.94	+0.10	9.0
VANGUARD INDEX FDS			
500	232.19	+0.35	13.4
ExtndIstPl	196.77	+1.09	10.3
SmValAdml	53.77	+0.26	4.2
TotBd2	10.78	-0.01	3.4
TotIntl	17.68	+0.03	21.7
TotSt	62.71	+0.14	12.8
VANGUARD INSTL FDS			
BalInst	33.60	+0.03	9.0
DevMktsIndInst	13.94	+0.02	20.5
DevMktsInxInst	21.79	+0.03	20.5
ExtndInst	79.73	+0.44	10.3
GrwthInst	68.39	-0.03	20.0
InPrSeIn	10.62	...	2.6
InstIdx	229.17	+0.34	13.5
InstPlus	229.19	+0.34	13.5
InstTStPlus	56.31	+0.12	12.9
MidCpInst	39.97	+0.07	11.8
MidCpIstPl	197.12	+0.35	11.8
SmCapInst	66.40	+0.35	8.1
STIGradeInst	10.70	-0.01	2.2
TotBdInst	10.82	-0.01	3.4
TotBdInst2	10.78	-0.01	3.4
TotBdInstPl	10.82	-0.01	3.4
TotIntBdIdxInst	32.73	+0.01	1.4
TotIntlInstIdx r	118.28	+0.23	21.8
TotItlInstPlId r	118.31	+0.23	21.8
TotStInst	62.75	+0.13	12.9
ValueInst	38.82	+0.13	8.4
Western Asset			
CorePlusBdI	NA	...	NA

COMMODITIES

Futures Contracts

Metal & Petroleum Futures

	Open	High	hi lo	Low	Settle	Chg	Open interest
Copper-High (CMX)-25,000 lbs.; $ per lb.							
Sept	2.9605	2.9605		2.9420	**2.9490**	0.0210	2,639
Dec	2.9440	2.9935		2.9425	**2.9690**	0.0200	196,172
Gold (CMX)-100 troy oz.; $ per troy oz.							
Sept	1309.80	1310.40		1306.00	**1306.30**	–14.10	816
Oct	1319.90	1320.10		1304.30	**1306.90**	–14.40	38,877
Dec	1324.00	1324.00		1308.10	**1310.80**	–14.40	448,726
Feb'18	1326.30	1327.30		1312.50	**1315.00**	–14.40	38,717
June	1334.30	1334.30		1320.90	**1322.70**	–14.60	9,445
Dec	1344.90	1345.50		1331.70	**1334.30**	–14.80	10,404
Palladium (NYM) - 50 troy oz.; $ per troy oz.							
Sept	937.20	937.20		935.25	**934.95**	7.55	12
Dec	917.00	934.80		917.00	**930.45**	8.70	31,200
March'18	919.50	926.80		919.50	**925.05**	10.05	1,034
Platinum (NYM)-50 troy oz.; $ per troy oz.							
Sept	991.20	991.20		991.20	**960.30**	–10.70	6
Oct	968.50	972.10		959.40	**961.10**	–10.70	55,283
Silver (CMX)-5,000 troy oz.; $ per troy oz.							
Sept	17.490	17.520		17.030	**17.071**	–0.540	601
Dec	17.655	17.675		17.110	**17.156**	–0.545	156,689
Crude Oil, Light Sweet (NYM)-1,000 bbls.; $ per bbl.							
Oct	49.85	50.33		49.19	**49.91**	0.02	117,164
Nov	50.39	50.85		49.68	**50.35**	–0.09	548,058
Dec	50.70	51.19		50.04	**50.66**	–0.15	347,831
Jan'18	51.04	51.43		50.31	**50.90**	–0.19	213,868
June	51.40	51.78		50.73	**51.23**	–0.32	174,168
Dec	51.32	51.65		50.75	**51.12**	–0.35	227,695
NY Harbor ULSD (NYM)-42,000 gal.; $ per gal.							
Oct	1.7979	1.8038		1.7645	**1.7796**	–.0192	72,556
Nov	1.7908	1.7961		1.7585	**1.7723**	–.0185	110,058
Gasoline-NY RBOB (NYM)-42,000 gal.; $ per gal.							
Oct	1.6615	1.6783		1.6542	**1.6686**	.0069	68,934
Nov	1.6209	1.6319		1.6058	**1.6166**	–.0048	144,717
Natural Gas (NYM)-10,000 MMBtu.; $ per MMBtu.							
Oct	3.049	3.157		3.049	**3.146**	.122	133,726
Nov	3.110	3.207		3.110	**3.195**	.110	249,430
Dec	3.265	3.347		3.261	**3.337**	.101	113,288
Jan'18	3.375	3.445		3.365	**3.436**	.096	144,747
March	3.324	3.387		3.321	**3.381**	.083	106,006
April	2.975	2.995		2.970	**2.986**	.026	122,193

Agriculture Futures

	Open	High	hi lo	Low	Settle	Chg	Open interest
Corn (CBT)-5,000 bu.; cents per bu.							
Dec	353.25	355.50		350.50	**351.50**	–3.25	798,869
March'18	365.75	368.00		363.00	**364.00**	–3.25	234,713
Oats (CBT)-5,000 bu.; cents per bu.							
Dec	236.50	242.00		232.50	**239.75**	3.75	4,809
March'18	241.25	246.75		240.00	**245.75**	2.50	1,078
Soybeans (CBT)-5,000 bu.; cents per bu.							
Nov	966.25	976.50		966.00	**967.75**	–1.00	361,826
Jan'18	976.75	986.75		976.75	**978.00**	–1.00	98,055
Soybean Meal (CBT)-100 tons; $ per ton.							
Oct	307.30	312.60		307.10	**309.00**	1.00	37,804
Dec	310.80	316.20		310.50	**312.60**	1.20	185,381
Soybean Oil (CBT)-60,000 lbs.; cents per lb.							
Oct	34.50	34.69		34.16	**34.19**	–.37	42,110
Dec	34.74	34.96		34.41	**34.43**	–.38	213,907
Rough Rice (CBT)-2,000 cwt.; $ per cwt.							
Nov	1280.00	1290.00		1280.00	**1288.50**	8.00	9,897
Jan'18	1309.00	1312.00		1308.00	**1312.50**	7.50	595
Wheat (CBT)-5,000 bu.; cents per bu.							
Dec	448.50	450.75		442.25	**443.50**	–5.50	262,190
March'18	467.75	469.75		462.00	**463.75**	–4.25	81,408
Wheat (KC)-5,000 bu.; cents per bu.							
Dec	445.00	447.25		439.50	**442.25**	–3.75	142,416
March'18	463.75	465.00		457.25	**459.75**	–4.00	76,319
Wheat (MPLS)-5,000 bu.; cents per bu.							
Dec	622.50	626.25		618.00	**622.25**	.75	43,116
March'18	636.00	639.00		632.00	**636.00**	1.25	21,766
Cattle-Feeder (CME)-50,000 lbs.; cents per lb.							
Sept	150.325	151.675		150.325	**150.800**	.575	4,350
Oct	150.650	152.450		150.600	**151.950**	1.300	15,332
Cattle-Live (CME)-40,000 lbs.; cents per lb.							
Oct	107.925	108.600		107.525	**107.575**	–.175	82,906
Dec	112.825	113.900		112.500	**112.950**	.125	121,231
Hogs-Lean (CME)-40,000 lbs.; cents per lb.							
Oct	60.375	60.875		59.800	**60.000**	–.975	66,151
Dec	57.800	58.725		57.475	**58.050**	–.425	100,321
Lumber (CME)-110,000 bd. ft., $ per 1,000 bd. ft.							
Nov	377.30	381.80		373.60	**379.20**	...	4,470
Jan'18	386.00	390.00		383.00	**388.20**	.30	951
Milk (CME)-200,000 lbs., cents per lb.							
Sept	16.26	16.27		16.24	**16.27**	.04	5,147
Oct	15.75	15.79	▼	15.68	**15.72**	–.05	4,597
Cocoa (ICE-US)-10 metric tons; $ per ton.							
Dec	2,000	2,022		1,958	**1,975**	–34	145,517
March'18	2,007	2,028		1,970	**1,986**	–30	60,603
Coffee (ICE-US)-37,500 lbs.; cents per lb.							
Sept	141.35	141.35		139.45	**138.95**	–1.05	30
Dec	141.40	143.25		139.25	**140.35**	–1.05	108,013
Sugar-World (ICE-US)-112,000 lbs.; cents per lb.							
Oct	14.53	14.55		14.07	**14.31**	–.24	164,428
March'18	15.17	15.18		14.65	**14.92**	–.25	381,332
Sugar-Domestic (ICE-US)-112,000 lbs.; cents per lb.							
Nov	27.00	27.00		27.00	**27.02**	.02	2,976
May'18	27.00	27.00		27.00	**27.00**	–.01	1,522
Cotton (ICE-US)-50,000 lbs.; cents per lb.							
Oct	69.47	70.94		69.47	**70.41**	.28	173
Dec	68.93	69.95		68.80	**69.50**	.43	141,088
Orange Juice (ICE-US)-15,000 lbs.; cents per lb.							
Nov	149.75	152.25		148.25	**151.35**	1.70	6,115
Jan'18	148.35	151.00		147.60	**150.50**	2.05	1,533

Interest Rate Futures

	Open	High	hi lo	Low	Settle	Chg	Open interest
Treasury Bonds (CBT)-$100,000; pts 32nds of 100%							
Sept	156-070	156-090		155-150	**155-200**	–22.0	9,162
Dec	154-280	155-010		154-040	**154-110**	–22.0	721,806
Treasury Notes (CBT)-$100,000; pts 32nds of 100%							
Sept	126-170	126-180		126-115	**126-120**	–7.0	62,544
Dec	126-085	126-090		126-010	**126-025**	–7.5	3,247,730
5 Yr. Treasury Notes (CBT)-$100,000; pts 32nds of 100%							
Sept	118-112	118-112		118-090	**118-095**	–3.2	30,217
Dec	118-000	118-007		117-290	**117-302**	–3.2	3,020,190
2 Yr. Treasury Notes (CBT)-$200,000; pts 32nds of 100%							
Sept	108-057	108-057		108-047	**108-052**	–.7	15,446
Dec	108-005	108-007		107-312	**108-000**	–.7	1,467,269
30 Day Federal Funds (CBT)-$5,000,000; 100 - daily avg.							
Sept	98.845	98.848		98.845	**98.845**	...	85,878
Jan'18	98.725	98.725		98.710	**98.715**	–.010	374,293
10 Yr. Del. Int. Rate Swaps (CBT)-$100,000; pts 32nds of 100%							
Dec	102.344	102.391	▼	102.109	**102.203**	–.234	27,084
1 Month Libor (CME)-$3,000,000; pts of 100%							
Sept	...	...		...	**98.7639**	...	2,382
Eurodollar (CME)-$1,000,000; pts of 100%							
Sept	98.6725	98.6750		98.6725	**98.6720**	–.0005	1,194,968
Dec	98.5450	98.5500		98.5300	**98.5300**	–.0200	2,091,485
March'18	98.4600	98.4650		98.4400	**98.4450**	–.0200	1,234,856
Dec	98.2450	98.2450		98.2250	**98.2300**	–.0200	1,608,699

Currency Futures

	Open	High	hi lo	Low	Settle	Chg	Open interest
Japanese Yen (CME)-¥12,500,000; $ per 100¥							
Sept	.9001	.9009		.8969	**.8977**	–.0044	46,328
Dec	.9034	.9046		.8992	**.9009**	–.0047	182,571
Canadian Dollar (CME)-CAD 100,000; $ per CAD							
Sept	.8199	.8216		.8106	**.8126**	–.0085	121,811
Dec	.8208	.8219		.8108	**.8129**	–.0085	173,985
British Pound (CME)-£62,500; $ per £							
Sept	1.3590	1.3618	▲	1.3534	**1.3563**	–.0010	70,739
Dec	1.3625	1.3655	▲	1.3501	**1.3526**	–.0082	198,148
Swiss Franc (CME)-CHF 125,000; $ per CHF							
Sept	1.0409	1.0437		1.0396	**1.0425**	–.0002	7,928
Dec	1.0470	1.0499		1.0432	**1.0462**	–.0025	34,780
Australian Dollar (CME)-AUD 100,000; $ per AUD							
Sept	.8000	.8034		.7982	**.7990**	–.0010	73,478
Oct	.7997	.8031		.7937	**.7951**	–.0046	663
Nov	.7978	.8028		.7935	**.7949**	–.0045	284
Dec	.7991	.8026		.7930	**.7945**	–.0046	156,379
March'18	.8000	.8007		.7929	**.7937**	–.0045	337
Mexican Peso (CME)-MXN 500,000; $ per MXN							
Dec	.05587	.05601	▲	.05545	**.05550**	–.00034	217,557
Euro (CME)-€125,000; $ per €							
Sept	1.1936	1.1969		1.1915	**1.1961**	.0020	105,224
Dec	1.1995	1.2027		1.1972	**1.2010**	.0012	414,274

Index Futures

	Open	High	hi lo	Low	Settle	Chg	Open interest
Mini DJ Industrial Average (CBT)-$5 x index							
Dec	22228	22314	▲	22223	**22299**	80	153,550
March'18	22220	22275	▲	22200	**22268**	80	109
S&P 500 Index (CME)-$250 x index							
Dec	2498.20	2505.80	▲	2497.70	**2502.70**	5.50	39,765
Mini S&P 500 (CME)-$50 x index							
Dec	2499.00	2506.00	▲	2497.75	**2502.75**	5.50	3,088,031
March'18	2498.00	2504.75	▲	2497.00	**2501.75**	5.75	11,687
Mini S&P Midcap 400 (CME)-$100 x index							
Dec	1754.80	1764.60	▲	1754.80	**1762.10**	7.90	85,003
Mini Nasdaq 100 (CME)-$20 x index							
Dec	5999.3	6018.3		5967.3	**5986.8**	–8.5	271,588
March'18	6010.5	6027.3	▲	5978.8	**5997.0**	–8.0	180
Mini Russell 2000 (ICE-US)-$100 x index							
Dec	1431.30	1445.00		1431.30	**1441.90**	9.50	56,815
Mini Russell 1000 (ICE-US)-$100 x index							
Dec	1386.30	1389.30	▲	1385.30	**1387.40**	3.20	327
U.S. Dollar Index (ICE-US)-$1,000 x index							
Sept	91.87	92.02		91.80	**91.85**	–.01	12,949
Dec	91.66	92.00		91.59	**91.82**	.17	39,175

Source: SIX Financial Information

Cash Prices | WSJ.com/commodities

Monday, September 18, 2017

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	0.8770
Butane,normal,Mont Belvieu-g	1.0113
NaturalGas,HenryHub-i	3.100
NaturalGas,TranscoZone3-i	3.080
NaturalGas,TranscoZone6NY-i	3.080
NaturalGas,PanhandleEast-i	2.720
NaturalGas,Opal-i	2.740
NaturalGas,MarcellusNE PA-i	1.430
NaturalGas,HaynesvilleN.LA-i	3.000
Coal,C.Aplc.,12500Btu,1.2SO2-r,w	54.250
Coal,PwdrRvrBsn,8800Btu,0.8SO2-r,w	11.550
Metals	
Gold, per troy oz	
Engelhard industrial	1314.38
Engelhard fabricated	1412.96
Handy & Harman base	1312.10
Handy & Harman fabricated	1456.43
LBMA Gold Price AM	*1325.00
LBMA Gold Price PM	*1322.85
Krugerrand,wholesale-e	1360.01
Maple Leaf-e	1373.09
American Eagle-e	1373.09
Mexican peso-e	1584.69
Austria crown-e	1284.81
Austria phil-e	1373.09
Silver, troy oz.	
Engelhard industrial	17.3700
Engelhard fabricated	20.8440
Handy & Harman base	17.2000
Handy & Harman fabricated	21.5000
LBMA spot price	£12.9430
(U.S.$ equivalent)	17.5300
Coins,wholesale $1,000 face-a	12970
Other metals	
LBMA Platinum Price PM	*976.0
Platinum,Engelhard industrial	962.0
Platinum,Engelhard fabricated	1062.0
Palladium,Engelhard industrial	935.0
Palladium,Engelhard fabricated	1035.0
Aluminum, LME, $ per metric ton	*2068.0
Copper,Comex spot	2.9490
Iron Ore, 62% Fe CFR China-s	70.8
Shredded Scrap, US Midwest-s,w	316
Steel, HRC USA, FOB Midwest Mill-s	625
Fibers and Textiles	
Burlap,10-oz,40-inch NY yd-n,w	0.6050
Cotton,1 1/16 std lw-mdMphs-u	0.6950
Cotlook 'A' Index-t	*79.10
Hides,hvy native steers piece fob-u	59.500
Wool,64s,staple,Terr del-u,w	n.a.
Grains and Feeds	
Barley,top-quality Mnpls-u	4.70
Bran,wheat middlings, KC-u	67
Corn,No. 2 yellow,Cent IL-bp,u	3.0600
Corn gluten feed,Midwest-u,w	80.1
Corn gluten meal,Midwest-u,w	473.1
Cottonseed meal-u,w	210
Hominy feed,Cent IL-u,w	88
Meat-bonemeal,50% pro Mnpls-u,w	300
Oats,No.2 milling,Mnpls-u	2.8475
Rice, 5% Broken White, Thailand-l,w	388.00
Rice, Long Grain Milled, No. 2 AR-u,w	23.75
Sorghum,(Milo) No.2 Gulf-u	7.7050
SoybeanMeal,Cent IL,rail,ton48%-u	309.50
Soybeans,No.1 yllw IL-bp,u	9.4050
Wheat,Spring14%-pro Mnpls-u	6.8475
Wheat,No.2 soft red,St.Louis-bp,u	4.3050
Wheat - Hard - KC (USDA) $ per bu-u	3.7425
Wheat,No.1soft white,Portld,OR-u	5.2000
Food	
Beef,carcass equiv. index	
choice 1-3,600-900 lbs.-u	168.64
select 1-3,600-900 lbs.-u	163.97
Broilers,dressed 'A'-u	n.a.
Broilers, National comp wghtd-u,w	0.9000
Butter,AA Chicago	2.4625
Cheddar cheese,bbl,Chicago	144.25
Cheddar cheese,blk,Chicago	159.75
Milk,Nonfat dry,Chicago lb.	82.25
Cocoa,Ivory Coast-w	n.a.
Coffee,Brazilian,Comp	1.3645
Coffee,Colombian, NY	1.5904
Eggs,large white,Chicago-u	1.1150
Flour,hard winter KC	15.05
Hams,17-20 lbs,Mid-US fob-u	n.a.
Hogs,Iowa-So. Minnesota-u	60.51
Pork bellies,12-14 lb MidUS-u	1.2339
Pork loins,13-19 lb MidUS-u	1.0011
Steers,Tex.-Okla. Choice-u	106.00
Steers,feeder,Okla. City-u,w	165.75
Fats and Oils	
Corn oil,crude wet/dry mill-u,w	36.7500
Grease,choice white,Chicago-h	0.3150
Lard,Chicago-u	n.a.
Soybean oil,crude;Centl IL-u	0.3319
Tallow,bleach;Chicago-h	0.3400
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; L=liverieindex.com; M=midday; N=nominal; n.a.=not quoted or not available; R=SNL Energy; S=The Steel Index; T=Cotlook Limited; U=USDA; W=weekly, Z=not quoted.
*Data as of 9/15

Source: WSJ Market Data Group

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					
1941.28	3.3	U.S. Aggregate	2.500	1.920	2.790
U.S. Corporate Indexes Bloomberg Barclays					
2764.33	5.0	U.S. Corporate	3.140	2.800	3.520
2617.06	3.8	Intermediate	2.650	2.240	3.010
3795.29	8.0	Long term	4.200	4.020	4.710
565.38	3.9	Double-A-rated	2.590	2.150	2.870
712.82	5.6	Triple-B-rated	3.440	3.180	3.870
High Yield Bonds Merrill Lynch					
414.27	6.6	High Yield Constrained	5.505	5.399	6.858
413.17	7.4	Triple-C-rated	10.371	9.584	13.431
2850.47	6.2	High Yield 100	5.041	4.948	6.448
376.03	6.8	Global High Yield Constrained	5.058	5.058	6.450
303.50	5.7	Europe High Yield Constrained	2.233	2.233	3.814
U.S Agency Bloomberg Barclays					
1642.52	2.3	U.S Agency	1.830	1.260	1.960
1469.23	1.5	10-20 years	1.640	1.090	1.750
3360.28	7.5	20-plus years	2.890	2.460	3.460
2455.12	4.7	Yankee	2.720	2.350	3.090
Mortgage-Backed Bloomberg Barclays					
1987.17	2.3	Mortgage-Backed	2.750	2.000	3.120
1957.27	2.0	Ginnie Mae (GNMA)	2.700	1.920	3.090
1164.68	2.5	Fannie mae (FNMA)	2.770	2.030	3.120
1793.60	2.5	Freddie Mac (FHLMC)	2.770	2.030	3.130
522.76	4.8	Muni Master	1.814	1.514	2.516
366.11	5.4	7-12 year	1.835	1.488	2.618
408.96	6.0	12-22 year	2.294	1.846	3.047
392.76	5.8	22-plus year	2.882	2.297	3.622
Global Government J.P. Morgan†					
542.74	1.1	Global Government	1.410	0.880	1.560
746.78	-0.9	Canada	2.160	1.240	2.160
368.15	-0.2	EMU§	1.162	0.534	1.363
705.58	-0.1	France	0.900	0.290	1.210
507.10	-1.5	Germany	0.490	-0.100	0.620
288.50	0.1	Japan	0.380	0.150	0.460
558.80	-1.3	Netherlands	0.640	0.030	0.760
913.21	-0.02	U.K.	1.630	1.080	1.790
806.89	9.2	Emerging Markets**	5.340	5.197	6.290

*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
1.250	**U.S.** 2	1.397 ▲	1.380	1.314	0.770			
2.250	10	2.229 ▲	2.204	2.197	1.692			
2.750	**Australia** 2	1.990 ▲	1.949	1.807	1.576	59.3	56.8	80.6
2.750	10	2.807 ▲	2.749	2.627	2.114	57.8	54.5	42.2
0.000	**France** 2	-0.470 ▲	-0.482	-0.473	-0.600	-186.6	-186.2	-137.0
1.000	10	0.731 ▲	0.714	0.714	0.237	-149.8	-149.1	-145.4
0.000	**Germany** 2	-0.688 ▲	-0.699	-0.700	-0.646	-208.5	-207.9	-141.6
0.500	10	0.455 ▲	0.434	0.417	0.011	-177.4	-177.0	-168.1
0.050	**Italy** 2	-0.090 ▼	-0.072	-0.059	-0.064	-148.7	-145.2	-83.4
2.200	10	2.069 ▼	2.079	2.029	1.348	-16.0	-12.5	-34.4
0.100	**Japan** 2	-0.136 ▲	-0.144	-0.134	-0.266	-153.3	-152.5	-103.6
0.100	10	0.040 ▲	0.021	0.042	-0.035	-218.9	-218.3	-172.7
2.750	**Spain** 2	-0.312 ▼	-0.301	-0.373	-0.185	-170.9	-168.1	-95.6
1.450	10	1.580 ▼	1.603	1.424	1.064	-64.9	-60.1	-62.8
1.750	**U.K.** 2	0.424 ▼	0.436	0.239	0.153	-97.3	-94.4	-61.7
4.250	10	1.304 ▼	1.309	1.092	0.776	-92.5	-89.5	-91.6

Source: Tullett Prebon

Borrowing Benchmarks | WSJ.com/bonds

Money Rates

September 18, 2017

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

	Aug. index level	Chg From (%) July '17	Aug. '16
U.S. consumer price index			
All items	245.519	0.30	1.9
Core	252.460	0.21	1.7

	Latest	Week ago	52-Week High	Low
International rates				
Prime rates				
U.S.	4.25	4.25	4.25	3.50
Canada	3.20	2.95	3.20	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	0.25	0.25	0.25	0.25
Australia	1.50	1.50	1.50	1.50
Overnight repurchase				
U.S.	1.12	1.14	1.38	0.15
U.S. government rates				
Discount				
	1.75	1.75	1.75	1.00
Federal funds				
Effective rate	1.1700	1.1700	1.2000	0.3300
High	1.3125	1.3125	1.3125	0.5625
Low	1.1500	1.0500	1.1600	0.2000
Bid	1.1600	1.1600	1.1700	0.2800
Offer	1.1900	1.1700	1.1900	0.3000
Treasury bill auction				
4 weeks	0.970	1.300	1.300	0.160
13 weeks	1.045	1.035	1.180	0.250
26 weeks	1.180	1.140	1.180	0.420
Secondary market				
Fannie Mae				
30-year mortgage yields				
30 days	3.398	3.309	3.865	2.842
60 days	3.425	3.336	3.899	2.870
Other short-term rates				
Call money				
	3.00	3.00	3.00	2.25
Commercial paper (AA financial)				
90 days	1.26	1.27	1.28	0.62
Libor				
One month	1.23611	1.23611	1.23889	0.52222
Three month	1.32500	1.31667	1.32500	0.83769
Six month	1.47444	1.44933	1.47444	1.23363
One year	1.73983	1.69900	1.82761	1.55122
Euro Libor				
One month	-0.404	-0.404	-0.374	-0.405
Three month	-0.378	-0.376	-0.319	-0.378
Six month	-0.304	-0.304	-0.208	-0.308
One year	-0.220	-0.215	-0.071	-0.220
Euro interbank offered rate (Euribor)				
One month	-0.373	-0.373	-0.366	-0.375
Three month	-0.329	-0.331	-0.301	-0.332
Six month	-0.271	-0.274	-0.199	-0.275
One year	-0.171	-0.168	-0.056	-0.171

	Latest	Value Traded	52-Week High	Low
DTCC GCF Repo Index				
Treasury	1.086	40.050	1.366	0.244
MBS	1.138	87.200	1.506	0.257

	Settle	Change	Open Interest	Implied Rate
DTCC GCF Repo Index Futures				
Treasury Sep	98.835	unch.	3759	1.165
Treasury Oct	98.830	0.010	3475	1.170
Treasury Nov	98.830	0.010	4197	1.170

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 June 15, 2017. **Other prime rates** aren't directly comparable; lending practices vary widely by location; **Discount rate** is effective June 15, 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; General Electric Capital Corp.; 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 Sep 15	Sep 8	52-Week High	Low
Federal funds (effective)	1.16	1.15	1.16	0.35
Commercial paper				
Nonfinancial				
1-month	1.11	1.10	1.11	0.39
2-month	1.13	1.13	1.15	0.45
3-month	1.19	1.17	1.19	0.53
Financial				
1-month	1.20	1.19	1.20	0.44
2-month	1.23	1.20	1.23	0.57
3-month	1.26	1.25	1.26	0.66
Discount window primary credit	1.75	1.75	1.75	1.00
Conventional mortgages	n.a.	n.a.	3.50	3.42
Treasury yields at constant maturities				
1-month	0.98	1.07	1.07	0.13
3-month	1.05	1.05	1.13	0.24
6-month	1.17	1.15	1.17	0.43
1-year	1.30	1.23	1.30	0.59
2-year	1.39	1.29	1.41	0.75
3-year	1.53	1.40	1.64	0.87
5-year	1.81	1.65	2.08	1.13
7-year	2.04	1.90	2.37	1.40
10-year	2.20	2.07	2.55	1.58
20-year	2.52	2.43	2.91	1.97
Treasury yields (secondary market)				
1-month	0.96	1.05	1.05	0.12
3-month	1.03	1.03	1.11	0.24
6-month	1.15	1.13	1.15	0.43
TIPS				
5-year	0.09	0.05	0.29	-0.30
7-year	0.28	0.24	0.49	-0.16
10-year	0.35	0.28	0.63	0.02
20-year	0.65	0.60	0.97	0.41
Long-term avg	0.70	0.65	0.97	0.44
Interest rate swaps				
1-year	n.a.	n.a.	1.00	0.94
2-year	n.a.	n.a.	1.09	1.00
3-year	n.a.	n.a.	1.17	1.05
4-year	n.a.	n.a.	1.25	1.10
5-year	n.a.	n.a.	1.33	1.16
7-year	n.a.	n.a.	1.48	1.27
10-year	n.a.	n.a.	1.65	1.43
30-year	n.a.	n.a.	2.00	1.75
Corporate bonds, Moody's seasoned				
Aaa	n.a.	n.a.	3.49	3.40
Baa	n.a.	n.a.	4.41	4.26
State and local bonds	n.a.	n.a.	3.06	2.96
Eurodollars				
1 month	n.a.	n.a.	0.50	0.50
3 month	n.a.	n.a.	0.93	0.93
6 month	n.a.	n.a.	1.30	1.30

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

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
Bank of America	BAC	8.000	Jan. 30, '49	61	–32	80	24.70	1.31
Wells Fargo	WFC	2.600	July 22, '20	22	–29	62	52.71	2.03
QUALCOMM	QCOM	3.000	May 20, '22	32	–25	64	52.25	0.11
Kohl's	KSS	5.550	July 17, '45	302	–14	308	44.89	–0.53
Citigroup	C	5.950	Jan. 30, '49	151	–13	165	70.60	2.26
General Electric	GE	5.000	Jan. 21, '49	38	–12	63	24.46	2.21
Credit Suisse	CS	7.500	Dec. 11, '49	218	–11	229	...	...
JPMorgan Chase	JPM	6.000	Aug. 1, '49	159	–10	n.a.	92.92	1.42

...And spreads that widened the most

Issuer	Symbol	Coupon (%)	Maturity	Current	One-day change	Last week	Close ($)	% chg
Canadian Imperial Bank of Commerce	CM	2.550	June 16, '22	63	12	64	87.27	–0.72
Nissan Motor Acceptance	NSANY	2.250	Jan. 13, '20	48	12	52	...	...
Northrop Grumman	NOC	3.850	April 15, '45	121	10	n.a.	275.97	3.35
Athene Global Funding	ATHGLO	3.000	July 1, '22	122	8	n.a.	...	...
Bank of America	BAC	6.300	March 10, '49	162	8	182	24.70	1.31
Nordstrom*	JWN	4.000	Oct. 15, '21	161	8	125	46.64	–0.21
Capital One Financial	COF	2.500	May 12, '20	70	7	75	80.25	0.26
Citigroup	C	6.250	Aug. 15, '49	173	6	188	70.60	2.26

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
iHeart Communications	IHRT	9.000	March 1, '21	72.000	3.00	73.000	...	...
Global Marine	RIG	7.000	June 1, '28	101.313	1.31	n.a.	...	...
Caesars Entertainment Operating	CZR	10.000	Dec. 15, '18	98.250	1.25	95.250	12.25	2.51
Continental Resources	CLR	4.900	June 1, '44	89.500	1.13	86.625	36.68	1.47
Energy Transfer Equity	ETE	5.875	Jan. 15, '24	109.250	1.13	108.157	17.64	0.86
Ultra Resources	UPL	6.875	April 15, '22	101.125	1.13	98.500	...	...
Diamond Offshore Drilling	DO	5.700	Oct. 15, '39	82.120	1.12	79.500	13.33	0.68
Freeport-McMoRan	FCX	4.550	Nov. 14, '24	100.380	1.01	100.500	14.13	1.80

...And with the biggest price decreases

Issuer	Symbol	Coupon (%)	Maturity	Current	One-day change	Last week	Close ($)	% chg
TRU Taj	TOY	12.000	Aug. 15, '21	85.000	–3.00	92.750	...	...
Windstream Services	WIN	7.750	Oct. 1, '21	75.781	–2.22	77.938	...	...
CenturyLink	CTL	7.650	March 15, '42	88.875	–1.23	89.500	18.32	–3.48
L Brands	LB	6.950	March 1, '33	97.500	–1.10	97.500	39.98	–1.38
Revlon Consumer Products	REV	6.250	Aug. 1, '24	79.000	–1.00	80.250	...	...
1011778 BC Unlimited Liability	BCULC	5.000	Oct. 15, '25	101.250	–0.88	102.438	...	...
Hexion	HXN	10.375	Feb. 1, '22	96.688	–0.81	97.750	...	...
Teck Resources	TCKBCN	6.250	July 15, '41	111.250	–0.78	111.375	...	...

*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

FINANCE WATCH

SWISS BANKING

Over $100,000 Is Flushed Down Toilet

A recent report by **UBS Group** AG concluded that rich people were sitting on too much cash. Little did anyone know just how right they were.

Prosecutors in Geneva are trying to figure out why two women flushed roughly €100,000 ($119,000) in cut-up €500 bank notes down a toilet at a UBS branch in the Swiss city as well as down toilets at three neighboring restaurants back in May.

Local authorities were alerted because of damage done to the toilets and plumbing, said Vincent Derouand, spokesman for the Geneva prosecutor's office. Using video surveillance, investigators were able to identify two women who they say stuffed the notes down the toilets.

Later, an attorney representing the women approached the restaurants to pay for the repairs, which amounted to several thousand francs.

The story was earlier reported last week by the Geneva daily Tribune de Genève. A UBS spokesman declined to comment.

It isn't a crime in Switzerland to destroy currency. But the prosecutor's office is still investigating to see whether the flushed cash resulted from criminal activities.

Adding to the intrigue, euros aren't even used in Switzerland, which isn't in the eurozone and still has the Swiss franc.

The European Central Bank will stop issuing €500 notes at the end of next year, though existing ones will remain legal tender.

—*Brian Blackstone*

GETTY IMAGES

Damage to plumbing alerted authorities to money flushed away.

CREDIT SUISSE

Investment Bank Undergoes Revamp

Credit Suisse Group AG unveiled a raft of changes to the upper ranks of its investment bank, bringing in new co-heads for Europe, the Middle East and Africa as the Swiss banking giant revamps the division amid a broader strategic overhaul.

Mathew Cestar and Jens Welter, both Credit Suisse veterans, have been appointed co-heads of investment banking and capital markets for the region.

They succeed Marisa Drew and Mark Echlin, who have moved to other positions within the bank.

Monday's management shuffle comes as the Swiss bank undertakes a broad strategic shift to put greater emphasis on its more predictable wealth-management operations while scaling back investment banking, which can be highly profitable but also volatile.

While investment banking has recently proved to be attractive for Credit Suisse, with revenue and profit up sharply in the first half of 2017, the bank lags behind its U.S. rivals.

Credit Suisse ranked ninth in the first half of this year measured by investment-banking revenue for Europe, the Middle East and Africa, according to Dealogic.

The top four positions are dominated by U.S.-based banks. J.P. Morgan Chase & Co. holds the top position followed by Citigroup Inc., Goldman Sachs Group Inc. and Bank of America Corp.'s Merrill Lynch. Deutsche Bank AG is fifth.

To bolster its franchise, Credit Suisse has turned to Messrs. Cestar and Welter, who, in addition to their new responsibilities, will retain their positions as chairman of the global credit products commitment committee and co-head of global consumer products and retail investment banking, respectively.

Mr. Cestar recently worked on the financing for Bain Capital's $3.2 billion acquisition of the Diversey unit of Sealed Air Corp. and the financing of CVC Capital Partners' acquisition of Grupo Cortefiel, a Spanish retailer.

Mr. Welter, meanwhile, advised McCormick & Co. on its $4.2 billion deal this summer to acquire Reckitt Benckiser Group PLC's food division. He also worked on the merger last year of Nestlé SA's ice cream business with R&R Group to create Froneri, a global ice-cream operator.

—*Brian Blackstone, Ben Dummett*

BANKING & FINANCE

Pine River to Shut Its Flagship Fund

By Juliet Chung

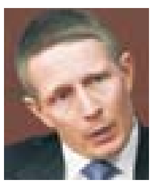
Pine River Capital Management is closing its $1 billion flagship hedge fund after clients asked to withdraw more money than the firm was expecting, according to a person familiar with the matter.

The move will further shrink the Minnetonka, Minn.-based firm's assets under management to $7.5 billion, half the roughly $15 billion it managed in 2015. An expected Jan. 1 spinoff of a fund run by portfolio manager Renos Dimitriou into a stand-alone hedge-fund would shrink that further.

Pine River had asked clients in its flagship fund in recent weeks if it could segregate and sell off over time the multistrategy fund's illiquid assets after receiving by the end of August more redemption requests than expected. Given the amount of client defections, the fund at that point was expected to manage roughly $300 million in a year's time.

In votes due Friday, clients approved the side pocket move, a controversial tactic some hedge-fund firms, though not Pine River, deployed during the financial crisis; side pockets helped prevent the withdrawal of billions of dollars. But firm executives decided in recent days to close the fund entirely after receiving still more redemption requests from fund investors in the interim, the person said.

The deadline for year-end redemption requests for the fund was Friday.



Pine River, founded by Brian Taylor, has faced a number of challenges recently.

Pine River, founded by Brian Taylor in 2002 and best known for profiting big after the rebound in government-backed mortgages following the crisis, told clients of its decision Monday.

The closure of its flagship fund adds to recent challenges for Pine River. Aside from shrinking the size of the firm further, there has been turnover among its investment professionals, including the departure last year of portfolio manager Steve Kuhn.

The firm has also closed some other funds, and some employees have been looking for other jobs, according to people familiar with the matter.

New Highs and Lows | WSJ.com/newhighs

The following explanations apply to the New York Stock Exchange, NYSE Arca, NYSE MKT and Nasdaq Stock Market stocks that hit a new 52-week intraday high or low in the latest session. **% CHG**-Daily percentage change from the previous trading session.

Monday, September 18, 2017

Stock	Sym	52-Wk Hi/Lo	% Chg
NYSE highs - 167			
Accenture	ACN	137.35	1.2
AcornIntl	ATV	16.96	5.2
AdamsDivEquityFd	ADX	15.04	-0.1
Adient	ADNT	81.37	...
AdvanSix	ASIX	37.75	2.6
AerojetRocket	AJRD	31.39	6.7
AlamoGroup	ALG	100.27	3.1
AlbanyIntl	AIN	56.15	0.8
Instructure	INST	34.85	6.1
IntegerHoldings	ITGR	49.75	3.3
IntlFlavors	IFF	144.44	0.3
IntrepidPotash	IPI	4.24	4.9
ItauUnibanco	ITUB	14.12	0.1
KBR	KBR	18.25	0.6
Kadant	KAI	93.75	1.7
Kemper	KMPR	50.95	1.4
KornFerry	KFY	37.04	0.8
KronosWorldwide	KRO	22.33	2.5
LATAMAirlines	LTM	13.89	-0.6
ValeroEnergy	VLO	72.44	1.5
VenatorMaterials	VNTR	23.25	2.6
VersumMaterials	VSM	38.39	0.8
Viad	VVI	56.90	1.2
VishayPrecision	VPG	23.10	1.8
Visteon	VC	121.31	1.3
VoceraComm	VCRA	30.31	-1.3
voxeljet	VJET	6.37	11.5
VoyaEM HiIncm	IHD	9.52	1.1
VoyaGlbAdvantage	IGA	11.32	0.7
Welbilt	WBT	22.96	1.7
HSBCPfd	HSEA	27.87	...
Harris	HRS	128.98	1.7
Harsco	HSC	19.52	4.3
Heico	HEI	87.90	3.7
Hexcel	HXL	55.97	1.9
Huntsman	HUN	28.67	2.9
IONGeophysical	IO	9.70	3.2
IDEX	IEX	123.70	1.6
IndependenceHldg	IHC	23.90	3.9
TeledyneTech	TDY	158.33	2.0
Teleflex	TFX	240.93	1.9
TelefonicaBras	VIV	16.73	-0.2
TemplMktFd	EMF	17.02	1.2
Terex	TEX	44.48	1.7
ThaiFund	TTF	9.48	1.1
ThorIndustries	THO	115.80	0.7
TorontoDomBk	TD	55.52	-0.8
Tronox	TROX	23.50	2.3
DirexDevMktBl3	DZK	75.46	0.8
DirexESTOXX50Bl3x	EUXL	29.34	1.5
DirexEM Bull3	EDC	114.47	0.9
DirexChinaBl3	YINN	30.94	3.1
DirexFTSEEurBull3x	EURL	36.25	0.6
DirexIndlsBl3	DUSL	28.84	1.6
DirexLatinAmBl3	LBJ	38.84	-0.7
DirexS&P500Bl3	SPXL	37.83	0.6
DirexS&P500Bl1.25	LLSP	33.35	0.3
iShModAllocation	AOM	38.00	...
iShCoreS&P500ETF	IVV	253.09	0.2
iShS&PTotlUSStkMkt	ITOT	57.50	0.3
iShCurHdgMSCIEAFE	HSCZ	29.18	0.4
iShCurrHdMSCIJapan	HEWJ	30.34	0.5
iShUSBasicMaterial	IYM	95.75	0.7
iShU.S.Technology	IYW	150.51	...
iShEdgeMSCIIntlMom	IMTM	29.97	0.6
iShEdgeMSCIIntQual	IQLT	28.93	...
ProShXinhuaChina25	XPP	77.10	2.0
ProShUltraHY	UJB	68.07	2.3
ProShrUltraInd	UXI	62.01	1.2
ProShUltBrazil	UBR	90.74	-0.9
ProShUltMSCIEM	EET	87.57	0.6
ProShrUltraS&P	SSO	96.06	0.4
ProShrUlSemi	USD	100.58	2.8
ProShUltDow30	UDOW	69.53	0.9
ProShUltS&P500	UPRO	115.20	0.5
WisdTrGlbxUSREFd	DRW	32.83	0.6
WisdTrGlbHiDiv	DEW	47.34	0.3
WisdTrIntlEquity	DWM	54.56	0.1
WisdTrIntlHiDiv	DTH	43.97	0.1
WisdTrIntlLC Div	DOL	49.66	0.2
WisdTrIntlMC Div	DIM	66.75	0.3
WisdTrIntlSC	DLS	73.98	0.1
WisdTrJpnCapGds	DXJC	26.10	1.3
WisdTrJpnHdgQuDiv	JHDG	26.83	0.4
AudentesTherap	BOLD	26.75	3.3
AxoGen	AXGN	19.20	2.2
BGC Partners	BGCP	13.44	1.3
BldrsAsia50ADS	ADRA	33.27	...
Baidu	BIDU	240.43	1.6
Baozun	BZUN	40.29	6.3
BeiGene	BGNE	85.55	2.3
BioLifeSols	BLFS	5.29	9.1
BldrsEmg50	ADRE	44.00	0.2
GlbX Robotics&AI	BOTZ	21.64	0.9
GlbXSocialMedia	SOCL	32.15	...
GluMobile	GLUU	3.79	2.7
HalozymeTherap	HALO	17.55	2.9
HamiltonLane	HLNE	24.14	1.4
Handy&Harman	HNH	34.30	1.5
HorizDAXGermany	DAX	30.52	0.3
HowardBancorp	HBMD	21.00	1.0
Hurco	HURC	39.25	2.2
PreformedLine	PLPC	61.30	4.7
PrincipalShrhldrYd	PY	29.97	0.6
ProfireEnergy	PFIE	1.77	5.4
Qualys	QLYS	52.55	1.3
Quidel	QDEL	41.09	14.2
QuinStreet	QNST	6.81	6.0
RBC Bearings	ROLL	118.39	0.5
REGENXBIO	RGNX	30.25	5.5
ROBOGlblRobotics	ROBO	38.57	0.9
ReconTech	RCON	0.64	-22.0
RXiPharm	RXII	0.50	-3.0
SenesTech	SNES	1.54	-15.8
SuperMicroComp	SMCI	20.95	-9.2
Tintri	TNTR	4.06	-4.2
TremontMortgage	TRMT	16.21	0.7
Uniti	UNIT	17.36	-5.1
VS2xVIXShortTerm	TVIX	12.19	-8.8
VSVIXShortTerm	VIIX	17.16	-4.4

Dividend Changes

Dividend announcements from September 18.

Company	Symbol	Yld %	Amount New/Old	Frq	Payable / Record
Increased					
Farmers & Merchants Bancp	FMAO	1.5	.26 /.25	Q	Oct20 /Sep26
Ingredion	INGR	1.9	.60 /.50	Q	Oct25 /Oct02
MS Non-Cum. pfd.Ser A	MSpA	4.4	.2556 /.25278	Q	Oct16 /Sep29
Initial					
Cherry Hill Mtg Pfd. A	CHMIpA		.33028		Oct15 /Sep29
PowerSh Russ1000 Enh EW	USEQ		.0469		Sep29 /Sep19
PowerShares S&P 500 Min	SPMV		.07768		Sep29 /Sep19
RLJ Lodging $1.95 Pfd A	RLJpA		.4875		Oct31 /Sep29
Funds and investment companies					
Arrow Dow Jones Glbl Yd	GYLD	5.8	.0884	M	Sep25 /Sep19
Arrow QVM Equity Factor	QVM	1.7	.1084	Q	Sep25 /Sep19
BLDRS Asia 50 ADS Index	ADRA	3.7	.30333	Q	Oct31 /Sep19
BLDRS Dev Mkts 100 ADS	ADRD	2.4	.13705	Q	Oct31 /Sep19
BLDRS Emerg Mkts 50 ADS	ADRE	3.8	.405	Q	Oct31 /Sep19
BLDRS Europe 100 ADS	ADRU	2.5	.13749	Q	Oct31 /Sep19
ChineseYuanDimSumBd	DSUM	4.3	.08416	M	Sep29 /Sep19
Dyn Basic Materials Sec	PYZ	0.8	.12719	Q	Sep29 /Sep19
Dyn Cnsmr Discret	PEZ	1.2	.13471	Q	Sep29 /Sep19
Flex Glbl Upstrm Nat Rscs	GUNR	2.8	.2205	Q	Sep22 /Sep19
Flex Mrn US Mkt Ftr Tilt	TILT	1.6	.42732	Q	Sep22 /Sep19
Flex Qlty Div Defensive	QDEF	3.1	.31597	Q	Sep22 /Sep19
Flex Quality Div Dynamic	QDYN	2.9	.30	Q	Sep22 /Sep19
Flex STOXX Glb ESG Impact	ESGG	1.6	.35502	Q	Sep22 /Sep19
Flex STOXX US ESG Impact	ESG	1.7	.24469	Q	Sep22 /Sep19
FlexMDevexUSFacTilt	TLTD	1.5	.24422	Q	Sep22 /Sep19
FlexShares Dividend Dyn	IQDY	3.3	.22791	Q	Sep22 /Sep19
FlexShares Emg Mkrs Fact	TLTE	4.8	.68473	Q	Sep22 /Sep19
FlexShares Intl Qual Div	IQDE	3.6	.22521	Q	Sep22 /Sep19
FlexShares Intl Quality	IQDF	3.7	.24259	Q	Sep22 /Sep19
FlexShares STOXX Gl Broad	NFRA	2.9	.34753	Q	Sep22 /Sep19
FlexShs Quality Dividend	QDF	2.8	.29591	Q	Sep22 /Sep19
FlexShs US Quality LgCp	QLC	1.7	.13034	Q	Sep22 /Sep19
FTSE RAFI As Pac exJpn	PAF	3.1	.44345	Q	Sep29 /Sep19
FundInvGradeCorpBdPort	PFIG	2.6	.05601	M	Sep29 /Sep19
Inspire Corp Bd Impact	IBD	1.4	.0292	M	Sep25 /Sep19
Inspire Global Hope ETF	BLES	1.9	.127	Q	Sep25 /Sep19
Inspire Sml/MC Impact	ISMD	0.9	.0548	Q	Sep25 /Sep19
iPath GEMS Asia 8 ETN	AYT	2.0	.0681	M	Sep20 /Sep19
iPath GEMS Index ETN	JEM	5.1	.1265	M	Sep20 /Sep19
Lazard Div & Income Fd	LOR	6.4	.06045	M	Oct23 /Oct12
Lazard Global TR Fund	LGI	5.8	.08183	M	Oct23 /Oct12
NeubergerBerman	NBH	5.1	.0675	M	Oct16 /Sep29
NeubergerBermanCA	NBW	4.2	.0512	M	Oct16 /Sep29
NeubergerBerrmanNY	NBO	4.1	.0437	M	Oct16 /Sep29
PowerSh CA AMT-Fr Mun Bd	PWZ	2.5	.05488	M	Sep29 /Sep19
PowerSh Dyn Bldg & Const	PKB	0.1	.01118	Q	Sep29 /Sep19
PowerSh Dyn Food & Bev	PBJ	1.7	.14035	Q	Sep29 /Sep19
PowerSh Dyn LC Growth	PWB	0.5	.05179	Q	Sep29 /Sep19
PowerSh Dyn Networking	PXQ	0.6	.06455	Q	Sep29 /Sep19
PowerSh Dyn Semiconductor	PSI	0.1	.01659	Q	Sep29 /Sep19
PowerSh Dynamic Mkt	PWC	2.2	.49583	Q	Sep29 /Sep19
PowerSh Dynamic Oil Svs	PXJ	1.7	.04058	Q	Sep29 /Sep19
PowerSh Dynamic Pharm	PJP	0.8	.12281	Q	Sep29 /Sep19
PowerSh Dynamic Retail	PMR	1.5	.12424	Q	Sep29 /Sep19
PowerSh FTSE RAFI EM	PXH	6.3	.34253	Q	Sep29 /Sep19
PowerSh Natl AMT-Fr Muni	PZA	3.0	.0648	M	Sep29 /Sep19
PowerSh NY AMT-Fr Mun Bd	PZT	2.9	.05851	M	Sep29 /Sep19
PowerSh S&P 500 Enh Value	SPVU	1.8	.14885	Q	Sep29 /Sep19
PowerSh S&P 500 Hi Beta	SPHB	1.5	.14466	Q	Sep29 /Sep19
PowerSh S&P 500 Value Mom	SPVM	1.5	.0959	Q	Sep29 /Sep19
PowerSh Taxable Mun Bd	BAB	3.8	.09771	M	Sep29 /Sep19
PowerSh WildrHil Clean	PBW	1.4	.01632	Q	Sep29 /Sep19
PowerShares Bal Multi	PSMB	2.4	.07884	Q	Sep29 /Sep19
PowerShares Cons Mult	PSMC	2.5	.08015	Q	Sep29 /Sep19
PowerShares Div Achievers	PFM	2.1	.13188	Q	Sep29 /Sep19
PowerShares DWA Mom Low	DWLV	1.0	.07654	Q	Sep29 /Sep19
PowerShares DWA Momentum	PDP	0.7	.08672	Q	Sep29 /Sep19
PowerShares DWA Tactical	DWTR	1.0	.06427	Q	Sep29 /Sep19
PowerShares DWA Tactical	DWIN	4.4	.10146	M	Sep29 /Sep19
PowerShares DWA Utilities	PUI	2.6	.1889	Q	Sep29 /Sep19
PowerShares Dyn Engy Expl	PXE	1.7	.08176	Q	Sep29 /Sep19
PowerShares Europe Curr	FXEU	1.0	.05712	Q	Sep29 /Sep19
PowerShares Finl Pfd	PGF	5.4	.08476	M	Sep29 /Sep19
PowerShares Gl Shrt Tm	PGHY	5.1	.10206	M	Sep29 /Sep19
PowerShares Growth Multi	PSMG	2.3	.07799	Q	Sep29 /Sep19
PowerShares India	PIN	0.6	.03566	Q	Sep29 /Sep19
PowerShares Intl BuyBack	IPKW	0.3	.02373	Q	Sep29 /Sep19
PowerShares KBW Hi Div	KBWD	8.8	.17057	M	Sep29 /Sep19
PowerShares KBW REIT	KBWY	7.2	.22354	M	Sep29 /Sep19
PowerShares Mod Conserv	PSMM	2.5	.08191	Q	Sep29 /Sep19
PowerShares S&P 500 Mom	SPMO	2.5	.19485	Q	Sep29 /Sep19
PowerShares S&P 500 Qual	SPHQ	2.6	.1873	Q	Sep29 /Sep19
PowerShares S&P 500 xRate	XRLV	1.6	.041	M	Sep29 /Sep19
PowerShares S&P Emrg Hi	EEMO	2.7	.14021	Q	Sep29 /Sep19
PowerShares S&P Intl Dev	IDLV	2.5	.21039	Q	Sep29 /Sep19
PowerShares S&P Intl Dev	IDMO	2.5	.17086	Q	Sep29 /Sep19
PowerShares S&P Intl Dev	IDHQ	1.5	.08524	Q	Sep29 /Sep19
PowerShares S&P SC Qual	XSHQ	0.8	.04758	Q	Sep29 /Sep19
PowerShares Sr Loan Ptf	BKLN	3.6	.07006	M	Sep29 /Sep19
PowerShares Variable Rate	VRP	4.4	.09534	M	Sep29 /Sep19
PowerShares Water Rscs	PHO	0.3	.02062	Q	Sep29 /Sep19
PowerShs Aerospace	PPA	2.0	.25035	Q	Sep29 /Sep19
PowerShs Dynamic LC Val	PWV	1.9	.17653	Q	Sep29 /Sep19
PowerShs Dynamic Leisure	PEJ	0.3	.03483	Q	Sep29 /Sep19
PowerShs Dynamic Media	PBS	0.6	.03863	Q	Sep29 /Sep19
PowerShs Japan Currency	FXJP	0.6	.04051	Q	Sep29 /Sep19
PowerShs KBW P&C Ins	KBWP	1.4	.20048	Q	Sep29 /Sep19
PS DWA Developed Mkts	PIZ	0.6	.04096	Q	Sep29 /Sep19
PS DWA Emerging Mkts	PIE	3.4	.16488	Q	Sep29 /Sep19
PS DWA SmallCap Momentum	DWAS	0.1	.01375	Q	Sep29 /Sep19
PS FTSE Intl Low Beta Eq	IDLB	1.6	.11178	Q	Sep29 /Sep19
PS Golden Dragon China	PGJ	1.0	.10814	Q	Sep29 /Sep19
PS KBW Banks	KBWB	1.8	.2185	Q	Sep29 /Sep19
PS KBW Regional Bk	KBWR	1.6	.20956	Q	Sep29 /Sep19
PS LadderRite 0-5 Yr Corp	LDRI	1.8	.03778	M	Sep29 /Sep19
PS Russ 1000 Low Beta Eq	USLB	1.5	.11197	Q	Sep29 /Sep19
PS Russell 2000 EW	EQWS	1.0	.102	Q	Sep29 /Sep19
PS Russell 2000 Pure Grw	PXSG	0.3	.02578	Q	Sep29 /Sep19
PS Russell 2000 Pure Val	PXSV	2.1	.15659	Q	Sep29 /Sep19
PS Russell MC Pure Value	PXMV	2.2	.1666	Q	Sep29 /Sep19
PS Russell Midcap EW	EQWM	1.5	.16934	Q	Sep29 /Sep19
PS Russell Top 200 EW	EQWL	1.6	.1931	Q	Sep29 /Sep19
PS Russell Top 200 Pure G	PXLG	0.7	.07535	Q	Sep29 /Sep19
PS Russell Top 200 Pure V	PXLV	2.4	.21784	Q	Sep29 /Sep19
PS S&P 500 Lo Voltl Prtf	SPLV	2.2	.084	M	Sep29 /Sep19
PS S&P Emg Mkts Low Vol	EELV	4.7	.29434	Q	Sep29 /Sep19
PS Variable Rate Inv Grd	VRIG	2.2	.047	M	Sep29 /Sep19
Putnam High Income Sec	PCF	3.8	.0283	M	Nov01 /Oct24
Putnam Mas Inco	PIM	6.6	.026	M	Nov01 /Oct24
Putnam Muni Opportunities	PMO	5.1	.0541	M	Nov01 /Oct24
Putnam Premier Income Tr	PPT	5.8	.026	M	Nov01 /Oct24
Putnam Tr	PMM	5.0	.0318	M	Nov01 /Oct24
PwrSh Contrarian Opps	CNTR	0.4	.02966	Q	Sep29 /Sep19
Pwrsh FTSE Dev Mkt xUS	PDN	0.9	.07577	Q	Sep29 /Sep19
PwrSh FTSE US1500 S-M	PRFZ	1.1	.32094	Q	Sep29 /Sep19
PwrSh Intl Div Achievers	PID	3.8	.15358	Q	Sep29 /Sep19
PwrSh Russ 1000 Equal Wt	EQAL	1.5	.11199	Q	Sep29 /Sep19
PwrSh S&P 600 Low Vol	XSLV	1.7	.18484	Q	Sep29 /Sep19
PwrSh S&P SC Hi Div Low	XSHD	4.6	.09229	M	Sep29 /Sep19
PwrSh VRDO Tax-Free Wkly	PVI	0.5	.00966	M	Sep29 /Sep19
PwrShrs 1-30 Laddrd Treas	PLW	2.0	.05611	M	Sep29 /Sep19
PwrShrs Buyback Achievers	PKW	1.1	.14801	Q	Sep29 /Sep19
PwrShrs CEF Inco Comp Ptf	PCEF	6.5	.12883	M	Sep29 /Sep19
PwrShrs Cleantech	PZD	0.2	.01733	Q	Sep29 /Sep19
PwrShrs Dyn Enrgy Sec	PXI	1.3	.11378	Q	Sep29 /Sep19
PwrShrs Dyn Finl Sector	PFI	1.1	.08469	Q	Sep29 /Sep19
PwrShrs Dyn Tech Sector	PTF	0.2	.02142	Q	Sep29 /Sep19
PwrShrs Emerg Infrastruc	PXR	2.5	.2308	Q	Sep29 /Sep19
PwrShrs FTSE RAFI ex-U.S.	PXF	1.7	.18332	Q	Sep29 /Sep19
PwrShrs Glbl Agriculture	PAGG	0.9	.06141	Q	Sep29 /Sep19
PwrShrs Glbl Clean Energy	PBD	1.6	.0513	Q	Sep29 /Sep19
PwrShrs Glbl Water	PIO	0.8	.04983	Q	Sep29 /Sep19
PwrShrs Preferred	PGX	5.6	.07078	M	Sep29 /Sep19
PwrShrs QQQ Tr Series 1	QQQ	0.9	.31938	Q	Oct31 /Sep19
PwrShrs S&P 500 BuyWrite	PBP	9.0	.50	Q	Sep29 /Sep19
PwrShrs Zacks Micro Cap	PZI	1.3	.06224	Q	Sep29 /Sep19
PwrShs Dyn Cnsmr Staples	PSL	0.8	.11913	Q	Sep29 /Sep19
PwrShs Dynamic Inds Sec	PRN	1.8	.25297	Q	Sep29 /Sep19
PwrShs Emrg Mkts Sov Debt	PCY	4.7	.11778	M	Sep29 /Sep19
PwrShs Ex Trd FTSE RAFI	PRF	2.2	.57956	Q	Sep29 /Sep19
Pwrshs Fundm H Y F Cp Bd	PHB	3.9	.06135	M	Sep29 /Sep19
PwrShs Glbl Lstd Prvt Eq	PSP	14.2	.44086	Q	Sep29 /Sep19
PwrShs Hi Yld Eqty Dv Ach	PEY	3.5	.04951	M	Sep29 /Sep19
PwrShs Intl Corp Bd Ptf	PICB	1.4	.03273	M	Sep29 /Sep19
PwrShs S&P 500 Downside	PHDG	2.8	.18118	Q	Sep29 /Sep19
PwrShs S&P 500 High Divd	SPHD	2.9	.10037	M	Sep29 /Sep19
PwrShs S&P Intl Dev Hi	IDHD	3.9	.28084	Q	Sep29 /Sep19
PwrShs S&P SmCp Cons	PSCC	2.0	.35465	Q	Sep29 /Sep19
PwrShs S&P SmCp Finl	PSCF	2.2	.27547	Q	Sep29 /Sep19
PwrShs S&P SmCp Indu	PSCI	0.5	.0661	Q	Sep29 /Sep19
PwrShs S&P SmCp Info Tech	PSCT	0.1	.01388	Q	Sep29 /Sep19
PwrShs S&P SmCp Matrls	PSCM	0.7	.08195	Q	Sep29 /Sep19
PwrShs S&P SmCp Util	PSCU	0.9	.11702	Q	Sep29 /Sep19
PwrShs SP SmCp Cons Discr	PSCD	1.1	.14703	Q	Sep29 /Sep19
PwrShs WldrHll Prgrs Ergy	PUW	0.6	.0376	Q	Sep29 /Sep19
S&P 400 Low Volatility	XMLV	1.5	.16785	Q	Sep29 /Sep19
Schwab Fund US Broad Mkt	FNDB	2.2	.1926	Q	Sep22 /Sep19
Schwab Fund US Lrg Co	FNDX	2.2	.1907	Q	Sep22 /Sep19
Schwab Fund US Small Co	FNDA	1.3	.1103	Q	Sep22 /Sep19
Schwab U.S LC Growth	SCHG	1.3	.2153	Q	Sep22 /Sep19
Schwab U.S. LgCp Value	SCHV	2.5	.3212	Q	Sep22 /Sep19
Schwab U.S. Mid-Cap	SCHM	1.0	.1281	Q	Sep22 /Sep19
Schwab U.S. REIT	SCHH	2.3	.2378	Q	Sep22 /Sep19
Schwab US Broad Mkt	SCHB	1.7	.2557	Q	Sep22 /Sep19
Schwab US Dividend Equity	SCHD	2.9	.3439	Q	Sep22 /Sep19
Schwab US Large Cap	SCHX	1.9	.2784	Q	Sep22 /Sep19
Schwab US Small Cap	SCHA	1.0	.1589	Q	Sep22 /Sep19
TCW Strategic Income Fund	TSI	4.0	.0575	Q	Oct13 /Sep29
Templeton Emerging	TEI	3.9	.1119	Q	Oct13 /Sep28
ValSh US Quantitative Val	QVAL	1.1	.0721	Q	Sep25 /Sep19
ValueShares Intl Quant	IVAL	0.6	.04823	Q	Sep25 /Sep19
Voya Asia Pacific Hi Div	IAE	7.7	.205	Q	Oct16 /Oct04
Voya Emg Mkts Hi Incm Div	IHD	7.8	.185	Q	Oct16 /Oct04
Voya Gl Equity Div	IGD	9.2	.061	M	Oct16 /Oct04
Voya Global Advantage	IGA	8.0	.225	Q	Oct16 /Oct04
Voya Infr Indls & Matls	IDE	7.4	.29	Q	Oct16 /Oct04
Voya Intl High Div	IID	8.3	.052	M	Oct16 /Oct04
Voya Natural Rscs Equity	IRR	10.2	.162	Q	Oct16 /Oct04
Stocks					
Cemtrex 10% Pfd.	CETXP		10.00%		Sep29 /Sep19
Foreign					
City Office REIT	CIO	7.2	.235	Q	Oct25 /Oct11
City Office REIT Pfd A	CIOpA	6.5	.41406	Q	Oct25 /Oct11
Crescent Point Energy	CPG	4.1	.02477	M	Oct16 /Sep30
Vermilion Energy	VET	5.8	.17755	M	Oct16 /Sep29

KEY: A: annual; M: monthly; Q: quarterly; r: revised; SA: semiannual; S2:1: stock split and ratio; SO: spin-off.

Treasurys Extend Declines

By Sam Goldfarb

U.S. government bonds pulled back, extending recent declines as traders prepared for this week's Federal Reserve meeting.

The yield on the 10-year Treasury note settled Monday at 2.230%, compared with 2.202% Friday, the sixth straight session it has gone up.

CREDIT MARKETS

Yields, which rise when bond prices fall, climbed last week, reflecting stronger inflation data, easing concerns about the economic impact of Hurricane Irma and growing attention on the Fed meeting.

That followed a roughly two month-decline in the 10-year yield caused in part by a run of soft inflation data and a widespread view that the Fed would stop at two interest-rate increases this year.

Treasury yields tend to fall on soft inflation data and rise on stronger inflation data because inflation chips away at the fixed returns of government debt and can lead the Fed to raise interest rates.

Investors often sell Treasurys heading into Fed meetings as a hedge against the central bank signaling a shift to tighter monetary policy.

"This is one of the most well-telegraphed meetings," said Wan-Chong Kung, a bond fund manager at Nuveen Asset Management. "My base case is some hand wringing going into the event and a sigh of relief coming out of it."

—Daniel Kruger contributed to this article.

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	$128,157,101,800	$115,501,649,800
Accepted bids	$42,000,411,800	$36,000,337,300
" noncomp	$573,442,300	$456,331,600
" foreign noncomp	$300,000,000	$503,300,000
Auction price (rate)	99.735847 (1.045%)	99.403444 (1.180%)
Coupon equivalent	1.062%	1.204%
Bids at clearing yield accepted	84.02%	8.75%
Cusip number	912796MH9	912796NX3

Both issues are dated Sept. 21, 2017. The 13-week bills mature on Dec. 21, 2017; the 26-week bills mature on March 22, 2018.

Blue Chips Notch Another Record

Gains in financial and industrial shares lead the way to index's fifth high in a row

By Akane Otani

The Dow Jones Industrial Average rose to its fifth consecutive record, buoyed by gains in industrial and financial stocks.

MONDAY'S MARKETS

Stocks traded in a narrow range, continuing a recent pattern of mostly quiet trading.

With the third-quarter earnings season yet to begin in earnest, and several potential risks on the horizon, there are few reasons to make big moves, investors and analysts said. Investors are awaiting the outcome of the Federal Reserve's latest meeting this week and further news of a potential Republican tax proposal this fall.

Still, stocks should continue grinding higher as long as data suggest growth in the U.S. economy remains solid, analysts said.

The Dow industrials rose 63.01 points, or 0.3%, to 22331.35, posting its 40th record close of the year.

The S&P 500 edged up 3.64 points, or 0.1%, to a fresh high of 2503.87, and the Nasdaq Composite added 6.17 points, or 0.1%, to 6454.64.

Shares of financial companies rose along with bond yields, lifting major indexes. Higher rates tend to benefit banks by boosting their net-interest margins, a key measure of lending profitability.

Dow component **J.P. Morgan** rose $1.30, or 1.4%, to $92.92, while **Goldman Sachs** added 2.31, or 1%, to 227.53.

Industrial stocks rose 0.6% in the S&P 500, with shares of **General Electric**, **Caterpillar** and **Boeing** among the biggest gainers. UBS early Monday upgraded its rating for Caterpillar to "buy" from "neutral."

Meanwhile, government bonds and their stock-market proxies pulled back. Utilities shares, considered bondlike by many investors because of their hefty dividends, fell 1% in the S&P 500.

The yield on the 10-year Treasury note rose to 2.230% from 2.202% on Friday, notching its sixth consecutive session of advances.

Yields, which rise as bond prices fall, have climbed in recent sessions as investors' concerns over geopolitical tensions and damage from severe storms have waned.

Later this week, the Fed is widely expected to announce that it will leave interest rates unchanged and begin unwinding its $4.5 trillion balance sheet later this year. While a string of muted inflation readings had made many investors skeptical the Fed would be able to raise rates for a third time in 2017, data Thursday showing a rebound in U.S. consumer prices have pushed some to rethink their bets.

Federal-funds futures, used by investors to place bets on the Fed's rate-policy outlook, showed Monday afternoon a roughly 60% chance that the central bank will raise interest rates again by December, according to CME Group data, up from a 41% chance a week ago.

The stock rally could stall if the Fed moves to normalize monetary policy faster than expected, investors and analysts say.

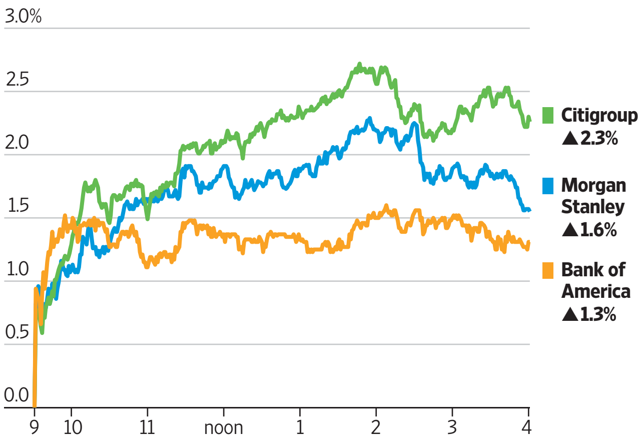
Japan's Nikkei 225 was up 1.45% at the lunch break, hitting its best levels in two months and putting the index back above 20000 for the first time since Aug. 8.

AKOS STILLER/BLOOMBERG NEWS

Industrial stocks, such as General Electric, were among Monday's biggest gainers in the S&P 500. An employee at a GE power plant.

Lenders Rally

Shares of Citigroup, Bank of America and Morgan Stanley rose alongside bond yields.



Source: FactSet

THE WALL STREET JOURNAL.

Markets Brace for Fed Balance-Sheet Trims

By Ben Eisen

Investors have their sights on the Federal Reserve this week, which is poised to lay out a plan to start trimming its $4.5 trillion balance sheet.

Fed officials have said they want this process to play out quietly. It should have a similar excitement factor as watching paint dry, one official has said. But some people outside the Fed, including industry veterans like J.P. Morgan Chase & Co. Chief Executive James Dimon, aren't sure it will be so simple.

Critics warn that the shift could push up benchmark bond yields, potentially hitting

Eventually, the balance sheet will shrink by as much as $50 billion a month.

credit spreads and stocks if investors begin to grow nervous.

"We suspect that the effect it could have on markets may not be so boring," said Gene Tannuzzo, a senior portfolio manager for strategic income at Columbia Threadneedle Investments, in a research note.

When the Fed started buying up massive amounts of Treasurys and mortgage-backed securities during the heat of the financial crisis, it had an enormous easing effect, researchers have since found.

Though the Fed cut rates to nearly zero during that period, the act of buying up bonds helped bring about the equivalent financial conditions of a policy rate of nearly negative 3%, according to a "shadow" measure of the policy rate, known as the Wu-Xia Shadow Federal Funds Rate. The model is calculated using one-month forward rates.

The Fed said in late 2013 that it would phase out its bond purchase program, which had the effect of bringing the shadow rate back up toward zero. Investors eventually became acclimated to that tapering, but not without a "tantrum" that summer as central bankers signaled their potential moves, which sent rates up sharply.

The Fed is no longer buying bonds, but it is still reinvesting the proceeds of maturing debt. That means the balance sheet has stayed at about the same size in recent years.

Now, the Fed is set to go further in the tightening direction by reducing the size of its balance sheet. Officials have indicated that the Fed plans to add a series of caps to the amount of Treasurys and mortgage securities that it will allow to mature without being reinvested each month.

Gradually, those caps will rise from $6 billion a month to $30 billion for Treasurys and from $4 billion to $20 billion for mortgage bonds. The Treasury portfolio has a somewhat uneven maturity schedule, while the mortgage bonds will depend on the speed at which borrowers prepay mortgages.

Eventually, the balance sheet will shrink by as much as $50 billion every month, or $600 billion a year. Employing the concept of the shadow fed-funds rate, Mr. Tannuzzo believes that pace of balance-sheet decline would be the equivalent of raising the fed-funds rate an additional 0.76% a year. That's like three more rate increases each year.

Over time, the Fed is set to slowly cede its role as a dominant buyer in those markets. As demand shrinks, the Treasury may start issuing more debt to fulfill borrowing needs. That has some investors worried that prices will fall and yields will rise. Others point to how well telegraphed the coming move has been, which could lead to a calm reception from traders.

SPACE

Continued from page B1

mand, said in an August speech in Huntsville, Ala. "The actions we take today will assure continued American dominance, especially in the critical domain of space."

Military budgets in Russia and China have been climbing faster than Pentagon spending, allowing them to close the technology gap with the U.S. However, there is a concerted effort among lawmakers and military leaders to reduce the Pentagon's costs and secure weapons faster and cheaper.

The heightened attention to space-based weaponry mirrors a push in Washington, where both the Trump administration and Congress have signaled the likelihood of spending increases.

Spending on classified military projects, many of them space-focused, has outpaced broader military spending and accounts for more than 10% of the Pentagon weapons and research budget, according to consultant Avascent.

"For fiscal year 2018, the U.S. Air Force has requested approximately $7.75 billion, an approximately 20% increase from fiscal year 2017, for space-related procurement and research, development, test, and evaluation," said Army Lt. Col. Jamie Davis, a Pentagon spokesman, declining to break down the request.

Northrop's proposed acquisition also represents the first test of the Trump's administration's views on industry consolidation as it would increase the company's role in key programs such as a new, long-range bomber.

"Orbital ATK is the fit," Northrop Chief Executive Wes Bush said on an investor call Monday. Orbital wasn't put up for sale, said CEO David Thompson.

Northrop aims to close the deal in the first half of next year, subject to shareholder and regulatory approvals.

U.S. defense companies are returning to growth after five years of federal-government budget pressures. But big opportunities are scarce and focused on a handful of large programs such as the Lockheed Martin F-35, replacing U.S. nuclear weapons and strengthening its space-based capabilities. Pentagon leaders have discouraged any further consolidation among the largest defense companies since a series of huge deals in the 1990s. However, analysts said Northrop's move could trigger interest in other smaller, space-focused companies such as Harris.

Analyst Cai von Rumohr at Cowen & Co. said he expected the proposed deal to be cleared as there was little overlap between Northrop and Orbital ATK. "The acquisition gives Northrop more options in [Department of Defense] growth segments, such as missile defense," he said in a client note.

The proposed deal puts pressure on other defense contractors to boost their space capabilities, said Philip Finnegan, director of corporate analysis at Teal Group, a Fairfax, Va.-based consultant.

Deal activity in the defense sector has been focused on the fragmented services business, providing consulting and IT products. Companies with combined aerospace and defense operations have also become more attractive.

United Technologies Corp. plans to buy Rockwell Collins Inc. for $23 billion, a move aimed mainly at tackling competitive pressures in the commercial jetliner market. However, the combination would also create a top 10 global defense company, producing engines for military jets with radios and other communication equipment.

One of the largest defense-sector opportunities is the Pentagon's plan to develop a new, land-based nuclear missile, with Northrop competing against Boeing for a program estimated to cost around $80 billion.

Northrop is already working with Orbital and fellow rocket-engine maker Aerojet Rocketdyne Holdings Inc. on the project. Boeing has also signed up Aerojet and Orbital ATK as partners, and Mr. Bush said on the call that his planned deal wouldn't affect existing programs. "Our industry is characterized by the ability of companies to work together," he said.

Mr. Bush declined to comment on whether the proposed deal had been discussed with the Pentagon, though he pledged to continue working with other large defense companies on large military programs. The Pentagon had no immediate comment Monday.

Established companies in the space business are also under pressure from new entrants such as Elon Musk's Space Exploration Technologies Corp., better known as SpaceX, which has started launching satellites for the U.S. military more cheaply than rivals.

Such emerging competition led one analyst to question some of the claimed benefits from combining Northrop and Orbital.

"Building boosters and satellites are very different businesses. No one seems to think that Elon Musk is in a world of hurt because he doesn't have his own satellites, but he's got contracts to lift a lot of them," said James Hasik at the Atlantic Council, a think tank.

Northrop agreed to pay $134.50 a share for Orbital, a roughly 22% premium to Friday's closing price of $110.04. Including $1.4 billion in assumed debt, the deal carries a total price tag of about $9.2 billion. Orbital shares closed up 20% at $132.25.

Northrop shares gained 3.4% as the company committed Monday to reducing debt and maintaining a share buyback program. Repurchases have powered the company's stock in recent years.

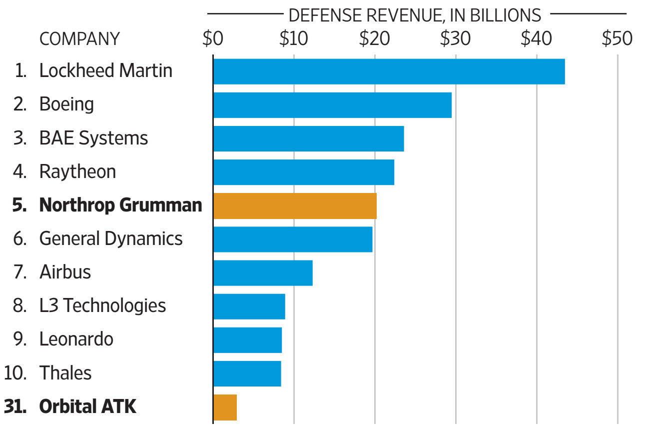
Buying Orbital ATK would add a company with 13,000 employees and an estimated $4.6 billion in sales this year to Northrop's expected 2017 revenue of around $25 billion. Northrop has about 67,000 employees.

Northrop said it expects the deal to boost earnings per share in its first full year and yield annual cost savings of $150 million by 2020.

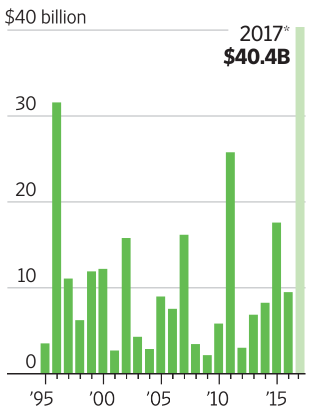
—Nancy A. Youssef contributed to this article.

Defensive Maneuvers

Top companies with highest defense revenue in 2016



U.S. defense and aerospace industry M&A activity



*Year-to-date Sources: Defense News (Revenue); Dealogic (M&A)

THE WALL STREET JOURNAL.

MARKETS

Portugal: Europe's Unlikely Star Market

Government-bond yields plunge as S&P returns credit rating to investment grade

By Jon Sindreu

As Europe's economic recovery begins to pick up speed, Southern European countries have taken the lead. None more so than Portugal.

Portuguese debt has been one of this year's top investments, a major turnaround from a few years ago when Portuguese yields ballooned to as much as 16% during the Greek debt crisis that pounded bonds in Italy and Spain, too.

Now, Portugal's 10-year sovereign bonds have returned 23% this year, better than any other bond in the eurozone, excluding coupon payments.

Portuguese bonds got a big lift Monday after Standard & Poor's returned the country's rating to investment grade, which it lost during the euro crisis in 2012. Yields on 10-year Portuguese bonds plunged to around 2.4%, the lowest since late 2015, when only Friday they closed at about 2.8%. Yields fall as bond prices rise.

The bond rally follows a budding economic rebound. Portugal's gross domestic product expanded 2.9% on the year in the second quarter and 2.8% in the first, much above the eurozone average of 2.3% and 2%. Unemployment has been falling and is close to a nine-year low.

S&P said it expected Portugal to grow 2.2% on average until 2020, up from a March forecast of 1.5%. Southern European countries such as Portugal and Spain have been late to the economic rebound enjoyed by their northern peers like Germany and the Netherlands but are currently the key engine of eurozone growth.

S&P said the bond upgrade reflected a growing economy, a reduced budget deficit, and "the receded risk of a marked deterioration in external financing conditions." The ratings firm noted that the government has helped strengthen the Portuguese banking system by recapitalizing state-owned Caixa Geral de Depósitos.

Portugal is still rated as a junk-bond investment by Moody's and Fitch, the other two top ratings companies.

Even though Portugal's economy is expected to keep expanding, analysts say further bond gains face fresh challenges. Portugal's government debt is close to 130% of GDP, the third highest in the eurozone after Greece and Italy. Portuguese banks are saddled with large amounts of bad loans—17% of gross loans are classified as nonperforming, second only to Greece among countries in the single currency area.

Portugal's bonds also are getting less support from the European Central Bank's bond-buying program, because officials have come close to buying as much of them as they can without breaking the plan's rules. Investors anyway expect the ECB's monthly purchases to decrease across the eurozone in 2018—a decision that policy makers could announce as early as next month.

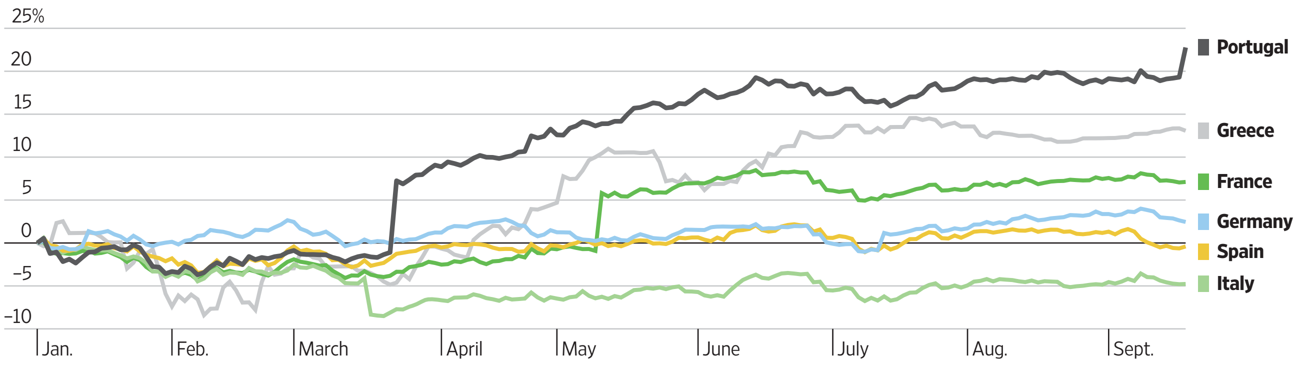
The gap between Portuguese 10-year yields and those on equivalent German debt—a major gauge of risk—is now at its narrowest since January 2016. Because the gap between Southern European countries' and Germany's bonds has tightened a lot, "we see widening risk as the ECB October meeting draws closer," analysts at Dutch bank ING told clients in a note Monday.

Portuguese debt has rallied since late March, as international investors returned to Europe after years of outflows. Later, these bonds were the main beneficiary of a relief rally as far-right candidate Marine Le Pen's chances of becoming France's president faded.

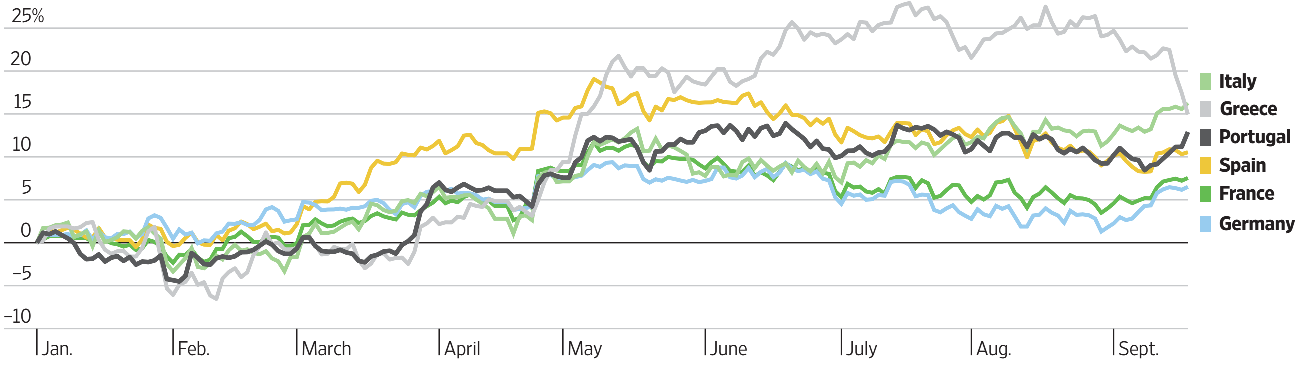
Striking Back

A rating upgrade fueled the latest surge in Portuguese government-bond prices, whose gains this year have pushed down yields and spreads vs. safer debt, driven by economic improvement and investor sentiment. But the high level of nonperforming loans in Portugal's banks highlights continuing risk to this rally.

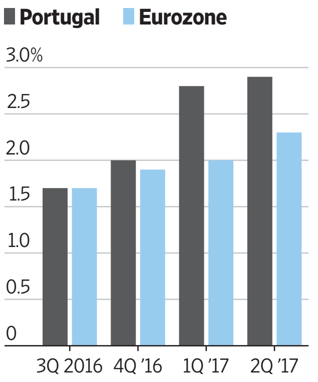
Change in the prices of 10-year sovereign bonds, since the start of the year*



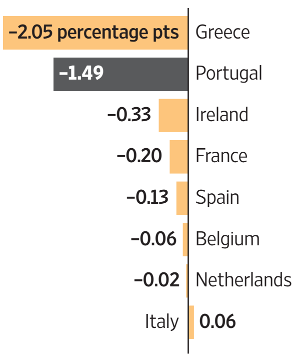
Change in the eurozone's main stock-market indexes



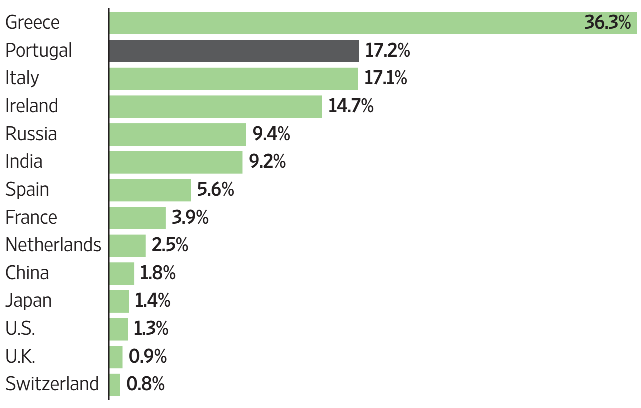
Gross domestic product, change from a year earlier



Spread between 10-year yields and German ones, change since the start of the year



Nonperforming loans† over total gross loans



*Excluding coupon payments
†Loans with payments past due by 90 days or more, refinanced or with good reason to believe they won't be repaid
Sources: Thomson Reuters (bonds); FactSet (stocks); TradeWeb (spread); Eurostat (GDP); International Monetary Fund (NPL)

THE WALL STREET JOURNAL.

HEARD ON THE STREET

Email: heard@wsj.com FINANCIAL ANALYSIS & COMMENTARY WSJ.com/Heard

The iPhone Is Making Memory

Little noticed amid the hype around the newest iPhones is the boon that the new wave of fancy phones means for the makers of memory chips inside.

Apple's new iPhone 8 and 8 Plus models hit stores on Friday. The iPhone X, with a bigger, sharper display and no home button, goes on sale in early November. That phone sets a record with a starting price tag of $999, while the other models sell for $200-$300 less. But all are offering a fairly sizable boost in memory and storage over previous iPhone iterations, a necessity given the demands of newer processors along with Apple's business need to sell more content and services per device.

On storage, Apple has effectively doubled up on the previous iPhone generation. The lowest configuration available on the new models is now 64GB compared with 32GB in the iPhone 7. The more spacious option has doubled to 256GB.

System memory is also getting a boost. The iPhone X and 8 Plus models both come with 3GB of DRAM, according to an estimate from Cowen & Co. That DRAM count was previously only available on the iPhone 7 Plus. Apple has been steadily raising the amount of DRAM per phone over the past few years, as the company's core central processors have become more robust. Two years ago, most iPhones had only 1GB of DRAM or less.

Other smartphone makers have been following the same track, some of which pack in far more memory in their phones than Apple. New top-of-the-line devices from Samsung Electronics and LG use 6GB of DRAM. That all adds up to good news for SK Hynix, Micron and Toshiba, along with Samsung's chip division. Memory prices have been on a steady rise since last year, as demand continues to outstrip supply.

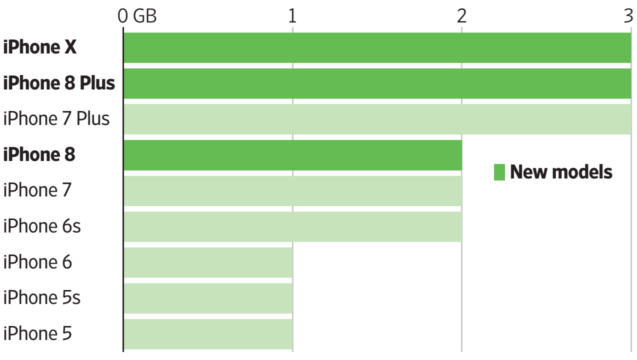
Spot prices for the most common type of DRAM in September were up more than 90% from the same point last year, with NAND Flash prices up 50% in that time, according to DRAMeXchange.

That explains in part why Apple, which needs to maintain its famously high margins, has boosted prices in this latest iPhone generation. That means the price increases are unlikely to raise the company's overall profits. A small bummer for shareholders, but Apple has little choice but to play the right chips to stay in the game.

—Dan Gallagher

Cache In

DRAM memory per device



Source: Cowen & Co. THE WALL STREET JOURNAL.

ECB Tapering Isn't So Frightening After All

For markets fretting about a world with less central-bank stimulus, Portugal has given a hint that it might not be that bad after all.

In a surprise move, Standard & Poor's upgraded Portugal, one of the countries hit hardest by the eurozone crisis, back into investment-grade territory Friday. The move to triple-B-minus was especially unexpected since S&P's rating outlook had been set at stable, rather than positive, before Friday's decision. What is significant about the timing is S&P's upgrade comes despite the likely reduction in ECB bond purchases in coming months.

That marks a striking reversal. As recently as last year, the key question for Portugal was whether DBRS, another ratings firm, might be the last to remove its investment-grade rating on the country, making Portuguese bonds ineligible for ECB purchases. In fact, the ECB has already been cutting back on Portuguese purchases, due to the limits of its purchase program, yet with no ill effect. In August, the central bank bought just €400 million ($478 million) of Portuguese debt, versus a peak of €1.4 billion in May 2016, S&P noted.

Meanwhile, Portugal's 10-year yield has been plummeting, and fell by another 0.3 percentage point Monday, a big decline, to 2.5%. It was above 4% as recently as March. Not including Monday's gains, Portuguese government bonds have returned 8.2% this year, according to Bank of America Merrill Lynch indexes.

Importantly, Portuguese bonds are benefiting from stronger economic data. Gross domestic product expanded 2.9% in the second quarter from a year earlier. Unemployment has fallen to 9.1%, back in line with the overall eurozone rate, from a peak of 17.5% in 2013.

It may be difficult to apply Portugal's experience to other eurozone countries. As a relatively high-yielding issuer, it has benefited from rising risk appetite this year, while other bigger markets have probably gained greater support from continued ECB purchases. But as a sign that the ECB might matter less than feared for bond-market performance, Portugal's path is an encouraging one.

—Richard Barley

Clariant Must Work to Get Out the Vote

Huntsman and **Clariant** are closing the details of their merger, but the gap between their stock prices remains wide open.

In one of the largest trans-Atlantic deals of the year, the U.S. and Swiss chemicals manufacturers announced in May that they would combine to create a $14.7 billion company. The shares of the two, however, are trading as if the deal might fall apart.

Huntsman stock has traded at a roughly 9% discount to its value under the merger's terms from the start of August until early September. While the gap has closed a bit this week, it is still at about 6%, leaving a big potential profit on the table if the deal gets done.

Standing in the way are two Clariant investors that have joined forces to oppose it. One of them is the family behind **Standard Industries**, a big U.S. building-materials and chemicals company. The other is **Corvex**, an activist fund whose head, Keith Meister, has been a thorn in Huntsman's side before.

Huntsman CEO Peter Huntsman told a Swiss newspaper this week that when he had previously crossed swords with Mr. Meister over a different deal: "His ranting irritated me." He won't mean the investor too.

Last week, the companies' merger teams met at Huntsman's headquarters in Texas to begin planning their integration when the merger closes, which they say should be at the end of the year. Before then, it must pass shareholder votes at both companies, which are likely to take place in late November or early December.

The activists' best hope is to build enough support to block the Clariant vote. The two investors opposing the deal are expected to produce alternative proposals to boost Clariant's value before those votes. Together they own at least 10% of Clariant and don't have to notify the company again until they pass 15%.

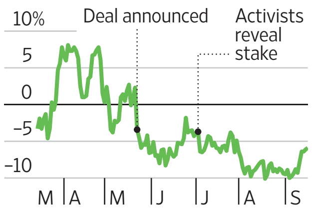
For Clariant, a challenge is ensuring enough shareholders turn out. One hurdle is passive index funds that don't vote. Clariant needs two-thirds of votes cast to support its merger. If turnout is around the historic Swiss average of 60%, the activists only need 20% of all investors on their side, including themselves.

Clariant investors, whose stock is up 12% since the announcement, look most exposed if the deal falls apart. The pressure is on to get out the vote.

—Paul J. Davies

Marriage Troubles

Gap between Huntsman stock price and its value under the all-stock merger with Clariant



Note: Through Friday Source: FactSet

OVERHEARD

Oil prices are starting to sound a bit funky in Caracas. While the price of a barrel of U.S. benchmark crude is just under $50 in capitals from Abuja to Zagreb, you may hear numbers like 41, 326 or 2,860 quoted in Venezuela.

Those would be the prices in euros, yuan or rubles, respectively, as the country's embattled leadership is no longer quoting crude in dollars.

"To fight against the economic blockade there will be a basket of currencies to liberate us from the dollar," said Venezuela's vice president.

Yet crude is universally quoted in greenbacks.

While U.S. economic sanctions may gum up transactions, simply quoting in those of friendly nations such as China and Russia won't change much. Venezuela's revenue is sinking as measured in any currency except perhaps its own rapidly depreciating one.

A special supplement provided by *Barron's* magazine, a Dow Jones publication

BARRON'S

SEPTEMBER 19, 2017

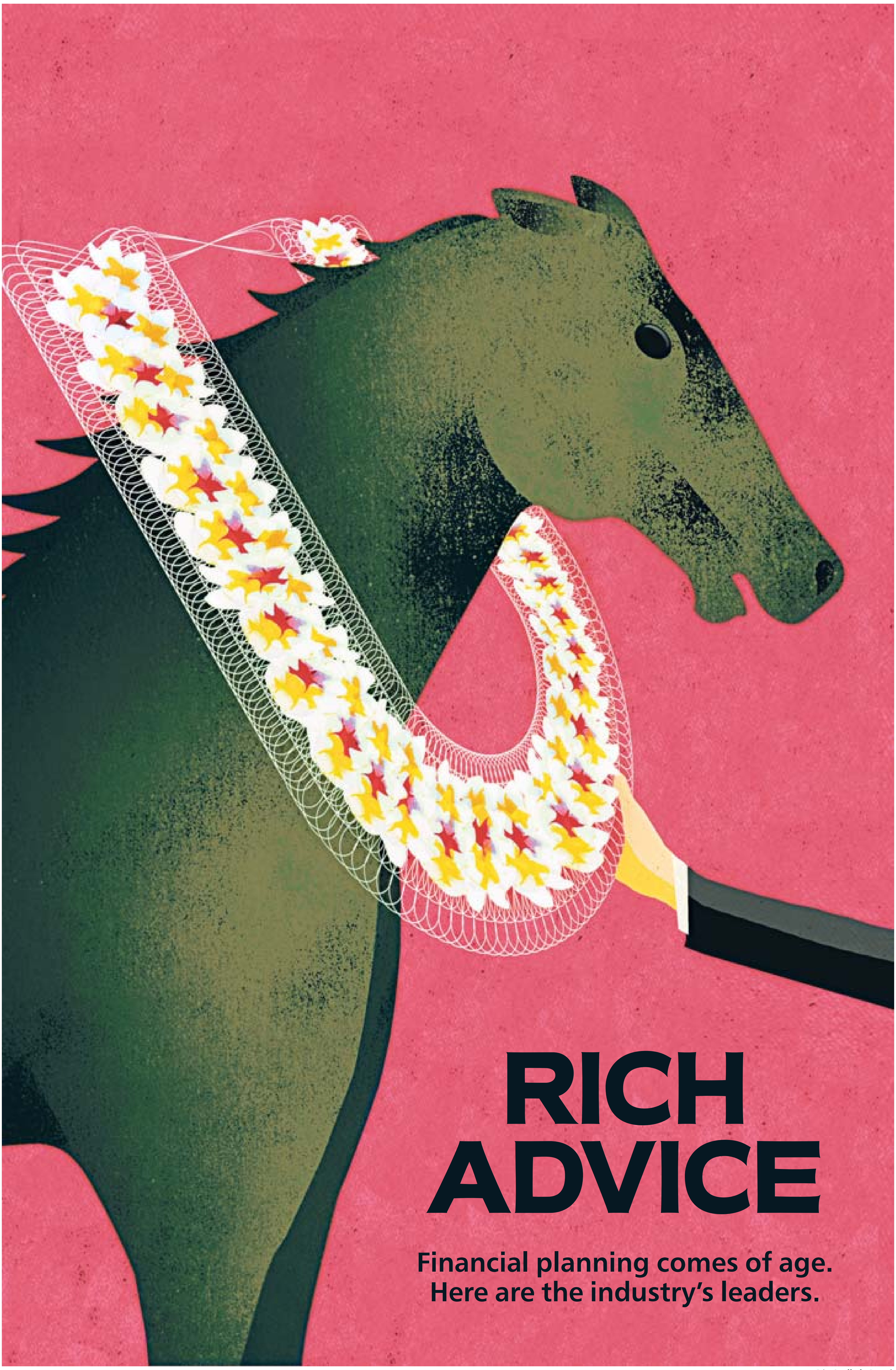
The Top

INDIE ADVISORS

Our exclusive rankings of the top 30 independent advisory firms and the top 100 independent advisors highlight the shifting landscape of the advice business. What the changes mean for investors.

Brian Stauffer for *Barron's*

Reprinted from the September 18, 2017, issue of *Barron's*.
The Wall Street Journal news organization was not involved in the creation of this content.



RICH ADVICE

Financial planning comes of age. Here are the industry's leaders.

Brian Stauffer for *Barron's*

by Steve Garmhausen

WHEN RIC EDELMAN AND HIS WIFE, JEAN, STARTED THEIR financial planning practice in 1986, they faced one major obstacle. "Nobody had ever heard of financial planning," he recalls. ● Entering an industry dominated by a sales culture and often-conflicted advice, pioneers like Edelman spent decades tirelessly advocating for and providing something different: independent wealth management encompassing clients' overall financial needs and providing objective advice that is in their best interests. ● Today, people know what financial planning is. Increasingly, they insist on independent, holistic, and client-focused advice of the kind that Edelman and his fellow industry pioneers have forced into the mainstream. ● The firms that have been providing it for decades have evolved into multibillion-dollar operations. With a consolidation of the industry in full swing, many

Max Hirschfeld for *Barron's*

From left, Ric Edelman, Ed Moore, and Ryan Parker of Edelman Financial Services are encouraging clients to ask them about "anything with a dollar sign."

of these firms are on acquisition binges that are fueling rapid growth. Our ranking's top 20 registered investment advisors (RIAs)—firms that register with the state or federal regulators and who accept the responsibility of a fiduciary duty to their clients—grew 23.2% in the last year, expanding average assets under management to $13.8 billion, from $11.2 billion.

"The practices became firms, and now the firms are becoming enterprises," says Rob Francais, the CEO of Los Angeles and New York–based Aspiriant.

The heads of top firms such as Edelman Financial Services, Creative Planning, and Mariner Holdings have been perennially top-ranked independent advisors in *Barron's* rankings through the years. Ric Edelman and Creative Planning's Peter Mallouk have each been our top-ranked advisor nationally for three years.

As their firms have grown, such pioneers have assumed management roles—inculcating best practices learned on the way to building their often-sizable firms. In the nearby table, we list 10 advisors who have moved up to assume executive roles at their rapidly growing RIA firms. On page S7, we rank the Top 30 RIA firms based on assets under management, retention, and factors that contribute to providing broad and consistent service to clients. And on page S10, we provide our traditional ranking of the Top 100 independent advisors based on criteria outlined in the story on page S11.

Mariner CEO Martin Bicknell says his career evolution allows him to help clients in new ways. "The big difference is helping advisors impact clients, versus impacting clients yourself," he says. "It's allowing me to impact more clients by teaching people to do it, not just doing it."

Not surprisingly, entrepreneurs behind these now-dominant RIAs are cut from independent cloth. Francais and his brother were running a successful T-shirt screen-printing business before they were teenagers. "Our dad taught us how to negotiate with adults, and gave us room to make mistakes," he says. "And we were able to chip in and help the family."

Still, even as the businesses of Francais and his peers thrive, challenges remain. A big one is staying nimble and safeguarding an independent spirit in a fast-growing firm. It's a process that Francais calls "scaling the work of a trusted

THE GRADUATES

Top RIA firm executives who have moved up after stellar careers as advisors

Executive	Firm	Years as Top 100 Indie Advisor	Highest Ranking
Ric Edelman	Edelman Financial Services	6	1 (three times)
Peter Mallouk	Creative Planning	8	1 (three times)
Martin Bicknell	Mariner Holdings	6	2 (three times)
Ron Carson	Carson Group	10	2 (twice)
Fred Fern	Churchill Management Group	8	1
Rob Francais	Aspiriant	7	18
Brent Brodeski	Savant Capital Management	8	28
Richard M. Burridge Jr.	RMB Capital Management	7	22
Michael Stolper	Veritable	2	33
Howard Sontag	Sontag Advisory	5	5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BARRON'S • SPECIAL SUPPLEMENT

Jason Dailey for *Barron's*

Creative Planning's Peter Mallouk: "Even though we specialize...I think it's essential that all of our advisors are well versed across the board to be able to spot issues."

advisor." As he explains, "How to get the best thinking from the group to bear on every client relationship—that's a cultural puzzle that involves governance, management, and compensation."

This is where a rigorous hiring process is vital, adds Carson Group's Ron Carson. "As we get bigger, we spend even more time and effort on the cultural side of the business. We defend our culture by carefully adding people to our organization."

That's ever-more important as consolidation within the advisor industry heats up. Firms such as Aspiriant, Edelman, and Mariner are big acquirers with fine-tuned machinery for integrating new advisors.

Amid all this, the leading RIAs continue to innovate. Carson, for example, is breaking ground by making it easier for clients to switch from a high-touch service tier to a low-touch tier, and vice versa.

Don't expect this group to stop leading the way anytime soon. "I'm proud of what we have done thus far, and know that we have a lot more to do to really set the bar," says Mallouk.

Below, we profile five of the largest and fastest-growing RIA firms and the advisors-turned-CEOs who've nurtured that growth.

Edelman Financial Services

Headquarters: Fairfax, Va
Offices: 43
Clients: 33,917
2017 Top RIA Firm Rank: 3

Edelman Financial has thrived by doing the basic things advisors are supposed to do, but usually don't.

Executive Chairman Ric Edelman cites Cerulli Associates, the financial services data research provider, which has reported that 70% of advisory firms don't do planning. "It's impossible to give a client investment recommendations if we don't understand the clients' goals and provide advice regarding all aspects of their personal finances," he says.

Not only do Edelman's 157 advisors encourage clients to ask them about "anything with a dollar sign," he says, but they also accept clients with as little as $5,000. "As long as people keep asking for our help, we'll continue to grow to serve them," he adds. Accepting a range of clients has helped the 31-year-old business grow to $19.6 billion of assets.

Edelman will soon be growing even faster, as it has recently assembled an M&A team and begun talking with potential targets. "We recognize that due to changes in the marketplace, there's a tremendous opportunity to improve the quality of other advisors' practices and improve the client experience," he says.

Edelman's acquisitions won't retain a high degree of autonomy, unlike firms gobbled up by some other big buyers. The firm is highly centralized, from its branding to its investment model to its planning approach. In terms of consistency, it's a lot like Starbucks, says Edelman.

The firm's investment portfolios grow from its planning-centered approach. Its 12-year-old investing model is based on modern portfolio theory, neuroeconomics, and behavioral finance.

Portfolios are globally diversified, market timing is shunned, and investment costs are kept low. In addition, holdings are reviewed on a daily basis and rebalanced as warranted—not just once a year or once a quarter. As-warranted rebalancing has proved to reduce risk and improve returns, Edelman says.

Outside of investing and long-term planning, Edelman advisors tackle all kinds of financial tasks for their clients, even if they don't directly create revenue. They've helped clients buy cars and analyze insurance policies. They've worked with attorneys to coordinate the drafting of wills or creation of trusts. They've helped find drug-rehab programs for clients' children.

Every service must be delivered with integrity, says Edelman. In fact, that's the reason he got into the business. Early in his working life, he was a journalist when an advisor told him and his wife to lie on their mortgage application.

As the firm has scaled up, one challenge has been adding advisors who are willing to put their egos aside and buy into the Edelman way. Edelman believes that a client who asks a question of any advisor at the firm should get the same answer.

The company Edelman started with his wife in 1986 has grown to the point where it will outlive its founders. The firm has been working over the past few years to become more institutionalized and to de-emphasize the focus on the CEO. That may be tough to do, since he remains an active and nationally recognized figure, with a radio show, television appearances, and a number of books to his name.

Karl Kaul for *Barron's*

Aspiriant's John Allen, left, with Rob Francais are striving for a trillion dollars in assets and 100,000 employees.

Creative Planning

Headquarters: Leawood, Kan.
Offices: 22
Clients: 18,028
2017 Top RIA Firm Rank: 1

The 2008 financial crisis destroyed considerable wealth and more than a few financial firms. But it helped propel Creative Planning from a successful independent firm to a juggernaut.

"The crisis was a wake-up call to nearly everyone, and people across the country started to look at all their options," says Peter Mallouk, president and chief investment officer of the Leawood, Kan.–based firm. After emerging from the experience in unusually good shape, Creative Planning's clients "went from being loyal clients to fierce advocates," he says.

Within a few years, Mallouk and company went from managing $500 million to billions, and they haven't looked back. More recently, Creative partnered with coach and business strategist Tony Robbins, a champion of independent fiduciary advisors who provides referrals and serves as the firm's director of investor psychology.

Creative Planning grew from Mallouk's early career as an estate-planning attorney. In that role, he supported advisors at 11 brokerage houses. Making his rounds, Mallouk perceived the need for a coordinated approach, with a broad set of advisory services under one roof.

"Given that I was spending my days filling in a segment of wealth-management services for other advisors, it became clear to me there was a need for a more coordinated approach," he says.

The firm he joined in 2004 now boasts $26.4 billion of assets, 22 offices, and 237 advisors—the most of any firm in our ranking. Those advisors don't face the business-generation demands of their counterparts at big Wall Street firms: Creative's clients—often professionals and entrepreneurs Mallouk refers to as "the multimillionaires next door"—usually seek out the firm.

On the other hand, Creative's advisors must undergo intensive training and quickly get up to speed on a broad catalog of financial knowledge. "Even though we specialize, with each advisor focused on their particular skill set, I think it's essential that all of our advisors are well versed across the board to be able to spot issues better served by colleagues within the firm," says Mallouk.

Clients might need help with estate settlement, business planning, charitable planning, or other complex needs. Creative, staffed with attorneys and certified public accountants along with planners and investing pros, does everything in-house.

Creative's scale and independence have enabled the firm to gain access to investments such as private equity funds and private placements that its clients would not necessarily be able to tap elsewhere. And it wields its clout to win price breaks from investment providers. "Many firms have their own products to peddle, even independent firms; others are truly independent but don't bring the negotiating power to the table," Mallouk says. "In recent years, we've been able to deliver on both."

Creative's portfolios might include a small portion of more-aggressive investments such as high-yield bonds and micro-cap stocks, but nothing more exotic than that. "I am willing to accept investments that can bend in exchange for returns," says Mallouk. "But above all else, we are always doing our best to avoid investments that can break."

Unlike many big independent firms, Creative doesn't expect acquisitions to account for much of its growth. "I'd rather work to create something that clients want to choose on their own, rather than buy clients," Mallouk says.

Aspiriant

Headquarters: Los Angeles, New York
Offices: 10
Clients: 1,600
2017 Top RIA Firm Rank: 10

Rob Francais, CEO of Aspiriant, has ambitious goals for the firm: He ultimately wants $1 trillion of assets under management and 100,000 employees, and offices in every major U.S. city.

This might sound like a pipe dream, until you consider how far Aspiriant has come in a short time. The New York and Los Angeles–based advisory firm has amassed $11.2 billion of assets, nearly 200 employees, and offices in 10 cities. It has patiently built a model for acquiring and integrating other firms, which it can now execute over the decades to come.

"Aspiriant was born with a vision of being a national organization, and we were born into a 100-year plan," says Francais.

Early this year, Apiriant bought Silicon Valley–based Stanford Investment Group, which had 272 clients and $850 million of assets under management.

Francais, who started his career as a certified public accountant with Deloitte, wants the company to be known for more than its size. The employee-owned firm is committed to holistic, fiduciary wealth advice, and with an abundance of accountants, lawyers, and financial planners on staff, it's built to deliver.

Its bench depth has allowed the firm to tackle complex, years-long projects. One involved 15 years of planning to sell a company in which 11 family members owned stakes.

Aspiriant teams worked intensively with each of the owners, who ranged in age from 15 to

THE TOP 30 RIA FIRMS

The nation's largest independent advisory firms have their sights set on growth, and an accelerating consolidation in the industry is likely to fuel it.

RANK '17	'16	Firm	Location	Top Executives	Clients	Advisors	Offices	States
1.	2.	Creative Planning	Leawood, Kan.	Peter Mallouk, Jim Williams	18,028	237	22	11
2.	1.	Mariner Holdings	Overland Park, Kan.	Martin Bicknell, Cheryl Bicknell	14,000	169	26	16
3.	3.	Edelman Financial Svcs	Fairfax, Va.	Ryan Parker, Ric Edelman	33,917	157	43	16
4.	4.	United Capital Financial Adv	Newport Beach, Calif.	Joe Duran, Gary Roth	19,612	138	84	28
5.	5.	Silvercrest Asset Mgmt Group	New York	Richard R. Hough III, David J. Campbell	689	27	7	4
6.	NR	Veritable	Newtown Square, Pa.	Michael A. Stolper, John J. Scuteri	218	48	3	2
7.	7.	Moneta Group Investment Adv	Clayton, Mo.	Thomas E. O'Meara, Keith Bowles	4,389	87	2	1
8.	6.	BBR Partners	New York	Brett Barth, Evan Roth	130	25	4	2
9.	NR	Ehrenkranz Partners	New York	Andrew Sommers, John Ehrenkranz	135	6	1	1
10.	9.	Aspiriant	Los Angeles	Rob Francais, Bret Magpiong	1,600	67	10	6
11.	8.	Brownson, Rehmus & Foxworth	Chicago	Susan Shacklette, John Lafferty, Steve Rehmus	459	16	4	4
12.	11.	Buckingham Strategic Wealth	St. Louis, Mo.	Adam Birenbaum, David Levin	4,900	135	19	14
13.	15.	Oxford Financial Group	Indianapolis	Jeffrey H. Thomasson, Lisa Walker	900	26	5	5
14.	NR	Pathstone Federal Street	Englewood, N.J.	Steve Braverman, Allan Zachariah	334	54	7	7
15.	12.	Johnson Investment Counsel	Cincinnati	Jason O. Jackman, Bret H. Parrish	3,708	31	5	1
16.	NR	Evercore Wealth Mgmt	New York	Jeff Maurer, Chris Zander	600	25	4	4
17.	19.	Tiedemann Wealth Mgmt	New York	Michael Tiedemann, Craig Smith	438	23	6	5
18.	17.	CV Advisors	Aventura, Fla.	Elliot Dornbusch, Alexandre Mann	62	5	1	1
19.	14.	Athena Capital Advisors	Lincoln, Mass.	Lisette Cooper, Leonard Lewin	42	14	2	2
20.	NR	Sontag Advisory	New York	Michael Delgass, Howard Sontag	1257	9	1	1
21.	NR	Carson Group	Omaha, Neb.	Ron Carson, Aaron Schaben	10,502	110	52	28
22.	18.	Savant Capital Mgmt	Rockford, Ill.	Brent R. Brodeski, Richard A. Bennett	4,259	41	13	3
23.	20.	RMB Capital Mgmt	Chicago	Richard M. Burridge, Jr., Frederick Paulman	2,277	21	17	12
24.	NR	Churchill Mgmt Group	Los Angeles	Fred A. Fern, Randy C. Conner	5,157	38	11	14
25.	NR	Frontier Investment Mgmt	Dallas	Gary Schoen, Richard Sowden	1,257	20	7	5
26.	NR	WMS Partners	Towson, Md.	TImothy W. Chase, Pace Kessenich	298	23	1	1
27.	NR	Signature Family Wealth Adv	Norfolk, Va.	Randy Webb, Anne Shumadine	165	11	3	1
28.	NR	Ferguson Wellman Capital Mgmt	Portland, Ore.	Jim Rudd, Steve Holwerda	783	21	1	1
29.	NR	Summit Trail Advisors	New York	Jack B. Petersen, David Romhilt	270	14	4	4
30.	NR	Joel Isaacson	New York	Joel S. Isaacson, Stanley Altmark	883	16	1	1

NR=Not ranked.

72. The effort included determining estate taxes, insurance, liquidity needs, entity structures, legal jurisdictions, and financial goals for each client. "All those pieces of their puzzle were defined and put on the table, and with the matriarchs and patriarchs, we began to put the pieces together," says Francais. "It took us almost five years, while we were also managing their [regular financial] affairs."

Aspiriant is the product of a 2008 merger between Francais' Quintile Wealth Management, in Los Angeles, and San Francisco–based wealth manager Kochis Fitz. The firm has since absorbed several others, all of which have adopted the Aspiriant brand.

Aspiriant touts a fiduciary, client-centered culture. And Francais and his colleagues believe big firms like theirs can, and should, do more to exercise their fiduciary responsibility. For small advisory firms, being a fiduciary might simply mean choosing successful, cost-competitive investment managers for clients.

Aspiriant decided a few years ago that its size allows it to best serve clients by creating its own mutual funds. Subadvised by top outside managers, the three funds feature low costs and tax advantages that are unavailable in comparable outside funds. The in-house funds have raised eyebrows in the fiduciary advisor community because of the potential appearance of a conflict of interest. But Francais insists they're not a money-maker for the firm, and says clients encouraged the firm to create them.

It hasn't been easy building Aspiriant as an independent, holistic, fiduciary firm, while continually integrating outside firms into the company. But having done the hard work, Francais and company now own a competitive advantage. "From our culture to our core values to our succession model, I could give you a playbook and I'd still have an advantage," Francais says, "because we've worked through the execution."


Jason Dailey for *Barron's*
Mariner Holdings' Martin Bicknell used the 2008 market crash to acquire advisors.

Mariner Holdings

Headquarters: Overland Park, Kan.
Offices: 26
Clients: 14,000
2017 Top RIA Firm Rank: 2

For Mariner, the years following the 2008 market crash represented a massive opportunity to acquire advisors shed by Wall Street firms walloped by the crisis.

"We made a conscious decision to just go get talent," says CEO Martin Bicknell. "Some of the people we were able to attract wouldn't have picked a firm of our age and size, if not for that turmoil."

In 18 months, Mariner grew its advisor base by 250%, setting itself up for swift growth. Mariner's wealth management unit now has $16.8 billion in assets under management, while its parent company, Mariner Holdings, manages almost $42 billion, including asset-management positions.

The foundation of the business, Bicknell says, is a commitment to putting clients' needs first. It's something he learned early in his career at A.G. Edwards, the regional securities firm acquired by Wachovia Securities in 2007. "Watching how Ben Edwards put clients first molded our approach to Mariner from the beginning," Bicknell says.

The firm stands out in the investing landscape because of its willingness to steer an appropriate portion of clients' capital into investments with liquidity premiums such as private equity, real estate, and debt. "We're firm believers that before you start your asset allocation, it's really important to understand the liquidity portion and what percentage of assets can be tied up based on your net worth, objectives, and time horizon," says Bicknell.

Mariner complements its investing with a well-rounded suite of wealth-management services. Those include "family-office lite" services like bookkeeping or tax preparation. "A lot of times we do work for a [modest] retainer that has nothing to do with investing."

Anticipating continued growth, Mariner is focused yet again on adding staff, in this case financial planners, who are in short supply throughout the industry. "Our favorite way to do this is to find young educated talent and train them from scratch," says Bicknell.

The firm guards against the cultural decay that can set in with big companies. "We talk about accountability all the time," he says. "We all have a responsibility to police the firm."

Like many other large RIA firms, Mariner is an active acquirer of smaller firms that lack succession plans, are being squeezed by competition and regulation, or both. It has acquired nine firms in the past five years.

Mariner handles back-office functions for its acquired practices—regulatory compliance, human resources, technology—and shows them how to improve their service and grow their businesses. Starting two years ago, it has insisted that newly acquired practices adopt the Mariner brand. "We used to be of the belief that it didn't matter," says Bicknell. But client confusion over multiple brands prompted the firm to change course.

One part of the business Bicknell is particularly proud of is the fact that outsiders want to work there. "Most of the people at this firm came to us because they knew someone inside the firm, even with most of our acquisitions," he says. "To me, that's a great sign that people are trying to surround themselves with people like them."

Carson Group

Headquarters: Omaha, Neb.
Offices: 52
Clients: 10,502
2017 Top RIA Firm Rank: 21

You wouldn't think that an advisory firm would openly offer clients the option of switching to a lower-fee service model. And you sure wouldn't think they would make the process easy. But that's exactly what Carson Group plans to do starting next year.

"People don't want to feel trapped," says CEO Ron Carson.

That Carson's firm is an innovator comes as no surprise to those who know him.

In junior high school, Carson ran a scheme in which he imported fireworks from China, brought them to school, and sold them to other kids.

While wealth management is a less explosive business, Carson gives his team a high degree of autonomy and direct stakes in the company's success. Nearly 60% of the team members participate in equity compensation plans. "We all feel like we're owners in the business," says Teri Shepherd, Carson's chief financial officer and chief operating officer.

Carson Group also has a sister company in which 11 executive business coaches work with over 5,000 advisors at more than 1,200 firms. The feedback from these coaches helps Carson stay on the edge of innovation. "It's a huge advantage to have such real-time intelligence coming in daily," he says.

Carson Group's pivotal moment came in 1994, when its founder attended an informational meeting about an innovation known as fee-based accounts. "I came out of that meeting going, 'This is going to be huge,' " he recalls.

Carson would end up splitting from his business partner and going all-in on the fee-based approach, which enables a more holistic wealth-management approach. The move ended up benefiting clients and the business alike. "We are able to tell the client that there are no hidden fees, no backdoor payments, nobody making anything off them that they're not aware of," says Carson. "And there's no conflict of interest in the way we're delivering advice."

Such thinking is behind the current plan to let clients easily change service tiers. By empowering clients, the firm is also helping to ensure that they don't leave Carson altogether.

"Today, if a traditional client is not happy with what they're getting for what they're paying, they need to have an uncomfortable conversation about their fee, or leave the firm," says Carson. "By the end of 2018, they'll be able to move up or down the value chain without friction."

Using an online tool, clients will move to or from a traditional, full-service relationship with a higher fee; a cheaper "bionic" relationship involving a robo-advisor and less human contact; and a pure digital platform. They'll also be able to choose a percentage-of-assets fee or a retainer fee for each service tier.

On the investment front, Carson believes that patience and planning trump stock-picking. "Investor behavior, and not what you own, is going to drive your success," he says. "That's why the planning and service model is critical." ■


Chris Council for *Barron's*
Ron Carson, of Carson Group, is making it easy for clients to choose the option of switching to a lower-fee service model.

What clients of independent advisors need to know about the industry's consolidation.

The Changing Indie Landscape

by Cheryl Winokur Munk

Dan Picasso for *Barron's*

Years ago, an advisor could hang out a shingle as a registered investment advisor and run a business with relatively little fanfare. That's no longer the case, given consolidation, increased reliance on expensive technology, the proliferation of robo-advisors, price compression, and shifting demographics. These factors have significantly changed—and continue to alter—the landscape for mom-and-pop independent advisors and their clients.

While small RIAs aren't likely to disappear altogether, the shifting tide makes it imperative for clients to be more circumspect. It's especially important for investors working with a solo advisor to ask pointed questions about his or her succession plans, fees, and the quality of services they are receiving compared with what's available in the broader marketplace, industry participants say.

The appeal of mom-and-pop shops is that they work for themselves and they work directly for you, says Judith Lu, managing director at Miracle Mile Advisors, an RIA in Los Angeles. But investors need to balance the desire to receive objective and independent advice with an advisor's ability to devote time and resources to them.

Striking the right balance can prove challenging for small firms that are "slaves to operations," Lu says. "It's something very important for clients to keep in mind when they are reviewing their advisor relationships."

Some industry watchers compare what's happening in the RIA industry to what has already occurred in many service industries, including accounting, legal, and medical—even the funeral-home business. Larger players dominate, but some small firms are still able to carve niches for themselves.

"There will always be mom-and-pop shops—there just may be fewer," says Mark Tibergien, CEO of Pershing Advisor Solutions, a unit of Bank of New York Mellon.

The vast majority of RIA firms are small businesses, but the desire for scale is one factor propelling mergers and acquisitions within the industry. During the first half of 2017, there were 52 deals involving RIAs with more than $50 million of assets under management, according to data compiled and analyzed by Charles Schwab Advisor Services. If the pace continues, deal making this year could surpass a record 94 transactions in 2016. By contrast, there were 84 deals in 2015 and 54 in 2014.

Of course, this deal-making activity represents only a small sliver of the overall RIA industry. There are 12,172 federally registered investment-advisory firms, up 2.7% from a year earlier, according to a 2017 report by the Investment Adviser Association, a not-for-profit organization that represents Securities and Exchange Commission–registered investment advisors. There are also about 17,500 state-registered investment advisory firms, according to the North American Securities Administrators Association.

While the business can certainly be challenging for smaller shops, Charles (Chip) Roame, managing partner at Tiburon Strategic Advisors in Tiburon, Calif., predicts that small firms will continue to have a place in the overall RIA ecosystem. He notes that many industry participants believe that the RIA landscape will eventually evolve to 10 to 20 national firms, 50 to 60 super-regional firms, plus hundreds of small practices.

Certainly, consolidation is expected to continue, especially as business pressures weigh on smaller shops. "The infrastructure needed to run a business now is really much greater than it was many years ago. The environment is more complex," says Karen L. Barr, president and CEO of the Investment Adviser Association.

To be sure, technology has made it easier for small firms to provide more-comprehensive advice, but it's expensive to keep up with, and that places an additional strain on smaller shops. As a layperson, it's difficult if not impossible to perform a comprehensive assessment of an advisor's technology platform, but it is still important to get a feel for how he or she approaches the subject.

"If you ask the question, part of what you are really looking for is to see if the person has thoughtfully considered that technology is important," says Michael A. Yoshikami, a certified financial planner and the CEO of Destination Wealth Management, an RIA in Walnut Creek, Calif.

Even if a small advisor can afford cutting-edge technology, regulations and compliance can still be a sticking point. "Whatever time you saved with technology, you're now giving back in terms of the time spent on legal and compliance issues," says Lu of Miracle Mile Advisors.

To be sure, there are downsides for clients when an RIA shop gets too big. "The risk is that…they start to look more like shareholder-driven institutions that care more about investor returns than client returns," says Tibergien of Pershing Advisor Solutions. So far, this scenario hasn't played out in RIAs. Even though industry consolidation has occurred, RIAs generally have not yet grown so large that the focus has shifted away from clients, he says.

"The clients want a mom-and-pop feel even when they are working with larger organizations," says Susan C. Kaplan, a certified financial planner and president of Kaplan Financial Services, an advisory firm in Newton, Mass. "They want the personal relationship."

Another factor weighing on the industry is fee compression. Advisory costs have come down over the past decade, but Tibergien of Pershing Advisor Solutions points out that this is mostly because mutual funds and custodians have dropped their fees. Competitive pressure from larger firms, cost-savvy consumers, and increased access to digital solutions could put further pressure on fees in the coming years, he says.

Roame of Tiburon Strategic Advisors expects investors to have more negotiating power in the future over the fees they pay. For small firms, this will mean the need to serve more clients, better deploy technology, or take less pay home if they maintain the same workload, he says.

Fees as a percentage of assets fell in 2016 to 1.13%, down from 1.16% in 2015, according to PriceMetrix's most recent state of retail wealth management report. PriceMetrix notes that this decline follows several years of stability, raising concerns that advisors may be succumbing to the price pressure from new wealth management competitors, such as robo-advisors. For new accounts, fees have fallen even further, to 1.07% in 2016 from 1.15% in 2013, PriceMetrix data show.

It's hard for many small RIAs that are trying to be all things to all clients, especially given fee compression and lower margins. Indeed, with the robo trend in full swing, investment advisors need to show clients what value they provide besides just access to a very generic portfolio.

The challenges for small firms are being exacerbated by the fact that many advisors working in smaller shops are nearing retirement and don't have successors lined up, says Rob Clarfeld, founder, president, and CEO of Clarfeld Financial Advisors, a registered investment advisor in Tarrytown, N.Y.

Data from Cerulli Associates show that the average age of an independent advisor is 52. With a sizable percentage of advisors expected to retire within the next decade, clients need to understand their advisors' game plan—and whether they even have one. Clients also must ensure that their advisor has a business continuity plan if something unexpected happens to their advisor.

To address this issue, some advisors are putting a process in place in which they double-team each client so there are two people on every relationship, says Barr of the Investment Adviser Association.

Clearly, it's a delicate balancing act for investors and advisors working for very small shops. Investors need to ensure that their needs are being met, taking into account a variety of factors, while advisors need to focus on keeping pace in an ever-changing market. "You have to have an offering that's competitive. People enjoy relationships—to a point," says Yoshikami of Destination Wealth. ■

BARRON'S • SPECIAL SUPPLEMENT

THE TOP 100 INDEPENDENT FINANCIAL ADVISORS

Here are America's top independent financial advisors, as identified by *Barron's*. The ranking reflects the volume of assets overseen by advisors and their teams, revenues generated by those assets, and the quality of the advisors' practices. The scoring system assigns a top score of 100, and rates the rest by comparing them to the top advisor. A ranking of "N" indicates the advisor was not ranked in the specified year.

RANK '17	RANK '16	Name	Firm	Location	Retail (Up to $1 mil)	High Net Worth ($1-10 mil)	Ultrahigh Net Worth ($10 mil+)	Founda-tions	Endow-ments	Institu-tional	Team Total Assets ($ mil)	Typical Account Size ($ mil)	Typical Net Worth ($ mil)	Score
1.	3.	Spuds Powell	Kayne Anderson Rudnick Inv Mgmt	Los Angeles		•	•	•			$15,339	$7	$15	100.000
2.	4.	Robert A. Clarfeld	Clarfeld Financial Advisors	Tarrytown, N.Y.		•	•	•			7,300	20	80	99.972
3.	9.	Greg Miller	Wellesley Asset Mgmt	Wellesley, Mass.	•	•	•			•	2,671	2	5	99.956
4.	6.	Charles Zhang	Zhang Financial	Portage, Mich.	•	•	•	•			3,240	2	3	99.955
5.	5.	Richard Saperstein	HighTower	New York		•	•				9,391	15	40	99.851
6.	8.	Michael Nathanson	The Colony Group	Boston	•	•	•				5,841	3	8	99.663
7.	7.	Edward (Ted) Cronin	Manchester Capital Mgmt	Montecito, Calif.		•	•	•			3,265	25	60	99.385
8.	10.	David Lees	myCIO Wealth Partners	Philadelphia		•	•				6,185	29	35	99.328
9.	13.	Ted Neild	Gresham Partners	Chicago			•				6,555	58	63	98.950
10.	14.	Michael Yoshikami	Destination Wealth Mgmt	Walnut Creek, Calif.	•	•	•				2,095	2	8	98.376
11.	11.	Jon Goldstein	First Republic Investment Mgmt	Menlo Park, Calif.		•	•				7,778	50	100	98.311
12.	15.	Stephan Cassaday	Cassaday & Co.	McLean, Va.	•	•	•				2,234	1.5	2	97.987
13.	19.	Paul Tramontano	First Republic Investment Mgmt	New York			•				7,778	25	50	96.741
14.	20.	Valerie Newell	RiverPoint Capital Mgmt	Cincinnati	•	•	•				2,497	4	8	96.722
15.	24.	Robert J. Skinner II	First Republic Investment Mgmt	Menlo Park, Calif.		•	•	•			15,152	50	100	96.215
16.	17.	David Kudla	Mainstay Capital Mgmt	Grand Blanc, Mich.	•	•	•			•	2,126	0.5	4	96.212
17.	N	Richard Joyner	Tolleson Wealth Mgmt	Dallas		•	•				5,100	34	77	96.088
18.	21.	Kimberlee Orth	Ameriprise Financial	Wilmington, Del.	•	•	•				1,762	4.55	11.51	95.958
19.	N	Paul Pagnato	PagnatoKarp	Reston, Va.		•	•				3,432	15	20	95.798
20.	30.	Erik Morgan	Freestone Capital Mgmt	Seattle	•	•	•				3,853	3.97	8.02	95.341
21.	16.	Shannon Eusey	Beacon Pointe Advisors	Newport Beach, Calif.	•	•	•	•	•		5,880	8	15	95.058
22.	18.	Grant Rawdin	Wescott Financial Adv Group	Philadelphia	•	•	•	•		•	1,857	5.8	21.5	94.681
23.	42.	David Wright	Sierra Investment Mgmt	Santa Monica, Calif.	•	•					2,609	1.4	3	94.641
24.	40.	Robert Balentine	Balentine	Atlanta		•	•	•		•	2,561	16	25	94.337
25.	34.	Dale Yahnke	Dowling & Yahnke	San Diego		•	•	•			3,638	3.2	20	94.266
26.	25.	Susan Kaplan	Kaplan Financial Services	Newton, Mass.		•	•				1,726	3.5	10	94.227
27.	N	Kevin Grimes	Grimes & Co.	Westborough, Mass.	•	•	•				2,223	3.5	7	93.898
28.	28.	Jeffrey Colin	Baker Street Advisors	San Francisco		•	•	•			6,636	20	30	93.893
29.	36.	Kenneth Moraif	Money Matters with Ken Moraif	Plano, Texas	•	•					3,850	0.5	1	93.433
30.	22.	Joshua Gross	Mill Creek Capital Advisors	Conshohocken, Pa.		•	•	•	•	•	5,206	20	40	93.365
31.	27.	Steven Weinstein	Altair Advisers	Chicago		•	•				4,225	10	30	93.153
32.	53.	Daniel Wiener	Adviser Investments	Newton, Mass.	•	•	•				5,057	0.45	1.3	93.066
33.	39.	Kevin Timmerman	Steele Capital Mgmt	Dubuque, Iowa	•	•				•	1,827	0.7	3	92.814
34.	33.	Laila Pence	Pence Wealth Mgmt	Newport Beach, Calif.	•	•	•				1,581	2	5	92.276
35.	N	David Hou	First Republic Investment Mgmt	Los Angeles		•	•	•			15,152	40	100	92.150
36.	43.	Michael Chasnoff	Truepoint Wealth Counsel	Cincinnati		•	•				2,573	5	8	91.481
37.	35.	Randall Linde	Ameriprise Financial	Renton, Wash.	•	•	•			•	2,153	0.86	2.5	91.410
38.	52.	Clarke Lemons	WaterOak Advisors	Winter Park, Fla.	•	•	•	•			1,749	3	6	91.210
39.	41.	James B. Stack	Stack Financial Mgmt	Whitefish, Mont.	•	•	•				1,185	1.5	5	91.142
40.	61.	Charles Brighton	Brighton Jones	Seattle	•	•	•				4,327	3	5	91.043
41.	62.	Jon Jones	Brighton Jones	Seattle	•	•	•				4,327	3	5	91.003
42.	37.	Gary Ran	Telemus Capital	Southfield, Mich.	•	•	•				2,136	3.53	8	90.974
43.	49.	John M. Krambeer	Camden Capital	El Segundo, Calif.		•	•	•		•	1,855	15	30	90.802
44.	48.	Brian Holmes	Signature Estate & Inv Adv	Los Angeles		•	•	•		•	6,835	8	24	90.779
45.	55.	John Waldron	Waldron Private Wealth	Pittsburgh		•	•				1,423	10	25	90.649
46.	50.	Alex Shahidi	Advanced Research Inv Solutions	Beverly Hills, Calif.			•	•		•	11,210	20	25	90.013
47.	75.	Shawn Parker	Ameriprise Financial	Schaumburg, Ill.	•	•	•				2,000	2.5	5	86.000
48.	51.	Roger Wade	GW & Wade	Wellesley, Mass.	•	•	•				5,972	0.73	2.58	85.920
49.	46.	Jonathan Kuttin	Ameriprise Financial	Melville, N.Y.	•	•	•				1,578	0.95	3.9	85.874
50.	N	Sarat Sethi	Douglas C. Lane & Associates	New York		•	•				4,886	3.9	10	85.844
51.	59.	Jordan Waxman	HighTower	New York		•	•				2,200	25	50	85.565
52.	69.	Richard S. Brown	JNBA Financial Advisors	Minneapolis	•	•	•				1,332	1.5	2	85.550
53.	56.	Daniel Roe	Budros, Ruhlin & Roe	Columbus, Ohio	•	•	•				2,637	3.5	4.5	85.460
54.	76.	Jeffrey Grinspoon	HighTower	Vienna, Va.		•	•			•	1,688	4	8	85.449
55.	N	Daniel Wilson	Ameriprise Financial	Auburndale, Mass.	•	•					2,163	0.33	2.75	85.310
56.	72.	Randolph Peterson	First Republic Inv Mgmt	San Francisco	•	•	•				3,879	8	12	85.290
57.	67.	Lawrence Hood	Pacific Portfolio Consulting	Seattle	•	•	•			•	3,345	12.16	15.93	85.261
58.	83.	Frank Reilly	Reilly Financial Advisors	La Mesa, Calif.	•	•				•	1,794	1	3.5	85.247
59.	65.	Charles Simmons	Ameriprise Financial	Metairie, La.	•	•				•	1,834	0.75	1.8	85.030
60.	N	Dagny Maidman	First Republic Inv Mgmt	San Francisco		•	•		•		1,528	30	60	84.955
61.	54.	Lewis Altfest	Altfest Personal Wealth Mgmt	New York	•	•	•				1,272	2	5	84.936
62.	77.	Frank Marzano	GM Advisory Group	Melville, N.Y.		•	•	•		•	1,406	8	30	84.928
63.	44.	Gerard Klingman	Klingman & Associates	New York		•	•				1,886	10	15	84.887
64.	57.	William Rice	Anchor Capital Advisors	Boston		•				•	9,072	0.25	1	84.874
65.	60.	Chuck Bean	Heritage Financial Services	Westwood, Mass.	•	•	•				1,255	2	3	84.742
66.	71.	Randy Carver	Raymond James	Mentor, Ohio	•	•			•		1,193	1	1.6	84.644
67.	63.	Pamela Rosenau	HighTower	Los Angeles	•	•	•				1,067	10	30	84.571
68.	70.	Rick Buoncore	MAI Capital Mgmt	Cleveland	•	•	•				4,295	10	25	84.507
69.	64.	Jim Berliner	Westmount Asset Mgmt	Los Angeles	•	•	•				2,691	3	8	84.499
70.	45.	Robert Fragasso	Fragasso Financial Advisors	Pittsburgh	•	•	•	•		•	1,252	0.87	1.75	84.477
71.	58.	Erin Scannell	Ameriprise Financial	Mercer Island, Wash.	•	•					1,698	0.3	1	84.440
72.	68.	William Cafero	RCL Advisors	New York		•	•				1,798	10.01	48	84.385
73.	95.	Glenn Degenaars	First Republic Inv Mgmt	New York		•	•				9,513	10	15	84.305
74.	80.	Debra Wetherby	Wetherby Asset Mgmt	San Francisco		•	•				4,700	25	40	84.294
75.	N	Michael Genovese	Genovese Burford & Brothers	Sacramento	•	•	•			•	3,505	0.85	2.5	84.227
76.	73.	Kevin Myeroff	NCA Financial Planners	Cleveland	•	•	•	•			1,457	3	5	84.220
77.	82.	John Lesser	Plante Moran Financial Advisors	Auburn Hills, Mich.		•	•				12,804	21.1	91	84.175
78.	38.	Mark Orgel	Orgel Wealth Mgmt	Altoona, Wis.	•	•	•			•	4,246	2.19	6	84.137
79.	N	Matthew Dillig	HighTower	Chicago			•				1,600	35	50	84.095
80.	96.	Andrew Rand	Rand & Associates	San Francisco	•	•	•	•			1,150	3.5	6	84.002
81.	47.	John Henry	OBS Financial Services	Perrysburg, Ohio	•	•				•	1,717	0.25	1	83.902
82.	88.	Paul C. Carbetta II	Ameriprise Financial	Worthington, Ohio	•	•					3,331	0.54	1.62	83.826
83.	81.	Matthew Young	Richard C. Young & Co.	Newport, R.I.	•	•	•				1,045	1.75	5	83.824
84.	66.	Scott Tiras	Ameriprise Financial	Houston	•	•	•				1,728	2	4	83.762
85.	89.	James Meredith	Hefren-Tillotson	Pittsburgh	•	•	•			•	1,525	1.19	4.2	83.675
86.	N	Santiago Ulloa	WE Family Offices	Miami			•				6,465	198	198	83.598
87.	N	Ronald Weiner	HighTower	Westport, Conn.	•	•	•			•	788	3.5	7	83.482
88.	N	Paul Kropatsch	Ameriprise Financial	Thornton, Colo.	•	•					1,311	0.39	1.3	83.350
89.	91.	Kevin VanDyke	Bloomfield Hills Financial	Bloomfield Hills, Mich.	•	•				•	1,131	2	4	83.331
90.	N	Wes Moss	Capital Investment Advisors	Atlanta	•	•					1,932	1.4	2.3	83.271
91.	84.	Andy Berg	Homrich Berg	Atlanta	•	•	•			•	4,720	3	7	83.222
92.	74.	Malcolm Makin	Raymond James	Westerly, R.I.	•	•	•		•		1,188	1.5	3	83.211
93.	85.	George Papadoyannis	Ameriprise Financial	San Mateo, Calif.	•	•	•				4,500	2	7.5	83.180
94.	87.	Van Pearcy	Raymond James	Midland, Texas	•	•				•	1,507	3	10	83.075
95.	92.	Joseph Jacques	Jacques Financial	Rockville, Md.	•	•				•	734	0.8	1.5	83.066
96.	N	Dalal Salomon	Wells Fargo Advisors FiNet	Richmond, Va.	•	•	•				1,066	5	15	83.065
97.	78.	Wally Obermeyer	Obermeyer Wood Inv Counsel	Aspen, Colo.	•	•	•				1,560	3	10	82.973
98.	N	Stephen Thomas	Linden Thomas & Co.	Charlotte, N.C.	•	•	•	•	•	•	1,372	3	7	82.853
99.	N	Leo Marzen	Bridgewater Advisors	New York	•	•	•				1,305	5	10	82.730
100.	N	Darrell Pennington	Ameriprise Financial	Houston	•	•					971	1.5	2.5	82.711

N=Not Ranked. Note: For more information on *Barron's* Top Advisors, contact Matt Barthel at *matthew.barthel@barrons.com*.

Barron's publishes four financial advisor rankings each year: The Top 100, The Top 100 Women, The Top 100 Independents, and The Top 1,200, which is a state-by-state list. The process of being ranked in *Barron's* starts with filling out a detailed online survey.
For information about our nominations process and the online survey, please contact Jennifer Pedone, manager of FA Research: *Jennifer.Pedone@barrons.com*.

Q&A With Mark Tibergien, Chief Executive Officer, Pershing Advisor Solutions

The Future of RIAs

By Cheryl Winokur Munk

Barron's recently caught up with Mark Tibergien, CEO of Pershing Advisor Solutions, a Bank of New York Mellon company. Pershing is one of the country's leading custodians for registered investment advisors and family offices. Tibergien is an RIA industry veteran with significant experience in providing business management, transition planning, and strategic advice to the financial advisor community. The following is an edited transcript of the discussion.

Lucien Knuteson for *Barron's*

***Barron's*: What changes do you expect to see in the coming three years in the RIA industry?**

Tibergien: What we're experiencing now is an accelerating of the evolution of the fiduciary advisory model. It has been a cottage industry for the past 30 years, but now we're seeing more professionally managed firms versus individual practices. We're also seeing a trend in the marketplace of financial and strategic consolidation—creating bigger enterprises than ever before.

Where is the fiduciary standard likely to settle out? And what will it mean for clients in the coming years?

The fiduciary standard already exists for RIAs. So the question is whether Finra-regulated broker-dealers will have to comply with something similar. Regardless of whether the Department of Labor rule goes forward, clients want more transparency, and they want to know that their advisors are acting in their best interests.

What are likely to be the most significant financial-technology developments in the coming 36 months, and what do they mean to clients?

There will be more recognition that people's relationship with money is not just an algorithm; it's about feelings. More advisors will adopt the convenience of robo platforms, but they will also have to ensure there's a human element, as well.

Some people may want only a digital experience. But the vast majority of consumers want to know that there's somebody competent on the other end. Client interactions in the future will combine a powerful digital experience with the human touch.

What will the industry look like when consolidation has run its course, and what do you think will be the general timeframe for this?

This is a very long timeline—at least 10 years. We will see 10 to 12 national RIA firms and 50 to 60 super-regional RIA firms. Consumers will have access to a greater depth of resources, and they will work with brand-name firms.

Advisors will take more of a team approach, as opposed to an individual approach. This means that clients will have a more robust way in which to obtain guidance, as well as having some insurance that if something happens to their advisor, they will still be in good hands.

How is pricing going to change in the coming years, and what forces are likely to shape these changes?

Consumers won't want to pay higher costs unless the advisor can demonstrate value. Our decisions around money are not just about money. Let's say I'm buying a car. I can choose a cheap economy car because that's all I need to get around town. Or I can get a BMW or Mercedes or Lexus or Tesla because I like how it makes me feel. No one buys a Honda Civic because it makes them feel fast or cool.

In the advisory world, if all I'm delivering is an asset-allocation model for mutual funds, it gets clients to a destination, but it's only one stepping stone in the journey to help them achieve their goals. Consumers won't be willing to pay a premium for basic service levels.

Clients are also going to want to have more transparency about the all-in costs, not just the costs of advice. They will want to know who is getting paid for what and how that is affecting them as a buyer of financial services. You're starting to see this in some cases, but it's nowhere near where it will be within three years. Going forward, we'll have more-informed consumers who are going to know what questions to ask.

Is there a crisis of succession in the indie-advisory space?

There is absolutely a crisis of succession. The typical advisor has a death-grip on his or her practice. They are extremely protective of client relationships and feel they didn't get into the business to train young advisors. That's one reason for consolidation picking up steam. Bigger firms can provide a more structured approach to addressing the succession issue.

What does the RIA practice of the future look like?

It's going to be more of an ensemble than a solo. There will be greater ethnic, racial, age, and gender diversity. For the most part, it will be planning-forward rather than investing-forward, meaning that conversations will begin with a client's goals rather than with the expected returns. Also, financial advisors are going to become more like teachers and guidance counselors than pure money managers. Many young clients have a different attitude about money than their parents or grandparents did. It's a matter of helping clients understand how their life choices will impact their ability to achieve financial independence. ■

There are big changes in the upper reaches of our annual listing, including a new No. 1. What it takes to make the grade.

Indie 100: Shaking Up the Ranks of Advisors

by Matthew Barthel

As the Top 100 Independent Advisors ranking enters its second decade, the industry is undergoing a monumental change, which our list is starting to reflect.

For starters, the 2017 Top 100 features a new No. 1 advisor—Spuds Powell, of Kayne Anderson Rudnick Investment Management in Los Angeles. But this year's list might be as notable for its absences as it is for those making jumps.

In recent years, several of the nation's top independent advisors have graduated into management roles—usually in response to the rapid growth and success of their practices. Many of them still see clients, even as their management roles expand. But executive responsibilities make them different than many of the advisors on the Top 100 list, and to acknowledge that, we created the Top RIA Firm ranking, which is on page S7.

This year, two advisors left the Top 100 Independent Advisors ranking—Churchill Management Group's Fred Fern and Carson Group's Ron Carson. More are expected to follow as their practices grow in the coming years. (For a full accounting of advisors who have graduated to the firm list, see the chart on page S4.)

Even as independent advisory firms grow in size and influence, individual advisors like the ones on the Top 100 are in a unique position to affect the lives of their clients.

As in years past, this year's Top 100 is based on a 102-question survey that queries advisors about everything about their practices—from the investments they favor to the number of clients they serve and the size and structure of their staffs. The rankings formula is based on three general categories of factors: assets, revenue, and quality of practice. There are multiple factors and calculations in each of these categories.

Investment performance is not an explicit rankings criterion, because the returns experienced by clients are affected by their appetite for risk. Still, returns come into play indirectly, as assets under management and revenue rise and fall with an advisor's ability to deliver results that meet client expectations.

In addition to Spuds Powell, several other advisors made impressive moves this year, including first-time Top 10 advisors Ted Neild of Gresham Partners and Michael Yoshikami of Destination Wealth Management. Other big movers included: David Wright of Sierra Investment Management, up 19 spots to No. 23; Robert Balentine of Balentine, up 16 spots to No. 24; Daniel Wiener of Adviser Investments, up 21 places to No. 32; and Clarke Lemons of WaterOak Advisors, up 14 spots to No.38.

As a group, the Top 100 indie advisors continues to skew older, with an average age of 55.4 years, up from 51.6 years in 2012. They also are more experienced, with an average tenure in the industry of 28.3 years, compared with 24.6 years five years ago.

The Top 100's growth in assets under management was over 15% this year, up substantially from last year's 6.8%, and solidly greater than the average growth of 12.8% since 2012. That number includes both investment gains and assets acquired via acquisition of new clients or additional money from existing clients.

As a group, the Top 100 indie advisors are taking on more clients, with an average of 1,144 household relationships this year, versus 929 five years ago. They also are reducing their account minimums, dropping to $2.9 million from $3.8 million in 2012.

These two statistics might suggest the top advisors are attracting lower net-worth clients. In fact the opposite is true. The net worth of a typical client of a Top 100 advisor is now $20.2 million, as opposed to $17.8 million in 2012. ■