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THE WALL STREET JOURNAL.

DOW JONES | News Corp *****

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What's News

Business & Finance

IBM agreed to buy software-and-services company Red Hat for \$33 billion in a deal CEO Rometty hopes will boost a cloud-computing business central to her efforts to revive the tech giant. **A1**

◆ Investors are selling the shares of firms that hit quarterly earnings expectations, a sign of concern over how long the good times can last for U.S. corporations. **A1**

◆ Investors in **GE** are bracing for the company to slash or suspend its dividend this week. For some, such a cut may come as a relief. **B1**

◆ American farmers hit by the U.S.-China trade battle are preparing to reshape the U.S. Farm Belt by planting more corn and less soybeans next year. **B1**

◆ Countries are stepping up efforts to levy new taxes on tech companies such as Facebook and Alphabet. **B1**

◆ A retirement investment product, annuity sales, is flourishing thanks to the death of a regulation once expected to curtail it. **B1**

◆ Chinese companies are setting up shop in the U.S. to obtain the scrap paper and plastic Beijing has deemed too dirty to import. **B9**

◆ The CFPB plans to redo rules to curb payday loans, aiming to impose fewer restrictions on the industry. **B3**

World-Wide

◆ The ambush that left 11 worshippers dead in what is considered the worst anti-Semitic attack in U.S. history has put synagogues on lockdown and laid bare an active online world of hate postings. **A1, A6, A8**

◆ An ex-army captain won Brazil's presidential election, shifting Latin America's largest nation sharply to the right. **A1**

◆ Merkel's government suffered a new blow after both her party and its coalition partner had election losses in one of Germany's wealthiest states. **A10**

◆ Owners of forest land hit by Hurricane Michael are grappling with at least \$1.6 billion in timber losses. **A3**

◆ Israel has conducted an aggressive military campaign across Syria against Iran-backed militia groups. **A10**

◆ A Lion Air Boeing 737 carrying 188 people crashed shortly after take-off from Jakarta. **A16**

◆ Pope Francis said the Catholic Church is being persecuted through accusations, an apparent allusion to clerical sex-abuse scandals. **A10**

◆ The Boston Red Sox won their fourth World Series championship in 15 years, beating the Los Angeles Dodgers 5-1 in Game 5. **A20**

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Mourners gathered at Soldiers & Sailors Memorial Hall and Museum in Pittsburgh on Sunday at a ceremony for victims of the shooting at the Tree of Life Synagogue, where a gunman killed 11 people the day before. The shooter was charged with 29 federal counts.

Grieving Pittsburgh Mourns Victims

By JOSEPH DE AVILA
AND SADIE GURMAN

PITTSBURGH—The ambush that killed 11 people and injured six in what is considered the deadliest anti-Semitic attack in U.S. history has put synagogues across the country on lockdown and laid bare an active online world of hate postings.

Robert Bowers, 46 years old, is accused of storming the Tree of Life synagogue Saturday morning with a semiautomatic assault-style AR-15 rifle

and three handguns and shooting worshipers during Shabbat services.

The suspect, who didn't have a criminal record beyond a 2015 traffic citation, expressed hatred for Jews in posts on social media and yelled "all Jews must die" during an exchange of gunfire with police, a law-enforcement official said.

The victims, who ranged in age from 54 to 97, included a husband and wife, and two brothers. Many regularly attended services and were the

Attack Aftermath

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first to arrive at the synagogue in one of the U.S.'s oldest and most deeply rooted Jewish neighborhoods. A vigil for the victims Sunday evening drew thousands.

A block from the synagogue,

a makeshift memorial of flowers and vigil candles surrounded a sign reading "HATE HAS NO HOME HERE." Bouquets of flowers rested on stone walls of homes throughout the neighborhood.

"We know that hatred will never divide us," Pittsburgh Mayor Bill Peduto said at a news conference Sunday morning. "We will get through this darkest day of Pittsburgh history by working together."

The U.S. charged Mr. Bowers with 29 counts, including hate-

Please turn to page A6

IBM To Buy Red Hat For \$33 Billion

Tech giant has sought to revamp by focusing on artificial intelligence and cloud computing

By JAY GREENE
AND ROBERT McMILLAN

International Business Machines Corp. agreed to buy software-and-services company Red Hat Inc. for about \$33 billion in its biggest acquisition ever, a deal aimed at helping IBM Chief Executive Ginni Rometty boost a cloud-computing business central to her efforts to revive the tech giant.

IBM rivals Amazon.com Inc. and Microsoft Corp. have jumped ahead of it in recent years in the business of providing computing power and software for rent. But Ms. Rometty said in an interview that the market is moving into a second chapter in which customers will want to work with multiple cloud providers. That should boost interest in so-called hybrid services in which companies run programs that use computing resources from their own servers and web services from IBM and others at the same time, she said.

"This is an inflection point," Ms. Rometty said.

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Red Sox Take World Series



CELEBRATE: Led by David Price's pitching and two home runs from first baseman Steve Pearce, Boston defeated the Los Angeles Dodgers 5-1, winning four out of five games. **A20**

13 Secret Steps for Harvard Admission—They May Not Help

Lawsuit reveals applicants should try to be their high school's best-ever student

By MELISSA KORN
AND NICOLE HONG

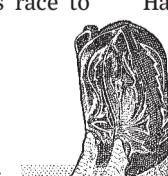
Many are watching the federal trial examining how Harvard University uses race to shape its student body as a landmark test of civil rights laws. Others just want some juicy tips on how to get in.

Harvard is one of the most selective schools in the U.S., admitting just 4.7% of the 42,749 applicants to its freshman class this year. That fierce battle for a spot has supported a cottage industry of experts helping families figure out how to craft the perfect application.

The continuing court case is providing a free peek into the secrets of gaining admission. Here's what we've learned:

Step 1: Move to Montana. Harvard's admissions office pays special attention to recruits from 20 U.S. states labeled internally as "sparse country" because students from those places, including Maine, Arizona and Montana, are relatively underrepresented on campus.

In a 1978 decision, the Supreme Court cited the importance of geographic diversity in admissions, saying, "A farm boy from Idaho can bring



Harvard steps

A block from the synagogue,

Sunday evening.

A paratrooper-turned-congressman, Mr. Bolsonaro has pledged to usher in a new era of "order and progress"—Brazil's national motto, emblazoned on its flag—luring rich and poor voters who are fed up with endemic corruption and terrified by spiraling crime.

But after years of making bellicose speeches that have often offended women, gay people and black Brazilians, as well as threatening his adversaries, Mr. Bolsonaro adopted a conciliatory tone after Sunday's result.

"You are my witnesses that this government will be a defender of the constitution, democracy and liberty and this is not just the promise of a party, or the empty words of a man, but an oath to God,"

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New Setback For Merkel

Chancellor's party and coalition partner suffer losses in key state election..... A10

INSIDE



BUILDERS LOOK OUTSIDE OF MANHATTAN

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TED SHAFFRAY/AP

BONDING WITH ROBOTS

TECHNOLOGY, B4

Markets Greet Robust Earnings With a Slap

By AKANE OTANI
AND CORRIE DRIEBUSCH

Investors are selling the shares of firms that hit quarterly earnings expectations at the highest rate since 2011, a sign of concern over how long the good times can last for U.S. corporations.

Led by the likes of Amazon.com Inc., U.S. companies are on pace to extend a streak of double-digit earnings gains this quarter. The abundance has been widely shared, with energy conglomerates, manufacturers and technology concerns alike posting large increases.

Yet this robust corporate performance has been largely overshadowed by a monthlong market retreat that has shaved trillions of dollars off the value of major U.S. stock in-

dexes. Among the firms hit have been those that posted earnings that matched or exceeded Wall Street estimates, often while offering soft sales results or mixed guidance for future periods.

It is a development that many analysts and portfolio managers take as signaling that confidence in future earnings is on the wane. Investors are pulling back from the highest-priced stocks as they weigh factors including rising labor and financing costs, questions about the continued longevity of a nine-year-old

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U.S. NEWS

THE OUTLOOK | By Jon Hilsenrath and Harriet Torry

U.S. Economy Flashes Caution Signs

What if that was as good as it gets?

The Commerce Department reported Friday that U.S. gross domestic product expanded at a 3.5% annual rate in the third quarter.

Coming off a 4.2% growth rate in the second quarter, it marked one of the best six-month stretches for the U.S. economy in the past decade.

However, private analysts and the Federal Reserve say slower growth is looming. Economists surveyed by The Wall Street Journal estimate the growth rate will slow to 2.5% by the first quarter of next year and 2.3% by the third quarter of 2019. The Fed is expecting growth to slow further to a 1.8% rate by 2021.

"We think U.S. growth may have just peaked," said Michael Gepen, chief U.S. economist for Barclays Capital, who is in Wall Street's big-slow-down camp.

Few believe a recession is near. Still, a slowdown in growth would have big implications for stocks, the central bank and President Trump. The White House says faster growth is evidence that tax cuts and its deregulatory stance are working, and that the growth acceleration they produced is sustainable.

Mr. Gepen said two big drivers of growth this year—

consumers and government spending—will slow. Consumer spending has picked up, thanks to tax cuts. He says the spending impetus from income-tax cuts tends to be greatest in the first two quarters after they're enacted, and then fades over about eight quarters. Thus, consumer-spending growth, which hit a robust 4% annual rate in the third quarter, should slow in the months ahead, though he said strong household saving and low unemployment will prevent a sharp drop-off.

In February, the White House and Congress agreed to increase federal government spending by \$300 billion above earlier spending caps. That will propel government spending for several more months, boosting growth, but the budget agreement runs out next September. That means its impact, too, will fade, unless the next Congress agrees to more.

Mr. Gepen noted that the big wild card for growth is business investment. Business tax cuts are meant to increase investment in software, plants and equipment, boosting the economy's growth rate now and its potential to grow far into the future.

The White House projection of sustained 3% growth hinges on a business-invest-

ment boom. It looked like that was happening early in the year. Business investment grew at an 11.5% rate in the first quarter, with gains across many categories, including machines, intellectual property and big structures. But it has faded since, registering just 0.8% growth in the third quarter. That includes a drop in investment in structures such as oil-and-gas rigs, which had been a big driver of growth.

"That's a worry, particularly after [businesses] got a nice big check from Uncle Sam," said Beth Ann Bovino, an economist at S&P Global Ratings.

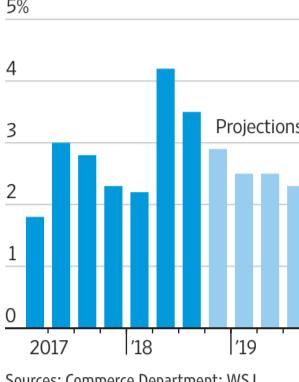
For the White House forecast to play out, business investment would have to rebound. A lower corporate tax rate—down to 21% from 35%—might help. But uncertainty about U.S. trade disputes with China and others might be making business executives wary about proceeding aggressively with new projects.

"The economy is still strong other than some of this noise introduced by the trade tariffs and whatnot," said Douglas Waggoner, chief executive of freight broker Echo Global Logistics Inc., during an earnings call Wednesday.

Growing Pains

Analysts expect GDP growth rate to retreat.

GDP growth rate



Sources: Commerce Department; WSJ Economist Survey (projections)

THE WALL STREET JOURNAL.

could face a different outcome: less growth and more inflation that requires the Fed to keep pushing rates higher.

Interest rate-sensitive sectors already show signs of wobbling. Home building has contracted in five of the past six quarters. Moreover, a stronger dollar, which raises the cost of exports to foreign buyers, could weigh on U.S. trade.

Why has the stock market stumbled of late? Mr. Gepen said investors appear to be sniffing out the slowdown in growth that economists have been calling for several months.

While earnings growth was strong in the third quarter, and many analysts still expect double-digit earnings growth through next year, some executives sound wary.

Garbage-hauling and recycling company Waste Management Inc. said Thursday that net income was up 29% from a year earlier in the third quarter, but Devina Rankin, chief financial officer, said "the economy is probably at a peak."

"There's definitely some room to go from here," she said. "But we talked about the length of growth in this economy and the expectation that it could turn from here."

ECONOMIC CALENDAR

Monday: The U.S. Commerce Department publishes **Americans' personal income and spending figures** for September.

Robust spending in the spring helped power economic growth to its strongest pace in nearly four years. Spending also propelled gross domestic product growth in the third quarter. Economists surveyed by The Wall Street Journal expect consumer spending ticked up and income continued to grow at a steady rate in September.

Tuesday: The Conference Board releases October **U.S. consumer confidence** data. In September, confidence hit an 18-year high, as robust job growth and a strong economic outlook bolstered Americans' expectations for the future. Economists think confidence fell in October.

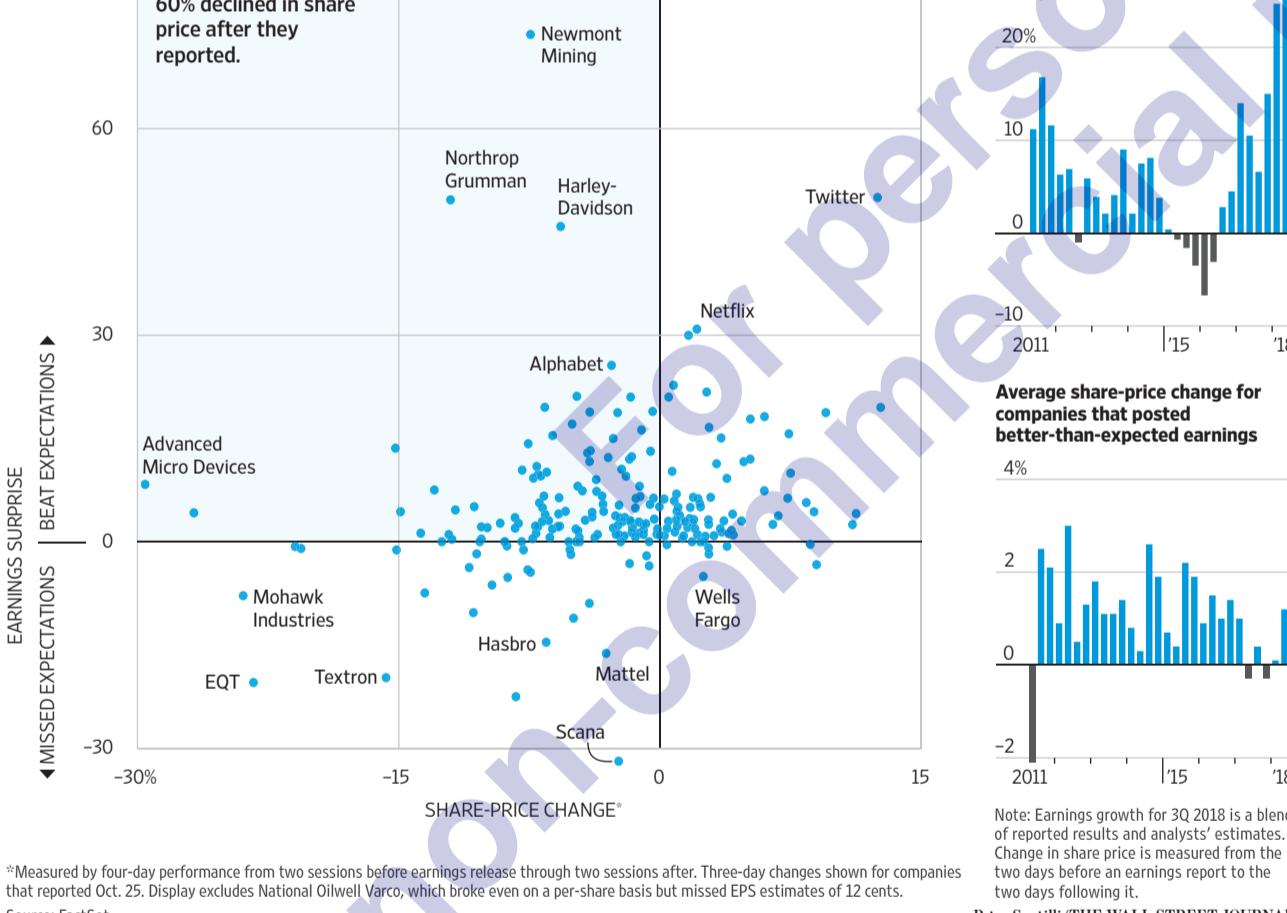
Wednesday: China will release its official gauge of the country's factory activity. Economists expect the official **purchasing managers index** to edge lower to about 50.6 in October from September's 50.8, which was a seven-month low.

Brazil's central bank is widely expected to keep its benchmark **Selic rate** on hold at 6.5%.

Friday: The Labor Department publishes the **U.S. employment report** for October. The jobless rate fell to 3.7% in September, the lowest since 1969. Economists expect the rate held steady and the economy created 188,000 jobs in October.

Good News, Bad News

For many S&P 500 companies, better-than-expected earnings haven't been enough to insulate their shares from the market sell-off.



*Measured by four-day performance from two sessions before earnings release through two sessions after. Three-day changes shown for companies that reported Oct. 25. Display excludes National Oilwell Varco, which broke even on a per-share basis but missed EPS estimates of 12 cents.

Source: FactSet

Earnings Fail to Halt Stock Slide

Continued from Page One

U.S. economic expansion and concerns that the financial boost from the 2017 tax cut will soon be behind many firms.

That sort of uncertainty was largely suppressed over the first part of 2018 as firms earned outsize profits and U.S. economic growth picked up, but many investors are now reassessing the outlook in earnest as earnings reports roll in.

"What's disconcerting is that companies are reporting good earnings with good guidance and they get a little pop, but then they sell off," said Lew Piantedosi, who leads Eaton Vance's growth-stocks team. "It's starting to feel like the market is pricing in a greater likelihood of a recession in 2019."

Take Amazon, the online retailer and web-services company that posted on Thursday a firm record with a third-quarter profit of \$2.88 billion. It made 11 times more in the period than it did a year earlier, but its sales fell short of

expectations. Amazon shares tumbled 7.8% Friday, far steeper than the S&P 500's 1.7% decline. Amazon is down 18% this month.

Other firms deemed similarly disappointing despite inline quarterly earnings, include online streaming service Netflix Inc. and asset manager BlackRock Inc.

Netflix shares rose 5.3% on Oct. 17, after it reported a bump in new subscribers. But the stock erased all of its post-earnings rally by the end of that week, finishing down 2%.

The S&P 500, in comparison, rose less than 0.1% that week.

BlackRock reported a stronger profit for the third quarter on Oct. 16, but its stock still slumped 4.4% that day—in contrast to the S&P 500's 2.1% gain—after the firm reported net outflows for the quarter.

Many investors said that while the sudden about-face in hot technology shares and other onetime market leaders has been jarring, they remain believers in the long-term promise of firms such as Amazon, Alphabet Inc. and Apple Inc. Some said they expect the market rout to blow over, given the continued strength of the economy and the paucity of signs in adjacent markets—such as high-yield bonds and other risky assets—that financial stress is rising markedly.

Even so, some said the poor

response to firms with good earnings is worrisome. With results in from nearly half the companies in the S&P 500, shares of those that have reported stronger-than-expected earnings have fallen an average of 1.5% between the two days before the earnings report and the two days following it, according to FactSet.

Those that miss estimates are getting punished more than usual. Shares of such companies have fallen an average of 3.8% over the four-day period, worse than the five-year average of 2.5%, according to FactSet.

Earnings are still expected to have grown at a healthy clip. For the third quarter, S&P 500 firms are projected to post growth of about 20% from the year-earlier period, a slowdown from the first half of the year but still near the fastest pace in years, according to FactSet. The pace of growth, though, is expected to

slow to the single digits in the first half of 2019.

Perhaps more concerning, sales growth hasn't held up as well. About 41% of companies have posted sales that have missed analysts' estimates, far greater than the 23% of companies that have reported weaker-than-expected earnings, according to FactSet.

That also puts firms on track to report the highest share of below-expectation sales results yet this year.

Data suggest investors have grown increasingly pessimistic about the economic outlook.

JPMorgan Chase & Co., which models recession probabilities based on factors ranging from wages to consumer sentiment, said in October that the U.S. has a 28% chance of falling into recession in the next year. Looking at the next two years, that probability rises to around 60%.

"Earnings keep coming in phenomenally strong, but people are betting on whether that can stay," said Craig Birk, chief investment officer at financial advisory firm Personal Capital.

In part, the bets reflect trepidation about the longevity of the economic expansion, which earlier this year became the second longest in U.S. history. Data on Wednesday showed sales of new homes in the U.S. fell for the fourth month in a row in September.

Even so, some said the poor

20%
Earnings growth projected for S&P 500 firms in third quarter

data published Friday. That marks the biggest decline since 2011.

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slow to the single digits in the first half of 2019.

Even so, some said the poor

Corporate earnings are high relative to recent years, but firms aren't getting their usual boost from positive reports.

S&P 500 earnings growth, change from a year earlier



Note: Earnings growth for 3Q 2018 is a blend of reported results and analysts' estimates. Change in share price is measured from the two days before an earnings report to the two days following it.

Peter Santilli/THE WALL STREET JOURNAL.

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Even so, some said the poor

U.S. WATCH

PENTAGON

Military Delivering Border Barriers

The military has begun delivering barriers to the southern border in conjunction with plans to deploy active-duty troops there, Defense Secretary Jim Mattis said Sunday as a caravan of Central Americans headed across Mexico toward the U.S.

Mr. Mattis told reporters traveling with him that details of the deployment were still being worked out.

They were to include exactly how many forces were needed. It was unclear when the details would be made public.

The additional troops will provide logistical and other support to the Border Patrol, and will bolster the efforts of the approximately 2,000 National Guard forces already there.

National Guard troops routinely perform those same functions, so it wasn't clear why active-duty forces were being used.

The new forces were expected to provide logistical assistance such as air support and equipment, including vehicles and tents.

President Trump for the past week has been calling attention to the caravan heading by foot into southern Mexico, but it is still hundreds of miles from U.S. soil.

The National Guard is often used by states to help with border security.

But active-duty troops are rarely deployed within the U.S., except for domestic emergencies such as hurricanes or floods.

—Associated Press

NEW JERSEY

Ninth Person Dies From Adenovirus

A ninth person has died at a pediatric rehabilitation center amid an outbreak of a respiratory virus, New Jersey health officials said.

U.S. NEWS

Bomb-Making Materials Linked to Van

By ZOLAN KANNO-YOUNGS
AND DAN FROSCH

The van belonging to the Florida man suspected in a wave of mail bombs targeting prominent Democrats contained materials used to construct the explosive devices, law-enforcement officials said.

Investigators searching a white van belonging to Cesar Altieri Sayoc, a 56-year-old former exotic dancer who has been charged with sending more than a dozen bombs through the mail, found soldering equipment, which is typically used to join pieces of metal together, law-enforce-

ment officials said. Other materials, such as stamps, a printer and paper, were also found in the van, the officials said.

Mr. Sayoc, a fervent supporter of President Trump, was arrested Friday in the mail bombs sent to Democrats around the country, including former President Barack Obama, former Vice President Joe Biden, former Secretary of State Hillary Clinton and billionaire liberal philanthropist George Soros.

Inside each manila envelope that Mr. Sayoc allegedly mailed was a crudely made pipe bomb fashioned with a

timer and containing flash powder, a material used in fireworks and pyrotechnics, police have said. The packages had six American flag stamps and printed labels with a similar block font and misspellings.

None of the devices detonated, and nobody was injured.

After a weeklong manhunt involving the Federal Bureau of Investigation, the Bureau of Alcohol, Tobacco, Firearms and Explosives and other federal agencies, investigators were able to trace a fingerprint taken from one device sent to Rep. Maxine Waters (D., Calif.). That clue eventually

Suspect Cesar Sayoc's vehicle had soldering equipment inside, police say.

ally led them to Mr. Sayoc's van, which was parked outside an AutoZone store in Plantation, Fla.

Officials said Mr. Sayoc appeared to be living in the van, which was papered with images of Mr. Trump and Vice President Mike Pence, as well as liberal figures in crosshairs.

Investigators believe Mr. Sayoc was working alone.

Authorities also executed a search warrant on a trailer linked to Mr. Sayoc near where he was arrested. Inside the trailer they found accordion file folders with "bomb-making material," a federal official said.

Mr. Sayoc has a history of arrests, including in 2002 in Miami for threatening to bomb a local utility while invoking the 9/11 terrorist attacks.

Investigators said they believe he sent the last batch of packages on Thursday, and law enforcement personnel across the country were still on the

lookout for more of them, the official said.

Mr. Sayoc has been charged with five counts of crimes, including interstate transportation of an explosive, illegal mailing of explosives and making threats against former presidents.

He is set to appear in federal court in Miami on Monday and expected to be transferred to New York, where he is being charged. A spokesman for the U.S. attorney's office for the Southern District of New York, which is prosecuting the case, said Mr. Sayoc would be appointed a lawyer on Monday.

Southern Timber Growers Hit Again

By JON KAMP
AND RYAN DEZEMBER

Owners of forest land along the Florida Panhandle and beyond are grappling with at least \$1.6 billion in timber losses after Hurricane Michael snapped and mangled trees across the region, according to state authorities.

Forestry officials in Florida, Georgia and Alabama estimate the hurricane damaged more than 5 million acres of woodland in the region when it roared through this month. The destruction marked a fresh blow to timber growers already saddled with historically low prices brought on by a glut of mature trees in the South.

The storm hardly dented the oversupply. But it wiped out decades-old investments and triggered heavy cleanup costs for local timber owners, most of whom are individuals and families.

Forester Will Leonard said nearly all of his family's roughly 8,000 acres of Florida Panhandle pine were damaged. This includes 100-foot slash pine that could have fetched up to \$60 a ton as utility poles before the storm, but now might be worth \$2 to \$3 a ton as pulp.

Mr. Leonard believes his family can reforest at least some of their timberland, but is worried many owners will be strained to recover from the costly damage to their land. "These are working people who hold on to it, and they were counting on that as either all, or a large part, of their retirement, and it's just gone," he said.

Landowners rarely carry insurance on timber because it isn't cost effective. Some may be eligible for casualty loss deductions on their federal income taxes, depending on how much they invested in their timber, how long the trees have been growing and whether any money is spent replanting.

Southern yellow pine, which is sawed into lumber and pulped into paper and particle board, is one of the region's top agricultural products. Sunshine State growers alone are out about \$1.3 billion worth of wood as a result of the storm, according to Florida authorities.

In Georgia, state officials say the lost timber is worth roughly \$374 million. Forestry officials in Alabama are still tallying lost value, but have identified more than 42,000 acres of forestland in the state's southeast corner where damage ranges from modest to total loss.

Most owners simply have to salvage what wood they can while it is still worth something. Blue stain, brought about by fungi, can set in within about a month, and ruin saw logs. And it doesn't take long for bugs and rot to take over.

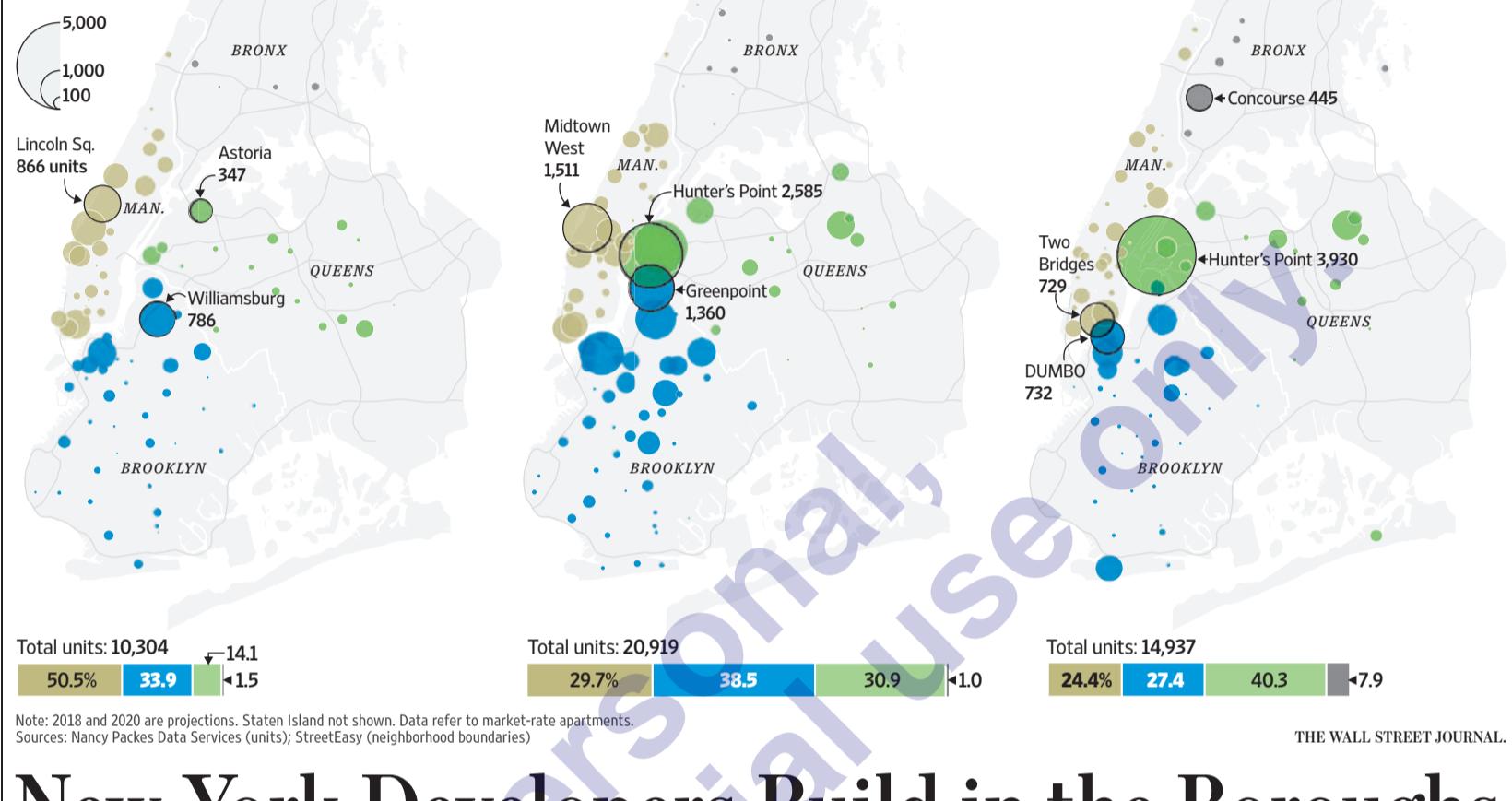
Wind-rattled wood usually won't make the grade for top-dollar forest products, like utility poles and lumber, foresters say. It is more likely to be pulped or mulched, which returns far less.

Growers will be fortunate to salvage 20% of the damaged trees, and those that make it to mills might fetch just 20% to 50% of their pre-storm value, said Chad Nimmer, a Georgia lawmaker who works in logging.

Headed East

New apartment construction is increasingly shifting from Manhattan to Brooklyn and Queens.

Number of new apartments put on the market, by neighborhood



THE WALL STREET JOURNAL.

New York Developers Build in the Boroughs

By JOSH BARBANEL

NEW YORK—This city is experiencing its biggest wave of residential development in at least a decade, shifting the center of gravity away from Manhattan's gleaming towers toward rapidly transforming neighborhoods in the outer boroughs.

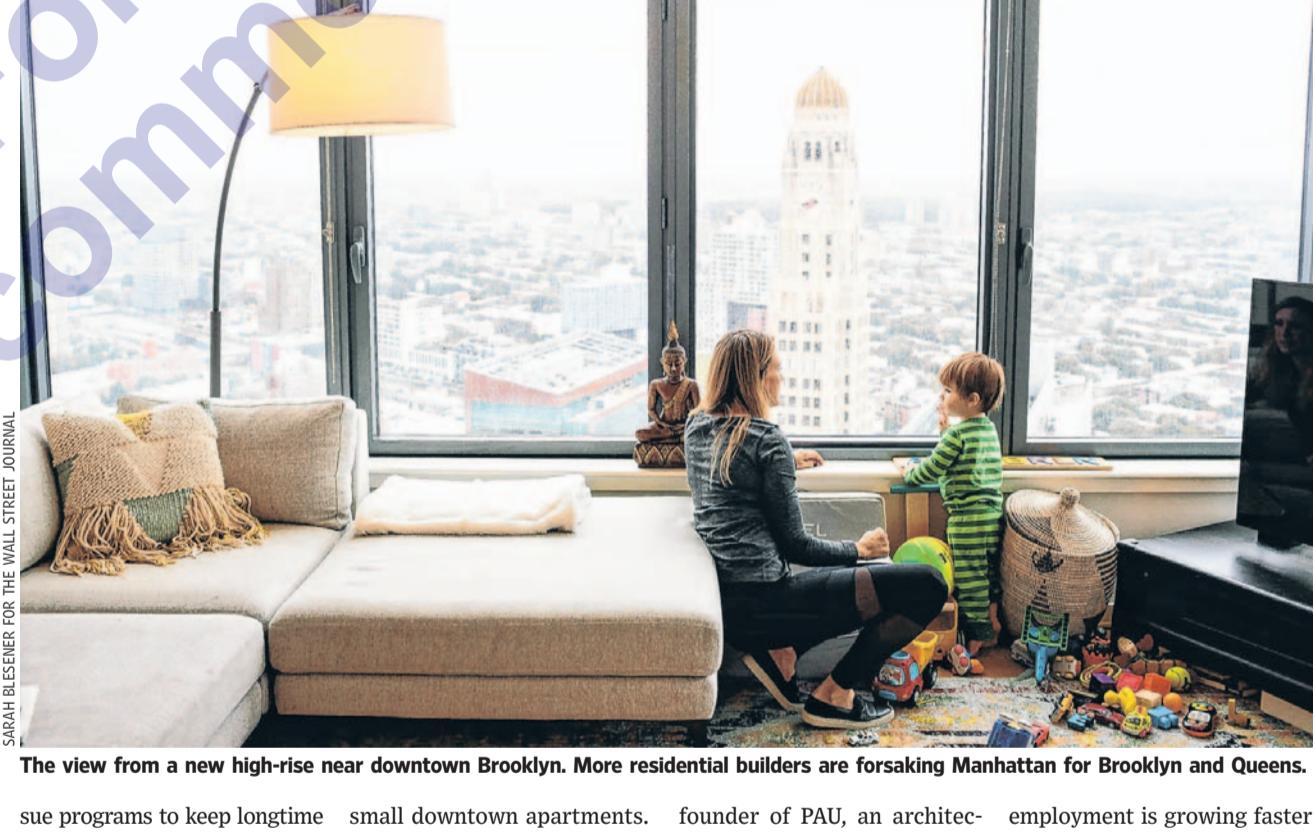
The number of new and converted apartments put on the market in Brooklyn last year exceeded those in Manhattan for the first time since 2009. And the borough of Queens is set to surpass Brooklyn by 2020 in new projects, according to housing pipeline figures from Nancy Packes Data Services, a real-estate data provider.

The surging economy has brought more jobs to New York, and with them, more people looking for affordable places to live. That has triggered investments in many neighborhoods, especially those on major subway lines, long overlooked by developers and young college graduates moving to New York.

Many of the apartment buyers and renters are millennials and younger New Yorkers who say they prefer the quality of life in culturally and economically diverse neighborhoods, compared with the bustle of Manhattan's streets, not to mention their flocks of tourists. Meanwhile, rising rents and gentrification are putting pressure on low-income New Yorkers and intensifying the city's existing housing crisis.

It is also a boom time for many other cities across the U.S. Large metropolitan areas generally attract the most college graduates, but smaller cities are also proving magnets for job seekers. Affluent residents are choosing to stay in urban neighborhoods, driving up housing costs and causing growing pains for once-small cities, like Nashville, Tenn., and Oakland, Calif., now reckoning with futures as economic hubs.

Even in Boise, Idaho, with a population less than half that of New York City's smallest borough, locals bemoan worsening traffic, labor shortages and rising home prices. To adapt to the growth, some cities are redeveloping industrial waterfronts while others pur-



The view from a new high-rise near downtown Brooklyn. More residential builders are forsaking Manhattan for Brooklyn and Queens.

sue programs to keep longtime residents in neighborhoods being eyed by wealthier newcomers.

Last year, New York City's population hit a record 8.6 million, up 5.5% since 2010, according to census figures. The Bronx, Brooklyn and Queens grew at faster rates than Manhattan. A few years ago, nearly half of all apartments coming on the market for the first

small downtown apartments.

"If you are going to live in New York, you have to be in Manhattan," she would tell friends.

But last year, Ms. Hornsby and her husband Scott, both 40 years old, did the once-impossible: They moved into a glass-walled three-bedroom apartment on the 47th floor of a high-rise on the edge of downtown Brooklyn.

For Claire Shin, a charter school principal, the moment of decision came while she was expecting her first child. "The thought of raising babies in Manhattan seems untenable," she said. In April, she and her husband, Jason Burns, bought a three-bedroom apartment on the 10th floor of a new development on Jackson Avenue in Long Island City.

"I so loved Chelsea and loved the West Village, the High Line and all of those things," Ms. Shin said. "At this point, I couldn't love Long Island City more."

The pressure of development is raising housing costs in many neighborhoods outside Manhattan, said Vishwan Chakrabarti, an architect and

founder of PAU, an architecture and planning firm. Mr. Chakrabarti is designing a glass walled office complex to be built inside the hulking red-brick shell of a former Domino sugar refinery along the Williamsburg waterfront in Brooklyn.

A list of the city's 10 fastest-developing neighborhoods, ranked by the number of units to be completed by 2020, includes only one in Manhattan—the Lower East Side—according to a study by Localize.city, which has created a tool that maps development sites and shows various details about every individual address in New York.

Long Island City, a formerly industrial area near the waterfront that has sprouted glass towers near elevated train lines, tops the list with nearly 6,400 apartments, followed by Williamsburg's waterfront district. The Brooklyn neighborhoods of Bushwick, Bedford-Stuyvesant and Crown Heights are all on the list.

Manhattan still has more than half of all jobs in New York City and a far larger share of high-paying ones. But

employment is growing faster in the other boroughs, mainly with smaller firms and particularly in creative fields like media and advertising. Developers are now betting on new office developments, which are going up in Brooklyn and Queens for the first time in nearly two decades.

In the South Bronx, Madison Realty Capital is completing work on an office complex in a former commercial bakery that is looks to compete for tenants, ranging from businesses to nonprofits and government agencies, getting priced out elsewhere.

Many renters in the newly popular neighborhoods are less concerned about the character of a neighborhood than the ease of subway access to Manhattan and a building's amenities, said Nancy Packes, a residential marketing consultant.

More than New York City 20,900 apartments are due to come on the market in 2018, the most since at least 2008. That number is due to rise further in 2019, after which a long-term building boom shows signs of slowing down.

time in New York City were in Manhattan. This year, that share is projected to fall to 30%.

Kate Hovey Hornsby once thought of herself as a "quintessential Manhattan girl," she says. She worked in advertising sales, going to party after party to meet with clients. She wore Christian Louboutin heels and lived in a series of

U.S. NEWS



Tennessee's candidates for Senate, Democrat Phil Bredesen and GOP Rep. Marsha Blackburn, shown Oct. 10, reflected a somber mood Sunday after the Pittsburgh synagogue shooting. Mr. Bredesen called to 'turn the volume down a little bit on this rhetoric' on all sides.

Violence Jolts Campaigns

Some candidates call off their appearances; many seek to tone down heated passions

BY JOSHUA JAMERSON

WASHINGTON—The Pittsburgh synagogue shooting on Saturday and the arrest a day earlier in the case of pipe bombs sent to prominent Democrats are forcing Republicans and Democrats alike to adapt on the fly in the final full week of campaigning before the midterm elections.

A group of Pennsylvania Democrats, including Gov. Tom Wolf, Sen. Bob Casey and Rep. Mike Doyle, canceled a political bus tour that was scheduled to come through Pittsburgh and Carlisle, Pa., on Sunday.

"These next couple of days are going to be for mourning and then after that it's going to be about action; people are just so tired of this," Mr. Doyle said. "Eleven people went into a place of worship and didn't realize they were saying their last prayer.... Isn't any place sacred anymore?"

A campaign event for Sen. Heidi Heitkamp (D., N.D.) on Saturday night began with a moment of silence in honor of the Pittsburgh victims. Both Ms. Heitkamp and her GOP opponent, Rep. Kevin Cramer, have stressed the need for civility in Washington.

At a debate the night before the shooting, Ms. Heitkamp said she had been moved by House GOP Whip Steve Scalise (R., La.) who spoke at a prayer breakfast about the shooting in which he had been critically injured without casting partisan blame.

"We have to be accountable for our words," Ms. Heitkamp said. "We have to understand that words matter and we have to reflect the goodness of America in how we conduct our business in the U.S. Senate."

In Nashville, protesters interrupted a Senate campaign rally by Rep. Marsha Blackburn (R., Tenn.) on Sunday, including when she called for a moment of silence for the Pittsburgh victims. "Marsha Blackburn is a white supremacist," one of the protesters shouted. After the woman was removed, Ms. Blackburn said,

"How despicable that you can't even have a moment of silence." At least six protesters were physically removed, one carried kicking and screaming. Her opponent, Democrat Phil Bredesen, a former governor, called on candidates to dial back their language. "It really is time to turn the volume down a little bit on this rhetoric, I think, on all sides, and I hope we can do that," he said.

President Trump on Saturday denounced the shooting in Pittsburgh as a "wicked act of pure evil and anti-Semitic" and

said "there must be no tolerance for anti-Semitism." He also said that gun laws had little to do with the attack. He repeated his suggestion that armed guards be placed in more public and private spaces. "If they had protection inside, the results would've been far better," Mr. Trump said.

The White House planned to add a stop in Pittsburgh to the president's schedule, a White House official said.

Scott Wallace, a Democrat running to unseat GOP Rep. Brian Fitzpatrick in the Philadelphia suburbs, expressed concern at rising anti-Semitic violence since 2016.

"And no, Mr. President, the synagogue is not at fault for being insufficiently armed," Mr. Wallace said. "It is time for all Americans to firmly reject the politics of hatred and intolerance."

A Republican political event in Roswell, Ga., included an opening prayer to "wrap our arms around" Jews who are grieving. Rep. Karen Handel (R., Ga.) in an interview after the event decried the violence but declined to offer an opinion on Mr. Trump's response. "That's not for me to make a judgment on, candidly," Ms. Handel said. "I'm here doing my campaign and focusing on my actions and my deeds."

Across town, Ms. Handel's Democratic opponent, Lucy McBath, opened her remarks at a house party for local Demo-

catic candidates by talking about the pain she feels with each mass shooting. "Every time this happens," she said, "it's like a sucker punch in my gut, because I feel like we just can't move fast enough." Ms. McBath's son was killed in a 2012 Florida shooting, and she subsequently became a gun-control advocate.

Robert Bowers, the suspect who has been charged with killing 11 people at the synagogue, had expressed hatred for Jews in online posts.

The events of recent days came as Republicans and Democrats had already scheduled a late-stage blitz of campaign ads and big rallies with marquee surrogates, including Mr. Trump and former President Barack Obama, before Election Day on Nov. 6. Mr. Trump will hit eight states over the final days before the elections.

The bipartisan consensus among political insiders is that Republicans have high chances to keep power in the Senate, while Democrats appear poised to retake the House. Democrats say they feel so confident about their chances in the House that they have begun expanding resources beyond their core set of pickup opportunities and putting more money into districts where the GOP has held a stronger edge.

—Michael C. Bender, Kristina Peterson, Janet Hook, Reid J. Epstein and Erin Ailworth contributed to this article.

the Democratic Senatorial Campaign Committee.

In Montana, Insurance Commissioner Matt Rosendale, a Republican and self-proclaimed "Trump conservative," is working to unseat Democratic Sen. Jon Tester. Mr. Rosendale praises Mr. Trump for having "taken important steps to dismantle this disastrous law," meaning the ACA, while saying he wants to protect people with pre-existing medical conditions.

Republicans are hitting back, saying Mr. Trump's actions will increase consumer choice and that they strongly favor covering pre-existing conditions. In either case, the back-and-forth shows the continuing potency of health care as an issue less than two weeks before the midterm elections.

The Trump administration last week announced it would let people in some states use subsidies to buy cheaper, less-robust health plans than the health law now allows. Many analysts say that would peel away healthier customers from the ACA, driving up premiums for people with pre-existing conditions who need fuller plans.

The Justice Department, meanwhile, has asked a federal court to strike down the ACA's required coverage for people with pre-existing conditions, part of a broader lawsuit brought by 20 Republican states seeking to invalidate the health law. The GOP argues that the ACA's regulations stifle competition.

But the issue's resonance hasn't been lost on Democrats in hard-fought races, where the availability of coverage, at reasonable prices, for people with ongoing medical conditions has become an unexpectedly hot issue.

In Nevada, Democratic Senate candidate Jacky Rosen criticized the move toward skimpier insurance plans, calling it a "dangerous new policy" and saying Republican Sen. Dean Heller's record of "rubber-stamping" Trump's policies shows he can't be trusted on health care.

Mr. Heller's campaign dismisses the charge. Spokeswoman Gretchen Andersen said the senator "believes that Nevadans with pre-existing conditions should be protected, and he has co-authored two pieces of legislation that preserve protections for Nevadans with pre-existing conditions."

Mr. Trump himself has weighed in, coming to the defense of his party's candidates. "Republicans will totally protect people with Pre-Existing Conditions, Democrats will not! Vote Republican," he tweeted recently. He repeated that pledge at an event Thursday at the Department of Health and Human Services.

The dynamic shows how complicated the issue of health care has become, especially for Republicans. The GOP gained a major political boost for eight years from promising to repeal the ACA, which had been broadly out of favor.

But Republican repeal efforts stalled in Congress last year, and as Mr. Trump and congressional Republicans seek instead to undo the law piece by piece, polls suggest the ACA and its consumer protections have become much more popular.

That creates a challenge for Republicans who vocally opposed the ACA, particularly those in swing districts. The latest White House actions have done more to "put them on the spot," said Lauren Pasalacqua, a spokeswoman for

individual donor in the state: \$2.5 million from Phil Knight, co-founder of Nike Inc., based in Beaverton.

Mr. Buehler has sought to remind voters that he favors abortion rights, is pro-gay rights and believes climate change is real.

Ms. Brown's campaign has argued Mr. Buehler's record is more conservative than he has presented it to be on issues like the environment and abortion rights.

Candidates Spar On Health Care Ahead of Vote

BY STEPHANIE ARMOUR

As President Trump pushes ahead with efforts to chip away at the Affordable Care Act, Democrats are seizing on his moves to attack Republicans' claims that they will protect people with pre-existing medical conditions.

Republicans are hitting back, saying Mr. Trump's actions will increase consumer choice and that they strongly favor covering pre-existing conditions. In either case, the back-and-forth shows the continuing potency of health care as an issue less than two weeks before the midterm elections.

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About 102 million Americans suffer from a pre-existing condition of some kind, from epilepsy to diabetes to cancer to heart conditions, according to an analysis by Avalere, a health consulting firm.

Republicans are hoping for a boost from a bipartisan opioid bill that Mr. Trump signed on Wednesday. Rep. Vern Buchanan (R., Fla.) noted that the bill includes his proposal to create a database of information for patients who want to manage pain without opioids.

Democrats, however, face their own challenges on health care. Democratic candidates in more than half of the congressional races back the idea of Medicare for all, according to a recent poll by National Nurses United. But the proposal divides the party, and it has prompted criticism from Republicans that Democrats are embracing a cumbersome government-run system.

Women March Voters to the Polls

BY JENNIFER LEVITZ

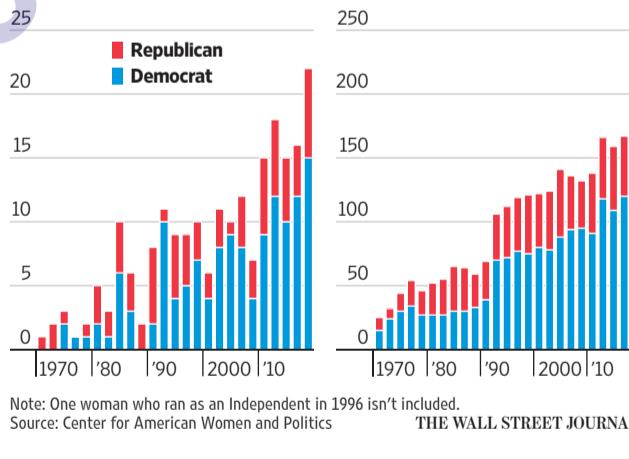
Women who organized protests after the 2016 election are again taking to the streets, this time marching voters to the polls in congressional battleground states from California to North Carolina.

"Turnout is just going to be critical in this election," said Melissa Fiero, volunteer director of the Texas chapter of March On!, one of more than 100 nationwide affiliates that have sprung up since early 2017. March On! Texas' 17,000 members believe they can "make lasting change by trying to get progressives elected, even in deep red Texas," she said.

The 2017 women's marches spurred many people to become more politically active—from attending town hall meetings to volunteering for local, state and federal campaigns—and helped fuel large-scale demonstrations on a host of issues. Now, they face

Gender Divide

Women candidates in congressional races



Note: One woman who ran as an Independent in 1996 isn't included.

Source: Center for American Women and Politics

jected by voters in battleground districts." Energized conservatives, including evangelicals, are also rallying voters.

Others on the right worry their political opponents are deftly mobilizing specific voting blocs.

"The left's ground game is so damn strong this cycle," said Adam Brandon, president of FreedomWorks, a libertarian-leaning group associated with the tea party, the small-government movement that

arose during President Obama's first term and helped Republicans take the House in 2010.

Mr. Brandon said that ground game combined with the "huge" early voting numbers "gives me a cold sweat."

He added that it was still too early to conclude which party the high turnout was benefiting.

Voter interest in the midterm elections has surged to record levels within both parties, a recent Wall Street Journal/NBC News poll found.

But Republican repeal efforts stalled in Congress last year, and as Mr. Trump and congressional Republicans seek instead to undo the law piece by piece, polls suggest the ACA and its consumer protections have become much more popular.

That creates a challenge for Republicans who vocally opposed the ACA, particularly those in swing districts. The latest White House actions have done more to "put them on the spot," said Lauren Pasalacqua, a spokeswoman for

BY NOUR MALAS

PORLTAND, Ore.—To find enough votes to win the governorship in a state that last elected a Republican leader in 1982, Knute Buehler has focused on voters like Danielle Miller.

A 47-year-old mortgage-loan officer, Ms. Miller voted in 2016 for Kate Brown, Oregon's incumbent Democratic governor, but has since grown disenchanted with her on is-

sues including education funding and homelessness. This year, Ms. Miller isn't planning just to vote for Mr. Buehler, a two-term Republican state representative. She is campaigning for him and even appearing in one of his commercials. "This is the first candidate I'm crossing party lines for in 20 years," she said on a sunny Sunday morning in east Portland, before knocking on doors to solicit votes for the Republican. "Oregon is so

behind in so many ways...under our current leadership."

Mr. Buehler, 54, is aggressively courting moderate Democrats unhappy enough with Ms. Brown that they will defy their party despite the partisan atmosphere. His strategy has turned the gubernatorial campaign in Oregon into a race that is tighter—and tenser—than expected in this solidly blue state.

"People are worried," said Rand Klemp, 61, co-owner of

Portland coffeehouse Anna Bananas, of many of his patrons.

"We're thinking, how can Oregon go with a Republican governor in this day and age?"

If Mr. Buehler wins, Oregon would join the handful of states won by Hillary Clinton in 2016, including Massachusetts and Vermont, that have Republican governors.

Among states won by Mrs. Clinton, the only other governor's race in which a Republican has a shot is Connecticut,

Glum Democrats Pivotal in Blue Oregon's Governor's Race

said Jennifer Duffy, an analyst with the Cook Political Report.

Recent polls show Ms. Brown ahead by between 1 and 5 percentage points. Real Clear Politics and Cook Political Report rate the race a "toss up."

Money has poured in, making it the most expensive gubernatorial race ever in the state, with Ms. Brown raising \$13.45 million and Mr. Buehler \$14.96 million as of Oct. 23.

Mr. Buehler got the largest-ever contribution by an indi-

vidual donor in the state: \$2.5 million from Phil Knight, co-founder of Nike Inc., based in Beaverton.

Mr. Buehler has sought to remind voters that he favors abortion rights, is pro-gay rights and believes climate change is real.

Ms. Brown's campaign has argued Mr. Buehler's record is more conservative than he has presented it to be on issues like the environment and abortion rights.

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U.S. NEWS

'Good people. Good souls. People who lived to help other people.'

Rabbi Chuck Diamond, who led Tree of Life for seven years before retiring



Flowers were left at a memorial down the road from the Tree of Life synagogue, where an attacker fatally shot 11 people gathered for Saturday services.

The 11 Who Shared Ties of Faith

BY CLARE ANSBERRY
AND KRIS MAHER

PITTSBURGH—The 11 people killed, eight men and three women, were among the most loyal and most vulnerable of those at the Tree of Life synagogue, where bouquets of flowers collected nearby and memorials gathered in the aftermath of the attack.

They were older, 54 to 97 years old, and the first to arrive for Saturday services. The brothers who had attended since childhood. The family doctor thinking of retirement. Sports fans and joke tellers. Parents and grandparents.

"Good people. Good souls. People who lived to help other people," said Rabbi Chuck Diamond, who led Tree of Life for seven years before retiring.

The shooting began around 9:45 a.m. Most congregants had yet to arrive, but these 11 were at their usual places.

"People normally don't come on time, but regularly a group of mostly elderly people were there on time to get things started," Rabbi Diamond said. "They are the same people who come every week, rain, shine and snow."

The oldest, Rose Mallinger, 97, attended every week with another woman, whose name

also begins with R. "They were my R & R for the week," he said.

"I smile when I think of her, but it's so sad," said Rabbi Diamond, who grew up with her son in the Squirrel Hill neighborhood where Tree of Life and a dozen or so synagogues are located.

The neighborhood is the heart of the city's Jewish population and home to churches, restaurants, independent clothing stores, music and dance schools, a library, bookstores and pizzerias.

The Rosenthal brothers, Cecil, 59, and David, 54, lived in Squirrel Hill and had attended the synagogue since childhood. "It was a home away from home for them. They were always there," the rabbi said. "There is no question in my mind that Cecil was standing at the back, welcoming everyone...Both of them are such a loss."

Richard Gottfried, 65, of Ross Township, Pa., was a dentist who volunteered at a free health clinic run by Catholic Charities. "He served our patients well, living out his faith through his gift of service to those in need," the group said.

Bernice Simon, 84, and her husband, Sylvan, 87, of Wilkinsburg, Pa., also were at services early. Bernice, the rabbi said,



Joyce Fienberg



Richard Gottfried



Cecil Rosenthal



Daniel Stein

"was a wonderful, beautiful woman." Sylvan had a sense of humor and would joke with Rabbi Diamond about his size—6-foot-3 and 250 pounds—saying he would make a good linebacker. "Rabbi, I hear you're going to play for the Steelers," the rabbi recalled.

The rabbi said he graduated from high school with the younger brother of Irving Younger, 69, of Mount Washington, Pa. Both men were sports fans, sharing talk about Pittsburgh sports teams: Steelers, Pirates and Penguins.

The rabbi said he last saw

Mr. Younger two weeks ago. when his friend talked about a grandchild he was "just thrilled over."

Melvin Wax, 88, of Squirrel Hill, was a retired accountant and grandfather. He was leading Shabbat services in the basement of the synagogue Saturday morning when the shooting began, local media reported.

Joyce Fienberg, 75, of Pittsburgh was a sweet and wonderful woman, the rabbi said.

Jerry Rabinowitz, 66, of Edgewood, was a doctor, who cared for many local families, including Gillian Cannell, who had known him for 35 years. Ms. Cannell said she believed she was one of Dr. Rabinowitz's first patients when he opened his family practice in 1983. Her husband and her sons also saw him. "Your doctor is not a family member but it feels like he was," she said.

"He was the kind of doctor who related to you personally," she said, and who would return calls no matter the hour. "Sometimes it was very late but he would talk through problems."

Joel Weinberg, who worked in the same hospital as Dr. Rabinowitz, said he was a true patient's advocate who "always just put the patients first, never cared about the re-

imbursement."

Mr. Weinberg's wife, Tova, said Dr. Rabinowitz had recently told her husband that he wanted to retire. "He said he just wants to live life now," she said. "We're numb about this."

Daniel Stein died in the place where he had loved to gather with family and community members. Mr. Stein, 71, had served as president of the New Light Congregation, which held services in the Tree of Life synagogue, said Steven Halle, his nephew.

Mr. Halle remembered his uncle as a loving family man with a wry sense of humor.

Mr. Stein grew up in Munhall, Pa., where steel mills once lined the Monongahela River, next door to Homestead, Pa., where his parents had owned and run a hotel.

Mr. Stein had a varied career, his nephew said, at various points selling plumbing supplies, working as a teacher and then for a funeral home. His Jewish faith and weekly services were at the center of his life, Mr. Halle said.

"If he wasn't at the synagogue doing volunteer work for them or attending weekly services, he spent time with his family," Mr. Halle said.

—Robbie Whelan contributed to this article.

Synagogues In U.S. Step Up Security

BY ZUSHA ELINSON AND IAN LOVETT

Synagogues around the U.S. were tightening security procedures in the wake of the mass shooting in Pittsburgh, while police went door to door to some urging a lockdown.

Houses of worship are often soft targets, with missions and traditions that emphasize peace and welcoming. Since 2012, there have been at least a dozen deadly shootings at houses of worship.

Security professionals say that religious groups in recent years have shown an increased interest in active-shooter training as well as finding ways to make their places of worship more secure.

"Large businesses have moved quicker in that direction," said Todd Clow, owner of Salvo Security Group, a business affiliated with an active-shooter safety program at Texas State University. "Now I am seeing a larger push on the worship and religious side."

The Anti-Defamation League said that Saturday's slaughter was likely the deadliest single attack on the Jewish community in the history of the U.S.

"It is simply unconscionable for Jews to be targeted during worship on a Sabbath morning, and unthinkable that it would happen in the United States of America in this day and age," said ADL Chief Executive Jonathan Greenblatt.

Last year, an Air Force veteran with a history of violence shot and killed 26 people at a small church in Sutherland Springs, Texas, as they prayed on a Sunday morning. In 2015, a white supremacist killed nine African-American worshipers at Emanuel African Methodist Episcopal Church in Charleston, S.C. In 2014, another white supremacist killed three people outside a Jewish community center in Kansas. In 2012, yet another opened fire at a Sikh Temple in Wisconsin.

The attack likely was the deadliest on the Jewish community in U.S. history.

consin, killing six.

Hate crimes in America's 10 largest cities rose 12.5% in 2017, according to the Center for the Study of Hate & Extremism at California State University, San Bernardino. It was the fourth year in a row that the number of hate crimes reported to the police increased and the highest total in over a decade, according to the center. African-Americans were the most frequent target followed by Jewish people.

The Federal Bureau of Investigation found that 54% of the 1,538 antireligious hate crimes were motivated by anti-Jewish bias in 2016, the most recent federal data available. No other religious group faced as many hate crimes, according to the FBI.

In some cases, police notified Orthodox Jewish congregations who don't use any form of electricity from Friday night to Saturday night. In Chicago, Rabbi Mendy Benhiyon, the rabbi of the Orthodox Chabad of Lincoln Park, said he was eating his Sabbath lunch with his wife and two children around 4 p.m. when a police officer knocked on his door.

The officer told Rabbi Benhiyon about Pittsburgh and that he wanted to make sure the rabbi knew to be on high alert.

Synagogues and religious schools nationwide stepped up their security after the Pittsburgh attack.

Adas Israel Congregation, a Conservative synagogue in Washington, D.C., already has police and armed private security officers on site. Now, the temple will add security personnel around the perimeter of the synagogue and other measures, according to an emailed message.

—Shayndi Raice, Lucette Lagnado and Melissa Korn contributed to this article.

Pittsburgh Mourns Victims

Continued from Page One

crime and firearm offenses. A Justice Department spokesman said that the U.S. Attorney for the Western District of Pennsylvania, Scott Brady, started the approval process for seeking the death penalty.

Pittsburgh police charged Mr. Bowers with 11 counts of homicide, six counts of attempted homicide, aggravated assault and ethnic intimidation.

Mr. Bowers posted anti-Semitic and Holocaust-denying messages on Gab.com, a social-media site popular with the alt-right. He didn't have a job or children, according to public records. It isn't clear why Mr. Bowers targeted the particular synagogue.

Screaming worshipers called 911 about 10 a.m. Saturday to report they were being attacked by a gunman, according to police. A pair of officers encountered Mr. Bowers, who opened fire on them. The officers fired back, sending Mr. Bowers retreating into the synagogue.

Inside, officers found dying victims. Mr. Bowers went into a third-floor room, where he opened fire on approaching SWAT officers, injuring two more. They returned fire, wounding Mr. Bowers, before he surrendered. He told a law-enforcement officer that "they're committing genocide to my people. I just want to kill Jews," according to the federal criminal complaint.

"Lots of shots were fired," said Karl Williams, chief medical examiner for Allegheny County. "There were casings everywhere."



MATT ROURKE/ASSOCIATED PRESS

Pittsburgh Mayor Bill Peduto, second from right, and Israeli Ambassador to the U.S. Ron Dermer, third right, outside the Tree of Life Synagogue in Pittsburgh on Sunday.



THE WALL STREET JOURNAL

attorney for the Western District of Pennsylvania.

Mr. Bowers has been assigned a federal public defender, a U.S. attorney's office spokeswoman said. Michael Novara, first assistant federal public defender in the Federal Public Defender's office of the Western District of Pennsylvania, declined to comment.

Gab, which describes itself as defending individual liberty, said it verified an account matching

the shooting suspect's name. A user with the name Robert Bowers posted several comments about "invaders" and an "overwhelming Jew problem."

One post read: "the false flag event is going to be a small nuke detonated near the invader caravan," an apparent reference to a caravan of thousands of mostly Honduran migrants making their way toward the U.S.

Gab said in a statement it had suspended the account and contacted the FBI. Late Saturday, the site was down; it was back up as of Sunday morning.

Before the shooting, an account under Mr. Bowers name posted a message about HIAS, a global Jewish agency that resettles refugees. "HIAS likes to bring invaders in that kill our people. I can't sit by and watch my people get slaughtered. Screw your optics, I'm going in," it said.

Federal authorities have

said they believe he acted alone and he had not been on the radar of law enforcement. A search of Pennsylvania court records shows that Mr. Bowers was issued a traffic citation in April 2015 for operating a vehicle without an identification decal, and that he pleaded guilty the next month.

The shooting occurred in Squirrel Hill, a neighborhood with about a dozen synagogues where orthodox families walk to shul on its leafy, hilly streets. Gracious homes, some single-family and some broken into apartments for graduate students at nearby Carnegie Mellon and other universities, line the streets.

The community remained on edge. At Congregation Poale Zedeck, an Orthodox synagogue, congregants began hearing sirens at about 10 a.m. Saturday but mostly ignored them. Then another rabbi nearby ran over to say that there was an active shooter at the Tree of Life and that they were all on lock down.

"We were scared. We didn't know what to expect. We had friends," said Tova Weinberg, who was at services. She later found out her husband's friend, Dr. Jerry Rabinowitz, was among those killed. Ms. Weinberg said there are men at Congregation Poale Zedeck who carry guns and they blocked the doors.

Rabbi Jay Rosenbaum of the Conservative Herzl-Ner Tamid synagogue on Mercer Island, Wash., said his congregation has locked its doors and had an armed guard stationed outside during services since 2006, after a fatal shooting at the Jewish Federation of Greater Seattle. "It's crazy that we have to live this way," he said.

—Jim Oberman, Elisa Cho, Lisa Schwartz, Kris Maher, Shayndi Raice and Melissa Korn contributed to this article.

—Shayndi Raice, Lucette Lagnado and Melissa Korn contributed to this article.

We support programs that help identify people at risk for opioid abuse and addiction.

Purdue Pharma was started by brothers who were doctors and who wanted to help people through medicine. With a physician now as our CEO, we continue to develop medications to help patients. We are acutely aware of the risks opioid pain medicines can create: even when taken as prescribed, they carry risks of addiction, abuse, and misuse that can lead to overdose and death. And we are deeply concerned about the toll the prescription and illicit opioid crisis is having on individuals and communities across the nation.

One tool—among many—that can help address the opioid crisis is a database that enables doctors and pharmacists to see prescription histories.^{1,2}

It's called a Prescription Drug Monitoring Program (PDMP). PDMPs are now operational in 49 states and the District of Columbia. Studies suggest that PDMPs can help reduce the number of prescriptions written for opioids and that PDMP use is associated with a significant decline in "doctor shopping"—obtaining prescriptions from multiple prescribers for abuse or illicit sale.^{1,2}

But to make these more effective, they need to be easier for doctors and pharmacists to use. And information needs to be made available state-to-state so doctors and pharmacists can see a patient's prescription history beyond their state's borders.

To aid in this effort, we provided funding to the National Association of Boards of Pharmacy to allow states to connect to a platform and share PDMP data with other states at no cost. We're also part of a public-private partnership that's working to improve PDMP usability by reducing the number of steps prescribers and pharmacists need to take to consult and use PDMP information when determining if it's clinically appropriate to prescribe or dispense an opioid.

While no single intervention alone will solve this crisis, partnerships, determination, and innovative approaches are steps in the right direction. For more about what we are doing to help address the opioid crisis, go to purduepharma.com.



www.purduepharma.com

¹ Bao Y, Pan Y, Taylor A. Prescription drug monitoring programs are associated with sustained reductions in opioid prescribing by physicians. *Health Affairs* [Project Hope]. 35(2016)1045–1051. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5336205/>.

² Ali MM, Dowd W, Classen T. Prescription drug monitoring programs, nonmedical use of prescription drugs, and heroin use: evidence from the National Survey of Drug Use and Health. *Addictive Behaviors*. 69(2017)65–77.

U.S. NEWS

Founder Defends Gab.com

Suspect in synagogue attack apparently used the social-media site for anti-Semitic posts

BY GEORGIA WELLS

Before Robert Bowers allegedly opened fire at a Pittsburgh synagogue on Saturday, few had heard of Gab.com, the two-year-old social-media site where he apparently posted anti-Semitic and Holocaust-denying messages. Now it is at the center of a renewed debate over what online platforms can and should do to act on hate speech, with the site's founder pledging that it won't be sidelined.

"Gab is not going anywhere," said Andrew Torba, Gab's founder, in a post on Gab on Saturday. "I don't care what we have to do, I don't care what it takes."

Mr. Torba boasted in his post on Saturday that, "We have probably the most traffic we have ever had."

The remarks came as Mr. Torba said a cloud-services company had stopped hosting Gab. Payments firm PayPal Holdings Inc. also said on Saturday that it had canceled Gab's account, and was in the process of booting Gab before the shooting on Saturday.

Gab, popular on the alt-right, said in a post on its verified Twitter account Saturday night that it also expected online-payments firm Stripe Inc. to ban it, citing what it said was a message from the firm. Stripe declined to comment.

Gab said in a statement Saturday that it contacted the Federal Bureau of Investigation immediately after discovering an account linked to Mr. Bowers, the suspect in the shooting that killed 11 people.

"Gab unequivocally disavows and condemns all acts of terrorism and violence," the company said. It said it prohibits calling for acts of violence against others and threatening language that



FBI agents at the shooting site. The suspect used a social-media service that draws alt-right users.

"clearly, directly and incontrovertibly infringes on the safety of another user or individual."

On its website, Gab describes itself as: "An ad-free social network for creators who believe in free speech, individual liberty, and the free flow of information online. All are welcome."

The shooting Saturday was the second act of hatred in recent days to expose the way social-media services can be platforms for dangerous people to disseminate threats and intolerance that publicly foreshadow their violence.

Before Cesar Altieri Sayoc, the suspect in attempted bombings, allegedly mailed explosive material to prominent Democrats over the past week, he sent threatening messages on Twitter to a political analyst. She reported the tweet to the company, which left the message up—a decision it apologized for this weekend.

The episodes show how the perpetrators of mass acts of violence often are open in expressing hatred, and some-

times intentions, on internet platforms, including some like Gab that are filled with fringe politics and conspiracy theories. That raises questions about the platforms' responsibility for detecting and acting on such hate speech before they escalate to violence.

"We lead more and more of our lives online, so you have more and more of these digital crumbs that reveal what we are both thinking and capable of doing, whether it is our dating intentions to our voting intentions to our violent intentions," said P.W. Singer, co-author of the book "LikeWar: The Weaponization of Social Media" and senior fellow at New America, a think tank in Washington, D.C. He said sites need to do more to combat far-right extremism like that apparently behind recent incidents.

Gab launched in 2016, drawing many alt-right users, including neo-Nazis and other white supremacists upset by efforts by Twitter and other platforms to clamp down on

hate speech and other abuse. Gab in 2017 said it had more than 225,000 users.

Mr. Torba, Gab's founder, had previously launched a startup in Y Combinator, a prominent tech-startup incubator in Silicon Valley. He was kicked out of the program's alumni network in 2016 after the self-described conservative posted political views that prompted accusations of bigotry and racism from other founders in the network, Mr. Torba told tech-news website TechCrunch at the time.

Y Combinator and Mr. Torba didn't immediately respond to requests for comment about the incident Sunday.

Mr. Bowers appears to have used the site to express anti-Semitic views openly. "Jews are waging a propaganda war against Western civilization and it is so effective that we are headed towards certain extinction within the next 200 years," reads one message on Gab that Mr. Bowers reposted.

—Jay Greene

contributed to this article

Attack Suspect Active Online

BY ERIN AILWORTH
AND JAMES R. HAGERTY

PITTSBURGH—Robert G. Bowers, 46 years old, who has been charged with 29 federal counts in the killing of 11 people at a Pittsburgh synagogue on Saturday, was active on social media but left little footprint elsewhere.

He has no known employment, according to public records. The phone wasn't answered or messages weren't returned at listings for his mother, cousin and an aunt in the Pittsburgh area.

Current neighbors of Mr. Bowers described a man who kept to himself. He wore jeans and hoodies and was "very unremarkable, normal—which is scary," said Chris Hall, who lives immediately adjacent to the suspect's ground-floor unit in a two-story apartment building in the working-class Pittsburgh suburb of Baldwin.

Mr. Bowers returned greetings from his neighbors but otherwise had no interactions with them, said Mr. Hall.

Mr. Bowers appears to have attended Baldwin High, part of the Baldwin-Whitehall School District, though classmates struggled to recall Mr. Bowers as a fellow student in the late 1980s. A yearbook photo from 1989 shows a young, smiling

Robert Bowers with his shoulder-length hair parted down the middle and tucked behind his ears.

Baldwin High graduate Laurie Benkovich said Mr. Bowers' name sounded familiar when she heard it yesterday, but she couldn't place him even after staring at his yearbook photo.

Classmates weren't sure he graduated from high school. His picture doesn't appear in the school's 1990 yearbook. Baldwin High and district officials didn't return requests for

Robert G. Bowers is described by his neighbors as a man who kept to himself.



comment Sunday.

Mr. Bowers appears to have been active on Gab.com, a social-media site popular with far-right users that describes itself as defending individual liberty. Gab said it verified an account matching the shooting suspect's name.

On that site, a user with the name Robert Bowers posted about "invaders" and referred to an "overwhelming jew problem."



Robert Bowers's apartment in the Pittsburgh suburb of Baldwin.

FROM PAGE ONE

13 Harvard Admission Secrets

Continued from Page One
something to Harvard College that a Bostonian cannot offer."

Step 2: Scrap that. Move to

New York City or Boston.

Applications are divided into 20 geographic regions, with each docket containing roughly the same number of applications. For example, Texas is its own docket, while Alaska and nine states in the Mountain West make up another, according to a map shown during the trial.

Applicants from two dockets—the greater New York City and Boston areas—had admit rates of 11.3% and 12.8%, respectively, for the class of 2018. That's roughly double the rates for other dockets.

Step 3: Persuade a parent to become a chief or mechanic.

Harvard says the campus benefits when its students have parents in diverse jobs.

William Fitzsimmons, the school's director of admissions and financial aid, said during the trial earlier this month. "It's one thing to talk about migrant workers and immigration in the abstract. It's another thing to live with someone for four years who has lived that experience."

Step 4: Mark "classics" as your intended concentration.

For the class of 2018, 74% of applicants who said they planned to study humanities were admitted, compared with 4.6% of aspiring engineers and computer scientists.

Mr. Fitzsimmons said Harvard wants to woo more "humanists," with the hope that they can educate engineering and science majors "so they'll have a human basis for deciding how to use this powerful technology they're studying."

Step 5: Show how much you love learning.

Mr. Fitzsimmons testified that he looks for applicants who engage in academic opportunities "joyfully" and would "talk to you for hours

about their love of physics."

One student's essay, presented at trial, described his passion for discussing James Joyce's "Ulysses" at his high school book club.

Step 6: Tell your teachers to call you the best student ever.

Harvard instructs admissions officers to give top marks to recommendation letters if they are "truly over the top," with phrases like "the best ever."

Step 7: Tell a compelling story.

At trial, Harvard highlighted moving applicant essays, including one from a Vietnamese immigrant who was bullied in school for his accent. You want the admissions officers to think, as Mr. Fitzsimmons put it, "How could your heart not go out for this person?"

Step 8: Don't come off as arrogant, aggressive, unhappy or boring.

A sample applicant in Harvard's 2012 discussion guide was dinged after his teacher said he had "difficulties working with others who are less able than he."

Harvard's interviewer handbook said applicants who were "bland" should get low marks on the personal rating, which measures their personal qualities through their essays, recommendations and interviews.

Step 9: Do come off as mature, effervescent and kind.

Harvard repeatedly emphasized its desire for mature students at trial. The school also told interviewers to look for signs of "unusual effervescence" in applicants.

Step 10: Be an all-star hockey player.

Roughly 86% of recruited varsity athletes who apply to Harvard were admitted, according to trial testimony.

Step 11: Schedule your alumni interview at a coffee shop and instruct friends to casually stop by.

An alumni interviewer noted in an admitted student's application, released ahead of trial, that the interview was interrupted twice by classmate saying hello. The interviewer said they appeared to come from different social circles, indicating the applicant "may be friends with a wide variety of students in his school." Translation: Great roommate potential.

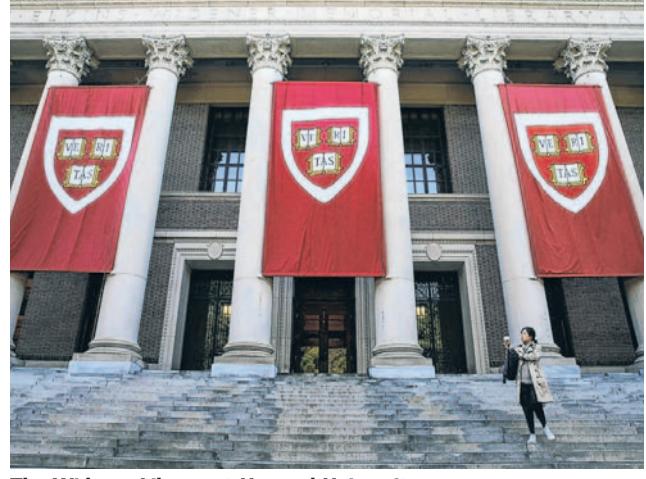
Step 12: Be very rich. Or very poor.

Children of major donors often get flagged by the development and admissions offices. Socioeconomically disadvantaged applicants also get special consideration. A 2013 study by Harvard found low-income students with top academic scores had an admit rate of 24%, compared with 15% for all other applicants.

And the admit rate among students with at least one parent who graduated from Harvard was 33.6%, more than five times the rate for everyone else, according to the plaintiffs' analysis.

Step 13: Hurry up.

If you are still intent on applying, you don't have much time. Harvard's early-action deadline is Thursday.



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WORLD NEWS

German Voters Deal Merkel Fresh Setback

The chancellor's party and its coalition partner suffer losses in Hesse state

By BOJAN PANCEVSKI

BERLIN—Chancellor Angela Merkel and her beleaguered government suffered a new blow after both her party and its coalition partner absorbed losses in Sunday's election in one of Germany's wealthiest states.

The poor showing in Hesse, home to Germany's financial industry, further exposes Ms. Merkel to a potential challenge to her leadership of the Christian Democratic Union, a possible step toward replacing her as chancellor.

Ms. Merkel's conservatives dropped to 27.2% of the vote in Hesse, while the Social Democrats, the Chancellor's junior coalition partners in the federal government, fell to 19.6%, according to exit polls by the ZDF broadcaster. In the last election, in 2013, the parties got 38.3% and 30.7% respectively.

The vote in Hesse marks the second major setback in recent weeks for both parties, which suffered similar losses in Bavaria earlier this month.

The results are likely to lend support to rivals Ms. Merkel within her party and increase the pressure to replace her as chairwoman at a party convention in December, according to Robin Alexander, a political journalist who wrote a best-selling book about Ms. Merkel's decision to open the country's borders to a large influx of asylum seekers in 2015.

They could also boost the drive among the Social Democrat grass roots to leave the coalition in a bid to stop the bleeding of votes. After exit polls were released, Andrea Nahles, the Social Democrat leader, said she would be making a series of proposals to



'We had no chance against this hurricane blowing in your face from Berlin,' said Volker Bouffier, acting prime minister of Hesse and local leader of Ms. Merkel's party.

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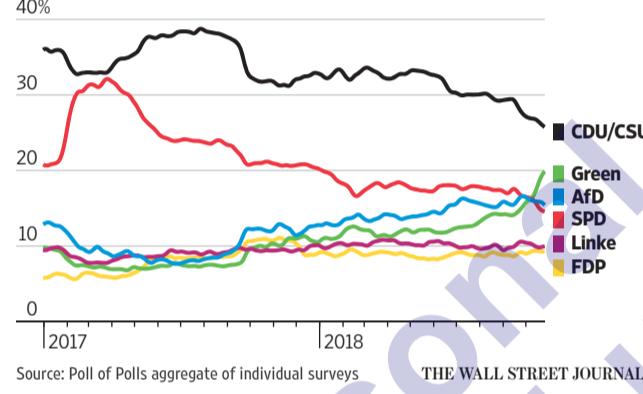
improve the work of the government and that the success of those efforts would determine whether the party would remain in the coalition.

"Federal politics have contributed to these losses. The state of the coalition is not acceptable," Ms. Nahles said in a news conference. She said that her party's continued participation in the government would depend on the implementation of a new "binding roadmap" for the coalition that she would present in the coming days.

Both parties have seen their ratings plummet since the federal election in September 2017. Last week, a nationwide Emnid poll found that Ms. Merkel's conservative bloc has shrunk to a record low of 24% support, down from 32.9%, while the Social Democrats

Fraying Center

Angela Merkel's CDU and coalition partner SPD have seen support plummet among German voters. Polls of voting intentions:



Source: Poll of Polls aggregate of individual surveys

THE WALL STREET JOURNAL.

dropped from 20.5% to 15%.

Hesse, home to about six million people, is currently ruled by a coalition between the conservatives and the

Greens, who nearly doubled their 2013 result and are projected to win 19.6% of the vote. The Social Democrats aren't part of the ruling coalition in

Hesse.

The anti-immigration party Alternative for Germany is projected to nearly triple its 2013 showing to 13% in Hesse, according to the exit polls, and would then be represented in all of Germany's 16 regional parliaments as well as in the federal assembly.

Hesse, an affluent region that hosts one Europe's key financial centers, Frankfurt, boasts near full employment, with joblessness at only 4.4%, below the national average.

Yet despite its success, Hesse has become the latest state to be engulfed by the polarization of German politics that has upended the party system since the migration crisis of 2015.

"Voters here were very satisfied but we had no chance against this hurricane blowing

in your face from Berlin," said Volker Bouffier, the acting prime minister of Hesse and local CDU leader. "We need less quarrels in Berlin, or better yet none at all."

The political turmoil has severely diminished Ms. Merkel's conservatives and the Social Democrats.

Ms. Merkel said last week that no more time should be "wasted" on debating the events of 2015. But in a sign of a mounting rebellion, one of her key leadership rivals, the health-care minister Jens Spahn, appeared on television on Sunday night after the polls closed in Hesse to say that the party had to find new ways to regain its strength before the December leadership election.

"We must strive to have debates, and not to try to shut them down," Mr. Spahn said.

Pope Assails Church's 'Persecution'

By FRANCIS X. ROCCA

ROME—Pope Francis told a gathering of bishops from around the world that the Catholic Church is being persecuted through accusations—an apparent allusion to clerical sex-abuse scandals that have undermined the credibility of the papacy and church hierarchy this year.

Addressing the closing session of a synod of bishops at the Vatican, the pope repeated warnings he has made in recent weeks against the "Great Accuser," or the devil, who "in this moment is accusing us strongly, and this accusation becomes persecution," and who seeks to "soil the church."

"This is the moment to defend our mother" the church, the pope said Saturday, in remarks unlikely to mollify critics who say he has failed to recognize the hierarchy's re-



Pope Francis celebrates Mass after the synod of Bishops on Sunday.

duct by a U.S. cardinal—the subject loomed over the proceedings.

Bishops addressed the issue during the first week of the monthlong synod, Archbishop Eamon Martin of Ireland said.

The 60-page final document devoted two paragraphs to abuse, calling for "rigorous measures of prevention," starting with the selection and education of clergy and other church employees. Quoting Pope Francis, the document lay much of the blame on an excessive deference to the church's hierarchy.

The final document is "frankly inadequate and disappointing on the abuse matter," Archbishop Charles Chaput of Philadelphia, a member of the council that organized the synod, said in an email. "There's very little sense of heartfelt apology in the text."

Irish Vote to Remove Law on Blasphemy

By PAUL HANNON

Ireland voted to remove a reference to blasphemy as a punishable offense from the country's constitution, paving the way for repeal of a law that criminalizes public utterances judged offensive to religious sensibilities.

The decision is the latest sign of the country's weakening adherence to the Catholic Church, which had itself described the constitutional reference as "obsolete."

Official results Saturday showed 65% of voters backed the removal of the blasphemy reference in a referendum the day before, a similar level of support given to a May proposal to remove a ban on abortion from the constitution and a 2015 amendment that allowed for same-sex marriage.

Minister of Justice Charlie

Flanagan said the outcome was "another reflection of the strong public support for a modern, liberal constitution."

Many European countries retain provisions that allow for prosecution, and in some cases imprisonment. In recent years, prosecutions under blasphemy laws have been used in defense of Islam and Christianity, although convictions are rare. Blasphemy isn't an offense in the U.S. given its constitutional protection for freedom of speech.

Although Ireland's criminalization of blasphemy dates back to the drafting of the constitution in 1937, nobody has ever been convicted and few have been investigated. Until 2009, the legal code didn't contain a definition of the offense that would have allowed for a successful prosecution.

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WORLD NEWS

U.S. Fears a Backlash to Israeli Strikes

BY GORDON LUBOLD
AND FELICIA SCHWARTZ

WASHINGTON—Israel has been conducting an aggressive military campaign across Syria against Iran-backed militia groups, an effort that has been encouraged by the White House but aroused the concern of many U.S. military officials.

While the White House has applauded Israel's assertiveness against Iran inside Syria, the military officials say they fear it could backfire if Iran's belief that the U.S. is behind many of the strikes prompts Iran-backed groups to attack American troops in Syria or Iraq.

"It's a growing concern for us," said a senior military official.

Israel has struck about 200 targets in Syria over the past 18 months, Israeli officials disclosed recently, both to block weapons shipments from Iran to Lebanese group Hezbollah and to prevent Iran from establishing a permanent military presence inside Syria. The targets included shipments of advanced weapons, military bases and infrastructure, the officials said.

The Pentagon said Israel is working on its own. "Israeli operations are independent," said Cmdr. Sean Robertson, a Pentagon spokesman, in response to questions about the issue. "However, we support Israel's inherent right to self-defense against imminent threats."

Cmdr. Robertson said that if an action on the battlefield puts U.S. military personnel at risk, commanders "would take appropriate measures," and that "U.S. forces are always prepared to defend themselves."

The White House position has been that Israel has the

right to defend itself and, further, that the U.S. welcomes Israel's attempt to thwart Iran's effort to create an "arc of control" leading from Iran west through Iraq, Syria and, ultimately, Lebanon.

"Iran and Hezbollah cannot be allowed to build an arsenal of weapons on Israel's border that threatens the region," a White House spokeswoman said in a statement.

John Bolton, President Trump's national security adviser, said during a visit to Israel in August that Israel's role has been an effective one.

"Every time Iran has brought missiles or other threatening weapons into Syria, Israel has struck those targets," he said.

At the Pentagon, however, U.S. military officials have expressed greater alarm. Their concern is that Iran believes the Israeli strikes stem from American intelligence fed to

The military worries Iran-backed groups could attack U.S. forces in Syria.

the Israelis specifically so they will launch the attacks.

If convinced of U.S. involvement, Iran could orchestrate reprisal attacks against American forces, particularly in Iraq, these officials said, where there are more than 5,000 U.S. troops stationed in the fight against Islamic State.

Iran has blamed the U.S. for Israel's strikes; Iranian officials didn't respond to requests for comment for this article.

Recent attacks by Shiite



Syrian troops near the town of Alhureyeh in August. Israel wants to keep Iran from establishing a permanent military presence in Syria.

groups against the U.S. in Iraq reinforced the officials' concerns. The State Department evacuated the U.S. consulate in the southern city of Basra in September after attacks the U.S. blamed on Iran-backed militias.

Iraqi officials said the U.S. evacuation was an overreaction, but U.S. military officials worry the attacks could be precursors to others on U.S. service members stationed in Iraq. No attacks from such groups against U.S. forces in Iraq have been reported, military officials said.

"This is a grave concern," said Nicholas Heras of the Center for a New American Security, a think tank in Washington. He said prospects of Iranian reprisals are higher in Syria, where specialized U.S. units are helping local forces extinguish remaining Islamic State fighters.

While the U.S. can lean more heavily on the Iraq government to prevent outside interference with American forces there, the U.S. has less influence in Syria, where there is no central government with which the U.S. is allied.

The U.S. has telegraphed its concern to Israel and to the Shiite government of Iraq, which could influence some

groups there, U.S. military officials said, while declining to specify what form the communication took. Israeli officials declined to respond to requests for comment.

The U.S. military officials acknowledged that their concerns are unlikely to take precedent over the close political relationship between the White House and Israel.

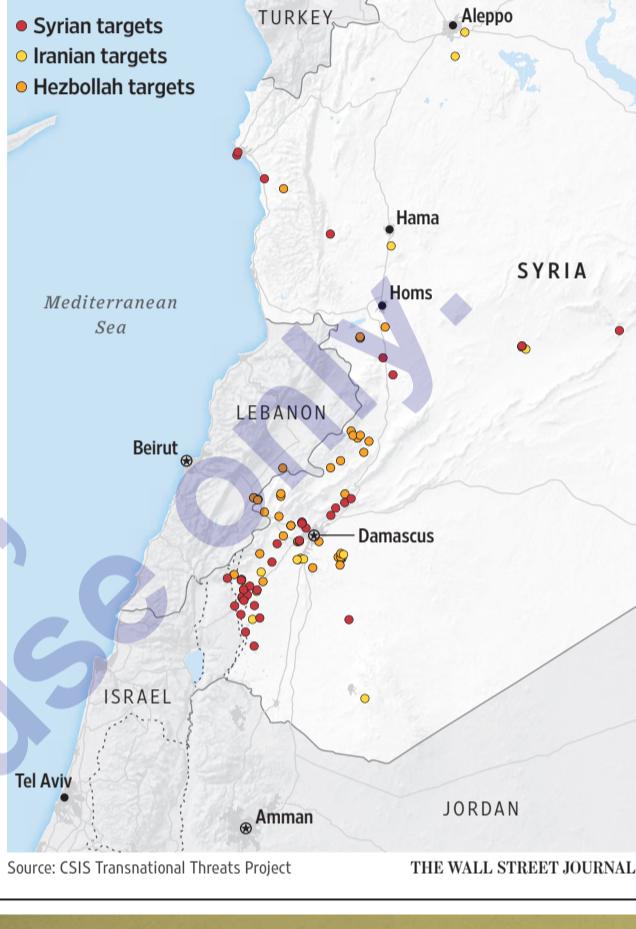
President Trump and Israel's Prime Minister Benjamin Netanyahu have forged personal ties that both men have touted. Mr. Trump has been largely supportive of Israel's foreign policy, and pulled the U.S. out of an international accord with Iran that Mr. Netanyahu had spent years lobbying against.

Israel is looking to Washington for support for its campaign in Syria amid increasing tension with Russia. Moscow blamed Israel after a Russian reconnaissance plane was shot down last month by Syrian antiaircraft fire which was defending against Israeli F-16s. The F-16s were targeting a weapons depot in Latakia used to prepare and transit equipment to Hezbollah, Israeli officials said.

—Sune Engel Rasmussen in Beirut contributed to this article.

An Aggressive Campaign

Israel said it has struck about 200 targets in Syria over the past 18 months. Known strikes from 2013-June 2018 are shown here.



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2. Actions speak louder than words.

You have directed everyone in your administration to focus on waste, irresponsible spending, and cut their budget by five percent. Require these agencies to report their monthly progress or lack of progress directly to you.

3. Beginning November 1, personally report monthly progress or lack thereof to the public.

It is obvious that government is wasting tax dollars – just look at the next page. Government spending can be reduced without negatively impacting vital government programs. This is indisputable. In fact, removing waste and irresponsible spending should improve the efficiency of every government department and program.

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FY2017 | OFFICE OF PERSONNEL MANAGEMENT

3,618 FEDERAL PUBLIC AFFAIRS OFFICERS – \$368.4 MILLION

FY2017 | 202 FEDERAL AGENCIES | OFFICE OF PERSONNEL MANAGEMENT

160,000 DEFAULTED SBA LOANS – \$24.2 BILLION

SINCE 2000 | SMALL BUSINESS ADMINISTRATION

LUXURY ARTWORK PURCHASES – \$20 MILLION

FY2007–FY2016 | DEPARTMENT OF VETERANS AFFAIRS

MISTAKES & IMPROPER STUDENT LOANS AND GRANTS – \$11 BILLION

FY2016–FY2017 | DEPARTMENT OF EDUCATION

SBA LOANS TO EXCLUSIVE CLUBS

(COUNTRY CLUBS, YACHT CLUBS, ETC.) – \$161 MILLION

FY2007–FY2013 | SMALL BUSINESS ADMINISTRATION

PURCHASING \$800 PENCIL HOLDERS & \$7,000 EXECUTIVE DESKS

FY2015 | ENVIRONMENTAL PROTECTION AGENCY

CIGAR TASTE TEST – \$114,375

FY2016 | ROBERT SCOTT | VIRGINIA–3 | DEMOCRAT

PROFESSIONAL GOLFERS CAREER COLLEGE – \$4.5 MILLION

FY2014–FY2017 | DEPARTMENT OF EDUCATION

MISTAKES & IMPROPER FARM SUBSIDY PAYMENTS – \$3.7 BILLION

FY2004–FY2017 | DEPARTMENT OF AGRICULTURE

USING E-DIARIES TO COPE WITH MICROAGGRESSIONS – \$173,089

FY2016 | ADAM KINZINGER | ILLINOIS–16 | REPUBLICAN

DANCING WITH 15-FOOT FISH – \$10,000

FY2016 | NATIONAL FOUNDATION ON THE ARTS AND HUMANITIES

MEDITATION BREATHING MOBILE APP – \$687,989

FY2016 | JIM CLYBURN | SOUTH CAROLINA–6 | DEMOCRAT

FARM SUBSIDIES INTO URBAN AREAS – \$626 MILLION

FY2015–2017 | POPULATION OVER 250K | U.S. DEPARTMENT OF AGRICULTURE

FARM SUBSIDIES INTO AMERICA'S 150 MOST EXPENSIVE ZIP CODES – \$4.8 MILLION

FY2017 | U.S. DEPARTMENT OF AGRICULTURE

389 FARM SUBSIDY RECIPIENTS OF +\$1 MILLION – \$667 MILLION

FY2017 | U.S. DEPARTMENT OF AGRICULTURE

12 MEMBERS OF CONGRESS COLLECTED FARM SUBSIDY PAYMENTS – \$637,059

FY2017 | U.S. DEPARTMENT OF AGRICULTURE

FUNDING A FREQUENTLY INVESTIGATED CHILDCARE FACILITY IN TEXAS – \$14.9 MILLION

FY2014–FY2016 | HEALTH AND HUMAN SERVICES

WHERE IT HURTS THE MOST TO BE STUNG BY A BEE – \$1 MILLION

FY2015 | NATIONAL SCIENCE FOUNDATION

NON-MILITARY AGENCIES PURCHASE GUNS, AMMUNITION, AND MILITARY-STYLE EQUIPMENT – \$2.2 BILLION

FY2006–FY2017 | 67 NON-MILITARY FEDERAL AGENCIES

IRS PURCHASE OF GUNS, AMMUNITION, AND MILITARY-STYLE EQUIPMENT – \$15.5 MILLION

FY2006–FY2017 | INTERNAL REVENUE SERVICE

VA PURCHASE OF GUNS, AMMUNITION, AND MILITARY-STYLE EQUIPMENT – \$17.5 MILLION

FY2006–FY2017 | DEPARTMENT OF VETERANS AFFAIRS

FLEET OF ARMORED VEHICLES – \$1.5 MILLION

FY2017 | DEPARTMENT OF HEALTH AND HUMAN SERVICES

REFRAMING BELIEFS ABOUT DEATH & DYING AMONG LATINOS – \$882,841

FY2015 | CORNELL UNIVERSITY | NATIONAL INSTITUTES OF HEALTH, HEALTH & HUMAN SERVICES

TALKING TO SAGUARO CACTUS – \$10,000

FY2016 | NATIONAL FOUNDATION ON THE ARTS AND HUMANITIES

USING SOAP OPERAS TO REDUCE HIV IN URBAN BLACK WOMEN – \$567,529

FY2016 | MIKE CAPUANO | MASSACHUSETTS–7 | DEMOCRAT

27' ARTIFICIAL CHRISTMAS TREE – \$21,500

FY2016 | DEPARTMENT OF VETERANS AFFAIRS

STUDY: HOW FACEBOOK AFFECTS ALCOHOL USE – \$147,686

FY2016 | JIM MCDERMOTT | WASHINGTON–7 | DEMOCRAT

SPACE RACERS: AN ANIMATED CHILDREN'S CARTOON – \$2.5 MILLION

FY2016 | MO BROOKS | ALABAMA–5 | REPUBLICAN

HIPSTER PARTIES – \$5 MILLION

FY2015 | NATIONAL INSTITUTES OF HEALTH

VIRTUAL REALITY TO TEACH CHILDREN IN CHINA HOW TO CROSS THE STREET – \$183,750

FY2016 | TERRI SEWELL | ALABAMA–7 | DEMOCRAT

SCHOOL OF WOODEN BOAT BUILDING – \$781,330

FY2014–FY2017 | DEPARTMENT OF EDUCATION

HISTORIC HOBO DAY – \$11,987

FY2016 | KRISTI NOEM | SOUTH DAKOTA–1 | REPUBLICAN

TAI CHI FOR THE ELDERLY – \$696,723

FY2016 | MIKE CAPUANO | MASSACHUSETTS–7 | DEMOCRAT

VIDEO GAME FOR YOUR FUTURE—SELF – \$651,498

FY2016 | ROBERT WITTMAN | VIRGINIA–1 | REPUBLICAN

STUDY: ARE PHYSICIAN TRAINEES RACIST? – \$932,741

FY2016 | TIM WALZ | MINNESOTA–1 | DEMOCRAT

LISTENING TO NATIONAL PARKS – \$20,000

FY2016 | DAN BENISHEK | MICHIGAN–1 | REPUBLICAN

PREVENTING TEEN PREGNANCY THROUGH THEATER – \$749,000

FY2016 | CHAKA FATTAH | PENNSYLVANIA–2 | DEMOCRAT

VIRTUAL SHOE-FITTING – \$902,789

FY2015–16 | MORGAN GRIFFITH | VIRGINIA–9 | REPUBLICAN

FY2015–16 | ANNA ESHOO | CALIFORNIA–18 | DEMOCRAT

THE DICTATOR GAME – \$56,118

FY2016 | CHARLIE RANGEL | NEW YORK–13 | DEMOCRAT

VIDEO GAME: THE LOGICAL JOURNEY OF THE ZOOBINIS – \$658,388

FY2016 | KATHERINE CLARK | MASSACHUSETTS–5 | DEMOCRAT

RESEARCHING STIGMATIZATION OF DANISH SMOKERS – \$330,176

FY2016 | LOU BARLETTA | PENNSYLVANIA–11 | REPUBLICAN

STUDY: DISEASE SUSCEPTIBILITY OF TRANSLOCATING TORTOISES – \$350,773

FY2016 | GLENN THOMPSON | PENNSYLVANIA–5 | REPUBLICAN

MOBILE APP FOR SEX DIARY – \$1 MILLION

FY2016 | GRACE NAPOLITANO | CALIFORNIA–32 | DEMOCRAT

CONVINCING MOTHERS TO STOP TEEN GIRLS FROM USING TANNING BEDS – \$671,522

FY2016 | ED PERLMUTTER | COLORADO–7 | DEMOCRAT

VIDEO GAME TO ENCOURAGE PEOPLE TO QUIT SMOKING – \$1.3 MILLION

FY2014–FY2017 | HEALTH AND HUMAN SERVICES

650 FEDERAL GARDENERS & LANDSCAPERS – \$44 MILLION

FY2016 | U.S. OFFICE OF PERSONNEL MANAGEMENT

MEASURING BLOOD PRESSURE AT BLACK BARBERSHOPS – \$2.1 MILLION

FY2016 | ADAM SCHIFF | CALIFORNIA–28 | DEMOCRAT

REPLACING A FLOATING BATHROOM IN UTAH – \$227,795

FY2016 | CHRIS STEWART | UTAH–2 | REPUBLICAN

SMART WALK: AN EXERCISE MOBILE APP FOR AFRICAN-AMERICAN WOMEN – \$92,393

FY2016 | KRYSTEN SINEMA | ARIZONA–9 | DEMOCRAT

VIDEO GAMES TO FIGHT OBESITY AND DIABETES – \$537,250

FY2016 | AL GREEN | TEXAS–9 | DEMOCRAT

EPIDEMIC SIMULATION GAME FOR HIGH SCHOOL STUDENTS – \$350,236

FY2016 | DAVID MCKINLEY | WEST VIRGINIA–1 | REPUBLICAN

HOW AIR POLLUTION AFFECTS BIRTH BY RACE – \$788,664

FY2016 | JERRY MCNERNEY | CALIFORNIA–9 | DEMOCRAT

MOBILE APP FOR OBESITY AND STRESS – \$690,333

FY2016 | JAMES McGOVERN | MASSACHUSETTS–2 | DEMOCRAT

TESTING FDA MESSAGING ON TOBACCO ADVERTISING – \$4 MILLION

FY2016 | DAVID PRICE | NORTH CAROLINA–4 | DEMOCRAT

CHILDREN'S CYBERSECURITY CARD GAME – \$296,621

FY2016 | DANNY DAVIS | ILLINOIS–7 | DEMOCRAT

WORLD NEWS

In Iranian Port, a U.S. Sanctions Dilemma

BY BILL SPINDLE
AND RAJESH ROY

A port being developed in the southern Iranian city of Chabahar underscores some of the dilemmas U.S. policy makers face in implementing sanctions against Tehran.

Strategically located on the Gulf of Oman and named for an Iranian revolutionary war hero, the Shahid Beheshti Port is exactly the sort of Iranian economic development the Trump administration wants to stop with sanctions that kick in on Nov. 5.

Those measures aim to punish Iran for what the U.S. sees as unacceptable behavior in Syria, Lebanon, Yemen and elsewhere. They follow the Trump administration's decision this year to withdraw from an international deal struck with Iran in 2015 to prevent Iran from developing nuclear weapons.

Once completed, the port—a small part of which started initial operations in December—could help Iran by strengthening economic ties with South and Central Asia, providing an export point for its oil beyond the Persian Gulf and functioning as a strategic military asset.

But it could also be a critical economic lifeline for Af-



A cargo ship docked at the new extension of the port in Chabahar, Iran, near the border with Pakistan in December.

ghanistan, where the U.S. has tried for 16 years to strengthen and stabilize the government so thousands of U.S. troops can come home.

The port also could be a big boon to India, an increasingly close partner of the U.S. in Asia. India wants Chabahar port activities exempted from sanctions. Indian companies are mostly equipping and operating the facility. If the port is completed, they are expected to be among the biggest users of the port in order to participate in the reconstruction of Afghanistan—something the Trump administration has asked India to get more involved in—and establish a stronger economic pres-

ence in Central Asia.

"There's such a strong case to be made in terms of India's ability to create lines of communications and transport up to Afghanistan," said Richard Rossow, a South Asia expert at the Center for Strategic and International Studies in Washington. "But you just never know if it's going to pique in-

terest in the White House one day and suddenly things change."

Sanctions law allows the president to grant exemptions for projects intended to help reconstruct Afghanistan, one way the port development could continue. The Trump administration hasn't decided whether to grant exemptions,

but has said the intent of sanctions isn't to punish Afghanistan or India.

High-level Iranian, Indian and Afghan officials also have been shuttling among their respective capitals in recent months to find ways to carry on the work even if no exemptions are granted. That may include making payments through a mechanism European countries are trying to devise to continue doing business with Iran despite U.S. sanctions.

The Chabahar port has long been seen as a potential way around Pakistan, a sworn enemy of India that believes holding sway over Afghanistan is critical to its own security.

Pakistan has squelched trade between India and Afghanistan across its territory. It wants Afghanistan to eventually transport goods through a competing Pakistani port on the Gulf of Oman that is being developed with China.

"If you stop Chabahar, you make Afghanistan permanently dependent on Pakistan," said Barnett Rubin, a New York University expert on South Asia who has advised Western governments on policy in Afghanistan and the surrounding region.

—Aresu Eqbali contributed to this article.

FROM PAGE ONE

IBM to Acquire Red Hat

Continued from Page One

Red Hat will help IBM with that effort because it is a leading provider of open-source software and services that help companies bridge different platforms, she said.

The deal comes nearly

seven years into Ms. Rometty's struggle to revamp the 107-year-old company by shrinking older, slower-growth lines of business and focusing heavily on cutting-edge technologies like artificial intelligence and cloud computing. That effort led to nearly six years of falling revenue, which IBM finally reversed in January with three straight quarters of growth.

But in the latest quarter IBM's revenue dipped 2.1%, despite the booming corporate tech-buying market. IBM's stock price is down 19% over the past year. For this year, an-

alysts expect IBM to record \$79.75 billion in revenue and adjusted profits of \$13.80 a share, according to S&P Global Market Intelligence. In 2011, the year before Ms. Rometty became CEO, IBM posted \$106.92 billion in revenue and adjusted profits of \$13.44 a share.

IBM plans to pay \$190 a share for Red Hat in what IBM said would be its largest acquisition ever. IBM plans to use cash and debt to make the acquisition. At the end of the third quarter, it held \$14.7 billion in cash.

IBM is paying an unusually

large premium in the deal, at 63% above Red Hat's closing stock price of \$116.68 on Friday. IBM said that the deal, including debt, is worth \$34 billion. Using Red Hat's most recently disclosed number for shares outstanding, the equity value of the deal is just under that.

Founded 25 years ago, Red Hat has grown into the dominant provider of the Linux operating system to corporations. While Linux is available free of charge, Red Hat sells a version of Linux that contains software enhancements and the high level of technical support that corporations require. The company reported \$2.9 billion in revenue for its most-recent fiscal year, which ended in February 2018.

"IBM has deep, deep customer expertise...in a way that can dramatically accelerate our business," Red Hat CEO Jim Whitehurst said in an interview.

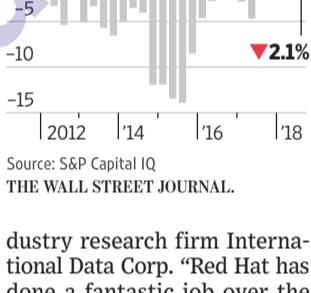
For IBM, Red Hat's Linux and other software assets represent an opportunity to sell products to corporate software developers who are building complex applications that can run on both cloud-computing platforms such as Amazon and Microsoft as well as in-house data centers.

"I think this is a very good and strategic move for IBM," said Crawford Del Prete, chief operating officer with the in-

Turnaround Stalls

IBM returned to declining quarterly revenue after a brief streak of gains.

Revenue change from previous year



Source: S&P Capital IQ
THE WALL STREET JOURNAL.

dustry research firm International Data Corp. "Red Hat has done a fantastic job over the last few years becoming relevant to developers and helping developers not only with Linux, but also with the tools on top of Linux."

Red Hat, based in Raleigh, N.C., will operate as a distinct unit within IBM's Hybrid Cloud team. And IBM intends to retain all of Red Hat's roughly 12,600 employees, Ms. Rometty said. IBM currently has just under 370,000 employees.

As companies move more of their computing to the cloud, they're choosing multiple cloud providers—Amazon and

Microsoft for cloud-infrastructure, for example, and Salesforce.com Inc. and Workday Inc. for applications. Ms. Rometty is betting that Red Hat will help IBM offer software and services to help companies bridge those technologies with applications that run in their own data centers.

"Already they can see what I would call cloud sprawl, and they have to have a way to manage it," Ms. Rometty said.

Open-source software is key because it eases customers' ability to move their computing among various cloud providers and from their own data centers.

The challenge for IBM is that rivals have raced ahead in the business. In the worldwide cloud-infrastructure market, IBM had 1.9% share of revenue in 2017, according to market-research firm Gartner Inc. Market leader Amazon took 51.8% of the market. IBM also trailed Microsoft, Alibaba Group Holding Ltd. and Alphabet Inc.'s Google.

Red Hat provides IBM with its flagship operating system, Red Hat Enterprise Linux. The software company has focused its resources on a new product called OpenShift, which lets corporate software developers build programs that run on specialized software, called containers, which can in turn be run either in corporate data centers or on the cloud. Having Red Hat's Linux and container software in its product portfolio will help IBM remain relevant to corporate developers who are looking to leverage cloud computing, said Mr. Del Prete of IDC.

Within Red Hat on Sunday, some employees expressed concerns that the acquisition could tamp down Red Hat's more freewheeling corporate culture, where employees are encouraged to participate in the development of open-source software projects, even if they are not core to Red Hat's business. "There's still a very passionate core at Red Hat who really believe in the open-source mission," said one employee.

Another Red Hat employee said he was also worried that its culture would change, but said he expected IBM's marketing might and its wide sales reach among global corporations would be a boon for Red Hat. "If we can leverage those resources and continue to operate the way we are, that might be the best of both worlds," he said.

IBM intends to retain Red Hat's culture, as well as its brand, Ms. Rometty said.

IBM said the deal will start to boost its free cash flow and gross margin within 12 months and accelerate revenue growth.

The acquisition, which has been approved by the boards of both IBM and Red Hat, is expected to close in the latter half of 2019.

—Dana Mattioli contributed to this article.



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WORLD NEWS

China's Smaller Cities Compete for Talent

Cash payments and housing subsidies are part of an ambitious bid to draw elites

BY DOMINIQUE FONG

XIAN, China—This ancient city, famed for its terra-cotta warriors, is at the forefront of a more modern Chinese battle: for skilled workers.

As China's economy slows, dozens of cities like Xian are ramping up efforts to attract college graduates from megacities like Beijing and Shanghai and to siphon engineers, scientists and executives from one another.

Exploiting discontent over high housing costs, traffic jams and pollution, the mid-size cities are offering cash payments, cost-of-living enticements and generous housing subsidies in an ambitious bid to draw elites.

These urban centers are also dangling the promise of a quick hukou—an urban residency status that unlocks access to social and financial privileges such as a home, which many Chinese see as vital to prosperity.

In July, 37-year-old medical specialist Sun Yang did what

was until recently unthinkable: He switched his hukou from the coveted status of big-city Guangzhou to that of the smaller Xian, becoming a local resident in less than a day. "I was so surprised. I never thought they'd make it this easy," he said, as he prepared to apply for the city's more generous social benefits.

The tussle for talent shows how Chinese cities are competing not just to survive, but to thrive. The challenge is a global one: Communities try to attract educated workers who can spread knowledge and help their economies.

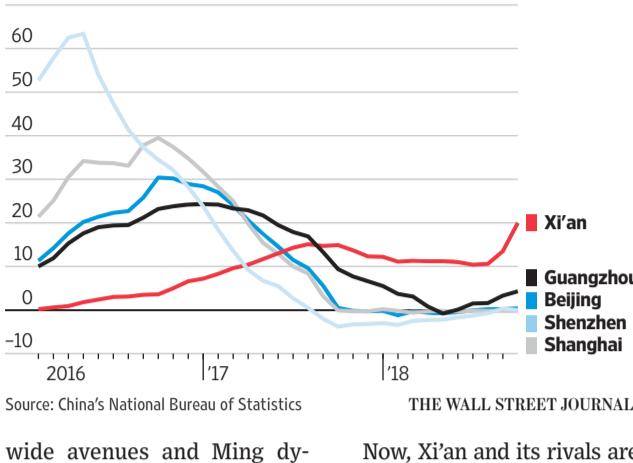
In China, the development is part of a broader plan to decentralize growth in big coastal cities and draw migrants to other regional economies. Much of China's growth has been concentrated in megacities with tens of millions of people, like Beijing and Shanghai, which limit hukous to cap their population.

Xian, with about 12 million people, is positioning itself as a modern hub of innovation and a showcase of Chinese history and culture. A high-tech zone on the southern outskirts is taking shape, as is a new central business district. At night, rows of lights shine on

Heated Market

Xian's aggressive job recruitment efforts inadvertently sparked property speculation.

Change from previous year in home prices:



Source: China's National Bureau of Statistics

THE WALL STREET JOURNAL.

wide avenues and Ming dynasty bell and drum towers.

He Chen, a 31-year-old chief executive of a robotics company, said only five of his cohort of 30 college classmates remained in Xian after graduation a decade ago. Most headed to wealthy Chinese megacities with dreams of a prestigious job, a soul mate and an apartment. "They left because they didn't have any hope here," said Mr. He. "There was no Alibaba. There was no innovation."

Now, Xian and its rivals are selling themselves as easy-living and low-cost alternatives to a younger generation. Last year, the average cost of a home was 40 times disposable household income in Shenzhen, 28 times in Shanghai and 26 in Beijing, according to data provider Zhongfang Institute, a housing ministry affiliate. In Xian, it was less than 10 times.

Such considerations persuaded Xin Zhenhang, a 26-year-old employee of a state-

owned financial group, to move from Beijing to Hangzhou in May after the prosperous southern city known for its scenic freshwater lake offered him an enticement of nearly \$3,000. "In comparison, life in Beijing is just rough," he said.

In Shanghai, Kai Mai, a senior manager at an education-tech company, recently lamented the loss in July of an engineer who was lured by nearby Nanjing city, which offers housing subsidies as high as \$432,000 for the most prestigious candidates. "Basically, [young people] don't see a future in Shanghai," Mr. Mai said.

Wuhan, a growing tech hub in central China, engaged in a tit-for-tat battle for talent with Xian. In January of last year, Xian eased its hukou limits, tempting college graduates under the age of 35 to settle in the city. A month later, Wuhan unveiled a plan to attract and retain 1 million college graduates within five years through living allowances and rent subsidies.

Not to be outdone, Xian announced what it said was the "most relaxed household registration policy in history" and lifted the age limit to 45. Wuhan hit back with business loans of up to \$289,000 and a 20% discount on houses.

Both cities appeared to benefit. Nearly 440,000 college grads moving to Xian since the start of 2017, nearing the halfway mark of its five-year target, according to government documents and interviews. About 282,000 college grads settled in Wuhan over the same period, according to state media Xinhua and government websites.

"Competition is as fierce as a battlefield without smoke," said Li Ningjun, chief of Xian's outreach effort, using a Chinese expression to describe the determination to win. "It's never been as important as it is now."

Xian's economy grew 8.2% in the six months to June from the same period a year earlier. Global companies like Amazon and Johnson & Johnson plan to build large new facilities there, promising more jobs.

Whether these cities can retain talent is another question. In 2018, a worker in Xian made on average about 70% of the pay in Shenzhen and just 60% of that in Beijing, according to Zhaopin, an online jobs listing website. That came as housing costs soar in Xian and other cities due to property speculation driven by the recruitment efforts.

—Liyan Qi and Lin Zhu contributed to this article.

Brazil Vote Turns to The Right

Continued from Page One
he said in a televised address, speaking from his home in Rio de Janeiro, where he has been recovering from a near-fatal stabbing earlier in the campaign.

Flanked by his wife, a sign-language interpreter and a black member of the armed forces, he promised to unite Brazilians, reaffirming his plans to overhaul public finances and negotiate more trade deals with developed nations. In a later video posted to Facebook, he said President Trump had called him to "wish us good luck."

Mr. Bolsonaro, a devout Christian who was recently baptized in the Jordan River, also prayed with evangelical leaders, as thousands of supporters gathered outside his home, setting off fireworks and waving Brazil's yellow and green national flag.

"We know he's not perfect, he's a human being like the rest of us, he says stupid stuff, he's intemperate, but even so he's the best hope we have for a better Brazil," said Eliana Falcão, a 41-year-old elementary-school teacher, with green and yellow stripes painted on her face.

Like many of Mr. Bolsonaro's supporters, she voted for the military man to prevent the return of Mr. Haddad's Workers' Party. "We want to get rid of this band of left-



Jair Bolsonaro, right, greeted supporters after voting in Rio de Janeiro on Sunday, while rival Fernando Haddad did the same in São Paulo.



FERNANDO MARIA/EPA-EFE/REUTER

the Workers' Party from his cell in southern Brazil, holding frequent tête-à-têtes with Mr. Haddad, who registered as his lawyer to secure regular visitation rights.

"I've never seen so much anger before," said Wanderlei Guedes, a clinical psychologist in Brasilia for 25 years, who said his patients have increasingly come to him after falling out with friends and work colleagues over the election.

Mr. Bolsonaro's victory marks the rupture of a party system that was established after the end of military rule in the mid-1980s, mirroring both the rise of antiestablishment politics and populist nationalism across the world.

Running for the previously little-known conservative PSL Party, Mr. Bolsonaro is the first presidential winner since 1989 who isn't from the Workers' Party or Brazil's centrist PSDB Party.

"Bolsonaro won the presidential election with a comfortable margin, riding on a strong antiestablishment wave of voter anger against Brazil's traditional parties and politicians," said Christopher Garman at political-risk firm Eurasia Group, but adding that he would likely have a tough road ahead.

Voter disenchantment means he will likely enjoy only a short honeymoon period, making it even harder to pass the deep fiscal changes he has promised, especially since he has vowed not to swap government posts for congressional support. "His unorthodox campaign looks like it will translate to an unorthodox administration," said Mr. Garman.

—Jeffrey T. Lewis and Paulo Trevisani contributed to this article.

Crime Fight, Lift to Economy Promised

Some analysts say Bolsonaro will be able to carry out agenda

the past 15 years and oversaw the country's deepest recession on record as well as the vast Car Wash corruption scandal.

Speaking after the result Sunday, Mr. Haddad said he would continue to guard over his supporters, who fear Mr. Bolsonaro will set back gay and women's rights, bully political opponents and pose a

threat to the country's young democracy.

"I saw the anguish and fear on many people's faces...but don't be afraid, we will be here, we will be with you," he said.

Sunday's vote ends one of the most turbulent election campaigns in Brazil's recent history, which has sparked ran-

corous feuds between families and friends.

After surviving an assassination attempt in September, Mr. Bolsonaro, 63 years old, has mostly campaigned from his Rio de Janeiro home, firing up supporters and taunting adversaries via social media.

Meanwhile, Mr. da Silva has continued to call the shots for

assets and cut red tape and regulations, among other things. Longer-term growth will depend on whether he follows through on his economic plans—and whether Congress backs them.

Mr. Bolsonaro could rack up early legislative wins.

His apparent success in winning over voters should help him gain the support of enough members of Congress to get many of his proposals approved. His party won 52 seats in the 513-seat lower house of Congress, up from one seat in the 2014 election, and he is expected to have the backing of

large groups of evangelical and farm-state legislators who like his espousal of Christian values and his plans to ease regulations on farmers.

More social tension is likely.

Mr. Bolsonaro has let loose rhetorical assaults on women, gay people, blacks and indigenous peoples.

The fight against crime will get more violent.

One of Mr. Bolsonaro's main promises is to get tougher on criminals in a country that saw nearly 65,000 murders last year. He has said he favors al-

lowing police to be more violent with criminals in Brazil, which already has among the world's highest rates of killings at the hands of police. He has proposed using the army to fight crime, a move some analysts say the military will resist.

The military returns to government, with a twist.

Generals last ran Brazil from 1964 to 1985, and Mr. Bolsonaro, a former army captain, has praised the country's stability under that dictatorship. He has said he would load up his cabinet with top military officials.

—Jeffrey T. Lewis

WORLD WATCH

SRI LANKA

Politicians Clash Over New Premier

Sri Lanka was caught in a crisis as politicians clashed over the surprise appointment of a former president, Mahinda Rajapaksa, as premier.

On Friday, President Maithripala Sirisena brought in Mr. Rajapaksa, an authoritarian figure. Critics said he could push the nation away from reconciliation with its Tamil minority.

The prime minister ousted, Ranil Wickremesinghe, refused to leave the prime minister's residence.

—Uditha Jayasinghe

GEORGIA

A Final Direct Ballot Vote for President

Residents of Georgia on Sunday voted for a new president of the former Soviet republic, the last time the president will be elected by direct ballot.

Polls suggested that none of the 25 candidates was likely to receive the absolute majority need for a first-round win.

No results had been announced as of early Monday.

—Associated Press



Sri Lanka's former president and new prime minister, Mahinda Rajapaksa, second from right.

MEDITERRANEAN SEA

Rescuers Save 520 Migrants at Sea

Spain's maritime rescue service says rescuers saved 520 people trying to cross from North Africa to Spain Saturday.

The service said that in one of the rescues the bottom of a rubber boat gave out, tossing

56 migrants into the water. Rescuers saved 55 men, women and children, but a baby drowned.

PREMIER LEAGUE

Leicester City Owner Dies in Air Accident

Leicester City owner Vichai Srivaddhanaprabha, the Thai bil-

lionaire whose investment in the English soccer club led it to a Premier League championship, died in a helicopter crash Saturday day outside the stadium named after the duty-free retail giant that he founded.

Two members of his staff and two pilots were also among the dead, Leicestershire Police said.

—Joshua Robinson

Indonesia Jet Crashes Carrying 188 People

BY BEN OTTO AND GAURAV RAGHUVANSI

JAKARTA, Indonesia—A Lion Air jetliner carrying 188 people crashed shortly after takeoff Monday morning from Jakarta in what was the first accident involving a new variant of the popular Boeing 737.

Yusuf Latif, a spokesman for Indonesia's search and rescue agency, confirmed that the plane crashed. Port authorities said that vessels had been deployed to an area off the coast of Java, the archipelago nation's main island, to the area where it was last heard from.

Indonesia's air-traffic-control authority said it lost contact with Flight JT610 at 6:33 a.m. Indonesia time, about 13 minutes after it took off from Jakarta's main airport for Pangkal Pinang, a city on the island of Bangka, near Sumatra.

The Transportation Ministry said the aircraft was carrying 181 passengers and seven crew members and that the plane's pilots had requested to return to the Jakarta airport before disappearing from radar.

The aircraft was a new Boe-

ing 737 MAX 8 jet delivered to Lion Air in August, according to Flightglobal, an aviation publication and aircraft database. It was fitted with CFM International LEAP-1B engines, which with other technological improvements make the plane more fuel- and cost-efficient for airlines to operate.

The aircraft was a new Boeing 737 MAX 8 jet delivered to Lion Air in August.

A spokesman for the Chicago-based plane maker said: "Boeing is aware of reports of an airplane accident and is closely monitoring the situation."

Boeing has orders for more than 3,000 of the jets and has delivered around 220 since it started flights last year. Lion Air has received 13 so far, according to Boeing's website.

—Andy Pasztor and I Made Sentana contributed to this article.

GREATER NEW YORK

Ready for Howl-oween: Pooches Parade at Annual Manhattan Event



ALL DRESSED UP: A lucky dog named Louie capitalized on recent lottery fever as costumed canines took part Sunday in the 28th annual Tompkins Square Halloween Dog Parade, which was moved this year to the amphitheater at East River Park. Below, a pup named French Toast-Toasty for short—got into the spirit. Virginia Rodriguez and her dog, Oreo, opted for a 'Nightmare Before Christmas' theme. Sadie, accompanied by owner Theresa Moriarty, donned a tasteful cupcake outfit.



GOP Contender Runs on Business Résumé

BY JOSEPH DE AVILA

corporate boards.

Current Gov. Dannel Malloy, a Democrat, has declined to run for a third term.

Mr. Stefanowski has made phasing out the state income tax the centerpiece of his campaign. He says the tax, which produced \$10.7 billion in revenue in the fiscal year that ended in June 2018, is the root cause of Connecticut's sluggish economy. Mr. Lamont said the idea is unrealistic and would result in unsustainable cuts to state services.

GE was where Mr. Stefanowski first made a name for himself. He started in an entry-level position as a financial analyst during the 1990s, he said, and moved up the ranks. He was eventually promoted to company officer.

"That just speaks volumes in terms of what people thought about him at the company," said Benjamin Bernstein, who worked on business acquisitions with Mr. Stefanowski in GE Capital's equipment-management business during the late 1990s.

Mr. Stefanowski left GE in 2008 to manage the North American and Asian operations of 3i Group PLC, a private-equity company based in London. There, he established the company's presence in China and Brazil, said Stuart Howard, who served as Mr.



Bob Stefanowski says his experience will benefit Connecticut.

Stefanowski's chief operating officer during that time.

"Everything he did he did with a strategic view," Mr. Howard said. "He's able to manage a whole load of projects through a team."

Mr. Stefanowski departed from 3i Group in 2011, and UBS hired him for its chief financial officer role. The company managed a \$500 billion balance sheet spread over 35 countries, Mr. Stefanowski said—one of his main selling points to voters.

"We have a \$40 billion biennium budget in the state of

Connecticut," he said. "I've run businesses bigger than the state of Connecticut, which I think is an important skill set to have."

In 2014, he fulfilled another of his goals: becoming CEO of a large company. The post would also become controversial when he entered politics. From 2014 to 2017, he ran DFC Global Corp., a Pennsylvania company that offers payday loans and other financial services.

He recruited Mr. Howard to run DFC's U.K. business as the company was facing scrutiny from regulators in the U.S. and the U.K. "Bob and I come from

working-class backgrounds. We share similar values. People of all classes, wages, need access to credit," Mr. Howard said. "And we wanted to facilitate that and wanted to do it in a responsible way."

DFC, however, is banned from doing business in Connecticut because the loans it offers exceed the state's cap on interest and fees for such products, which is 36%. Democrats have criticized Mr. Stefanowski for working at the company and say it raises questions of whether he would protect the rights of consumers if he was elected governor.

"I think he's a loan shark. I think it's an unethical industry," said state Rep. Matt Lesser, a Democrat and co-chairman of the Legislature's banking committee.

Mr. Stefanowski said he cleaned up the company when he was brought on as CEO, firing most to the firm's top executives. He said the company began offering a product at a lower interest rate, overhauled its collections practice and introduced financial-literacy training for customers.

"I'm proud of what I did with that company. It's a segment of the population that needs help," Mr. Stefanowski said. For Democrats "to come at me on that, I think it just shows their desperation."

State Hiring Process Examined

Panel to look into how man accused of sexual assault got Murphy administration post

BY KATE KING

New Jersey lawmakers are gearing up for hearings into why a man accused of sexual assault was hired by Gov. Phil Murphy's administration.

Both chambers of the state Legislature are scheduled to vote Monday to authorize an oversight committee tasked with reviewing how members of Mr. Murphy's transition team and administration handled the hiring. The 15-member committee is expected to grant itself subpoena power, although each subpoena would require the approval of the committee's co-chairwomen and vice-chairwomen as well as the Senate president and Assembly speaker.

Katie Brennan, chief of staff at the state's housing agency and a former volunteer for the governor's election campaign, said she hopes to testify before the committee. Ms. Brennan accused Albert Alvarez, a former campaign staffer who was later hired at the New Jersey Schools Development Authority, of sexually assaulting her in April 2017.

Ms. Brennan reported the alleged attack to police and prosecutors, who declined to charge Mr. Alvarez last year. Mr. Alvarez, who has denied the allegations through his lawyer, resigned from his state post earlier this month.

"I hope that the committee hearings result in serious systemic change," Ms. Brennan said. "We need to eliminate the civil statute of limitations. We need training for prosecutors, judges and first responders. Most importantly, we need progressive reform directing prosecutors to aggressively pursue sexual assault cases."

Members of Mr. Murphy's transition team were aware that Mr. Alvarez had been accused of sexual assault, but hired him after learning that investigators had declined to charge him. Mr. Murphy, a Democrat, said earlier this month that Mr. Alvarez shouldn't have been hired.

Assemblywoman Eliana Pintor Marin, who will co-chair the committee, said she expects its inquiry to focus mainly on Mr. Alvarez's hiring.

"I think what we need to take a look at is if you're being hired for a certain level of government, how do we better yet those people while still giving the governor the leeway to hire a candidate that he thinks is fit," said Ms. Marin, a Democrat.

The panel's other chair, Democratic Sen. Loretta Weinberg, said she also wants the committee to issue broader recommendations, including antiharassment policies that will apply to all state agencies.

Harlem Condo Sale Sets Uptown Record at \$9.4 Million

BY JOSH BARBANEL

At a time when the luxury housing market is in a slump across Manhattan, a sprawling new penthouse on the edge of Harlem set a record for the most expensive uptown condo sale at more than \$9.4 million.

The penthouse at Circa Central Park on the corner of West 110th Street and Frederick Douglass Boulevard has five bedrooms, a 30-foot living room, a full dining room and two terraces looking out over Central Park above the tree line. It was the most expensive condo sale above 96th street on Manhattan's West Side and 102nd Street on the East Side, according to real estate broker Corcoran.

Brokers said the sale flags the growing appeal of an address in edgier uptown neighborhoods for affluent buyers who can afford to live anywhere.

At the same time, they said, it highlights how in the current weak luxury market, wealthy apartment hunters are



carefully weighing the comparative costs of buying and owning a grand apartment in different locations.

The sale of the 11th-floor apartment by Circa developer Artimus closed on Thursday, for a price of \$9.45 million, according to Steve Gold, a Corcoran broker who represented the seller. The identity of the buyer wasn't disclosed. The purchaser was listed as Circa North Star LLC, a newly created entity.

Mr. Gold said the apartment was listed for \$9.8 million, and sold at about a 4% discount. It

went into contract in September, he said.

The penthouse is 3,734 square feet, not including 1,200 square feet of outdoor space, or about \$2,531 a square foot.

That price is a bargain compared with the per-square-foot price of some large units with outdoor space in new buildings on the Hudson River or along Central Park South, running between 30% to 50% more.

But the Circa apartment also comes with a huge advantage: a 25-year tax abatement, which is no longer available to new luxury buildings. Mr. Gold said it would be worth more than \$2 million in tax savings over 25 years.

The annual taxes are \$6,971, instead of \$49,425 without the abatement, according to the latest tax bill for the penthouse.

"Buyers are no longer making quick decisions," Mr. Gold said. "They have to fall in love with the product, see quality and after the emotional part they have to feel there is relative value" compared with

other apartments.

Circa Central Park is a modern concrete building, with a curved facade facing a traffic circle. It was built on the site of what had been a city-owned gasoline station.

It went on the market in 2015, and so far half of its 38 market-rate apartments have been sold. Mr. Gold said the developers were comfortable with their current asking prices, despite the slowdown in the market.

"Harlem isn't a value play anymore," said Julia Boland, a Corcoran broker who wasn't involved in the Circa penthouse sale. She said many buyers, including older couples moving back to the city from the suburbs, choose Harlem for "the creativity, the edginess, the sense that new things are being created every day."

"People with \$9 million to spend have choices, they can live anywhere in Manhattan, but they chose Harlem," she said.

GREATER NEW YORK

Meat Loaf Musical Rocks New Approach

'Bat Out of Hell' producers forgo Broadway and instead book New York City Center for an eight-week run

BY CHARLES PASSY

With a spate of hit shows tying up many of Broadway's 41 theaters in recent seasons, producers have said it has become more difficult than ever to find a place to park their next play or musical.

Now, a team of producers is finding a way around the problem: They are bringing a high-profile show to New York City, but avoiding Broadway altogether.

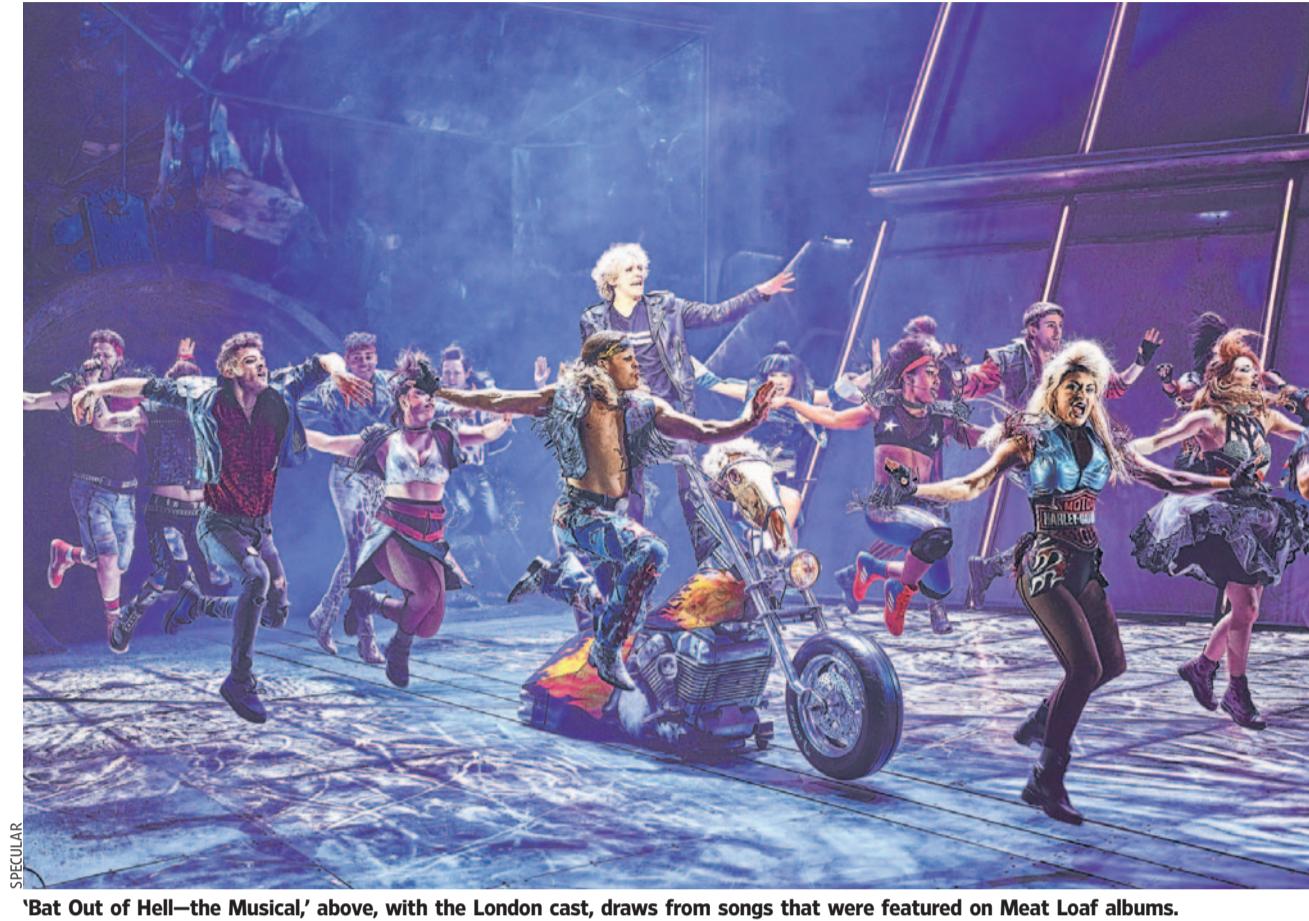
The team, which includes Michael Cohl, a veteran rock promoter and former Live Nation chairman, will present "Bat Out of Hell—the Musical" at New York City Center for an eight-week run next summer. The show, by composer and lyricist Jim Steinman, draws from songs that were featured on the platinum-selling 1977 Meat Loaf album of the same name and two follow-up ones.

Among those songs: "I Would Do Anything For Love (But I Won't Do That)," "Two Out of Three Ain't Bad" and "Bat Out of Hell."

The show's New York engagement, which runs from July 30 to Sept. 22, essentially folds into an already-announced U.S. tour that kicks off in Detroit next month. Currently, the musical is playing a pre-tour engagement in Toronto.

A separate "Bat Out of Hell" production is also running in London's West End through January. And another production is slated to open in Germany next month.

Mr. Cohl said the choice to go to City Center's main 2,257-seat venue indeed resulted partly from the difficulty in finding a Broadway theater to rent. He also said the idea of presenting the musical as a limited engagement in New York was appealing, noting that the show enjoyed early success with a London summer run



'Bat Out of Hell—the Musical,' above, with the London cast, draws from songs that were featured on Meat Loaf albums.

in 2017. (The musical premiered in Manchester, England, in February 2017.)

Ultimately, Mr. Cohl said the idea of forging a different path buoyed him.

"There's an element of excitement in coming up with a new way of doing things," he said.

The risk, of course, is that a show that doesn't carry the Broadway brand won't have that element to help propel it in terms of its marketing. But industry professionals say that may matter less when the show is playing for a short time and is based on a well-known rock franchise.

Plus, they note that theatergoers, especially those who are from outside New York, often don't understand the distinctions between

Broadway and non-Broadway venues.

Audiences think that Radio City Music Hall is Broadway," said Victoria Cairl, a senior vice president with Show-Score, a website that tracks reviewer and theater-goer response to productions. (Radio City isn't among Broadway's theaters.)

Still, it may not be an easy climb for "Bat Out of Hell." Although the musical's current London run has been extended twice, Mr. Cohl said the show has yet to turn a profit on the cumulative investment of \$20 million-plus in its various productions.

Additionally, for all Mr. Cohl's success in the rock world, he faced challenges with at least one of his previous Broadway efforts: He

was a lead producer of "Spider-Man: Turn Off the Dark," the most expensive show in Broadway history, produced for a reported \$75 million. It closed in January 2014 without making a profit.

For City Center, the summer engagement is an unexpected rental bonanza, though the venue declined to specify how much it was making off the "Bat Out of Hell" engagement. The non-profit venue, which was founded in 1943 by Mayor Fiorello La Guardia to make culture more readily available, is generally dark in the summer.

City Center officials said they have no other extended engagements similar to "Bat Out of Hell" currently scheduled. But theater-industry

professionals said it is only a matter of time before other producers follow the "Bat Out of Hell" model and look to City Center and similar theaters.

Ryan Stana, chief executive officer of RWS Entertainment Group, a New York-based company that specializes in theater and live events, also makes the point that a successful run at a non-Broadway venue doesn't rule out the possibility of a later Broadway engagement. If anything, he said, "it's a good test."

Mr. Cohl said it is too early to talk beyond next summer for "Bat Out of Hell." "I'm not thinking anything other than 'Let's go and have a great run at City Center,'" he said.

GREATER NEW YORK WATCH

CRIME

Woman and Toddler Injured in Shooting

Authorities say a woman and a 2-year-old boy were injured in a shooting inside a New Jersey apartment.

Jersey City spokeswoman Kim Wallace-Scalcione said the victims were found just after 2 a.m. Sunday with gunshot wounds. She said the 20-year-old woman reported hearing a knock on the door, and as she opened the door she was struck by gunfire. Ms. Wallace-Scalcione said the woman and child were hospitalized in stable condition.

No arrests were immediately reported.

—Associated Press

COAST GUARD

Search Called Off For Overboard Man

The U.S. Coast Guard says it has suspended the search for a 35-year-old man who fell overboard from a container vessel in the shipping channel between Staten Island and Brooklyn.

Coast Guard officials say an emergency call was received around 8:30 a.m. Saturday from the Northern Jaguar reporting that a crew member had fallen overboard in heavy seas in the Ambrose Channel. A Coast Guard cutter and helicopters searched from Saturday morning until around noon Sunday.

—Associated Press

CORRECTIONS & AMPLIFICATIONS

A photo of the Locanda Verde restaurant incorrectly ran with a story on Friday about a suspected bomb found in a building where Tribeca Grill is located.

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

CHEW ON THIS



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LIFE & ARTS

TURNING POINTS | By Clare Ansberry

Caregivers Do Double Duty to Stay Afloat

Demand is soaring for workers who care for the elderly, but wages are often too low to live on

After working more than three decades as a home-health aide, Youlanda Allen brings home \$32,500 a year including overtime, which is why she also cleans houses on weekends.

"I need my hustle jobs on the side," says Ms. Allen, 51 years old, who began her career while in high school and continued while raising two children. She's cared for hundreds of people, some with dementia and broken hips, others with heart disease. Most have been older, although she once cared for a 19-year-old man with AIDS. She helps them get out of bed, dressed, bathed and fed. She combs their hair and changes their sheets. Over the years, grateful families have sent her letters.

"Thank you again for all the loving care you provided for Donna these last few months," one husband wrote. "Please continue to do the same for others in what is a very difficult job."

Ms. Allen, who works for Village Home Health and Hospice in Cincinnati, loves her job and the people she cares for. But she doesn't want her 21-year-old daughter to do the same work. "She's not going to make a lot of money doing this," says Ms. Allen. "You always want better for your kids."

Demand for these workers, who provide the majority of hands-on non-medical care to older adults, is strong now and for the foreseeable future because of the aging baby-boom generation and longer life expectancies. In the next decade, home-care work is expected to add more jobs than any other occupation, with an additional 1.2 million needed by 2026, according to the

Bureau of Labor Statistics.

Home-health care agencies can't find enough workers. "We are competing with McDonald's and Wendy's and retail stores," says Valerie Landell, CEO of Village Home Health and Hospice, which is a subsidiary of Maple Knoll Communities and has 78 employees, including Ms. Allen.

Yet even with high demand and tight supply, wages remain low. Between 2007 and 2017, inflation-adjusted median hourly wages for direct-care workers—including home-health aides, personal-care aides and nursing assistants—fell 2% to \$11.83 from \$12.08, according to PHI, an organization that works with the direct-care industry. A 40-hour work week at that rate yields an annual income of around \$24,600.

Sue Pratt, who owned a home-care agency before starting the nonprofit Care Collaborative to support direct-care workers, six months ago opened a thrift shop in her hometown of Deerfield, Mass., to raise funds to help these workers pay for training at a community college. Proceeds also go to help make small loans to those who don't qualify for bank loans, but need to replace bald tires, she says. "Our culture does not embrace these workers," she says.

Direct-care wages are determined largely by reimbursements to agencies. Most reimbursements come from Medicaid, the largest funder of long-term support services to people with low incomes and limited assets, and to a lesser degree, Medicare, which pays for acute short-term care. Nineteen percent of long-term support services is paid out-of-pocket and 8% from private insurance, but large reimbursers generally set wage scales.

Medicaid reimbursement rates have stayed flat or decreased in



Above, Youlanda Allen, a home-aide worker with 35 years experience, assists 95-year-old Margaret Jenkinson. Below, Ms. Allen helps 89-year-old client Helen Corn, who is nearly blind, choose a shirt to wear.

many states. In Ohio, where Ms. Allen works, the reimbursement rate for home-health services has fallen 1.7% since 2010, while costs rose at least 10%, Ms. Landell says. The reimbursement rate is \$23.57 for the first hour of a visit. The actual cost is about \$28, Ms. Landell says.

Workers at her agency are paid \$16.25 a visit, which must be at least 45 minutes but can last up to two hours, depending on the client. Many agencies pay by the hour instead. In each visit, certain tasks must be completed and recorded.

In fiscal year 2018, 15 states put in place wage increases for Medicaid-reimbursed direct-care workers to address shortages and turnover caused in part by low pay, according to a report from the Kaiser Family Foundation.

Perception also plays a role in keeping wages low. "We see a lot of outdated assumptions about what caregiving represents," says Robert Espinoza, vice president of policy at PHI. Many people don't understand the skills needed to deal with people with dementia, who may be combative, or the physical demands of lifting people from beds to wheelchairs. Aides generally get 75 hours of training and pass a test to be certified.

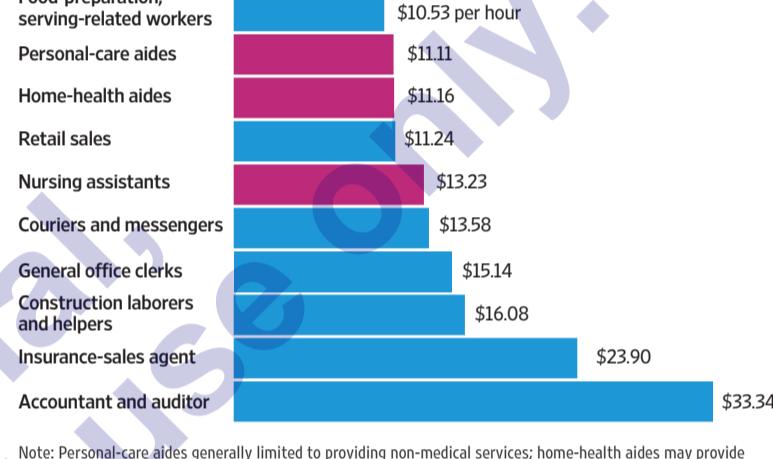
Shae Moore, a 29-year-old single mother in Erie, Pa., works seven days a week for two home-care agencies. "I don't have as much time as I should with my son," says Ms. Moore, who relies on after-school programs and relatives to take care of her 9-year-old, Ty'Varus, until she gets home.

Caregiving comes naturally to her, she says. "Overall, if you love helping people, it's a great career." Her take-home pay from Excel Home Care for 42 hours is just under \$400 a week. Every two weeks she takes home an additional \$100 for 12 hours of part-time care work

for another agency.

Wage Crunch

Hourly pretax pay for the aides and assistants who provide the majority of hands-on care for the elderly and people with disabilities is lower than that of many jobs. The median hourly wage for all U.S. workers is \$18.12.



Note: Personal-care aides generally limited to providing non-medical services; home-health aides may provide some basic health-related services; nursing assistants listen to and record patient's health concerns and report information to nurses

Source: Bureau of Labor Statistics

THE WALL STREET JOURNAL.

with her clients. "I take the time to get to know them," she says.

One of her regular clients is Margaret Jenkinson, a 95-year-old who has cardiovascular disease. She sees Mrs. Jenkinson five days a week, helping get her out of bed and showered. She cuts her nails when needed and curls her hair. She knows Mrs. Jenkinson loves seeing the children who attend a Montessori school on the grounds and wheels her down to watch them.

Ms. Allen visits Helen Corn, 89, an artist who is now nearly blind and largely confined to a wheelchair. Her feet are bandaged, due to an infection. Ms. Allen puts on gloves, removes the bandages, and applies a cream, while engaging Mrs. Corn in conversation. She helps Mrs. Corn pick out an outfit, handing her shirts to examine with her good eye, and returning the unchosen ones, folded, to the drawer.

"Anyone I take care of I think of as family. It could be my mother or grandmother. I want someone to take good care of me," she says.



TELEVISION

TV EXPLORES PARANOIA, ANXIETY AND TRAUMA

BY JOHN JURGENSEN

IN THE 1970S, conspiracy thrillers such as "All the President's Men," "The Parallax View" and "Three Days of the Condor" captured the mood of the Watergate era. Now, a batch of new television dramas are exploring the issues unsettling society today—from technological unease to pervasive surveillance to the questioning of truth—with characters who struggle to maintain a grip on reality.

In the Amazon series "Homecoming," which begins streaming on Friday, Julia Roberts plays a case worker treating veterans with post-traumatic stress disorder. That story line alternates with one set four years in the future, when her government-funded program, called Homecoming, is under investigation. Ms. Roberts's character, living with her mother (Sissy Spacek), has to search her memories, or lack of them, to piece together how the experiment went sideways.

In "Maniac," starring Jonah Hill and Emma Stone, and released by Netflix last month, lab patients go on surreal mental journeys to free themselves from past traumas. The FX series "Legion" immerses viewers in the hallucinatory perspective of Dan Stevens's character, who mistakes his emerging mutant powers for schizophrenia.

In Showtime's "Homeland," a bipolar counterterrorism agent played by Claire Danes sometimes confuses paranoia for gut

intuition. She has been hospitalized multiple times throughout the show, which is scheduled to end next year after its eighth season.

Sam Esmail, the executive producer and director of "Homecoming," also created one of TV's more mind-bending examples of this subgenre in "Mr. Robot." The USA series, now prepping its fourth and final season for next year, revolves around a computer hacker (Rami Malek, who won an Emmy for his performance) who perceives himself to be at the center of a global corporate plot. He, along with the audience, has to constantly gauge how much of his cataclysmic worldview is real.

Mr. Esmail says a fear of entrapment plagues the characters in both his shows, including a veteran at the center of the "Homecoming" mystery (played by Stephan James) who is initially trusting of his treatment regimen. "They're in a box, but that box is in a bigger box," Mr. Esmail says.

That sense that reality is slipping away is something he thinks resonates with viewers disturbed by the spread of misinformation and erosion of privacy.

"It feels subconscious, but there is something about our relationship with the world



Julia Roberts stars in the new Amazon series 'Homecoming.'

Mr. Esmail developed the style for "Homecoming" with many of his "Mr. Robot" collaborators, including cinematographer Tod Campbell and production designer Anastasia White. They tried to create a world in which characters deal with incomplete information in settings that feel askew.

The octagonal office where Ms. Roberts conducts counseling sessions creates a fishbowl effect. "You can move the camera around and it always feels circular, like there's no way out and anyone can look in," Mr. Esmail says.

In an unusual visual technique, "Homecoming" uses widescreen shots during the scenes from the past—before the program unravels—but narrows the frame when the story flashes forward.

As a director, Mr. Esmail is known for that kind of camera work, intentionally framing characters off-center or surrounded by odd spaces. "Sam would walk into a room and his first question would be, 'Does the ceiling come off?' because he wanted to shoot from above," Mr. Bloomberg recalls.

"We want absolute control," Mr. Esmail says, especially for scenes of people in a facility designed for surveillance. "They're under a microscope."

LIFE & ARTS

WHAT'S YOUR WORKOUT? | By Jen Murphy

The Sport Where You Kick a Hole in One

A hybrid of soccer and golf motivates a Miami man to get in shape

EDUARDO BICERNE had to stifle his urge to yell, "Goal!" the first time he kicked a hole in one. Celebratory shouting isn't allowed on the golf course, even when you're playing FootGolf. "We follow the etiquette of the other golfers on the green even if we aren't playing with clubs," he says.

A soccer-golf hybrid, FootGolf requires players to "shoot" a soccer ball on a shortened golf course into 21-inch diameter cups. FootGolf courses are located on nine holes of a traditional golf course. Players sometimes play the course twice to get a full 18 holes. The holes vary in length from 70 to 220 yards. Greens and tees are normally in the rough, just off the fairway. As with traditional golf, the player to finish the course in the fewest shots wins.

Mr. Bicerne grew up in Argentina and moved to Miami in 2002. A self-described soccer fanatic, he was introduced to the relatively new sport five years ago. "I was crazy for the game after the first round," he says. "I couldn't play enough. It became my stress reliever."

Mr. Bicerne, who had never set foot on a green until then, liked the individual and mental aspects of FootGolf. "You need more concentration and foot power to hit those precise shots," he says. He also liked the low injury risk.

At the time, Mr. Bicerne wasn't in great shape. He is 6 feet tall. Despite playing in an adult soccer league and coaching youth soccer, he weighed 232 pounds. "I played goalie and defense so I could run less," he explains.

A general manager in the Miami office of Solution Box USA, an Argentina-based telecommunications distributor servicing Latin America and the Caribbean, Mr. Bicerne, 42, blamed his poor fitness on a demanding travel schedule and unhealthy eating habits.

During his first tournament, he struggled to keep up with the mostly 30-year-old players and realized that if he wanted to be competitive, he needed to "train like an athlete." His obsession with playing in the FootGolf World Cup motivated him to shape up.

Four years ago he hired a personal trainer, adapted his routine for the road and changed his diet. He says he dropped 40 pounds, going from a size 42 to 36 waist.

He entered the weekend ranked 34th on the American FootGolf League Tour and was recently named captain of the 2018 U.S. men's FootGolf team. They will defend their world title at the FootGolf World Cup in Marrakesh, Morocco, in December.

The Workout

Mr. Bicerne says his fitness transformation required baby steps. "I



Eduardo Bicerne channeled his passion for soccer into FootGolf. Players try to kick a soccer ball into 21-inch diameter cups set up on a traditional golf course. He was recently named captain of the U.S. FootGolf Team.



was too weak to lift weights," he recalls. "I didn't want to do core work because I thought I'd never have abs. When I told my trainer I only needed strong legs, he laughed at me."

Their first sessions focused on balance. Mr. Bicerne built up his cardio endurance on the stair climber and would hold the rails for support. He now runs a 3.2-mile loop five days a week after he

drops his children, ages 8 and 10, at school.

He does a full-body strength workout that always includes the leg-press machine, squats, lunges and, yes, crunches. He plays FootGolf three times a week. "The old-school golfers give us funny looks," he says. "But we try to respect the course and the golfer always has priority."

He goes to the park three times a week to practice his sport and takes



ANDRIANA MERUTA FOR THE WALL STREET JOURNAL

A Crash Course in FootGolf

FootGolf came into play in the early 2000s, though the sport's origin is debatable. The first tournament on a golf course was organized in the Netherlands in 2008 and played between professional soccer players. The American FootGolf League, based in Palm Desert, Calif., was founded in 2011. According to league CEO Laura Balestrini, more than 10,000 players book tee times every month in the U.S. and there are over 500 courses across the 50 states and 1,200 worldwide.

"It's a great way to introduce new demographics to a golf course," she says. "It's also very family-friendly."

Jo Reid, an Anchorage, Alaska-based assistant coach for the U.S. national FootGolf team, discovered the sport

while recovering from knee surgery. She played Division I soccer at Creighton University. Those without a soccer background should start by learning to kick a soccer ball. "Watch YouTube videos and practice the kicking motion with and without the ball," she says.

Ms. Reid suggests asking a trainer to develop a routine focused on the quads, hamstrings, glutes, abdominal muscles and hip flexors.

"The game is mentally challenging, so don't get down on yourself if you miss a few holes," she says. "Keep it fun at the start. Bring friends, enjoy the camaraderie and take in the beauty of the course." Before going to the green, read up on course etiquette and if sharing the course, respect golfers, she says.

He hasn't lost his love for soccer and still plays in an adult league twice a week.

The Diet

Mr. Bicerne's diet used to consist of bread, pasta, red meat and beer. Two years ago he cut his red-meat consumption back to once or twice a week and added fish to his diet. He stopped eating pasta for dinner and pizza became a once-a-week treat. He used to go all day without eating and fill up with a large dinner. Now, dinner is his lightest meal. He has an omelet and fruit for breakfast. He snacks on strawberries or apples and makes a point to drink water throughout the day. Wine replaced beer. He allows himself two glasses a week. "Always from Argentina," he says.

The Gear & Cost

His kit consists of Bermuda shorts, a polo shirt, knee-high socks, a cap for sun protection and Adidas Nemeziz Messi Tango 17.3 turf shoes (\$80). "Balls are very expensive, because they are specially designed to be aerodynamic," he says. He plays with Adidas Jabulani soccer balls (\$300 each). "I always have two on hand, because if one goes into the water, you don't want to wait for the ball to come to shore," he says. He pays \$16 for one round of FootGolf at Killian Greens Golf Club in Miami and \$50 a golf lesson. His family YMCA membership costs \$90 a month.

The Playlist

"Music gives me extra power, especially early in the morning," he says. Artists on his playlist include the Ramones, Metallica and Ozzy Osbourne.

FILM

A DIRECTOR'S HORROR REMAKE

BY DON STEINBERG

IT WOULD BE easy to think of "Suspiria" as a departure for Luca Guadagnino. Critics swooned over the Italian director's 2017 film, "Call Me By Your Name," calling it "a lovely cinematic feather" and "a wonderfully sensitive and evocative portrait of young love." The story of a 17-year-old boy who falls for his father's 24-year-old male student at an Italian villa got a Best Picture nomination. James Ivory ("A Room With a View") won an Oscar for the screenplay.

"Suspiria," Mr. Guadagnino's film opening nation-wide Nov. 2, is a reboot of a gory 1977 horror movie with a memorable scene of maggots falling on the heads of shrieking young women.

"Some people may be confused that I'm doing a horror movie," Mr. Guadagnino says. "The truth of the matter is that I started dreaming of being a filmmaker when I was very young, and honestly the aim was to make horror films. It's just a fact of life that my first horror film was made at the age of 47."

"I think a lot of great filmmakers have been drawn to horror, because of what it allows you to explore," says Brad Fischer, a producer of the new "Suspiria," who worked with David Fincher

on "Zodiac," Darren Aronofsky on "Black Swan" and Martin Scorsese on "Shutter Island."

"There are precedents for horror films that can center around elevated material and can sort of thread the needle between terror and heart."

Horror films have been on a hot streak. "Halloween" just had one of the biggest October box-office openings in history.

As a 10-year-old in Italy, Mr. Guadagnino saw a "Suspiria"

poster depicting a blood-drenched

where dancers die in gruesome and hallucinatory ways. Italian director Dario Argento lights scenes in vivid reds, greens and blues.

Mr. Argento got the title from "Suspiria de Profundis" ("sighs from the depths"), an 1845 prose poem by Thomas De Quincey.

Mr. Guadagnino had taken occasional stabs at horror thrillers before, but they never stuck. "I remember I read Brett Easton Ellis's [1991] masterpiece 'American Psycho,' and I wrote a script for that movie when I was 20. A script that was completely ridiculous," he says. While directing his fourth feature film, "A Bigger Splash" (2015), he got serious, recruiting two of the movie's stars, Tilda Swinton and Dakota Johnson, and its screenwriter David Kajganich, to help reimagine "Suspiria."

"The thing Luca's films have in common is that he's a humanist," Mr. Kajganich says. "People credit him with this highly sensual kind of cinema. To me, that's not the most important thing he's doing. His point is there aren't good people and bad people—we're all both. I think the real work of Luca's films is unpacking that mess. Sometimes it's bloody and upsetting like 'Suspiria.' Sometimes it's sun-baked and romantic like 'Call Me By Your Name.'"

The new "Suspiria" borrows the original's premise and nods at the

dancer whose neck had been slashed. Watching the movie on TV years later, he felt liberated. "I wasn't disgusted or horrified. I was freed," he says. "It was like: You can do anything you want. Cinema is a gesture that can be as free as that."

In the 1977 "Suspiria," American student Suzy Bannion (Jessica Harper) travels through Germany's Black Forest to join a prestigious dance company. There are whispers of witchcraft in the company,

where dancers die in gruesome and hallucinatory ways. Italian director Dario Argento lights scenes in vivid reds, greens and blues.



Dakota Johnson stars as a young dancer who finds herself in a harrowing world in Luca Guadagnino's new reboot of the 1977 horror movie, 'Suspiria.'

De Quincey-Argento mythology. It layers in themes of motherhood, power, feminism, German post-Holocaust remorse and the politics of 1977 Berlin, the film's setting. Ms. Johnson plays Susie Bannion, a girl from a Mennonite family in Ohio. Susie—spelled differently from the character's name in the original—joins a Berlin dance company run by the esteemed Madame Blanc (Ms. Swinton).

Amid the menacing environment of a studio led by witches, dancers die in horrific, mesmerizing ways, building to a wild and bloody climax. Mr. Guadagnino skips the oversaturated colors to keep things feeling natural.

The filmmakers set the story in late-1970s Berlin, where the militant Red Army Faction was setting

off bombs and the shadow of Nazism lingered.

The filmmakers knew they had to explain to themselves why witches would be running a dance studio. "I proposed that this particular coven, these witches, would transmit their spells through movement," Mr. Kajganich says. "Then it makes total sense why a coven would hide in a dance company, because they could wield their influence in public ways, without the public realizing it."

Mr. Guadagnino suggests that it's how the women assert power in that repressed society. "It would be good to see if in 2018 the witches become hedge-fund owners," he jokes. "They would make a lot of money."

LIFE & ARTS



Detail of a wall hanging from Gujarat (1920-40), above, and detail of a border for a dress made with shell-casings of jewel beetles (c. 1850), below

EXHIBITION REVIEW

A Nation's Interwoven History

BY LAURA JACOBS

Cincinnati IN MERRIAM-WEBSTER the first definition of "fabric" is "structure, building, or framework." The word traces back to the French *fabricie*, "the created world." It isn't until the fourth definition that we get to the word's most common usage, "cloth." So a double meaning plays in "The Fabric of India," a sumptuous exhibition mounted at London's Victoria & Albert Museum in 2015 and now at the Cincinnati Art Museum, where it's been remounted in two facing galleries. India has been exporting textiles since 4000 B.C. (in ancient cultures the word "India" was shorthand for cotton) and this is the loom upon which India wove its economy. To this day, by law, the country's flag must be made of *khadi*—Indian cloth of natural fibers, hand spun and hand woven.

Unbelievably, "The Fabric of India" is the first major exhibition to explore this subject. Rosemary Crill, V&A senior curator, Asian Department, was nearing retirement and thought it high time to dive into the museum's vast holdings from the Indian subcontinent, much of it inherited when England's India Museum disbanded in 1879. It's a large exhibition, with over 170 handmade objects on display, and yet it is organized with such clarity and flow that the viewing experience is not only captivating but moving.

The first gallery is devoted to Indian textile production and artistry, and it begins with a section called "Nature & Making." In tutorial fashion we move from "Raw" to "Dye" to "Weave" to "Print" to "Stitch," each process supported by a short video as well as vivid examples of the craft embodied in goods both everyday and exquisite: cottons so sheer they were known as "woven winds"; silks of rapturous color (saffron, magenta); a bolt of golden weave cloth from 1855, spun of gilded silver warp and silk weft, as if in a myth.

"Raw," particularly wonderful, presents silkworm cocoons that look like felted eggs; shimmering skeins of silk, unicorn-white; and a "hank" of pashmina, the fine underhair of the Changthangi goat. "Dye" acquaints us with the indigo plant, concentrated in dried cakes that bloom into the world's inkiest blue; with the reds of chay roots and stick lac (a resin secreted by the scale insect *Kerria lacca*); and with turmeric's gift of egg-yolk yellow. India's textile industry grew out of sophisticated husbandry and deeply artisanal handling of its bountiful flora and fauna. In "Stitch," for instance, marquise-shaped ornaments of glittering green, sewn into the decorative bor-

der of a dress (c. 1850), aren't gems; they're the shell-casings of jewel beetles. Not to be outdone by those native beetles, a huge pashmina shawl embroidered with a map (c. 1870) offers a spectacular bird's-eye view of Srinagar in Kashmir, its perspective charmingly naive, yet all landmarks scrupulously included.

From here a stately procession of coverlets and wall hangings, jackets and robes, takes us from "Sacred" to "Splendid," from textile artworks that incorporate the spiritual imagery of many faiths—Hindus, Muslims, Jains, Buddhists and Christians—to those that celebrate the imperial patronage of Islamic Sultanates and Mughal emperors. Some of these are very old. Miraculously intact is a "Talismanic Shirt" (1480-1520), meant to be worn, we're told, "under battle dress and during illness." Made of paper-thin starched cotton, it is covered with the entire text of the Quran, handwritten in ink in Lilliputian calligraphy. And when it comes to the royal silver spoon, enchanting is a "Prince's Coat" of glistening silver weave (1850-1900), sized for a toddler.

"A Global Trade" bridges the show's two galleries. We leave the first through a section that focuses on affordable and utilitarian exports like madras-checked and resist-dyed handkerchief fabric.



The second gallery begins with "European Trade," a collection of the luxury chintzes and gloriously embroidered work prized in Western Europe.

The exhibition grows darker with "Textiles in a Changing World," which addresses the shock to the country when the British, in the late 1800s, began selling their machine-made cloth in India, threatening the national economy of the very people it ruled. "This sparked mass protest," the wall text tells us, "and galvanized a political movement to liberate India from British control." A video of news clips on the leader Gandhi lays out his inspired use of Indian cotton and native dress as symbols of nationhood.

From crisis we move to modernity—a finale of 16 recent ensembles. Western brands such as Hermès, here represented by an embroidered shawl from 2014 (it took 500 hours to complete), still call on Indian artisans to bring elaborate handwork to life. But it's a new generation of Indian fashion designers who are pulling inherited techniques into cutting-edge visions of beauty. The "Moon Sari," designed by brothers Aziz and Suleiman Khatri in 2012, required folding, clamping, hand painting and indigo dye to create its cloth of full moons with haunting halos. One thinks of lines from E.M. Forster's "A Passage to India," when old Mrs. Moore is alone in the dark in a roofless mosque: "She watched the moon, whose radiance stained with primrose the purple of the surrounding sky. In England the moon had seemed dead and alien; here she was caught in the shawl of night together with earth and all the other stars."

The Fabric of India
Cincinnati Art Museum,
through Jan. 6, 2019

Ms. Jacobs writes about culture and fashion for the Journal.



'Moon Sari,' designed by brothers Aziz and Suleiman Khatri in 2012



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SPORTS

BASEBALL

RED SOX WIN SERIES

BY JARED DIAMOND

Los Angeles

The monthlong gauntlet known as the baseball playoffs doesn't favor the best team. The three-round tournament format rewards the hottest team. Or the healthiest team. Or sometimes even the luckiest team.

But once every generation or so, a team comes along that so thoroughly outclasses the competition that no obstacle can deny it from reaching the mountaintop. Some teams simply can't lose.

The Boston Red Sox joined the pantheon of those all-time greats Sunday night. They clinched the franchise's fourth World Series since 2004, eliminating the Los Angeles Dodgers with a 5-1 victory in Game 5 here at Dodger Stadium. Boston starter David Price out-dueled Clayton Kershaw, holding the Dodgers to one run on three hits in seven innings, while first baseman Steve Pearce hit two home runs.

The Red Sox finished 2018 with 119 total wins, including the postseason, the second-most of any championship team in history, trailing only the 125-win New York Yankees of 1998.

The Red Sox steamrolled a formidable collection of postseason opponents with ease. They cruised past the 100-win Yankees in the division series in four games. After a Game 1 setback in the championship series, they dismantled the 103-win Houston Astros with four consecutive victories.

Finally, they overpowered Los Angeles, a squad that scored more runs and gave up the fewest in the National League. For the Dodgers to beat these Red Sox even once, it took 18 innings. Only three other champions—the 2004 Red Sox, the 2003 Florida Marlins and the 1988 Dodgers—defeated two 100-win foes in a single October.

All told, the Red Sox went a remarkable 11-3 in the playoffs. They left no doubt.



Boston's Steve Pearce celebrates.

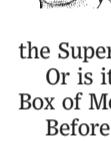


Cardinals quarterback Josh Rosen intentionally grounds the football in the end zone after being pressured by 49ers defensive end Cassius Marsh.

NFL | By Jason Gay

A Cardboard Box of Melancholy

As the NFL hits the midpoint, has your team waved farewell to its Super Bowl dream?



The halfway mark is here for the NFL season, and there are only two real questions:

Is your team rushing to the Brilliant Glory of the Super Bowl?

Or is it limping to the Cardboard Box of Melancholy?

Before we get to the Cardboard Box of Melancholy, let's give a shout to our 2018 playoff contenders. Some of them are usual suspects, usually suspecting: the **Vikings**, **Saints**, **Steelers**, and **Panthers**, all playoff teams last season, look like they'll return for consequential knocks in January. A surprise are the **Texans**, winners of five in a row after a fetid 0-3 start. Dan Snyder's **Washington Sadness Machine** (5-2) has been uncharacteristically upbeat—I'll upgrade them to Dan Snyder's Washington Sanguine Machine. I'm putting the **Packers** in the playoffs even though they're 3-3-1 and lost a close one to the Rams Sunday—they have Aaron Rodgers, folks. The **Los Angeles Rams** remain brightly undefeated, despite the scare from Green Bay, and despite playing in a stadium rental. The **Los Angeles Chargers** are a tidy 5-2, despite playing in an abounded miniature golf course.

There's a lot of aggressive pom-pom waving for the Super Bowl chances of **Kansas City** (7-1). I won't argue it. The most buoyant Chiefs fans continue to debate if Pat Mahomes is merely the greatest quarterback in football history—or

the greatest athlete in the history of sports. I'll indulge their enthusiasm. (Are you one of those folks who has sworn off football? Are you a Russian bot posting turgid anti-NFL missives on Facebook? Please watch Mahomes, a lean-limbed electric delight.)

Hey! Wasn't it just a few weeks ago that Our Schadenfreude Nation was ready to point and laugh at the Patriots? Well, once more the Grumpy Lobster Boat Captain, Bill Belichick, has repaired the motor—and 5-2 **New England** (playing Buffalo Monday) has motored to gentler seas.

There is a lot of mediocre middle in the NFL this season. If you're a fan of the **Cowboys**, **Titans**, **Lions**, **Seahawks**, **Bengals**, **Broncos**, **Buccaneers**, **Ravens**, **Jets**, **Dolphins**, **Falcons**, **Bears**, **Jaguars** (C'mon Blake Bortles, you almost made the Super Bowl last year), **Eagles**, Porcupines, Geckos or Ocelots, I've consulted with Csonka—a 5-year-old tabby and the Official Wall Street Journal Football Picks Cat—and Csonka is not ready to declare your team playoff material yet.

Let's get to the Cardboard Box of Melancholy.

What's the Cardboard Box of Melancholy, you ask? Well, it's a special purgatory for fans of this year's lousiest football teams. It's basically what it sounds like: It's a cardboard box, and inside, there's a pillow, a polyester blanket, a flashlight, and, for reading material, a bunch of old TV Guides, including a

really good one with the "Knots Landing" cast on the cover. The only food is a sleeve of Nilla wafers. The only music is a cassette of *The Very Best of Yes*. I'm not saying there's a small bottle of bourbon underneath the pillow, but I'm not saying there's a bottle of bourbon underneath the pillow, either. Just check.

Four of our Cardboard Box of Melancholy teams played each other Sunday: the Colts clobbered the Raiders, and the Cardinals edged the Niners. That Cardinals-Niners game was really something to behold. It was 5-3 at the half and ended up a last-minute thriller. Still, I would rather watch that 400-inning World Series Game 3 backwards three times than watch another minute of that thing.

Let's begin with the melancholy of the **Raiders** (1-6). There was a lot of excitement about the hiring of Unfrozen Coach Jon Gruden, but now Gruden seems to have put the entire team on eBay.

The **Colts** (3-5) were happy to get Andrew Luck back, but outside of Sunday's blowout win, little else is upright in Indianapolis; Vice President Mike Pence hasn't even bothered showing up for another 90-second visit. The **49ers** (1-7) were undone by the loss of boy wonder Jimmy Garoppolo to a knee injury. Entering Sunday, I wondered if the **Cardinals** (2-6) should be turned into a water park.

The **Giants** are the bane of New York and New Jersey, flailing at 1-7

despite having two of the most exciting players in the league in Saquon Barkley and Odell Beckham Jr. Up north, the 2-5 **Bills** do nothing for the hardy fans of Buffalo, who deserve better for passionately fearing themselves in public.

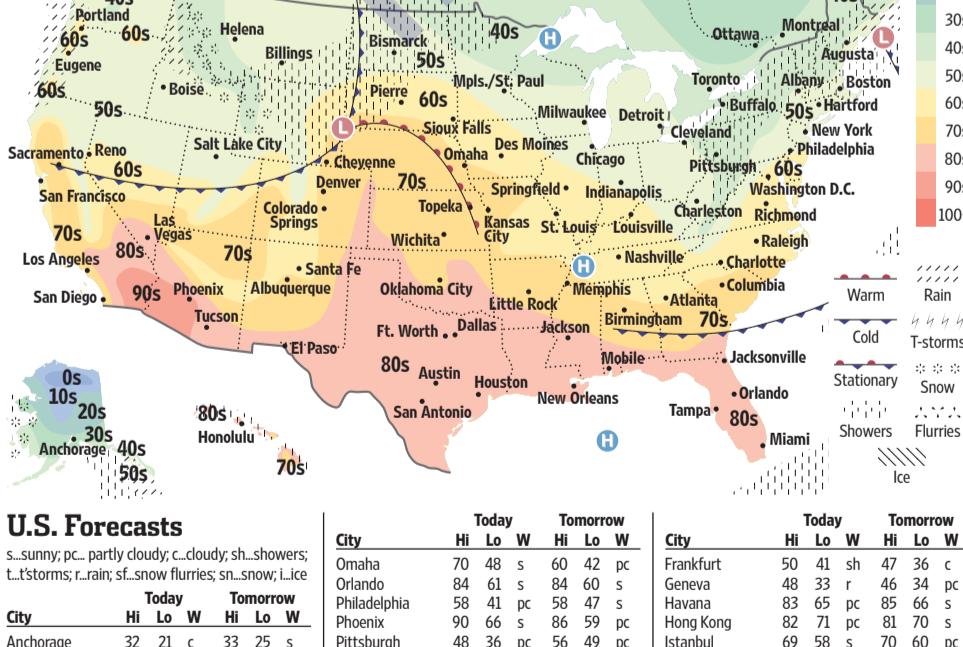
To the Cardboard Box of Melancholy, all of you go. I'm sorry. It's not a great outcome. But you'll be safe here.

I know some Cleveland fans will be irritated Csonka and I decided to put the Browns in the box—after all, the 2-5-1 **Browns** have won two games and tied another, which is a euphoric avalanche of success for a club that went winless last season. But it's getting weird in Cleveland—reports of coaching staff collisions and continued growing pains for rookie QB Baker Mayfield.

I'm also going to put my **Wisconsin Badgers** in the Cardboard Box of Melancholy. I know they are a college team, and they're 5-3, but they lost to Northwestern the other day, and I'm really hearing it from Wildcats, especially the fancy journalism school ones.

I deserve it.

So there you go. Perhaps you will join me in the cardboard box. Perhaps you avoided it this go-around. Next time Csonka the Cat and I take inventory, your team may not be so lucky. Then it's into the box you go—with the bourbon, the Nilla wafers, and all the melancholy of a football season lost. Eli Manning's already in there, humming *The Very Best of Yes*.

Weather**U.S. Forecasts**

s=sunny; pc=partly cloudy; c=cloudy; sh=showers; t=tstorms; r=rain; sf=snow flurries; sn=snow; l=ice

City	Today Hi	Today Lo	Tomorrow Hi	Tomorrow Lo	W
Anchorage	32	21	c	33	25
Atlanta	69	48	s	73	54
Austin	83	65	pc	84	67
Baltimore	58	38	pc	61	44
Boise	57	34	pc	54	35
Boston	56	40	r	52	38
Burlington	48	35	sh	45	33
Charlotte	66	40	s	67	47
Chicago	54	44	s	58	46
Cleveland	50	40	pc	51	32
Dallas	82	66	s	80	62
Denver	78	36	pc	46	30
Detroit	52	37	pc	58	49
Houston	82	67	pc	84	71
Indianapolis	59	42	s	67	57
Kansas City	71	57	s	64	45
Las Vegas	86	58	s	76	53
Little Rock	72	58	s	76	66
Los Angeles	79	58	s	78	57
Miami	82	69	s	85	73
Milwaukee	54	44	pc	57	43
Minneapolis	53	44	pc	57	39
Nashville	66	46	s	75	62
New Orleans	83	64	pc	82	70
New York City	56	42	s	56	46
Oklahoma City	79	62	s	71	47

International

City	Today Hi	Today Lo	Tomorrow Hi	Tomorrow Lo	W
Amsterdam	45	39	sh	50	42
Athens	73	63	pc	74	62
Bangkok	80	56	s	83	57
Beijing	60	34	s	60	42
Berlin	46	44	c	65	42
Brussels	45	36	sh	50	39
Buenos Aires	78	59	p	71	58
Dubai	92	81	s	88	79
Dublin	46	33	pc	47	35
Edinburgh	46	32	sh	48	31

OPINION

Amalek Comes to Pittsburgh

By Lou Weiss

Pittsburgh

There are not so many of us Jews in the world—something like 0.2% of the population—so we pride ourselves on punching above our weight. We introduced some of the foundational ideas of Western civilization: the sanctity of human life, uniform morality, freedom, concern for the downtrodden, the weekend.

Sadly we are also above average in attracting evil people who hate what we stand for. This murderer, like all anti-Semites, resents the ideas that we carry in this world. Concern for the downtrodden? Who's more downtrodden than a refugee?

The archetype for all anti-Semites is Amalek. His cowardly specialty was picking off the old, weak and infirm stragglers at the back of the Exodus pack. Saturday's murderer was Amalek brought to life, as he mainly killed old

and mentally challenged members of all three of the resident congregations.

For a couple of years, I was the head of a congregation that merged with Tree of Life; for many years I was a late-arriving regular at the Shabbat morning service that was attacked. I knew five of the people who were murdered. They were more than good and lovely people. They were the stalwarts who would show up on time and help out.

Rose Mallinger, 97, would always be there, sitting next to her sister. Saturday she was next to her daughter Andrea who, like the whole family, is possessed of a permanent smile. Andrea was shot. Rose was murdered.

Cecil Rosenthal, 59, knew my wife from childhood. He had special needs and a youthful exuberance. His younger, thinner brother, David, had a more serious mien and spoke less. He too had special needs. Like his older brother, he was murdered.

Irv Younger, 69, was a sweet man with a shock of white hair who would do anything that needed to be done at the shul. Murdered.

Jerry Rabinowitz, 66, was a member of Dor Hadash, a synagogue that rented space in

hurt in an attack. Now it is our turn to receive those calls.

What happened to our wonderful, close community Saturday has now become the business not only of Jews but of all civilized human beings. The heartbreak will never go away. The best way to honor the people who were murdered would be to emulate their decency and goodness.

In last week's Torah portion, we read about how Abraham bargained with God to preserve the occupants of Sodom. Beyond their signature activity, the Sodomites committed real crimes related to their treatment of strangers. Abraham asks for God's forbearance if he can find 10 good men in the city. He couldn't, and subsequently 10 became the minimum number for a Jewish prayer service. The number of Jews murdered at the Tree of Life Saturday was 11.

Mr. Weiss is a Pittsburgh carpet salesman.

Eleven Jews were murdered Saturday in their synagogue.

I knew five of them.

the social hall. A family doctor, he escaped the initial assault and returned to help the survivors. He was murdered.

Because we are so few, we feel pain when a Jew is in trouble anywhere. When someone is killed by a terrorist in Israel or held captive in the former Soviet Union, it is very much our business. We are used to making calls to see if our friends or relatives throughout the world were

Bolsonaro Takes Brazil



AMERICAS
By Mary Anastasia O'Grady

Sunday's runoff presidential election in Brazil pitted Jair Bolsonaro, a former army captain who has spent 27 years in Brazil's Congress, against Fernando Haddad, a former one-term mayor of the city of São Paulo. On Sunday evening with 97% of the vote in, Mr. Bolsonaro was handily beating Mr. Haddad, 55.4% to 44.6%.

Much was made during the campaign of Mr. Bolsonaro's history of rude comments about women and minorities and about his pledge to use an iron fist to fight crime in poor neighborhoods.

He was labeled a racist, a misogynist, a homophobe, a fascist, an advocate of torture and an aspiring dictator. His opponents gathered in the streets to denounce him and wrote withering diatribes against him in the press. The proudly "progressive" international media joined the fray, declaring him a threat to the environment and democracy.

It ought to have been enough to sink the Bolsonaro candidacy. Yet he prevailed, and it isn't hard to see why: Brazilians are in the midst of a national awakening in which socialism—the alternative to a Bolsonaro presidency—has been put on trial. The resounding victory of Novo Party's classical-liberal gubernatorial candidate Romeu Zema in the

large state of Minas Gerais confirms that theory.

Mr. Haddad was the candidate of Brazil's gigantic left-wing populist Workers' Party, known as PT. He was also the handpicked successor to former two-term President Luiz Inácio Lula da Silva, who is in jail on a bribery conviction but remains popular with his supporters. Against Mr. Bolsonaro's small Social Liberal Party, Mr. Haddad should have won walking away.

The former army captain ran as an alternative to socialist corruption.

How Mr. Bolsonaro triumphed is worth examining because it suggests that something changed in this election. It can always change back, and it probably will. But for now the momentum is on the side of reform, and policy makers have a unique opportunity to advance liberty and prosperity in South America's largest economy.

Mr. Bolsonaro is a social conservative, yet the "traditional values" vote alone couldn't have propelled his candidacy. It took PT greed and hubris and the palpable failure of its left-wing ideology to send the electorate more broadly into the arms of Mr. Haddad's rival.

In 2002, when it looked as if Lula, a bosom buddy of Fidel

Castro, would win the election, markets were spooked because of his socialist values. But he tread gently during his early years in office and conned the world into thinking he had invented a new kind of big government while he and his party abused their power. In August 2016, his vice president and successor, Dilma Rousseff, was impeached 20 months into her second presidential term. By that time the economy was trashed, the fiscal accounts were in disarray, and the central bank was printing money.

Ms. Rousseff's vice president, Michel Temer of the Democratic Movement party, is now finishing her term. Inflation has come down and a nearly three-year recession is over. But the deep economic wounds haven't healed. The recovery has been anemic.

PT corruption enraged the electorate. The federal investigation dubbed Operation Car Wash revealed a callous political and business elite that teamed up to enrich themselves and the party and passed the bill to the public. PT scoundrels also used the national development bank and the state-owned oil giant, Petrobras, to subsidize the military dictatorships in Cuba and Venezuela. Lula is, after all, a founding member of Foro de São Paulo, where Latin American socialists first gathered in 1990 to mourn the fall of the Berlin Wall.

The PT hasn't taken responsibility for the economic crackup or apologized for the

graft. Lula has shown no remorse, which adds insult to economic misery. There was a feeling that if the PT returned to power, it would pick up where it left off.

This goes a long way in explaining the Bolsonaro phenomenon. He isn't PT and hasn't been tarnished by Operation Car Wash. Brazilians find him refreshing, warts and all.

They will need to keep their optimism in check. His "tough on crime" agenda sounds good. But he will be fighting wealthy transnational syndicates that make big money off the cocaine trade. It could get nasty; results won't come easy. Institutions will be tested.

In Congress he voted against privatization and pension reform, and some of his critics on the right worry that he still clings to the economic nationalism prevalent among Latin American militaries. His chief economic adviser is a University of Chicago-trained economist, but the candidate said that "strategic" parts of state-owned companies like Petrobras ought not be sold.

Still, Mr. Bolsonaro offers much of what those who want to modernize Brazil could only dream of during the PT reign. He backs an independent central bank, some privatization and deregulation, a reconciliation of fiscal accounts, property rights, opening the economy, and a move away from industrial policy. If he gets even half that done, Brazilians will be winners.

Write to O'Grady@wsj.com.

Follow the FDA's Self-Interest

By Henry I. Miller

Bringing a new drug to market now takes, on average, \$2.6 billion and more than 10 years. Those numbers could shrink, and countless patients could benefit, if Food and Drug Administration regulators were less risk-averse. I know that from firsthand experience.

Oct. 30 marks the 36th anniversary of the FDA's approval of human insulin synthesized in genetically engineered bacteria, the first product made with "gene splicing" techniques. As the head of the FDA's evaluation team, I had a front-row seat. Although drugmakers and regulators were exploring unknown territory—the kind of situation that usually causes bureaucrats to dive for cover—the development of the drug and its regulatory review proceeded rapidly.

Insulin obtained from pig or cow pancreases had been available since the 1920s. But during the early 1970s, as the supply of animal pancreases became scarce and the prevalence of diabetes increased, fears of drug shortages spread. Around the same time, a new and powerful tool—recombinant DNA technology, or gene splicing—became available. It made possible the synthesis of high-value "foreign" proteins in genetically modified organisms.

Eli Lilly & Co. immediately saw the technology's promise

for producing human insulin in bacteria. After obtaining genetically engineered E. coli bacteria that contained the genetic directions for synthesizing human insulin, the company developed processes for large-scale cultivation of the organism and purification and formulation of the insulin.

Insulins had long been Lilly's flagship products, and the company's expertise was evident in the purification, laboratory testing and clinical trials of Humulin, its new human insulin. Lilly's scientists painstakingly verified that their product was pure and identical to pancreatic human insulin.

Lilly began clinical trials in July 1980. They were done efficiently and the product performed superbly. There were no systematic problems with treating patients who had never before received insulin injections, nor with those switching from animal to human insulin. Some patients previously had adverse reactions to animal insulin but tolerated the human insulin well.

In May 1982 the company submitted to the FDA a voluminous dossier providing evidence of the product's safety and efficacy. The agency already had extensive experience with insulins as well as drugs derived from microorganisms, and the FDA viewed recombinant DNA techniques as an extension, or refinement, of these methods. Thus regulators decided that no fundamentally new regulatory

paradigms were necessary. That proved to be a historic, precedent-setting decision.

Based on my team's exhaustive review of Lilly's data, the FDA granted marketing approval for Humulin in October 1982. The review and approval took only five months, at a time when the agency's average approval time for new drugs was more than 2½ years.

While approving a new form of insulin, I saw how regulators protect themselves.

The back story, however, is revealing. My team and I were ready to recommend approval after four months' review. But when I took the packet to my supervisor, he said, "Four months? No way! If anything goes wrong with this product down the road, people will say we rushed it, and we'll be toast." That's the bureaucratic mind-set. I don't know how long he would have delayed it, but when he went on vacation a month later, I took the packet to his boss, the division director, who signed off.

That anecdote is an example of Milton Friedman's observation that to understand the motivation of an individual or organization, you need to "follow the self-interest." A large part of regulators' self-interest lies in staying out of trouble.

One way to do that, my supervisor understood, is not to approve in record time products that might experience unanticipated problems.

The Humulin approval had significant effects. A New York Times article mentioned my prediction that the speedy approval was a major step forward in the "scientific and commercial viability" of recombinant DNA technology. "We have now come of age," I said, and potential investors and entrepreneurs agreed. Seeing that biopharmaceuticals would compete with other medicines on a level playing field, the "biotechnology industry" was on the fast track.

The Humulin approval kicked off a new era. Drugs derived from recombinant DNA and those made with another biotech method—monoclonal antibody technology—dominated drug development. Sales are now in the hundreds of billions of dollars annually. Most important, many of them are for serious diseases that at the time of approval did not have good therapeutic alternatives.

Average drug development and approval times have never come close to those for Humulin. Government regulation hasn't aged as gracefully as genetic engineering has.

Dr. Miller, a physician and molecular biologist, is a senior fellow at the Pacific Research Institute. He was the founding director of the Office of Biotechnology at the FDA.

BOOKSHELF | By Marc Levinson

Merchandise And Moral Uplift

Wanamaker's Temple

By Nicole C. Kirk
(NYU, 261 pages, \$35)

The John Wanamaker Department Store was one of America's first great temples of consumption. Opened in 1876 as Wanamaker's Grand Depot, the store filled a former railroad freight depot at 13th and Market streets, a corner that was becoming the business center of Philadelphia. The interior featured dozens upon dozens of counters, arranged in concentric circles beneath a glass ceiling. For the 10 million or so people who visited that year's Centennial Exhibition in nearby Fairmount Park, Wanamaker's was not to be missed.

In "Wanamaker's Temple," Nicole C. Kirk argues that Wanamaker's was more than a successful business enterprise, it was also a successful ministry. She notes that John Wanamaker, a Presbyterian, was as committed to evangelism and the social gospel as he was to selling silks and satins. As she writes: "Wanamaker saw his retail empire not as separate from religion but as an instrument of it, as a means for achieving moral reform in business, in the city, and in individuals' lives."

Born into a working-class South Philadelphia family in 1838, Wanamaker began his career as a clerk in a men's clothing store owned by a friend of his grandfather's. By accident, he walked into a prayer meeting and heard a hat maker explaining that religion was part of his trade. Wanamaker was soon swept up in the Businessmen's Revival, a Protestant prayer movement. The local group in Philadelphia set up a chapter of the recently founded Young Men's Christian Association, and in 1857 the young Wanamaker was asked to become its first full-time secretary. He honed his marketing skills raising money and attracting working-class Philadelphians to the evening prayer meetings that the Y sponsored. On the side, he started a Sunday school in an immigrant neighborhood, calling on the firemen he had befriended at prayer meetings to protect the school from threatening gangs.

In 1861, with a wife and widowed mother to support, Wanamaker left the Y to open a men's store with his brother-in-law, Nathan Brown. Advertising was in its infancy, and Wanamaker & Brown generated buzz with advertisements touting "W&B," with no further explanation. Even as he was building a flourishing business, Ms. Kirk tells us, Wanamaker expanded the Sunday school he had started by founding the Bethany Presbyterian Church and overseeing the construction of its building. Gothic on the outside, it was like an opera house on the inside, a space where an evangelizing preacher could be heard by 1,500 parishioners despite the lack of amplification. The sermons at Bethany advanced the social gospel, aiming to attract the working poor and the foreign born to a Christian—that is, Protestant—way of living that would help them better themselves in a rapidly industrializing world.

The founder of Philadelphia's fabled department store was as committed to evangelism and the social gospel as he was to selling silks and satins.

A visit to the International Exhibition in London in 1871 gave Wanamaker the inspiration for an establishment that would sell far more than menswear. His concept for the Grand Depot—which he made available for revival meetings in the weeks before the store opened—was that a variety of specialty retailers would lease space alongside his menswear business. When no interest materialized, Wanamaker slowly added merchandise on his own, developing a department store similar to those that were all the rage in Paris. In an inspired move, he placed luxury goods at the center of the store, forcing affluent shoppers to pass other merchandise in order to see them.

The store was filled with innovations: electric arc lamps, elevators, pneumatic tubes to move money and receipts. And it was infused with Wanamaker's religiosity. In full-age newspaper ads, six days a week, he assured potential customers of his high-quality merchandise, his honest treatment of customers and his fairness to employees. "It was more than image making, although it was that as well," Ms. Kirk writes. "Wanamaker saw it as a part of his business mission—to make business a Christian enterprise and profitable."

Profitable it was, so much so that Wanamaker began acquiring adjacent properties. Between 1904 and 1911, he replaced the Grand Depot, in stages, with a 12-story structure spanning a full city block. The harmonious facade, Ms. Kirk says, was his contribution to a more cohesive community.

Ms. Kirk is a historian of religion at Meadville Lombard Theological School in Chicago, and her interests clearly run more toward religion than other matters. Wanamaker's tumultuous term as postmaster general for the Republican president Benjamin Harrison—which began with firing thousands of Democratic postmasters but later brought about the establishment of rural free delivery—gets short shrift. What possessed Wanamaker to seek a U.S. Senate seat in 1896 and the governorship of Pennsylvania two years later remains obscure; both forays are mentioned by Ms. Kirk only in passing, in the same sentence. A reader wanting to know why this legendary businessman flirted with failure in 1907 is out of luck; Ms. Kirk tells us only that "he had nearly lost everything in the economic downturn."

When he died in 1922, at age 84, Ms. Kirk writes, "the outpouring of grief at Wanamaker's funeral demonstrated that he was more than a successful businessman and the founder of a large Sunday school and church. People lamented his passing because he had changed the emotional and material landscapes of their lives." Yet her book offers hints that we might not consider him an altogether admirable character. Wanamaker's religiosity, as she describes it, reeks of a sense of superiority. Whether aimed at the Catholic immigrants who attended his revival services or the rowdy teenage employees who became "cadets" at his in-store academy, his mission, it seems, was to replace cultural traits he deemed ill-suited to the modern world with his own, more refined, views and values. His was not a universal version of the Gospel.

Mr. Levinson's most recent book is "An Extraordinary Time: The End of the Postwar Boom and the Return of the Ordinary Economy."

OPINION

REVIEW & OUTLOOK

The Oldest Hatred

The massacre at the Tree of Life synagogue in Pittsburgh is an awful reminder that there are human hatreds far more virulent and ancient than those that animate our current political divisions. The killer of 11 human beings on the Sabbath Saturday morning was an anti-Semite who was out to kill Jews.

"All Jews must die," alleged killer Robert Bowers yelled as he burst into a religious service and opened fire. As our friends at the New York Sun note, anti-Semitism is not aimed at Jewish behavior, or support for Jewish immigration, or support for Israel. Robert Bowers simply hated Jews.

This irrational hatred is one of humanity's oldest and manifests itself in murder almost daily in the Middle East. Jews are killed simply because they are Jews, as they have been throughout history. This is why millions have sought refuge in a Jewish state, Israel, and also in the religious protections embedded in the Constitution of the United States.

The outpouring of support and grief for the victims of the Pittsburgh massacre is a reminder of America's unique role as a refuge for the world's religious. Muslim states often persecute non-Muslims as well as Muslims who do not share their brand of Islam. China persecutes people of all faiths. America protects them.

The U.S. has seen an increase in anti-Semitic acts in recent years, according to the Anti-Defamation League. But there are still fewer in America than in most of the rest of world, and

All good Americans stand in solidarity against anti-Semitism.

the sources of anti-Semitism range across the political spectrum, including some on the right like Robert Bowers but also from the pro-Palestinian left, especially on university campuses.

In America the most stalwart supporters of Israel and the Jewish people are evangelical Christians and orthodox Catholics. Perhaps this is

because as people of faith themselves they know what it is like to be mocked and shunned in a popular culture that is increasingly secular, often aggressively so.

President Trump says he'll visit Pittsburgh, and well he should. That trip would be a statement of national solidarity with the victims and against anti-Semitism. This being 2018 in America, the political left nonetheless jumped immediately to shift blame for the murders from the killer to Mr. Trump. The Washington Post ran off multiple pieces on the theme. No matter that Mr. Trump's daughter has converted to Judaism and she and her husband are raising their children in the faith.

Americans would do well to ignore this toxic habit of political blame for murderous acts by the racist, anti-Semitic or mentally disturbed. We are all responsible for our rhetoric, and that includes Mr. Trump, as well as Hillary Clinton and Eric Holder.

But the blame artists are distracting attention from the real sickness, which in this case is anti-Semitism, a hatred that goes back millennia. That is the toxin to banish as much as possible from American life, even if it can't be purged entirely from human souls.

Earl Bakken, Pacemaker

America's affluent generation of millennial socialists don't realize it, but they are living off the prosperity created by earlier generations of capitalists. One of them was Earl E. Bakken, who died last week at age 94 having invented the first wearable, battery-powered pacemaker. He also co-founded Medtronic, the giant medical-device company.

Earl Bakken's business life is an American classic. Born in Minnesota, he took to electrical tinkering at an early age after seeing the movie "Frankenstein." He wrote in his autobiography that he was fascinated not with the horror but with the spark of electricity that brought the monster back to life.

He and a brother-in-law founded Medtronic in 1949 out of a garage. He worked with local hospitals, and in 1957 a surgeon asked Bakken to create a pacemaker for the heart that wouldn't depend on the hospital's electric power. That was the spark for what later became an implantable pacemaker that has improved and saved countless lives.

Medtronic grew into a star of American innovation with a market capitalization of some \$121 billion. Based in Minneapolis, it makes car-

The medical device innovator who co-founded Medtronic.

diac stents and monitors, surgical tools, neurological shunts, drug infusion systems and much more. Bakken retired as chairman in 1989.

He also became a philanthropist, as so many successful capitalists do, donating to medical causes and founding the Bakken Museum in the Twin Cities area that focuses on the history of electricity,

magnetism and medical technology.

In our frenetic celebrity culture, the lives of people not in politics or entertainment often aren't duly recognized. That's especially true of entrepreneurs who built the foundations of America's postwar economic success and global competitiveness. They benefited from what was then a better American education system and sometimes the GI bill after World War II (as Bakken did).

But they also prospered in a free-market system that offered ready access to capital and rewarded innovation and success. Too many Americans see Medtronic today only as a large corporation, rather than as a success born of ingenuity and hard work. As we recall Bakken's contributions, we need to promote policies and a larger culture that nurture this spirit of innovation and capitalist incentive.

Why Are Drugs Cheaper in Europe?

President Trump unloaded last week that the U.S. pays more for drugs—"same company, same box, same pill"—than, say, the United Kingdom or France. "And I'd say: 'Why is this?'" His latest proposal reveals he still doesn't know, so allow us to explain why the U.S. shouldn't put the world's most innovative drug market at the mercy of what Greece is willing to pay for a cancer treatment.

Health and Human Services has invited comment on a potential rule that would tether what Medicare Part B pays for certain drugs to a price index of what other developed countries pay. The goal is to bring prices down to 126% of what other countries pay, versus 180% today. The move will "ensure that American patients get a more fair deal on the discounts drug companies voluntarily give to other countries," HHS Secretary Alex Azar said.

The reason European countries pay less for drugs is because they run single-payer health systems and dictate the prices they're willing to pay. Don't like it? They'll then vitiate your patents and make a copycat. This is hardly a "voluntary" discount. Other countries have the luxury of extortion because the U.S. produces more drugs than the rest of the world combined. Mr. Trump mentioned these realities in his speech but blew past them to suggest importing the same bad behavior.

By the way, Europe does pay more—in the form of reduced access. Of 74 cancer drugs launched between 2011 and 2018, 70 (95%) are available in the United States. Compare that with 74% in the U.K., 49% in Japan, and 8% in Greece. This should cure anyone of the delusion that these countries will simply start to pay more for drugs. They're willing to deny treatments if it saves money.

Drugs that are approved in foreign countries are often delayed in reaching patients—on average 17 months across 16 industrialized nations, by one analysis. Other countries have lengthy fights about how much the health system will pay, whereas in the U.S. drugs are available almost immediately after approval. Better quality care in the U.S. is why America outpaces 10 European countries on cancer survival rates—a fact the White House mentioned in a report last

week on the costs of socialism. Maybe Mr. Trump should read that report.

Mr. Azar says the rule won't chill investment, in part because the \$17 billion over five years in alleged savings from the wonders of price controls represents a fraction of pharmaceutical research and development. It is depressing to watch Mr. Azar hoist himself up on this petard given that he knows from his career at Eli Lilly and Co. how investment decisions are made.

Any investor who wants to bankroll the cure for Alzheimer's is already staring at a very small chance of success—and the Trump HHS proposal adds another a potential limit on return that will be restricted further if Democrats retake power and use it as a precedent. The rule deals with Medicare Part B, or drugs administered by doctors like specialty drugs, whose development is especially tough.

In other words, one risk is that investment is driven into less difficult drugs categories—or, since money is fungible, into the next Uber or concierge toothbrush delivery service. About 70% of the new drug pipeline is developed at startups, and most of these small firms aren't turning a profit.

One puzzler is how the Administration arrived at this idea. The Administration's drug pricing blueprint earlier this year cited a 2013 World Health Organization paper on such benchmark pricing and concluded:

"Every time one country demands a lower price, it leads to a lower reference price used by other countries. Such price controls, combined with the threat of market lockout or intellectual property infringement, prevent drug companies from charging market rates for their products, while delaying the availability of new cures to patients living in countries implementing these policies." Time to put whoever wrote that back at the controls.

Mr. Trump is right that Europe, Australia and many others are freeloaders on U.S. innovation, and better intellectual property protections in trade deals might help. But that is no reason to repeat their price-control mistake and undermine the reasons the United States is the last, best hope for medical progress.

A new Trump rule would impose foreign price controls on U.S. drugs.

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LETTERS TO THE EDITOR

Universal Income, Incentives and Well-Being

Andy Kessler caricatures as Marxist the idea of a "guaranteed income" that Karl Marx himself opposed and Richard Nixon and Milton Friedman championed in the form of a "negative income tax" that was rejected by a Democratic-controlled Congress in 1969 ("A Universally Bad Idea," Inside View, Oct. 22).

The negative income tax was intended as a direct cash-grant substitute for the existing welfare system whose administrative cost Ronald Reagan used to rail against. It preserved the incentive to work by deducting from the benefit received only an increasing fraction of any (increase in) income earned below a targeted total earned income, a mechanism already applied to income supplements in the U.S. and Canada.

Marx objected to the 19th-century Speenhamland revision to the Elizabethan Poor Laws—which was a top-up grant regardless of income—because it would incentivize employers to lower wages, and Marxists are big believers in labor (versus leisure or capital) as the source of economic value.

Interest in a guaranteed income arose in the 1960s wave of "cybernetics" (man-plus-machine automation) and the debate over whether the modern economy was evolving from labor to leisure and away from full employment. It has re-emerged in this era of artificial intelligence and robotics in the grander-sounding "universal basic income" (UBI) which risks metastasizing into every conceived scheme of government-provided jobs and income which Andy Kessler is right to mock.

ROBERT BLOHM
Toronto

It isn't surprising that the concept of UBI is being preached from Silicon Valley pulpits. Having constructed an economy that renders nearly 20% of California's population actually poor and another 20% "near poor," Democratic politicians and tech titans see the writing on the wall. Toss a few breadcrumbs before the barbarians reach the gate. It is the same reason Medicare for All is suddenly not just a far-left fantasy but an urgent California necessity.

UBI is billed as a program to aid workers displaced by automation. Its real purpose is to disguise the ever-expanding portion of the population

that is poor and likely to stay that way. Automation didn't cause the middle class to flee California, turn public schools into social-justice encampments instead of institutions of learning or necessitate the importation of an undereducated, economically disadvantaged servant class. Democrats and tech leaders did that all on their own. UBI would insure that they could continue to do more of the same.

RONDA ROSS
Austin, Texas

Basic income is bad, but not for the reasons Mr. Kessler suggests. It erodes the personal self-esteem of individuals who don't have purpose. Increasing economic inequality and the potential of a significant increase in the underemployed workforce (currently running near 33%) are the real risks.

It is unclear that the "invisible hand" is well balanced for a post-industrial society. Developing an economic model that provides for a viable workforce into the accelerating changes of the foreseeable future is the key to growth, stability and sustainability.

JIM ISAAC
Bedford, N.H.

The truly insidious nature of UBI is its basic assumption that you are entitled to a definitive share of the prosperity of a country simply by living there—no contribution nor special need required. That is far worse than Marxism, where the doctrine of "from each according to his ability, to each according to his needs" at least assumes that oppressed workers would, you know, work.

JOHN KNOERLE,
Chicago

At some time in our future, we're likely going to be faced with automation, AI and new technologies destroying employment for huge numbers of individuals. What then? Why not try an UBI program on a small scale to see if it's even feasible? Even conservative intellectual Charles Murray has embraced the concept of UBI. And Mr. Kessler never tells us what his Plan B would be in case all our jobs go away.

DAVE ROSSOW
Boylston, Mass.

Fed Isn't Crazy, but We Face Hard Decisions

Alan Blinder's "The Fed Is Anything but Crazy" (op-ed, Oct. 18) presents a strong argument in opposition to President Trump's view that "the Fed has gone crazy" and "is making a mistake." Prof. Blinder's argument is completely convincing for those of us who hold the traditional view of monetary policy that the Fed should steer a course between the two goals of maximum sustained employment and a stable price level.

The president has a totally different view of monetary policy because he has been (and is) a real-estate developer. For him, the role of the Fed is to keep interest rates low. Developers borrow large amounts of money, and the ability to borrow at a low interest rate is crucial to profitability. Of course, low interest rates stimulate investment and employment, but most agree that maintaining low rates in a time of full employment and large budget deficits will inevitably lead to an unacceptable rate of inflation. Real-estate developers don't fear inflation because it increases the market value of property, adds to profits and may help salvage bad investment decisions.

Inflation reduces the burden of existing debt. The ratio of federal debt to GDP is now near the historic levels reached during World War II. A decade of 6% to 8% inflation could cut that ratio in half. If Democrats in Congress don't want to reduce spending

and Republicans don't want to raise taxes, than once it becomes apparent to all that tax cuts do not increase revenue, inflation will be the only way to reduce the debt/GDP ratio. That's the way we reduced the ratio after the war. Republicans used to be viewed as the sound-money party—the Trump party is certainly not.

EM. PROF. PAUL HORVITZ
University of Houston

Mr. Blinder asserts that the Federal Open Market Committee's strategy is to raise the federal-funds rate until it equals the level consistent with the FOMC's estimate of the neutral rate of interest (aka r-star). He suggests there was considerable agreement among FOMC participants about the level of r-star, noting that in the last poll of FOMC participants, 10 of the 15 respondents picked either 2.75% or 3%, with the average being 2.9%. The apparent consensus is remarkable given the fact that those who estimate r-star, such as New York Fed President John Williams, acknowledge that their estimates are not very precise. Worse, Mr. Williams's estimate is based on the historical relationship between the federal-funds rate and output growth and inflation. But the federal-funds rate has been totally determined by the FOMC since the late 1980s. Consequently, the relationship between the federal-funds rate and output growth and inflation has been totally determined by the FOMC's policy actions—there's nothing natural about it. It seems pretty crazy to me.

DANIEL L. THORNTON
Valley Park, Mo.

Free Office Coffee Illustrates Problems of Human Nature

"Office Coffee, Once a Perk, Now a Grind" (page-one, Oct. 10) strikes me as an excellent lesson in human nature. It goes like this: Give someone something for free and (1) they will be ungrateful, (2) they will

come to feel they had a right to it all along, (3) they will expect more where that came from, and (4) their dissatisfaction and resentment toward the giver will be unending.

Things are valued when they come at a price. Dare I suggest that this constant of human nature is more on display in the current smartphone generation?

THOMAS JENNITT
Los Angeles

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Pepper ...
And Salt

THE WALL STREET JOURNAL



"Well, it's like a voice selfie."

OPINION

Investors, Look Up From Your Algorithms

By Daniel J. Arbess

Why all the drama in the stock market? There are big economic challenges over the horizon, but corporate earnings and the global economy remain relatively healthy. Stocks are also reasonably priced. The recent selloffs have probably been amplified by investors' growing reliance on automated trading strategies at the expense of basic common sense.

'Virtualization' means the old strategies may no longer apply. How to adapt? Use common sense.

Trading algorithms primarily use deductive logic, extrapolating the future from past patterns. But past performance is no guarantee of future outcomes. Some of the assumptions that drive passive trading strategies may no longer fit the conditions of the information economy.

Start with the business cycle. The present 10-year recovery is one of America's longest. Does that mean the expansion must soon end? Not necessarily. The economy likely is still at the start of a profound economic transformation, comparable to the late 19th-century transition from

farm to factory and services.

In the new "virtualization" economy, intelligent software applications are easing industry's need for capital and labor. These technologies—including data analytics and the cloud-based process management of the "Industrial Internet of Things"—improve efficiency. They've led to stable or declining consumer prices, alleviating wage and other inflationary pressures.

The economics of virtualization are showing up in corporate earnings. For the third quarter, 77% of S&P 500 companies beat analysts' estimates on earnings, outpacing their 59% beats on revenues. This suggests efficiency gains, not just higher revenues, are increasingly driving growth in corporate earnings.

Virtualization is helping the U.S. economy sustain Goldilocks conditions—strong growth, low unemployment and moderate inflation. The economy now seems resilient enough to continue without the training wheels of extraordinary monetary or fiscal policies. After a decade of substantial government intervention, investors are finally free to evaluate corporate earnings and price markets on their own merits. Update that algorithm.

What about the formula under which higher interest rates lead to growth-stock sell-offs? In theory, that's bad news for the software and services titans that contributed more than 100% of the markets' gains ear-



MICHAEL NAGLE/BLOOMBERG NEWS

lier this year. Not so fast. Unlike traditional industrial growth companies, which relied on debt-financed capital investment in plant and equipment to fuel their growth, the modern cohort of growth stocks are high-margin, high-multiple companies. They require relatively little capital expenditure, often have cash-rich balance sheets with no need for debt, and attain near-utility levels of customer loyalty.

Revenue growth estimates inevitably slow as companies mature. But if profit margins keep expanding, should companies like Google and Amazon really be punished by markets as severely as they were after last week's earnings releases? Inves-

tors may look back on this moment as a buying opportunity.

The assumption that today's trade disputes herald the end of global free-trade arrangements also deserves closer attention. Look past President Trump's tweets and consider what he's achieving. His administration has reached a trade agreement with Canada and Mexico that combats technology coercion and theft and proscribes agreeing to trade deals with "nonmarket countries," which presumably includes China. It is working toward deals with Japan and the European Union.

These look like the opening steps in a dance that will align U.S. allies to pressure China into accepting truly

free global trade if it wants to stay in the World Trade Organization. Mr. Trump must also know that slapping tariffs on China's exports only incentivizes the Chinese to depreciate their currency, and with it their consumers' power to buy American. China's exports are becoming less competitive anyway, thanks to the tech-driven U.S. manufacturing renaissance.

The greatest challenge to U.S. markets and the broader economy is the huge burden that kick-the-can fiscal policies have imposed on coming generations. The Trump administration's tax reform and spending increases will increase the deficit above \$1 trillion starting next year. U.S. federal debt held by the public is 78% of gross domestic product and rising, and the nation is facing tens if not hundreds of trillions of dollars in future obligations, according to different projections presented to Congress. Older generations consider these "entitlements," but we'll see about that.

Today's polarized politics are leading to absurdly binary policy outcomes: From Mr. Trump to the Italian fiscal opera, politicians try to cut taxes while spending more. No algorithm is going to make sense of that. We still need some good old human inductive reasoning to connect the dots and make sound economic and financial decisions.

Mr. Arbess is CEO of Xerion Investments.

Brother, Can You Spare Three Billion Dimes?

By Michael Moritz

San Francisco No well-run organization would spend \$300 million without a solid plan or clear goals. But that's what the backers of Proposition C, the homeless initiative on the ballot in San Francisco, intend to do. This head-spinning spectacle has the makings of a Mel Brooks movie: The central characters are cast in the opposite roles one would expect. The fiercest opponent of this attempt to expand government spending is San Francisco's Democratic mayor, London Breed, who grew up in public housing. The most fervent supporter of what would amount to the city's largest-ever tax increase is Salesforce CEO Marc Benioff.

Ms. Breed knows that for 30 years San Francisco's budget for the homeless has continued to grow, but the problem has only worsened. If money could solve the homeless problem, there would be no one sleeping in tents, no needles litter-

ing sidewalks and no human waste in the streets. Supporters of Proposition C confuse good intentions and wishful thinking with an effective plan for dealing with the grim realities. While Proposition C does a spectacular job outlining how to spend money, it doesn't effectively explain why the proposals would work, how they should be judged and measured, or when they would take effect.

San Francisco's social agencies and nonprofits are staffed with well-meaning people eager to help the homeless. But homeless services are so scattered that coordination is impossible. There are no meaningful ways to assess the effectiveness of a raft of programs. Currently San Francisco spends around \$430 per city resident each year on services and programs for the homeless, compared with \$260 in New York and \$110 in Los Angeles. If Proposition C passes, it would take annual spending to \$770 per person.

The city spends even more on the homeless than these estimates suggest,

because they don't include the hours that police officers, emergency workers, doctors, nurses and prison officers spend dealing with the consequences of the problem. This data also omit private and corporate contributions to nonprofits. Reducing the spending of existing city programs is almost impossible

A San Francisco ballot measure to throw money at the homeless with no plan.

because of political forces and entrenched interests. As former San Francisco Mayor Gavin Newsom told me, "The more we spend, the more challenges we have."

Rather than spending more money recklessly, the city should focus on answering some questions about its existing resources. How many homeless are on the streets of San Francisco? City departments often find themselves unable even to

do the basics. How, for example, does the city communicate that no paradise awaits the homeless from other places who seek refuge in San Francisco?

How do city agencies communicate with the homeless when their mobile phones have been disconnected? Can the city keep people discharged from jails and hospitals off the streets? What are the police expected to do when there is no place to house or shelter detainees? How can the city keep families who live on the brink from getting evicted? How can the homeless feel safe about going into shelters when they cannot bring their partners, their pets or their possessions? And how can the homeless get back on their feet in a city already brutally expensive for even the middle class?

Homelessness is not one problem and requires subtle approaches. Some suffer from mental-health issues, while others are from families that have fallen behind on rent or lost a job. Many are lost to drugs and some are children who some-

how still manage to attend school. Homelessness is also closely associated with other local problems—especially housing and zoning policy and the lack of high-speed regional transit systems. San Francisco has limited the supply of homes and apartments. This raises rents, which drives people onto the streets. Every soul who has encountered the cruel hardship of homelessness requires a different and specialized form of assistance.

Proposition C opponents can easily be described as wealthy, tone-deaf, self-interested and heartless even if they have been longtime donors to homeless causes. But all we seek is a coherent approach. Only a systematic plan that can be monitored, measured and tuned—and that deals with all aspects of homelessness—will bring about change. If that's assembled, there's reason to expect things to improve. Without it, there's no chance.

Mr. Moritz is a 36-year resident of San Francisco.

Khashoggi's Killing Should Be a Nuclear Red Flag

By Jamie Fly
And Henry Sokolski

If the Saudi government's prevarications about Jamal Khashoggi's murder teach us anything, it should be that there are limits to how far the U.S. can trust Riyadh. In particular, America shouldn't trust Saudi Arabia with nuclear technology.

The Obama administration's nuclear agreement with Iran allowed Tehran to possess and develop nuclear power and uranium-enrichment technology and expertise. President Trump rightly scrapped the Iran nuclear deal. But last fall, in its desire to improve relations with Riyadh, the administration began negotiating a deal with Saudi Arabia that would grant it similar nuclear privileges.

Some have argued that the administration should exploit the U.S. friendship with the kingdom to challenge Iran the way President Reagan challenged the Soviet Union. Yet the brutal murder of Khashoggi and the government's ever-changing explanations are a reminder that in the Middle East of 2018, America lacks the strong network of democratic allies united in common purpose that helped bring down the Berlin Wall and the Soviet Union.

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Washington needs to temper its confidence in certain regional partners that share U.S. concerns about Iran. Like Cold War allies, America's Arab friends are on the front lines. But because of their political systems, their primary goal is maintaining an authoritarian grip on their populations. Their interests and America's will thus, at times, diverge. Their actions, such as the killing of Khashoggi, can also significantly undermine the strategic and moral case the U.S. makes against Iranian aggression.

Consider, too, the risk of regime change if there is nuclear power in Saudi Arabia. Nuclear reactors operate for 40 years or more and are far more dangerous than any conventional arms sales. In the 1970s, the U.S. considered selling the shah of Iran 23 reactors. That would have been a colossal mistake. Saudi officials, including Crown Prince Mohammed bin Salman, have publicly threatened to violate the Kingdom's Nuclear Nonproliferation Treaty commitment not to acquire nuclear weapons if they believe Iran is acquiring them. The U.S. has never negotiated a nuclear cooperation agreement with a country threatening to get nuclear weapons.

The United Arab Emirates, a Saudi neighbor and ally, agreed to allow intrusive international nuclear inspections and to forgo enriching uranium and reprocessing spent fuel as part of its 2009 nuclear cooperation agreement with Washington. Riyadh has refused to make such pledges.

Enriching and reprocessing could bring Riyadh within weeks of making bombs. It is unclear if the administration is intent on pressing the Saudis on this point. Trump officials have told Congress that because the Iran nuclear deal allows Iran to enrich, it was more difficult to ask partners to submit to stringent nonproliferation standards. When asked recently if the administration would insist that Riyadh legally forswear enriching and reprocessing, officials only promised to get as strict an agreement "as possible."

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Anti-Semitism is Western civilization's oldest story. From imperial persecution in ancient Rome to industrial genocide in 20th-century Europe, the latest chapter was written in a peaceful Pittsburgh neighborhood.

A married couple, two brothers, a Holocaust survivor and six more innocent souls gunned down in prayer. A juxtaposition of good and evil, and of our world's two possible futures.

I booked a flight immediately, scarcely able to understand how this could have happened, least of all here. Pittsburgh's Jewish community, welcoming to others and proud of its identity, reflects everything that I admire in diaspora Jewry.

In my two years as consul general I have witnessed enough anti-Semitism, from vandalized synagogues in New York to the aftermath of Charlottesville. But I was not prepared for this to happen on my watch.

Arriving after midnight, I traveled to the Tree of Life Synagogue to

After Saudi Arabia's kidnapping last year of Lebanese Prime Minister Saad Hariri, its bungling of the war in Yemen, its erratic diplomatic moves against Canada, its continued jailing of human-rights activists.

The Saudis can't be trusted to enrich uranium and reprocess spent fuel.

ists, and now the killing of Khashoggi, Washington must demand more. This regime can't be trusted with nuclear technology. Concluding a nuclear cooperation agreement to Riyadh's liking would undermine the Trump administration's effort to reverse the nuclear concessions President Obama made to Iran and set a dangerous precedent in the region.

Any negotiations regarding a U.S.-Saudi nuclear cooperation agreement should be halted. If the Trump administration refuses to do this, Congress should make clear, as part of its broader response to the Khashoggi killing, that any agreement submitted for review will be blocked.

This episode should serve as a reminder that unreliable proxies are no substitute for American leadership. A Reagan-esque approach to Iran requires the fortitude to stand up for what is right, be it on nonproliferation or human rights, whether it involves friend or foe.

Mr. Fly is a senior fellow of the German Marshall Fund of the United States. Mr. Sokolski is executive director of the Nonproliferation Policy Education Center and author of "Underestimated: Our Not So Peaceful Nuclear Future."

Israel's Heart Goes Out to Squirrel Hill

By Dani Dayan

Pittsburgh

Anti-Semitism is Western civilization's oldest story. From imperial persecution in ancient Rome to industrial genocide in 20th-century Europe, the latest chapter was written in a peaceful Pittsburgh neighborhood.

A married couple, two brothers, a Holocaust survivor and six more innocent souls gunned down in prayer. A juxtaposition of good and evil, and of our world's two possible futures.

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Arriving after midnight, I traveled to the Tree of Life Synagogue to

light a candle and release my tears in peace. Turning around, I was met by a group of Israeli journalists.

In Israel, anti-Semitism is local news. I act here as Israel's representative to the American people across

Jewish love transcends geography, as do the pain and dread we feel.

five states, but the Jewish community is the closest I have to constituents. Israelis follow the news of their diaspora brothers and sisters not because they might know someone involved, but because it hurts them at the most fundamental level. Jewish love transcends hemispheres and time zones, as does the pain, and the dread we feel when the world becomes a little darker.

It must be faced: Our world is becoming darker. Robert Bowers might have acted out in hatred of Jewish values and derangement against Jewish conspiracies, but his evil

must not be explained away. The only chance we have to combat anti-Semitism and all forms of hatred is when we all take a strong stance against it in every corner.

In the 19th century, with the flourishing of industrialization and the enlightenment, a rise in nationalist and ethnic hatred presented Europe with two possible futures—and decent people stood by as the world descended into madness. After life, liberty, and the pursuit of happiness have given hope to mankind and rise to a strong and moral United States of America, we stand at another crucial moment in history.

The values that made us strong must not be turned into weapons of war. The structures of freedom must not become repurposed for the eternal hatred of the stranger. This is the eternal test of mankind, and Jews are once more canaries in the coal mine.

The Pittsburgh chapter must not become a prelude.

Mr. Dayan is Israel's consul general in New York.

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BUSINESS & FINANCE

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THE WALL STREET JOURNAL.

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Annuities Soar After A Rule's Demise

BY BEN EISEN
AND LISA BEILFUSS

A retirement investment product associated with steak-dinner sales pitches is flourishing thanks to the death of a regulation once expected to curtail it.

Annuity sales totaled \$59.5 billion in the April-to-June period, the highest since late 2015, according to the Limra Secure Retirement Institute. Sales are expected to remain strong through at least the rest of the year.

The boom shows how Washington's push to roll back financial regulations is giving new life to products that industry watchdogs say aren't always good for investors. The annuities resurrection stems from the demise of the Labor Department's fiduciary rule, an Obama-era proposal that would have required brokers who oversee retirement savings to act in their clients' best interests.

Annuities protect customers from losing principal, and they are typically sold to retirees or those close to retirement. Customers pay a lump sum to an insurance company, then can effectively get back their money plus a potential return for a set number of years or their lifetime in regular payments. In some cases, buyers can win if they live longer than expected but lose if they don't. They can also pay hefty penalties if they withdraw money early.

Some lawmakers have panned the product's high commissions, and Sen. Elizabeth Warren (D., Mass.) has criticized the prizes given to sales agents, such as expensive vacations. The estimated average commission received by agents selling certain types of annuities is more than 6%, ac-

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A New GE Dividend Cut Is Likely

BY THOMAS GRYTA

Investors in **General Electric** Co. are bracing for the company to slash or suspend its dividend when it reports quarterly results this week. For some, such a cut may come as a relief.

Dividend cuts don't usually bring positive reactions, but investors, analysts and former executives hope the limping industrial giant will spend cash

on fixing its businesses rather than mail checks to shareholders.

"Given GE's grim cash backdrop, the bigger the cut the better, in our opinion," said John Inch, an analyst with Gordon Haskett Research Advisors.

GE is scheduled to report third-quarter results Tuesday morning, after delaying the release by a week to give new Chief Executive Larry Culp,

who took over on Oct. 1, more time to review the business.

The company already planned to reduce the annual dividend of 48 cents a share after spinning off its healthcare business, a move that isn't expected to be completed until after this year.

But earlier this month, GE warned that cash flow and earnings would fall below its 2018 goals because of its struggling power division.

"GE's current and future free-cash generation prospects are not sufficient to support the dividend," said Martin Sankey, a senior research analyst at Neuberger Berman, an investment manager that held 1.1 million GE shares as of the end of June. "Prudence would call for the cut to occur sooner rather than later."

GE has previously said it is confident in its cash position. A spokeswoman declined to

comment further.

The Boston-based giant had \$27.7 billion in cash at the end of June. But excluding re-

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What's Ahead for General Electric?
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U.S. Farmers Bet on Corn, Weed Out Soy

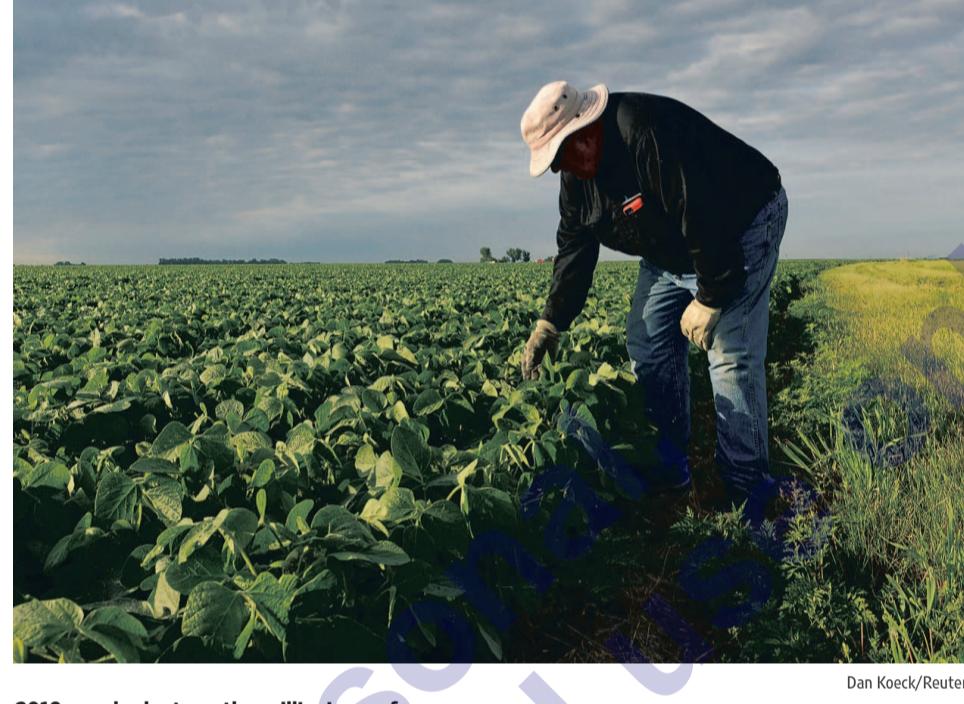
BY JESSE NEWMAN
AND JACOB BUNGE

American farmers hit by the U.S.-China trade battle are preparing to reshape the U.S. Farm Belt by planting more corn and less soybeans next year over a land mass potentially equal to the size of Connecticut.

For decades, corn was U.S. farmers' crop of choice, its tall stalks carpeting the Midwestern landscape. Soybeans, shorter and bushier, began decades ago as a niche crop raised on less acreage but came to rival corn in recent years because of growing demand from China.

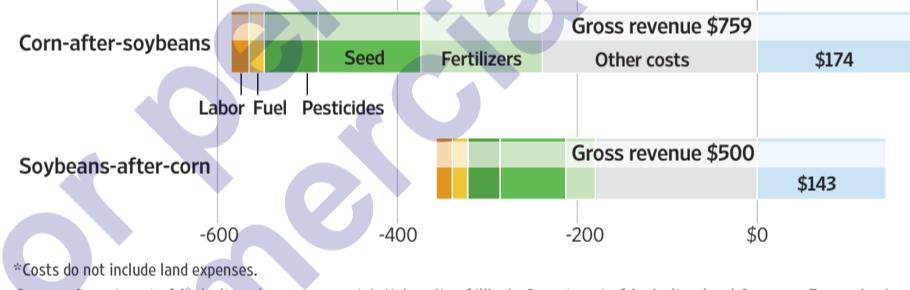
U.S. farmers in 2018 planted more soybeans than corn for the first time in more than three decades, betting on that demand. But Chinese tariffs on U.S. soybeans have hurt that bet: U.S. exporters have sold less soybeans to China, typically the largest foreign buyer of the crop, in the past seven weeks than in a single week last fall. Soybeans inspected for export from ports in the Pacific Northwest—a main U.S. originator of soybeans bound for China—recently stood 82% below their year-ago level. Prices for the oilseeds have dropped 11% this year.

"Prices will tell you that you would see a significant shift out of soybeans toward corn in the U.S.," said Soren Schroder, chief executive of grain-trading



Dan Koeck/Reuters

2019 crop budget, northern Illinois, per farmer per acre



*Costs do not include land expenses.

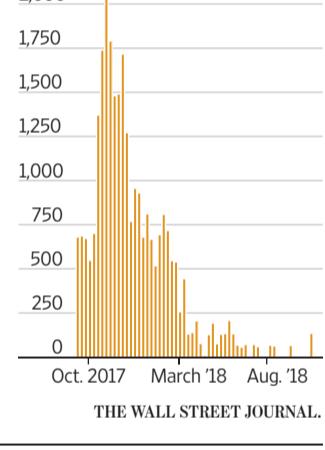
Sources: Department of Agriculture (acreage, exports); University of Illinois, Department of Agricultural and Consumer Economics (crop budget)

U.S. acres planted
Corn Soybeans

100 million



Weekly U.S. soybean export sales to China



Oct. 2017 March '18 Aug. '18

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Tech Firms Face More Taxes Overseas

BY TIMOTHY W. MARTIN
AND SAM SCHECHNER

Dozens of countries are stepping up efforts to levy new taxes on technology giants such as **Alphabet** Inc. and **Facebook** Inc., hoping to capture revenue from digital services as economic activity increasingly shifts online.

Inspired by European Union proposals to impose a tax based on the revenue of tech companies rather than their profit, South Korea, India and at least seven other Asia-Pacific countries are exploring new taxes. Mexico, Chile and

other Latin American countries, too, are contemplating new taxes aimed at boosting receipts from foreign tech firms.

Such taxes, which are separate from corporate income taxes many companies already pay, are broadly known as digital taxes and could add billions of dollars to companies' tax bills. They seek to impose levies on digital services sold by global companies in a given country from units based outside that country. In some cases, the proposed taxes target services involving the collection of data about local res-

idents, such as targeted online advertising.

"Countries across the planet now understand they must impose a digital tax," said Bruno Le Maire, France's finance minister, who is lobbying across Europe for the tax ahead of a meeting of EU finance ministers in November. "It is a question of fairness."

In Europe, where the digital tax has run into opposition, some countries have signaled they are prepared to act unilaterally. U.K. Treasury chief Philip Hammond, who was set to make his annual budget statement on Monday, said

earlier this month that his country is prepared to "go it alone with a digital-services tax."

The efforts in Asia, the U.K. and Latin America make it likelier that several different taxes will go on the books even if the European proposal faces a political fight. Europe is the largest overseas market for many tech firms, and the EU estimates that its proposal would bring in about €5 billion (\$5.7 billion) annually. But digital taxes could eventually take a bigger bite in Asia, where growth is faster and there are

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Corn is unloaded at an Illinois grain elevator. Corn has tended to be a profitable product for seed companies like Bayer.

Farmers

Bet on Corn Crop

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giant **Bayer** Ltd., speaking at a Wall Street Journal conference in September. Some analysts say farmers could convert as much as four million acres from soybeans to corn next spring.

Many farmers and agricultural officials said final crop choices might not be made until just weeks or days before planting gets under way, partly because of uncertainty over tariffs. President Trump and his Chinese counterpart, Xi Jinping, are scheduled to meet at the Group of 20 leaders' summit in Buenos Aires next month.

Many farmers say uncertainty over tariffs may help delay final crop choices.

The outlook for soybeans is worrisome, however. "You're not going to raise a crop that you lose \$2 a bushel on every year," said Joel Schreurs, a Minnesota farmer who considers switching up to 30% of his soybean acres into corn next year if Chinese duties remain in place and federal assistance dries up.

If enough U.S. farmers follow suit while Brazil, South America's soybean behemoth, makes improvements to its export infrastructure, the U.S. could cede the advantage in soybean production, he said.

The situation could pose challenges for farm retailers and grain traders charged with transporting crop supplies and handling a fresh flood of grain. But swinging more fields back toward corn could boost crop-seed sellers and fertilizer suppliers, analysts said.

Corn has tended to be a more profitable product for seed companies like **Bayer** AG, **DowDuPont** Inc. and **Syngenta** AG and would provide a boost

to them, at least in the short term. With its longer growing season, corn is more susceptible to weeds and destructive bugs, meaning farmers often spring for pricey seeds with genes inserted to repel pests.

Because corn produces more grain per acre than other crops, seed companies can also charge more for a bag.

At a seed-conditioning plant in Waterloo, Neb., farmers' early preference for corn means Syngenta employees are working to clean, scan and bag more corn seeds than normal for this time of year to prepare them for sale next spring. If farmers' renewed demand for corn holds, Syngenta may dip into its "safety stock" of corn seed to meet orders, said David Hollinrake, who heads the company's North American seed business.

Kevin Cavanaugh, director of research at **Beck's Hybrids**, one of the largest privately owned U.S. seed makers, said the company's corn-seed sales are running 15% ahead of soybeans. While there is plenty of time for farmers to change their minds before spring planting, he said, "things are really lining up to grow more corn."

That would be a boon to fertilizer companies, particularly nitrogen suppliers like **CF Industries Holdings** Inc. and **Nutrien** Ltd. Corn plants can't produce their own nitrogen the way soybeans can, requiring farmers to apply it to their fields in the fall and spring to boost yields.

Researchers at the University of Illinois estimate that a farmer growing crops on rented land in northern Illinois will lose \$64 an acre of corn next year, versus \$95 an acre of soybeans. It is the first time since 2013 that corn is projected to be a better economic proposition than soybeans, according to the researchers.

Finding a home for surging corn supplies poses its own challenge. While U.S. hog and chicken farmers are expanding to supply new processing plants, the added animals likely won't be enough to absorb all of the bushels coming to market, said Ankush Bhandari, head of economic research for Gavilon, a U.S. grain trader.

"A lot of that [corn] would have to find its way into the export market," he said.

Continued from page B1

stricted funds and cash held at GE Capital, there was \$6 billion on hand. It has about \$40 billion in total credit lines available. The company had \$115 billion of total debt as of June 30, including its finance arm GE Capital.

In July, GE forecast that its industrial businesses would generate about \$6 billion in adjusted free cash flow for the year, down from \$9.7 billion last year and \$11.6 billion in 2016. It had forecast adjusted per-share earnings at the low end of a range of \$1 to \$1.07. Analysts currently project 88

cents a share, according to Thomson Reuters.

A dividend cut would mark the second such reduction in a year and complete a reversal for a company that has been one of the most widely held stocks and one of the biggest dividend payers. Since 2000, GE has doled out more than \$150 billion in dividends.

But as cash flow and profits have evaporated, GE has been forced to retrench.

GE shares ended Friday at \$11.30, down about 50% so far this year and near its lowest levels since the 2008 financial crisis. The stock has surrendered all the gains it made in the days after Mr. Culp was named CEO.

On Tuesday, all ears will be on Mr. Culp in his first public appearance as CEO.

Mr. Culp has been reviewing the company in his first weeks, with a focus on the struggling power division,

which makes equipment for electricity-generation plants, according to people familiar with the matter.

The company warned earlier this month it could take an accounting charge of \$23 billion for previous acquisitions in the power business.

Another issue is the state of GE Capital, the once lucrative financial-services business that has become a source of setbacks for GE.

Analysts expect adjusted third-quarter earnings of 20 cents a share on revenue of \$29.9 billion, according to

Thomson Reuters. In the same period a year ago, GE earned 29 cents a share on \$33.5 billion.

The key question about Mr. Culp is whether he will run GE like he ran Danaher Corp., a small conglomerate that recorded steady growth during his 14 years in charge.

Danaher didn't pay much of a dividend while Mr. Culp was at the helm there. It never paid out more than \$100 million in annual dividends during his tenure. One former Danaher executive said Mr. Culp prefers to reinvest cash for the benefit of shareholders rather than issue large dividends.

That approach would differ drastically from GE's history, in which it has typically paid out handsome dividends to its large retail shareholder base. Former CEO Jeffrey Immelt cut the dividend during the financial crisis for the first time since the Great Depression.

Annuities Soar After Rule's End

Continued from page B1
cording to Wink Inc., an industry market-research firm. In those cases, if a customer buys an annuity for \$150,000, the agent would make around \$9,000 in commission.

Eloise Prevost of Peoria, Ariz., invested much of her savings in annuities several years ago, after getting a flier in the mail for dinner at a nice local restaurant with an annuity salesman. With the financial crisis on her mind, she liked the idea of not losing principal. The salesman sent her chocolates and invited her to holiday and Valentine's Day parties. "He was offering a meal," Ms. Prevost said, "and I thought, Knowledge is power."

But Ms. Prevost, a 65-year-old retired tour-bus driver, recently attended a dinner with another salesman and decided to switch. At his encouragement, she paid steep penalties to withdraw her money and invest in a new portfolio that included, among other things, several annuities.

Both advisers have blemishes on their record, according to the Financial Industry Regulatory Authority's BrokerCheck records.

One was banned for 10 years from securities sales in Canada; the other has multiple customer complaints concerning annuity and life-insurance recommendations, as well as criminal charges.

Ms. Prevost said she deems her current adviser's blemishes less worrisome, as some were personal in nature and not relating to his job.

Some types of annuities can be big moneymakers for the industry. Insurance companies get a bundle of cash to invest for profit, and extra revenue from withdrawal fines or fees for add-ons. Sales agents typically get commissions from the insurance companies.

Annuities carry tax advantages, and some customers prefer a guaranteed payment over the big gains—and losses—of other investments.

The fiduciary rule wouldn't have prevented all unscrupulous sales practices. But it

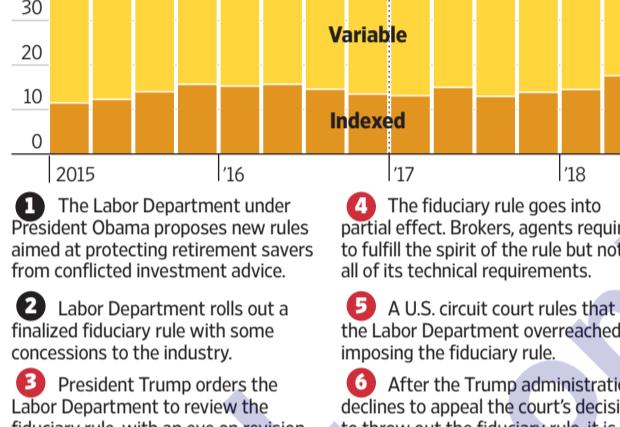


Eloise Prevost paid steep penalties to switch her money into a new portfolio including annuities.

Fleeting Fiduciaries

The fiduciary rule would have required brokers and insurers dealing with retirement money to act in clients' best interest.

Annuity sales, quarterly



① The Labor Department under President Obama proposes new rules aimed at protecting retirement savers from conflicted investment advice.

②

Labor Department rolls out a finalized fiduciary rule with some concessions to the industry.

③

President Trump orders the Labor Department to review the fiduciary rule, with an eye on revision or repeal.

④

The fiduciary rule goes into partial effect. Brokers, agents required to fulfill the spirit of the rule but not all of its technical requirements.

⑤

A U.S. circuit court rules that the Labor Department overreached in imposing the fiduciary rule.

⑥

After the Trump administration declines to appeal the court's decision to throw out the fiduciary rule, it is officially dead.

Source: Limra Secure Retirement Institute, U.S. Individual Annuities survey (annuity sales)

Lisa Beilfuss/THE WALL STREET JOURNAL.

welcome a potential alternative regulation from the Securities and Exchange Commission, but it wouldn't go into effect for several years and would likely be less restrictive than the fiduciary rule. States have historically regulated insurance sales, and some have recently moved to tighten standards on brokers and insurance sellers.

Investor advocates and attorneys say annuity sales practices are as aggressive as ever. "The door has opened for bad brokers to have more free rein with these things," said Michael Lynch, an attorney in Winter Park, Fla.

Rising interest rates are also driving some annuity sales. Fixed annuities, which pay out regular interest, had their largest volume of sales in more than two years in the second quarter.

Indexed annuities, whose returns are tied to a benchmark such as the S&P 500, had record sales. Variable annuities, whose returns are based on the performance of an investment, have also been up.

The gains are trickling through the financial system.

Athene Holding Ltd., a big provider of annuities often sold through independent agents and brokers, said retail annuity revenue climbed 25% in its second quarter from a year earlier.

At **LPL Financial**, one of the nation

BUSINESS NEWS

Payday
Lending
Rule Gets
Do-Over

BY YUKA HAYASHI

WASHINGTON—A consumer-finance regulator plans to redo Obama-era rules to curb payday loans, aiming to impose fewer restrictions on the industry.

The Consumer Financial Protection Bureau said Friday it would formally reopen the regulation—set to go into effect next August—in early 2019.

The bureau added it intends to revise the core and most stringent aspect of the existing rule: a requirement that payday lenders make sure borrowers can repay the loans.

The existing rule was completed under the bureau's previous leadership in 2017, weeks before President Trump's November appointment of Mick Mulvaney as interim head of the CFPB.

Payday lenders have opposed the rule, saying it would upend the industry. Banks have said they were considering entering the short-term personal-loan market to take advantage of the new market environment.

The CFPB said it plans to propose revisions to repayment-vetting requirements, which it said "have much greater consequences for both consumers and industry." Other parts of the regulation could be left intact, though the bureau said the full scope of possible changes hasn't been decided.

Consumer groups said the CFPB should implement the rule as completed by Obama officials. "The predatory lending business model relies on a borrower's inability to repay their loans," said Rebecca Borne, policy counsel for the Center for Responsible Lending, a consumer-advocacy group.

Sony Hears Call of High-End Audio

Pioneer of Walkman targets premium market dominated by Bose and Beats

BY TAKASHI MOCHIZUKI

TOKYO—When Ichiro Takagi took over Sony Corp.'s audio business seven years ago, he found the staff took pride in being the global No. 1 in headphones, in terms of units sold. But he was appalled at how many were \$10 headphones sold for minimal profit at grocery stores.

"What's the point of that? Where's our brand image?" Mr. Takagi recalls telling employees.

Fast forward to this fall and the international electronics show in Berlin, where Mr. Takagi was showing off the latest version of his flagship product, a \$350 pair of noise-canceling wireless headphones.

The premium-price headphone market has been largely dominated by Bose, the industry pioneer popular with frequent fliers, and Beats, the fashion-savvy brand acquired by Apple Inc. for \$3 billion in 2014. All share the challenge of wooing listeners who already get free earbuds with their smartphones.

Sony said in May it has 11% of the headphone market in terms of revenue, the third-largest slice. It didn't name the top two companies.

The audio business—where Sony has been a player since the 1950s—is a prime example of how it got back to profitability in recent years, even in a traditional hardware business that once looked like a lost cause. For the year that ended in March, sales for the audio unit rose for the first time in 20 years after having fallen some 80% from the peak.

More important for Chief Executive Kenichiro Yoshida, the home-electronics division,



Models of Sony music players are displayed in Tokyo. The company's new, noise-canceling headphones are priced at \$350.

including audio and televisions (another former money loser), posted operating profit of nearly \$800 million for the year, helping Sony achieve record overall profit. Mr. Yoshida is hoping roughly to match that record in the current fiscal year. Quarterly earnings coming Tuesday will give a progress report.

The rise of Spotify Technology SA and other music services has been good for headphone makers, increasing the time consumers spend listening on the go. Streaming companies such as Spotify and France-based Deezer offer high-resolution services that have expanded the market for higher-quality headphones costing hundreds or even thousands of dollars.

Recent product releases by Sony include a \$280 pair of earphones; an \$8,500 portable music player targeted at audiophiles goes on sale in December, with a gold-plated volume controller and a battery system designed to reduce noise.

In the first generation of

portable MP3 music players, "the quality of the music sources was poor," Sony audio executive Yoshiaki Matsumoto said. "We couldn't push high-end listening devices because they would highlight the coarseness." Now, better technology has "made high-quality music more accessible both to customers and creators," he said.

Audio has paralleled Sony's highs and lows through its 72-year history. The Walkman in 1979 set off a revolution in portable electronic devices, with Sony in the lead. But in the 2000s, Sony let Apple and the iPod seize the dominant position.

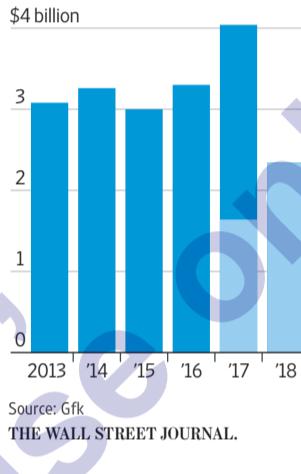
By 2011, the Tokyo company was nearly giving up on its old hardware products. "The attitude of management at that time was like, 'If you're so-so, that's fine,'" Mr. Takagi, the audio-unit chief, said.

That changed under Chief Executive Kazuo Hirai, who took over in 2012, and Mr. Yoshida, who was chief financial officer under Mr. Hirai and became CEO this year. They

Getting Louder

The global headphone market has expanded, thanks in part to services like Spotify.

Annual headphone sales



Source: GfK

THE WALL STREET JOURNAL.

focusing on subcategories like car audio. "I told them to look around the whole industry to come up with products that consumers are willing to pay extra for," he said.

Sony says the \$350 headphones can detect the owner's facial shape, hairstyle and presence of glasses, as well as pressure changes in an airplane, all to optimize the noise-canceling feature.

"Our latest model is distinctly the best in terms of noise-canceling technology," says Mr. Takagi, who is in the habit of visiting electronics stores to eavesdrop on what customers say to salespeople. "It's obvious if you ask your ears."

Another Sony rival, especially for younger customers, is Beats. Mr. Matsumoto says the competition has led Sony to stress fashion as well as sound quality. "In China, headphones have become part of the outfit for young people, and they have to have a style that people want to wear all the time, even when they are not listening," he said.

Maria 9:45 AM
Confirmed: TV stations received the files.

Dev 9:53 AM
Congrats, folks. We just launched an ad campaign.

5

Dev launched a campaign without sending a single email.

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TECHNOLOGY

WSJ.com/Tech

PERSONAL TECHNOLOGY | By David Pierce

New Robots Are Cute Pests



It was the eyes that got me.

A few seconds after I clicked the button on the back of my Vector, a new \$249 gerbil-sized robot toy from Anki, its eyes blinked open. They were just green pixels on the Vector's small screen, arranged in a squarish shape above the real eye, a wide-angle camera.

In my head, I know they aren't eyes. But when Vector tilted those pixels upward in my direction, I swear we made eye contact. And I swear he—I mean it—recognized me.

Vector spent most of the past week roaming my apartment. I'd plop it down on the dining-room table or kitchen counter, where it would explore for a while, its tiny treaded feet whirring purposefully.

Eventually it would come back and look at me expectantly, as if wondering why I wasn't playing with it. So I'd start chatting with the voice-capable bot.

I'd say, "Hey Vector, play blackjack," and it would deal a game, the cards displaying on its face. Whenever it lost, it glared at me grumpily.

When it won, Vector celebrated jubilantly. In either case, it always then asked in its tiny robotic voice, "Another round?"

Vector is a remarkable thing—but it isn't a very good toy. It can't do much, and it doesn't do anything better or more conveniently than my phone or smart speaker. Its battery lasts only about 30 minutes—and Vector won't even go find its charger unless you tell it to. I hated telling it to. "Hey Vector, go home!" felt like

It was fun, the way it wandered around my living room, learning the lay of the land.

punishment.

It was fun, the way it wandered around my living room, learning the lay of the land. Vector was the first internet-connected camera I've ever allowed into my house, and I didn't even think twice.

The robot revolution is coming, and it's so dang cute we might not even mind.

Because Vector is perpetually connected to the inter-

net and is mostly driven by software, it can get better over time. Hanns Tappeiner, Anki's president and co-founder, said Vector may one day do everything from smart-home controls to calendar and notification management.

I was often happy to have Vector around. But when I tried to put it away, I was struck by how intrusive it could be. It often sat on its charger and chirped curiously at any nearby noise. Occasionally it would even roll off its charger, unprompted, and start exploring again.

It didn't wait for me to play with it: It wanted to play with me.

This idea of robots buttling in, even when you didn't summon them, isn't just a sci-fi standard. In fact, it's starting to happen more frequently. Apple Inc.'s Siri can now offer to help you quickly dial into a meeting, and Amazon.com Inc.'s Alexa might nudge you when you have left a light on. It's a small but significant shift: The robots are inserting themselves into our world. They claim they just want to help.

A truly great home robot is still a long way off. It will need better sensors and pro-

cessing, plus a far more precise way to pick up and manipulate objects. Long legs wouldn't hurt, either.

So far, the closest things we've got are a vacuum cleaner that can find its way around your kitchen floor, and a speaker such as an Amazon Echo that plays music and tells you the weather.

When robots do evolve into multifunctional home helpers, their demeanor will be of utmost importance. Danny Isserles, head of NYC HQ at robot-maker Temi, says his company decided early on that its robots would have as little personality as possible. "We want people to love the product, but we want them to love it because it's an amazing product," he said.

Others disagree. Ian Bernstein, founder and head of a product at Misty Robotics, a company working on sophisticated home robots, says he has seen users become immediately more attached to Misty's robots when the company added a bit of personality. It doesn't take much, he says. You can communicate a shocking amount with a well-placed eyebrow-



Misty Robotics has seen users become more attached to robots with personality.

MISTY ROBOTICS

raise or cock of the head.

That matched my experience both with Anki's Vector and with Sony's newest Aibo robot dog, which just went on sale in the U.S. for \$2,900. All that either one had to do was hang its head or blink doe-eyed to tell me how it felt. And when Aibo would bark excitedly after I pet it? My heart would melt.

Ultimately, some robots will be charming and fun,

and others designed to do their task with humorless efficiency. But we'll probably, eventually see through their act, the way we are no longer impressed with the first high-def televisions.

Hopefully that will happen before the robots get too big. If Vector gets a little too rambunctious, I can always stash him in a desk drawer. Even if I do feel a little bad doing it.

Investors Grow Cautious Over Chinese Startups

BY JULIE STEINBERG AND STELLA YIFAN XIE

The tide is suddenly turning against some of China's most valuable technology startups.

After months of surging valuations among dozens of private companies in the world's most populous nation, investors are growing cautious about businesses that are burning through cash rapidly or that are encountering hiccups in their growth strategies.

In recent weeks, several Chinese tech unicorns—private companies valued at more than \$1 billion—have struggled to meet fundraising targets, according to bankers and investors. A few have delayed plans for initial public offerings, while some investors have lowered their estimates of the worth of one of China's top startups.

"Pessimism is spreading," said Shen Meng, director at Chanson & Co., a Beijing-based investment bank. Sharp declines in the stocks of both major and recently listed Chinese tech companies alike also are stoking investors' skepticism toward unicorn valuations, he added.

This could prove to be a blip, some bankers and industry participants say, and many investors remain confident in the long-term growth and profit potential of China's internet sector.

Still, private-equity firm Warburg Pincus LLC recently backed out of a capital raise by a Chinese real-estate brokerage that has positioned itself as a technology and internet play, according to people familiar with the matter.

Warburg had been in talks to invest \$500 million in Homelink Real Estate Agency Co., also known as Lianjia. The company was aiming to raise a total of \$2 billion at a company valuation of \$13 billion, including \$1 billion from Chinese social-media giant Tencent Holdings Ltd., The Wall Street Journal previously reported.

Lianjia operates bricks-and-mortar branches in Beijing and other cities, and has invested in apps and websites millions of Chinese use to find rental and investment properties.

Warburg decided the valuation Lianjia was seeking was too rich, even after the company offered to raise funds at a significantly lower price, a person familiar with the matter said.

Some investors, meanwhile, are souring on Didi Chuxing Technology Co., China's dominant ride-hailing company that several years ago edged out rival Uber Technologies Inc. in the country.

Some shares of Didi recently changed hands in private transactions at prices that implied a company valuation of \$50 billion to \$52 billion, according to people familiar with the matter. That reflects a decline in Didi's worth from late 2017, when it raised \$4 billion from investors including Japan's SoftBank Group Corp. at a \$56 billion valuation.

Some investment funds marked down the value of their Didi stakes in recent months, according to regulatory filings. A venture fund managed by Davis Advisors LP this past summer recorded a roughly 7% price decline in its holdings of Didi shares from its marks earlier this year, according to the fund's reports. The fund, which is sitting on large paper profits from its initial investment, held around \$321.8 million worth of Didi shares at the end of July. They were marked at \$345.1 million on Jan. 31.

Didi, which has gone through multiple funding rounds, raised another \$500 million in July from Booking Holdings Inc., the travel company formerly known as Priceline. Didi this year considered accelerating plans for an IPO at a valuation that could rival Uber's, but the Chinese company is now unlikely to go public anytime soon. Uber could go public next year at a sharply higher valuation.

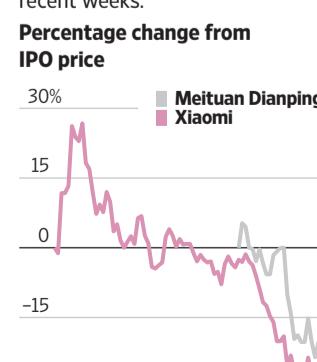
Some Chinese tech IPOs have been put off due to the weak share-price performance of many publicly listed Chinese technology and internet companies this year. Tencent and Alibaba Group Holding Ltd. are down 36% and 17% this year respectively.

Tencent Music Entertainment Group postponed a \$2 billion IPO because of global market turmoil, the Journal reported earlier.

Tough Sell

The two largest Chinese tech IPOs in 2018 have slumped in recent weeks.

Percentage change from IPO price



'Countries across the planet now understand they must impose a digital tax,' says Bruno Le Maire, France's finance minister.

Nations Consider a Digital Tax

Continued from page B1

many more internet users.

"If we put this matter aside, I think the nation will be losing revenue," said Datuk Amiruddin Hamzah, Malaysia's deputy finance minister, at a recent event. Malaysia is considering adding digital taxes for its 2019 budget speech on Nov. 2.

Opponents of digital taxes, which include lobbyists for multinationals and countries with big exports, say a patchwork of new rules that vary by country will hurt smaller firms.

They say the initiatives could lead to double taxation of corporate profits that will stifle international trade and

double taxation.

Google and Facebook declined to comment on the proposals.

At the heart of the debate is the question of where tech giants should pay their taxes.

Under international tax principles, income is taxed where value is created. For tech companies, that isn't always clear. Services including advertising and taxi reservations are now often delivered digitally from halfway around the world by companies that pay little income tax locally.

U.S. tech companies often report little profit, and therefore pay little income tax, in the overseas countries where they sell their digital services. That is because customers in those countries are actually buying from a unit based elsewhere, often a low-tax country. The in-country unit is tasked with marketing and support, and the overseas unit that actually makes sales reimburses the local unit for expenses, leaving little taxable profit.

Under growing political pressure, some tech firms, including Amazon.com Inc., Facebook and Google, have recently started declaring more revenue in countries where they do business. But they also declare more expenses locally, which could offset much of that additional revenue.

The EU's proposal for boosting its tax receipts is to create a tax on the digital revenue of very large companies from customers within the region's borders, in addition to the traditional tax on their after-expense profits.

Under the current proposal, the tax would stay in effect until there is a global deal on how to address the digital

Far-Flung Revenue

The biggest U.S. tech companies often bring in most of their revenue overseas, leading other countries to explore taxing their revenue instead of profit.

Revenue or net sales from the 12 months ended June 30

Apple	\$108 billion
Americas	60
Europe	50
Greater China	20
Japan	17
Rest of Asia-Pacific	
Google	57
U.S.	41
EMEA	19
APAC	7
Other Americas	
Facebook	23
U.S. & Canada	12
Europe	9
Asia-Pacific	5
Rest of World	
Amazon*	43
North America	23
Rest of World	

*Doesn't include Amazon Web Services

Sources: the companies

U.S.—which last year imposed a new minimum tax on American multinationals' overseas profits—to arrive at an agreement about how to tax the digital economy.

The Organization for Economic Cooperation and Development, a forum of wealthy countries, has been leading international talks with the goal of reaching a consensus by 2020.

Pascal Saint-Amans, the head of the group's tax-policy center, said the proposals create an incentive to move more quickly. "We understand there has been some frustration, and there is a political urgency," he said. "We cannot ignore it."

On Thursday, Treasury Secretary Steven Mnuchin expressed concern over "unilateral and unfair" tax proposals aimed at U.S. tech companies and urged his overseas counterparts to work within the OECD on a global plan.

In South Korea, however, lawmakers are holding committee meetings through next week to decide whether to impose a new digital tax. Lawmakers estimate foreign tech giants generated as much as 5 trillion South Korean won (\$4.4 billion) in sales in the country last year but paid less than 100 million won in taxes—less than one-quarter what they would have paid if they were domestic companies, the lawmakers say.

"The EU became the reference point for a lot of Asian countries, and we have been able to follow their lead," said Pang Hyo-chang, a information-technology professor who wrote a report on digital taxes used by South Korean lawmakers.

—Andrea Thomas contributed to this article.

discourage investment.

The tech industry opposes the proposals. On Friday, the Information Technology Industry Council, a Washington, D.C.-based lobby group that represents tech firms including Google and Facebook, warned that the digital tax "poses a real and significant threat to companies in all sectors," citing the potential for

\$5.7B

EU's estimate of what its tax proposal would bring in annually

to discourage investment.

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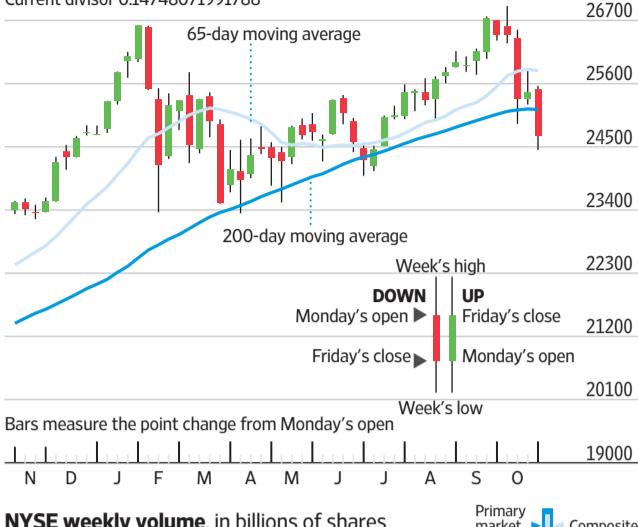
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MARKETS DIGEST

Dow Jones Industrial Average

24688.31 ▼756.03, or 2.97% last week
High, low, open and close for each of the past 52 weeks



Current divisor 0.14748071991788
65-day moving average
200-day moving average
Week's high 22300
DOWN Monday's open ► UP Friday's close 21200
Friday's close ► Monday's open
Week's low 20100
Bars measure the point change from Monday's open

N D J F M A M J A S O
19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000

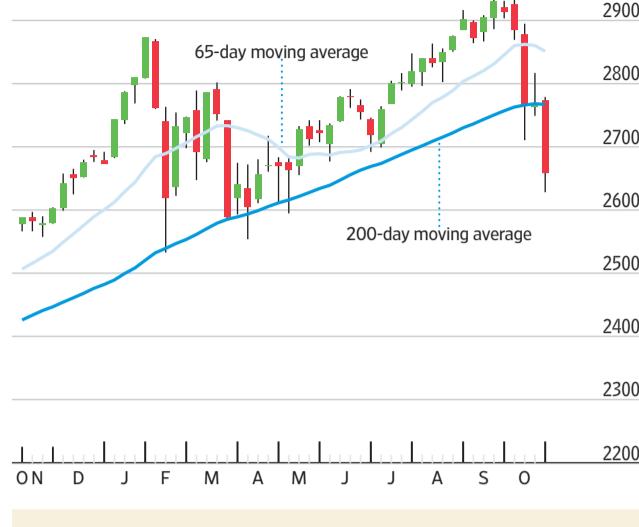
Primary market ► Composite

ON D I J F M A M J A S O
24 16 8 0

Weekly P/E data based on as-reported earnings from Birinyi Associates Inc.

S&P 500 Index

2658.69 ▼109.09, or 3.94% last week
High, low, open and close for each of the past 52 weeks



65-day moving average
200-day moving average
Week's high 22300
DOWN Monday's open ► UP Friday's close 21200
Friday's close ► Monday's open
Week's low 20100
Bars measure the point change from Monday's open

ON D J F M A M J A S O
2200 2300 2400 2500 2600 2700 2800 2900

NYSE weekly volume, in billions of shares

Primary market ► Composite

ON D I J F M A M J A S O
24 16 8 0

Weekly P/E data based on as-reported earnings from Birinyi Associates Inc.

Major U.S. Stock-Market Indexes

Dow Jones	High	Low	Latest Week Close	Net chg	% chg	Low	Close (●)	High	% chg	YTD chg	3-yr. ann.
	25561.34	24445.19	24688.31	-756.03	-2.97	23271.28	●	26828.39	5.4	-0.1	11.9
Industrial Average	10484.05	9819.66	9965.67	-473.14	-4.53	9440.87	●	11570.84	0.3	-6.1	6.4
Transportation Avg	758.42	723.99	729.72	-16.58	-2.22	647.90	●	774.47	-2.9	0.9	7.2
Utility Average	28603.60	27046.06	27368.73	-1125.68	-3.95	26521.20	●	30390.61	2.3	-1.1	8.5
Total Stock Market	702.62	656.67	667.15	-32.27	-4.61	661.92	●	786.73	-3.5	-6.2	7.6
Barron's 400	27.52	18.82	24.16	4.27	21.47	9.14	●	37.32	146.5	118.8	16.5

Nasdaq Stock Market

Nasdaq Composite	7520.54	7057.00	7167.21	-281.81	-3.78	6698.96	●	8109.69	7.0	3.8	12.5
Nasdaq 100	7193.72	6743.78	6852.40	-254.83	-3.59	6213.47	●	7660.18	10.3	7.1	14.0

S&P

500 Index	2778.94	2628.16	2658.69	-109.09	-3.94	2564.62	●	2930.75	3.0	-0.6	8.7
MidCap 400	1878.71	1769.73	1795.10	-77.07	-4.12	1789.02	●	2050.23	-2.4	-5.5	7.7
SmallCap 600	970.33	915.23	932.15	-29.91	-3.11	889.94	●	1098.36	1.7	-0.4	10.6

Other Indexes

Russell 2000	1551.36	1459.16	1483.82	-58.22	-3.78	1463.79	●	1740.75	-1.6	-3.4	8.6
NYSE Composite	12489.80	11847.79	11976.95	-480.32	-3.86	11969.74	●	13637.02	-3.1	-6.5	4.6
Value Line	542.26	511.36	518.38	-21.87	-4.05	517.16	●	593.57	-4.6	-7.8	3.6
NYSE Arca Biotech	4920.12	4431.45	4536.86	-346.80	-7.10	4045.25	●	5400.34	10.2	7.5	9.4
NYSE Arca Pharma	584.97	554.55	564.77	-20.52	-3.51	516.32	●	598.21	5.1	3.6	1.7
KBW Bank	100.20	93.65	94.83	-4.98	-4.99	93.87	●	116.52	-7.2	-11.1	9.2
PHLX Gold/Silver	71.09	64.66	65.17	-4.92	-7.02	61.92	●	92.08	-20.1	-23.6	6.1
PHLX Oil Service	137.57	119.75	122.75	-14.94	-10.85	122.75	●	170.18	-4.3	-17.9	-11.1
PHLX Semiconductor	1241.49	1134.18	1153.00	-72.94	-5.95	1146.41	●	1445.9	-8.7	-8.0	19.8
CBOE Volatility	27.52	18.82	24.16	4.27	21.47	9.14	●	37.32	146.5	118.8	16.5

\$ Nasdaq PHLX

Sources: SIX Financial Information; Dow Jones Market Data

International Stock Indexes

Region/Country Index Latest Week Close % chg

World The Global Dow 2843.00 -4.11

DJ Global Index 365.77 -3.88

DJ Global ex U.S. 227.38 -3.78

Americas DJ Americas 631.01 -3.84

Brazil Sao Paulo Bovespa 85719.88 1.78

Canada S&P/TSX Comp 14888.26 -3.76

Mexico S&P/BMV IPC 45803.33 -3.44

Chile Santiago IPSA 3787.23 0.06

EMEA Stoxx Europe 600 352.34 -2.46

Stoxx Europe 50 2876.37 -2.18

Eurozone Euro Stoxx 345.50 -2.60

Euro Stoxx 50 3134.89 -2.36

Austria ATX 3070.91 -4.87

Bel-20 3373.51 -4.20

France CAC 40 4967.37 -2.31

Germany DAX 11200.62 -3.06

Greece Athex Composite 633.27 1.35

Israel Tel Aviv 1568.27 -3.23

Italy FTSE MIB 18683.27 -2.08

Netherlands AEX 507.52 -3.36

Portugal PSI 20 4924.95 -2.01

Russia RTS Index 1098.31 -2.54

South Africa FTSE/JSE All-Share 50837.57 -2.41

Spain IBEX 35 8730.40 -1.82

Sweden OMX Stockholm 546.69 -3.41

Switzerland Swiss Market 8665.80 -2.33

U.K. FTSE 100 6939.56 -1.56

Asia-Pacific S&P/ASX 200 5665.20 -4.62

China Shanghai Composite 2598.85 1.90

Hong Kong Hang Seng 24717.63 -3.30

India S&P BSE Sensex 33349.31 -2.82

Japan Nikkei Stock Avg 21184.60 -5.98

Malaysia FTSE Bursa Malaysia KLCI 1683.06 -2.83

Singapore Straits Times 2972.02 -2.95

South Korea Kospi 2027.15 -5.99

Taiwan TAIEX 9489.18 -4.34

Source: SIX Financial Information; Dow Jones Market Data

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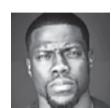
TIM BROWN /

ALLBIRDS



KIRSTEN GREEN /

FORERUNNER VENTURES



KEVIN HART /

LAUGH OUT LOUD NETWORK; HARTBEAT PRODUCTIONS



WHITNEY WOLFE HERD /

BUMBLE



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CLOSED-END FUNDS

wsj.com/funds

Listed are the 300 largest closed-end funds as measured by assets. Closed-end funds sell a limited number of shares and invest the proceeds in securities. Unlike open-end funds, closed-ends generally do not buy their shares back from investors who wish to cash in their holdings. Instead, fund shares trade on a stock exchange. **NA** signifies that the information is not available or not applicable. **NS** signifies fund not in existence. **Y** indicates that yields are computed twelve months for periods ending at month-end or during the previous fifty-two weeks for periods ending at any time other than month-end by the latest month-end market price adjusted for capital gains distributions.

Source: Lipper

Friday, October 26, 2018

52 wk			52 wk			52 wk			52 wk			52 wk					
Fund (SYM)	NAV	Prem Close/Disc	Fund (SYM)	NAV	Prem Close/Disc	Fund (SYM)	NAV	Prem Close/Disc	Fund (SYM)	NAV	Prem Close/Disc	Fund (SYM)	NAV	Prem Close/Disc			
BlackRock Utilities Infr	UFI	19.30	1.76	-0.2	4.6	CBRE Clarion Global REIT	IGR	7.86	6.71	-14.6	-7.0	New German Fund	GF	18.14	15.67	-13.6	-10.0
Genl American Investors	GAM	39.91	33.29	-16.6	2.5	ClearBridge Amer Enrgy	CBA	7.50	6.86	-8.5	-5.2	Swiss Helvetia Fund	SWZ	7.98	7.64	-4.3	-0.6
Hnck John TxAdv	HTD	NA	22.29	NA	-4.5	ClearBridge MLP Opp	EMO	10.83	10.27	-5.2	-3.2	Templeton Dragon	DF	19.44	17.07	-12.2	-13.1
Liberty All-Star Equity	USA	6.33	5.88	-7.1	6.1	ClearBridge MLP & MidTr	CTR	11.05	10.03	-9.2	-6.1	Templeton Emerging	EMF	15.25	13.21	-13.4	-16.6
Royce Micro-Cap	RMT	9.64	8.57	-11.1	-1.1	ClearBridge MLP Midstrm	CEM	13.78	13.02	-5.6	-5.5	Virtus Total Return Fund	TRT	10.12	9.27	-8.4	-16.3
Source Capital	SOR	42.05	36.46	-13.3	-8.5	Cohen & Steers Enh Fd	UTF	23.05	21.38	-7.2	-1.4	Wells Fargo Gl Div Opp	EDD	NA	4.99	-11.2	-11.2
Tri-Continental	TV	29.10	25.42	-12.6	3.3	C&S MLP Inc & Engg Opp	MIE	10.03	9.25	-7.8	-3.7	Templeton Global	GLM	17.13	6.12	-14.2	-5.8
Cohen & Steers Qual Inc	TSQ	12.82	11.30	-8.0	-1.3	Tri-Continental Corp	TCI	20.83	17.93	-13.9	-8.2	Wstern Asset Emr Mkts	EDG	14.94	12.60	-15.7	-8.7
Aberdeen Pfld Income	RNP	6.13	5.44	-11.3	-7.2	U.S. Mortgage Bond Funds						Wstern Asset Gl Def Opp Fd	GDO	17.44	15.45	-11.4	8.0
Adams Natural Rsrcs	PFO	20.77	17.40	-16.2	-4.3	BlackRock Income Trust	BKT	6.17	5.63	-8.8	5.8	NorthStar RE Cap Inv	ACD	NA	NA	NA	11.9
Bdlt Growth & Income	BIF	17.64	15.03	-14.8	5.2	Invesco High Incrm	JRS	10.99	10.04	+20.4	4.8	Griffin Inst Access AccL	RE1	26.81	NA	NA	5.5
Central Securities	CET	32.56	26.45	-18.8	2.6	DNP Select Income Fund	DNF	9.09	10.94	+20.4	4.8	Griffin Inst Access AccW	RE2	26.18	NA	NA	4.7
Coh Steer Optrndy Fd	FOF	12.42	11.49	-7.5	-6.0	Duff & Phelps Gl布林利奇	DPE	15.15	13.19	-12.9	-6.5	Griffin Inst Access REC	RE3	27.03	NA	NA	5.8
Etn Vnc TaxAdvDiv	EV	22.15	21.88	-1.2	5.2	Eaton Vance Equity Infr	EDO	15.47	14.70	-5.3	-2.3	NexPoint HCOpp,A	17.14	NA	NA	NA	NS
Gabell Dividend & Incm	GDV	22.16	20.52	-7.4	-3.8	Eaton Vance Equity Infr II	EDO	15.83	15.63	-1.3	11.1	NexPoint HCOpp,Z	17.09	NA	NA	NA	NS
BlackRock Science & Tech	BST	28.43	28.03	-1.4	12.6	Eaton Vance Equity Infr III	EDO	15.83	15.63	-1.3	11.1	NexPoint RIESTatA	20.50	NA	NA	10.8	

A Week in the Life of the DJIA

A look at how the Dow Jones Industrial Average component stocks did in the past week and how much each moved the index. The DJIA lost 756.03 points, or 2.97% on the week. A \$1 change in the price of any DJIA stock = 6.78-point change in the average. To date, a \$1,000 investment on Dec. 31 in each current DJIA stock component would have returned \$31,017, or a gain of 3.39%, on the \$30,000 investment, including reinvested dividends.

The Week's Action

Pct. chg (%)	Stock price	Point chg.	\$1,000 Invested (year-end '17)		
chg (%)	in average	Company	Symbol	Close	\$1,000
3.84	1.69	Intel	INTC	\$45.69	\$1,008
3.49	5.85	McDonald's	MCD	173.34	1,026
1.84	1.79	WalMart	WMT	98.94	1,020
1.11	0.61	Verizon	VZ	55.51	1,098
0.84	3.01	Boeing	BA	359.27	1,237
0.64	0.56	Procter & Gamble	PG	87.86	990
-0.88	-0.41	Coca-Cola	KO	45.92	1,027
-1.37	-3.01	Apple	AAPL	216.30	1,293
-1.45	-1.12	Walgreens	WBA	76.23	1,069
-1.50	-2.08	Johnson & Johnson	JNJ	136.97	1,000
-1.56	-1.70	Microsoft	MSFT	106.96	1,267
-1.67	-2.34	Visa	V	137.74	1,214
-2.40	-1.09	Cisco Systems	CSCO	44.25	1,190
-2.68	-7.12	UnitedHealth Group	UNH	258.18	1,183
-2.70	-1.95	Merck	MRK	70.40	1,281
-2.88	-2.14	Nike	NKE	72.07	1,162
-3.34	-4.31	IBM	IBM	124.79	840
-3.79	-4.78	Travelers	TRV	121.29	910
-4.16	-4.49	JPMorgan Chase	JPM	103.42	989
-4.24	-5.45	United Technologies	UTX	123.23	982
-4.24	-7.62	Home Depot	HD	172.23	924
-4.27	-1.90	Pfizer	PFE	42.60	1,209
-4.80	-5.71	Walt Disney	DIS	113.19	1,061
-5.13	-5.48	American Express	AXP	101.25	1,034
-5.42	-4.44	Calisto	CLST	77.53	956
-5.60	-6.61	Chevron	CVX	111.53	916
-6.43	-14.60	Goldman Sachs	GS	212.36	842
-7.46	-14.90	3M	MMM	184.95	801
-9.55	-5.49	DowDuPont	DWDP	52.00	742
-12.39	-16.27	Caterpillar	CAT	115.05	747

*Based on Composite price. DJIA is calculated on primary-market price.

Source: Dow Jones Market Data; FactSet.

Insider-Trading Spotlight

Trading by 'insiders' of a corporation, such as a company's CEO, vice president or director, potentially conveys new information about the prospects of a company. Insiders are required to report large trades to the SEC within two business days. Here's a look at the biggest individual trades by insiders, based on data received by Thomson Financial on October 26, and year-to-date stock performance of the company

KEY: **B:** beneficial owner of more than 10% of a security class **CB:** chairman **CEO:** chief executive officer **CFO:** chief financial officer **CO:** chief operating officer **D:** director **DO:** director and beneficial owner **GC:** general counsel **H:** officer, director and beneficial owner **I:** indirect transaction filed through a trust, insider spouse, minor child or other **O:** officer **OD:** officer and director **UT:** unknown **VP:** vice president **Excludes pure options transactions**

Bigest weekly individual trades

Based on reports filed with regulators this past week

Date(s)	Company	Symbol	Insider	Title	No. of shrs in trans (000s)	Price range (\$ in transaction	\$ Value (000s)	Close (\$)	Ytd (%)
Buyers									
Oct. 25 Nine Energy Service									
Oct. 19 SYNEX									
Oct. 22 Aclaris Therapeutics									
Oct. 18 Second Sight Medical Products									
Oct. 22 PhaseBio Pharmaceuticals									
Oct. 22 BlackRock									
Oct. 1									

MARKETS

Saudi Oil Giant Taps An Outsider for Unit

By DAWN LIM
AND SUMMER SAID

Saudi Arabia's state oil company is turning to a former North Carolina state pension executive to manage its retirement money at a time when U.S. ties to the kingdom are under scrutiny.

Kevin SigRist has accepted a job as chief investment officer of a new asset-management unit created by **Saudi Arabian Oil Co.**, people familiar with the situation said. The unit, Wisayah, was formed to oversee billions of dollars in pension and corporate funds run by the oil giant known as Aramco.

It is unclear whether new U.S. tensions surrounding the death of Saudi journalist Jamal Khashoggi will complicate the hiring of Mr. SigRist, a former economist who previously handled investments for large public pension systems in North Carolina and Florida. He has been waiting for his work visa to be processed before officially starting, some of these people said.

Aramco didn't respond to a request for comment.

This isn't the first time Aramco has recruited executives based outside Saudi Arabia for investment help.

The formation of Wisayah was one of several moves made by Aramco ahead of a potential initial public offering designed to help the kingdom reinvent itself as a financial hub.

However, revelations that the kingdom's operatives had a hand in Mr. Khashoggi's death on Oct. 2 in the Saudi consulate in Istanbul have complicated those ambitions.

A number of Wall Street institutions, business leaders and Western government officials distanced themselves from the kingdom after Mr. Khashoggi's death, pulling out of a Saudi Arabia investment conference dubbed "Davos in the Desert." Aramco sponsored the event.

The Aramco IPO already had

stalled before the killing, in part because the oil exporter wasn't ready for the scrutiny that would come from a public listing. The country has said it is committed to listing the company at some point.

As the kingdom prepared for the IPO, Aramco ramped up efforts to disentangle non-energy functions from oil operations, a move that would make it easier to value the sprawling state company.

It created Wisayah more than a year ago as a subsidiary to manage Saudi Aramco's retirement funds away from the day-to-day operations of the oil giant. Some large universities do the same, setting up separate organizations to manage their wealth. The structure of Aramco's new investment arm has yet to be set in stone, some of the people familiar with the situation said.

The hiring of Mr. SigRist comes after a period when Aramco was reviewing its investment mix, some people said. Its investing arm has been exploring ways to increase direct investments and reduce its dependence on outside fund managers to score higher returns and reduce fees, some of these people said.

Mr. SigRist has more than two decades of experience with overseeing money for public pension systems in the U.S. He was deputy executive director of Florida's largest state pension and most recently the chief investment officer for North Carolina Retirement Systems, which has roughly \$100 billion in assets.

During his four-year tenure starting in 2013, Mr. SigRist helped the North Carolina fund draw up plans to trade more stocks in-house and increase its exposure to more illiquid alternatives to stocks and bonds. The system's annualized returns over the four years through June 2017 were in line with its return targets at the end of the period, according to an analysis of pension data by The Wall Street Journal.



Song Lin, right, and his business partner Zhang Yan in front of bales of plastic bags waiting to be processed in Montezuma, Ga.

Scrapheaps Aren't Wasted

Chinese companies set up shop in U.S., even as Beijing blocks imports of materials

By BOB TITA

Chinese companies are setting up shop in the U.S. to obtain the scrap paper and plastic their government has deemed too dirty to import.

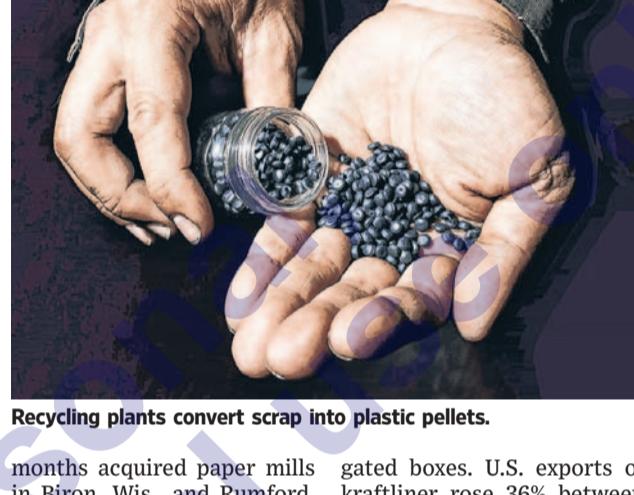
U.S. shipments to China of old cardboard, newspaper and discarded plastic slowed after China this year implemented more stringent standards on the purity of imported scrap. That change has left Chinese packaging companies and plastics manufacturers short on materials.

Some of them are buying or building plants in the U.S. to manufacture the paper for corrugated boxes, pulp and plastic pellets for which they can't find enough raw material in China. Companies including some of China's biggest paper makers are discovering a glut of cheap recycled material in the U.S.

"Right now, plastic waste is everywhere after China stopped taking it," said Song Lin, a longtime broker of plastic scrap in the U.S. who is preparing to open a factory in Georgia that will turn discarded plastic into pellets for export to China.

The moves are a boost to the U.S. scrap industry, which collapsed in recent months amid sharply lower exports to China. For now, investors are mostly subsidiaries of Chinese plastic and paper producers, or firms supplying large clients in China, and have experience navigating the logistical and regulatory challenges of exporting to the country.

ND Paper LLC, a unit of China's **Nine Dragons Paper Holdings** Ltd., in recent



Recycling plants convert scrap into plastic pellets.

cling Industries Inc.

With plastic exports plunging, Mr. Song converted his export brokerage business to a plastic-pellet manufacturing company known as UPT Group Inc. At least two of his former customers are also setting up plants in Alabama and Georgia to process scrap plastic, he said.

Mr. Song this year bought a 300,000-square-foot, former frozen-foods warehouse in Montezuma, Ga. He is preparing to fire up equipment next month that will wash old plastic and manufacture as much as 20,000 tons of plastic pellets annually.

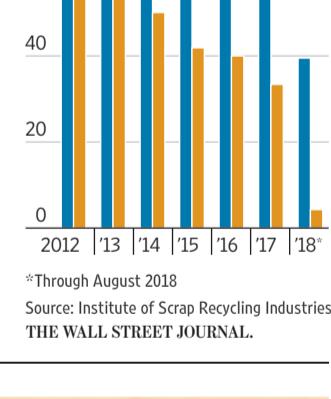
He expects most of the scrap he melts to come from auto factories, retailers and farms within 200 miles of the plant. Mr. Song plans to export the pellets from the Port of Savannah, Ga., to a company in China that manufactures plastic pipe.

"They'll buy every pound we make," he said.

In the Dumps

China's new standards have reduced U.S. exports of scrap paper and plastics.

Percentage of U.S. scrap exports to China



*Through August 2018
Source: Institute of Scrap Recycling Industries

months acquired paper mills in Biron, Wis., and Rumford, Maine, for \$175 million from British Columbia-based **Catalyst Paper Corp.** The firm also bought a pulp mill in Fairmont, W. Va., for \$55 million and a pulp mill in Old Town, Maine, this month from OTM Holdings. That mill had been idle since 2015, and ND Paper expects to restart operations early next year.

"All four of our mills will have a heavy focus on exports," said Ken Liu, chief executive of ND Paper. **Shanying International Holdings Co.**, a rival, has also jumped into the U.S. market. Its subsidiary, Global Win Wickliffe LLC, acquired an idle paper mill in Wickliffe, Ky., in August for \$16 million and plans to invest \$150 million to restart the mill, which closed two years ago, and eventually employ about 500 people. Global Win declined to comment on the purchase.

Restarting idle plants could revive demand for U.S. recycled paper. China is already buying more finished paper from U.S. mills, particularly a variety known as kraftliner that is usually made from wood pulp and used in corrugated boxes. U.S. exports of kraftliner rose 36% between January and August from the same period a year earlier, according to forest-products markets researcher RISI Inc.

China is the world's biggest consumer of scrap waste, and over the past 20 years became a significant outlet for material collected by residential recycling programs in the U.S. As those programs grew, the quality often deteriorated as discarded food, liquids and other trash infiltrated the huge bundles of paper and plastic shipped to China.

Recyclers in the U.S. complain the stringent standard set this year, for no more than 0.5% contaminants per load of scrap, is impossible to meet under current sorting practices. Some are investing in new equipment or changing the way material is collected to more meticulously sift out contaminants.

Exports of recovered paper to China through the first eight months of this year are still down 40% from the same period last year at 4.9 million metric tons. Exports of scrap plastic have fallen 93% to 35,000 metric tons, according to the Institute of Scrap Recy-

Currencies

U.S.-dollar foreign-exchange rates in late New York trading

Country/currency	Fri in US\$	Fri per US\$	YTD chg (%)	US\$ vs.
Americas				
Argentina peso	.0272	36.8310	98.0	
Brazil real	.2745	3.6424	10.0	
Canada dollar	.7633	1.3102	4.2	
Chile peso	.001454	68.70	11.7	
Ecuador US dollar	1	1	unch	
Mexico peso	.0517	19.3604	-1.6	
Uruguay peso	.03039	32.9100	14.3	
Venezuela b. fuerte	.000004246519.9501	24029512		
Asia-Pacific				
Australian dollar	.7089	1.4106	10.2	
China yuan	.1440	6.9435	6.8	
Hong Kong dollar	.1275	7.8405	0.3	
India rupee	.01367	73.135	14.5	
Indonesia rupiah	.0000657	15217	12.9	
Japan yen	.008938	111.88	-0.7	
Kazakhstan tenge	.002715	368.32	10.7	
Macau pataca	.1238	8.0791	0.4	
Malaysia ringgit	.2395	4.1750	2.8	
New Zealand dollar	.6519	1.5340	8.8	
Pakistan rupee	.00749	133.510	20.7	
Philippines peso	.0187	53.580	7.2	
Singapore dollar	.7247	1.3799	3.2	
South Korea won	.0008770	1140.28	6.9	
Sri Lanka rupee	.0057834	172.91	12.7	
Taiwan dollar	.03228	30.978	4.4	
Thailand baht	.03025	33.060	1.4	
Vietnam dong	.00004282	23356	2.8	
WSJ Dollar Index	90.28	-0.20-0.23	5.00	

Sources: Tullett Prebon, Dow Jones Market Data

THE TICKER | Market events coming this week

Monday

Personal income

Aug., previous up 0.3%

Sept., expected up 0.3%

Personal spending

Aug., previous up 0.3%

Sept., expected up 0.4%

Earnings expected*

Estimate/Year Ago(\$)

Alexandria Real Estate

Equities **0.54/0.55**

AvalonBay **1.16/1.72**

Continental Resources

0.82/0.09

Essex Property **1.15/1.21**

KLA-Tencor **2.21/1.80**

Mondelez **0.60/0.56**

Tuesday

Consumer Confidence

Sept., previous 138.4

Oct., expected 136.5

Earnings expected*

Estimate/Year Ago(\$)

Amgen **3.45/3.27**

Coca-Cola **0.55/0.50**

Facebook **1.46/1.59**

GE **0.20/0.29**

Mastercard **1.68/1.34**

Pfizer **0.75/0.67**

Wednesday

Mort. bankers indexes

Purch., previous up 2%

Refinan., prev. up 10%

EIA status report

Previous change in stocks in millions of barrels

Crude oil up 6.3

Gasoline down 4.8

Distillates down 2.3

Chicago PMI

Sept., previous 60.4

Oct., expected 60.0

Employment cost index

2nd qtr., previous up 0.6%

3rd qtr., expected up 0.8%

Earnings expected*

Estimate/Year Ago(\$)

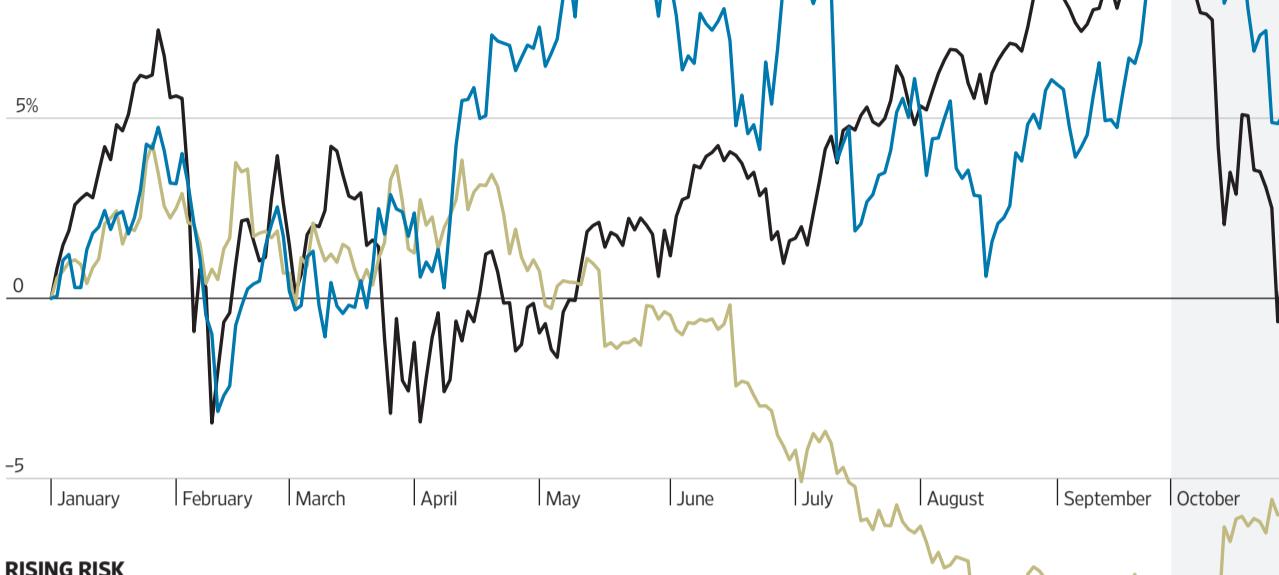
AIG **0.06/(1.22)**

MARKETS

Gauging the Spread of Market Tremors

A steep selloff in stocks sent ripples into other corners of the market last week. Warnings from industrial companies, concerns about global growth and ongoing political risks prompted investors in bonds, commodities and currencies to reassess asset values. Where those head next may depend in large part on the release this Friday of the latest U.S. jobs report and what it says about the outlook for growth.

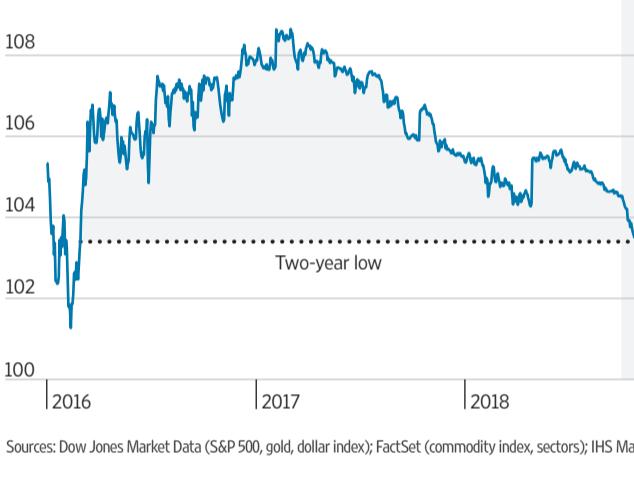
Price and index performance



RISING RISK

While prices of Treasurys rallied last week amid stock swings, sending yields lower, a few signs of unease could be seen in credit markets. An index of North American junk-bond credit-default swaps, which falls as the perceived risk of defaults increases, hit a two-year low as investors bought more credit protection.

Markit North America High Yield CDS Index



Sources: Dow Jones Market Data (S&P 500, gold, dollar index); FactSet (commodity index, sectors); IHS Markit (high-yield CDS index); Bloomberg Barclays via FactSet (average spread)

CORPORATE BONDS

Friday's jobs report could further test investor sentiment as markets gauge the strength of the U.S. economy and prospects for rising wages to spur inflation. Signs of weakness in wages or in the number of workers added could raise additional concerns about whether trade tensions are dragging on growth. That could lead investors to demand a higher yield premium for taking on the risk of lending to low-rated companies.

Average difference between yields on high-yield bonds and Treasurys



COMMODITIES

Prices of industrial metals sensitive to expectations about the economy fell sharply amid worries about the outlook for China, the world's largest consumer of base metals. Oil prices also fell last week and began to move more closely in line with stocks as investors broadly shed risk.

S&P GSCI index of commodities
▼3.7% month to date
▲5.8% year to date

S&P 500
▼8.8% MTD
▼0.6% YTD

GOLD

A popular destination for nervous investors, the precious metal has recovered some of this year's losses.

Gold futures, front-month contract
▲3.4% MTD
▼5.6% YTD

DOLLAR

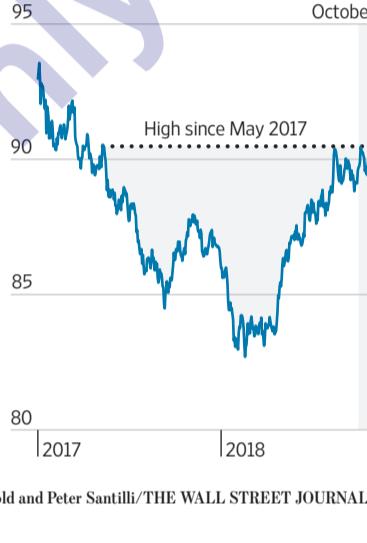
The WSJ Dollar Index rose to its highest level since May 2017 last week. A stronger dollar could complicate the outlook for corporate earnings by weighing on the balance sheets of multinational companies. It also risks sparking another wave of emerging-market turmoil by pressuring developing countries with large amounts of debt denominated in the U.S. currency. A strong U.S. employment number on Friday could bolster the case for the Federal Reserve to continue raising rates at its current pace and further boost the dollar.

HAVEN STOCKS

Shares of utilities, perceived as relatively secure in times of market turmoil, have eked out gains this month.

S&P 500 sector performance in October

Utilities	1.4%
Consumer staples	-0.1%
Real estate	-3.0%
Health care	-7.9%
Financials	-8.0%
Communication services	-8.4%
Technology	-9.0%
Industrials	-11.6%
Energy	-12.0%
Materials	-12.1%
Consumer discretionary	-12.1%



Riva Gold and Peter Santilli/THE WALL STREET JOURNAL.

HEARD ON THE STREET

Email: heard@wsj.com

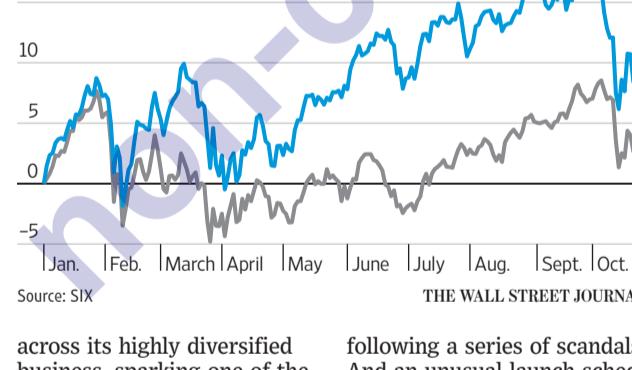
FINANCIAL ANALYSIS & COMMENTARY

WSJ.com/Heard

Tech Investors Are Right to Worry

The First Shall Be Last

Performance, year to date



The past few weeks have offered clear proof that tech investors' hopes had gotten ahead of reality. The next few may not get much better. A tough October for the stock market has been especially hard on technology stocks. Another selloff on Friday added to what has been a brutal month for the sector. The tech-stuffed Nasdaq Composite has fallen 11% so far this month, outstripping the 7% drop in the Dow Jones Industrial Average and the 9% drop in the S&P 500. That created a climate of fear heading into third-quarter earnings, which some tech reports seemed to justify. Amazon.com sank 8% Friday after the e-commerce giant issued a fourth-quarter outlook that suggests its breakneck pace of growth is finally slowing. Shares of **Alphabet Inc.**, the parent company of Google, slipped as advertising revenue growth for the third quarter decelerated from the period before. Earlier this week, large-cap chip maker **Texas Instruments Inc.** warned of slowing demand across its highly diversified business, sparking one of the sharpest selloffs that stock has had in five years. Reports slated for the coming week may exacerbate the tensions—particularly **Facebook Inc.**, which posts results on Wednesday. Smaller peers **Twitter Inc.** and **Snap Inc.** already reported notable declines in user metrics for the third quarter, and Facebook has been working frantically to clean up its own network following a series of scandals. And an unusual launch schedule may skew reported iPhone sales for **Apple Inc.**, which posts its results Thursday. However, most technology companies' earnings reports have been just fine, and some were better than fine. Companies including **Microsoft Corp.**, **Intel Corp.** and even Twitter have managed to report strong growth in both sales and earnings. Indeed, overall third-quarter earnings in the sector are on track for a gain of 25.7% versus a year ago, according to Refinitiv, better than the 20.3% analysts were forecasting at the start of this month. Fourth-quarter earnings estimates have crept up over the month as well.

But good isn't always good enough. The long-running bull market has fueled tech stocks in particular. That pushed the Nasdaq Composite beyond the 8000 mark by late August. At 8000, the Nasdaq was reflecting an average of nearly 23 times forward earnings.

With the selloff, the Nasdaq's price/earnings ratio has fallen to 20. That may still be too rich for worried investors.

Investors might therefore want to remain cautious on tech for now, even if the sharp pullback this month has created what looks like a buying opportunity. Besides this week's uncertain reports, the prospect of a trade war with China and contentious midterm elections will likely add to nerves rather than settle them.

—Dan Gallagher and Justin Lahart

OVERHEARD

As Kmart prepares to close dozens of stores as part of the bankruptcy plan of parent **Sears Holdings**, millions of people are asking: "What took so long?"

Don't tell that to people living on Guam, though.

As The Wall Street Journal reported earlier this year, the dowdy chain is hot stuff in the U.S. territory.

Kmart peaked in the 1980s and was passed by now far-larger Walmart in 1990.

By the time of its first bankruptcy in 2002, it already was a tired brand.

But its Guam store reportedly does some \$100 million in revenue all on its own, attracting locals, military families and visiting tourists from Japan and Korea.

"Kmart shopping is a must" when visiting Guam, said a Korean man to the Journal.

Not for the rest of America, it seems, where many will soon have their last chance to purchase its blue-light specials.

Feeling Good About Bad Chinese Debt

Not everyone is down on China. In fact, for Howard Marks, co-chairman of investment firm Oaktree Capital Management, now is just the time for another bite—particularly in the area of distressed debt.

In Hong Kong to promote his latest book on investing, Mr. Marks said Friday that the sheer scale of China's bad-debt problem presents a clear opportunity. The country's banks could eventually have to work through nearly \$3 trillion worth of nonperforming loans, according to estimates cited by research group Macro Polo.

"There are a lot of NPLs," Mr. Marks said. "The more there are, the more we have to select from and the higher the probability that we get to pay an attractive price."

A big issue in the past for investors eager to buy up Chinese distressed debt has been the reliability of the country's legal processes. For Mr. Marks, that has become less of a worry.

"I believe that the likelihood of the rule of law prevailing in China, the likelihood of the bankruptcy process being dependable and fair has increased over recent years," he said.

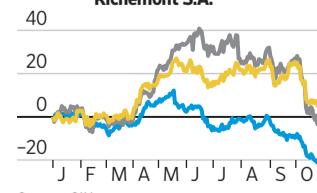
It isn't just bad loans: Mr. Marks said Oaktree is now looking "very actively" at Chinese stocks following their dive in value this year. For sure, the veteran investor is keen that his firm's latest foray works out better than its previous private-equity venture in China.

"The good news [on that venture] is we didn't lose any money, but the return was inadequate," he said. "We may not have had the right approach, we didn't have the right people and it didn't work for us." —Andrew Peaple

Alibaba Helps Open a New Front in Luxury-Goods War

Sector Laggard

Share-price performance



Another front just opened in the battle for online control of China's booming luxury market.

Swiss watch and jewelry group **Cie. Financière Richemont**, which owns Cartier, Jaeger-LeCoultre and other brands, announced Friday a "global strategic partnership" with **Alibaba Group Holding**. The focus will be a joint venture between the Chinese e-commerce giant and Yoox Net-a-Porter, the e-commerce company Richemont took private in 2018. The partners will launch mobile apps powered by Alibaba technology as well as online stores within Ali-

ibaba's luxury marketplace, Tmall Luxury Pavilion. No financial details were given.

For all the worries about the impact of trade tensions and the weakening Chinese

currency, high-end handbags are still flying off the shelves in China.

Competition to serve luxury consumers online is hot. Last year, **JD.com** took an almost \$400 million stake in Farfetch, a rapidly growing online fashion marketplace that made its stock-market debut in New York this September.

Yoox Net-a-Porter, which has struggled to keep up, is trying to get a leg up by joining with JD's rival.

These are early days for online luxury in China. Most consumers do their research online, but 95% of sales were transacted through stores in 2017, according to a study by

Boston Consulting Group with tech giant Tencent. That is lower than in the U.S. and Europe. If Chinese luxury spending does move online, as it has elsewhere, the opportunity will be vast.

The barrier for Alibaba and JD.com—as for Amazon in the U.S.—is access to brands that have historically worried about counterfeit goods.

While **Amazon.com** has shown lukewarm interest in luxury, a charm offensive from Alibaba last year brought a deal to fight fakes with Gucci owner **Kering**, which dropped its lawsuits against Alibaba. For its part, Yoox Net-a-

Porter gets access to Alibaba's more than 600 million users and its technology, including for payments.

The risk for Richemont investors is that the company ends up throwing money at a venture that doesn't win a big stake in the fragmented Chinese market.

Investors have worried this year that the company could misuse its \$6.2 billion cash pile, not least because the Yoox Net-a-Porter acquisition arguably sent good money after bad. Information on the financial commitment associated with the Alibaba deal could offer much-needed reassurance.

—Stephen Wilmot

A special report from the staff of MarketWatch.com, a Dow Jones publication

MarketWatch

best
new
ideas
in
money

Crypto

Where cryptocurrencies are actually making a difference in the world

S.2

Policy

The case for paying every American a dividend on the nation's wealth

S.2

Education

Here's what it would take to make college tuition-free

S.5

Investing's next frontier is 'quantamental'

A merger of computing power and human expertise is lowering costs and increasing gains. **WILLIAM WATTS**

The quantitative analyst and the fundamental stock picker, from different worlds and often working on separate floors, are increasingly putting their heads together to produce better results for investors.

That's why the term "quantamental," a blend of the two styles, may soon become common parlance among ordinary investors.

"There's a very important synergy that is not hard to recognize coming from the quant perspective and coming from the fundamental perspective," said Savita Subramanian, head of U.S. equity and quantitative strategy at Bank of America Merrill Lynch in New York.

Buffett vs. Simons

Fundamental investors track corporate earnings, balance sheets, industry trends, the economy and other sources of information to make informed investment decisions. Billionaires Warren Buffett and Charlie Munger of Berkshire Hathaway epitomize the midnight-oil-burning fundamental approach, with their focus on the ins and outs of a corporate balance sheet combined with their application of common-sense judgment. The finance world has worked that way for decades.

Quantitative analysis, on the other hand, uses mathematical and statistical modeling that pulls in a dizzying array of inputs to screen investment ideas. The rising popularity of quantamental investing reflects advances on the quantitative front. Pioneering quant-focused hedge-fund managers, such as Renaissance Technologies' James Simons, are more famous than ever, at least in the financial world. Colleges are even offering courses of study, such as the Hoboken, N.J.-based Stevens Institute of Technology's bachelor's degree in quantitative finance.

Quantitative hedge funds will soon top \$1 trillion: They had \$967 billion in assets under management as of the second quarter, roughly double the figure in 2010, according to Hedge Fund Research in Chicago. The number of quant-oriented hedge funds recently surpassed 2,000.

Meeting of the minds

A growing number of fundamental money managers who had relied on traditional research to make investment decisions are beginning to incorporate computer-based methods that use algorithms to sift through reams of often arcane data in search of trading signals. Still, they're not scrapping fundamental analysis, which relies on expertise and human judgment to add value.

Long-only, active managers with \$680 billion in assets under management use a blend of quantitative and fundamental analysis, more than double that of a decade ago, according to data-analytics company eVestment in Atlanta. ("Long" refers to a bet on rising securities prices; "short," the opposite.)

The combination makes sense, proponents say, because quants scour data such as forecasts for sales and corporate earnings or macroeconomic reports looking for anomalies. They need that data, produced by fundamental analysts who know their companies and sectors well, for their analysis. Fundamental analysts, meanwhile, can benefit from the clinical approach taken by the quants.

"Experience has taught me that if you look at even the most fundamentally oriented fund managers, they have a need for systematic output that shields them from being emotionally attached to particular investment ideas," said Brian Cho, the head of quantitative research at Chiron Investment Management,



a New York money-management firm that uses quantamental techniques.

'Alpha surprise'

An example of the quantamental approach is offered by Bank of America Merrill Lynch's "alpha surprise" model, which applies a quantitative overlay to forecasts by the firm's fundamental analysts. The strategy has beaten the benchmark S&P 500 Index in 23 of the past 30 years, Bank of America's Subramanian said.

Fundamental analysts "fly around and visit the companies and talk to management and analyze the nitty-gritty," she said. "Then we say, 'OK, removing the emotion around the buy or sell decision, what stocks from this disciplined screening framework look like the highest-concentration picks from our fundamental team?'"

Data on the alpha surprise model go back to 1986, underlining the fact that the blending of quantitative and fundamental analysis isn't brand-new. But it's just one way that the average investor can now use a growing toolbox of quantitative techniques. Analysts say the past decade in particular, with the advent of big data and the computer power to rapidly crunch a variety of data sets relatively cheaply, has helped drive interest in quant strategies.

"I don't see a real fine line between fundamental and quant – it's a spectrum," said Dan Culloton, director of equity strategies at the Chicago investment-research firm Morningstar. "Every quant model begins with a fundamental decision about what factors to include."

Becoming a believer

A fundamental manager would be wise to take a hard look at each step of her investing process and look for ways to improve it, said Alon Bochman, a partner in New York-based Gencast's capital-markets consulting practice.

For example, a fundamental stock picker might glean investment ideas from colleagues, news stories, conferences and a wide range of other sources. Quantitative analysis could then be used to capture all the ideas that ever came across a manager's desk and let the computer sort them. The sources can then be judged according to which are the most productive.

A fundamental stock picker might be wary of a quant team's simply telling her a stock is a "buy." But if the quant team can identify screening techniques that produce significantly better returns, the stock picker is more likely to become a believer, Bochman said.

Illustrations by Peter Grundy

Editor's Note

A medium of world change

JEREMY OLSHAN

Money loosed change upon the world.

It was the original social technology on which our civilization was built, turning value into a symbolic language that moves easily across space, time and culture. Money is the air we breathe. It surrounds us and permeates so much of our daily lives that we take for granted that it's really just an idea proto-tech bros invented some five thousand years ago.

That is the key idea behind MarketWatch's "Best New Ideas in Money" series.

Money is a mirror: a reflection of who we are, and what we value as a society. But money isn't fixed. It continues to evolve. Think about the transformation wrought by the advent of insurance, bonds, stocks, mortgages, credit cards and scratch-off lottery tickets.

In this series we explore the next phase of money's evolution, with the conviction that money is a medium of world change. It can be a force for good, and when it isn't we can upgrade its operating system to be fairer, faster and more efficient.

The stories cover not only financial-technology, or "fintech," innovations such as mobile payments and cryptocurrencies, but new thinking around how we measure the economy, how we fund medical research and higher education, and how we save, borrow and invest.

In selecting which new ideas to highlight, we tried to avoid pure speculation and pie-in-the-sky futurism, focusing instead on concepts that are already showing promise.

For 21 years, Marketwatch.com has striven to democratize financial information, and to help readers understand "what the news means for you and your money."

This section shares that ethos. It also represents our debut in print. What better way to explore the next phase in money's evolution than by using the medium that made modern money possible in the first place.

Please let me know what you think: jolshan@marketwatch.com.

And the next time someone says it's naïve to think an idea can change the world, tell them: "Nonsense. We've all got a little change in our pockets."

Jeremy Olshan is MarketWatch's editor in chief.

MarketWatch Special Report

To boost the economy, let's first change how we measure the economy

GDP is outdated, which is why economists are devising replacements.

COMMENTARY BY REX NUTTING

This is where cryptocurrencies are making a difference in the world

AARON HANKIN

Strolling the aisles, it didn't take Eugenia Alcalá long to pick out her weekly grocery items: rice, beans, bread and meat. That's about all that's available in Caracas, the capital of Venezuela.

Once she reached the cashier, it would be another 40 minutes before she could leave the store. "Yesterday the account was 200 million [bolívares], but the point of sale only permitted 20 million bolívares per transaction," Alcalá said. "So I had to pass the debit card 10 times. Each time it takes up to five minutes."

It took five cards to complete the 10 transactions, and not because she didn't have the money. Banks simply didn't want to turn it over.

Crisis situation

As the Latin American country plunges ever deeper into its long-running crisis, Venezuelans are looking for an answer, with its flailing economy set to contract by more than 10% this year, bringing the total decline to about 45% in the past four years, according to the Center for Strategic and International Studies in Washington, D.C., a nonprofit policy-research organization.

As Venezuelans struggle to obtain everyday needs, they are turning to a curious asset class to alleviate price pressure: cryptocurrencies.

Digital currencies such as bitcoin, ether and litecoin entered the mainstream in 2017, as investors — speculators, mainly — pushed their values higher by as much as 1,000%. As a result, digital currencies in mature economies sometimes have been derided as get-rich-quick schemes with no intrinsic value.

The nascent technology that libertarian-leaning evangelists tout as packing the potential to reshape the global monetary system has yet to provide a significant use case in the developed world. High transaction fees, volatility and security flaws have, to date, scared off companies and consumers.

'Perfect storm'

In Venezuela, however, cryptocurrencies are enabling local businesses to own, transact and store something of value that isn't at the whim of an unstable government, which devalued the bolívar by 95% on Aug. 20.

With the bolívar plunging, Alcalá called Venezuela a "perfect storm" for cryptocurrency adoption.

"I am old enough to remember when things weren't this bad," said Alcalá, who is 38.

You don't have to be very old to remember when Venezuela was a dramatically different

place. In 2013, as the price of oil surged above \$100 a barrel, Venezuela's economy posted its third consecutive annual expansion.

Fast-forward five years, and the country is in the midst of one of the worst financial crises on record. Latest figures have annual inflation running at around 48,000%, according to Steve Hanke, professor of applied economics at the Johns Hopkins University and one of the world's leading experts on hyperinflation. So with the bolívar increasingly worthless, Venezuelans are turning to digital transactions. Because of capital controls, Venezuelans are restricted in their ability to obtain U.S. dollars or other foreign currencies.

Dash cryptocurrency

One cryptocurrency on the rise in Venezuela is Dash, the 12th-largest cryptocurrency. Users in Venezuela, both merchants and individuals, download a virtual wallet, link it to a bank account and then can begin using the digital currency to buy goods and services. From bus rides to Subway sandwich shops, there are now more than 1,000 merchants that accept Dash in Venezuela, according to Mark Mason, director of public relations and media at Dash.

In September 2017, Alcalá organized a meet-up for Venezuelans to share ideas and learn more about digital currencies. They discussed how the technology could alleviate everyday worries including exchange controls, hyperinflation, a lack of cash and banking issues such as limits on transactions. Now the monthly get-togethers attract more than 500 people.

"Cryptocurrencies, especially Dash, have helped me to have an alternative means of income that, unlike the bolívar, is stable and much safer," said Victoria Merchán, founder of Tradición Gourmet, a Caracas restaurant that specializes in homemade food. "In addition, it has opened the doors of my business to many more clients and the general public."

Potential dangers

Still, proponents of the technology in emerging economies need to tread carefully, said journalist Brett Scott, who wrote a working paper for the United Nations Research Institute for Social Development titled "How Can Cryptocurrency and Blockchain Technology Play a Role in Building Social and Solidarity Finance?"

"People look at these [emerging and frontier economies] as a homogeneous mass [that] all need help," Scott said. "There needs to be some separation of thinking about the problems of someone versus this community [cryptocurrency proponents] who confidently assert that this [technology] will help save them."

Gross domestic product, the total value of a country's goods and services, was a barely adequate tool for measuring the U.S. economy of the 20th century.

GDP has now become obsolete and needs to be upgraded for the needs of our time. It was never a great measure of national well-being in the first place, and now it's falling down as a measure of economic strength.

We need a more honest accounting of how the economy is working for people. We need data not only on aggregate supply and demand, but also information on activity that takes place outside of the traditional markets that GDP concentrates on. We also need to take account of inequality, sustainability and overall well-being.

GDP covers none of those. But there are efforts under way in the United States and around the globe to tweak, improve or completely overhaul the way we measure our economy to better reflect the well-being of the people and the planet. Someday soon, maybe we'll get a report that tells us output slowed modestly, offset by a more equal distribution of income and a decrease in opioid addiction.

As far as GDP is concerned, the only things that have any value are those things that can fetch a price.

How GDP was started

The faults of GDP are a feature, not a bug. Gross national product (GNP), its precursor, was created by economists in the 1930s and 1940s who knew its weaknesses and strengths, but they did the best they could with what was the state of the art at the time. They had the Great Depression to fight and the Second World War to win, and the best way to do that was to carefully measure the output of every industry and ignore subjective or intangible aspects of the economy. No one had ever attempted to measure the whole economy before.

After World War II, GNP (and later GDP) was adopted as the official scorecard in advanced nations for the recovery from war and in the Third World for economic development. In a world impoverished by depression and war, growth was the thing that mattered most. GDP enabled us to count output, consumption, income, investment and inflation.

Growth is still seen as the only thing that matters, even if the fruits of growth are largely reserved for the elites, even if some

growth today comes at the expense of investing in the human, physical and intangible capital needed for growth tomorrow, and even if growth uses up irreplaceable resources or creates pollution, crime and dysfunctional societies.

GDP, in short, is flawed shorthand for our national well-being. GDP does not equal happiness. But it's the best tool we have. So far.

Too much focus on growth

Why does it matter that GDP is flawed? Because focusing on growth to the exclusion of everything else can change priorities. "Economic policies are justified, or lobbied for, on the basis of whether they will increase GDP growth," economists Diane Coyle of the U.K. and Benjamin Mitra-Kahn of Australia wrote in "Making the Future Count." The 2017 paper won the Indigo Prize, a competition that challenges economists to consider how to measure economic activity in a 21st-century economy.

In August, Democratic Sens. Chuck Schumer of New York and Martin Heinrich of New Mexico introduced a bill that would require the Bureau of Economic Analysis, which provides official macroeconomic and industry statistics including GDP, to measure and report *Continued on next page*



The case for paying everyone a dividend on the nation's wealth

Automation will displace tens of millions of jobs in the next decade, giving rise to the 'free money' movement. JONATHAN BURTON

This fall in 2019, 100 randomly selected lower-income residents of Stockton, Calif., will start to receive \$500 a month. In exchange, they'll need to do, well, absolutely nothing, and can spend the money on absolutely anything.

This is free money, in every sense — and quite possibly a model for a not-so-distant-future U.S. economy, where a big share of Americans are retired and robots handle more jobs. In this America, men, women and children receive a government-guaranteed regular payment — a universal basic income — regardless of age or how much money they make, simply because they are Americans.

That is, if Americans can get beyond their ingrained belief that taking money for doing nothing — even to supplement their paychecks — is un-American.

In many ways Stockton, whose pilot program runs 18 months, is a perfect petri dish in which to rethink and innovate on the centuries-old dilemma of how to give more money to those who need it most. This racially diverse city of about 315,000, 80 miles from far wealthier Silicon Valley and San Francisco, declared bankruptcy in 2012. Today, one in four Stockton residents lives in poverty. Unemployment is 7.5%, almost twice the state average.

Stockton's progressive, Stanford University-educated mayor, 28-year-old Michael Tubbs, is a Stockton native raised by a single, working mother. Tubbs said he was skeptical at first about basic income, but has since become "more and more convinced" that the guaranteed money can make a meaningful difference.

'Form of empowerment'

"You're given the ability to make decisions without restrictions and guidelines about what you can and can't spend it on," he said. That's not the case with most entitlement programs. "Providing people cash with no strings attached is a form of empowerment."

The newest research shows that unconditional cash transfers boost work productivity and quality of life, including better mental and physical health, and reduce crime. A study by the Roosevelt Institute in New York, a left-leaning think tank, concludes that giving \$500 a month to every adult American could meaningfully grow the U.S. economy and address its widening wealth gap.

Yet basic income in the U.S., characterized as a utopian solution by its true believers but as welfare, socialism or worse by its detractors, has gone nowhere. Basic income did enjoy a bit of a heyday in the U.S. in the 1960s and 1970s and was even embraced in conservative circles. Other ideals of the era — the four-day workweek, the 30-hour workweek, the all-but-limitless vacation allotment — have fallen by the wayside.

Universal basic income 2.0

Half a century later, basic income is getting a high-tech, data-driven makeover built

for today's world. Notably, some of Silicon Valley's elites are sharing their fortunes and time to find ways to guarantee all Americans a regular supplemental income, regardless of need. The Stockton program, for example, is funded by a \$1 million grant from the Economic Security Project in New York, a private effort that includes Chris Hughes, a Facebook co-founder. Basic income also has support from high-profile entrepreneurs including Facebook's Mark Zuckerberg, Tesla's Elon Musk and Virgin Group's Richard Branson.

Their motivation stems largely from concern about the future: the impact that technology, robots and artificial intelligence will have on how people live and work. A 2017 report from New York-based business consultant McKinsey & Co. estimates that by 2030 automation will have displaced 73 million U.S. workers, with up to 54 million — one-third of the U.S. workforce — needing upgraded skills and new jobs.

"All of those things make work very different," said Natalie Foster, co-founder of the Economic Security Project. "This is a moment to rethink the social contract. The future of money may also be the future of time. Can we imagine a world where people have money, but they also have time? What they do with that could quite literally change society."

To tell it in a way people will hear, some proponents suggest that basic income be presented and structured as a universal dividend. Much as stockholders are given a share of a company's wealth, Americans would receive a common share of the national wealth. Unlike Social Security, this dividend would have no age requirement. It would be your right as a resident of the U.S.

"It's not welfare; it's not a tax," said entrepreneur Peter Barnes, author of "With Liberty and Dividends for All: How to Save Our Middle-Class When Jobs Don't Pay Enough." "It's an asset that belongs to all of us equally. Everybody should get it."

Trillion-dollar question

But where will the money come from? That's the multi-trillion-dollar question. Hughes, the Facebook co-founder, has endorsed modernizing the earned-income credit to give recipients more money in his recent book "Fair Shot: Rethinking Inequality and How We Earn." He also has put forward a unique idea to shower every adult

American with cash: a data dividend, paid from a national fund created by a tax on large companies that profit from internet searching and surfing.

Perhaps the boldest plan yet to provide Americans with a universal basic income is the American Solidarity Fund (ASF), a dividend-paying social wealth fund for the U.S. that its creator, Matt Bruenig, founder of the People's Policy Project, unveiled in August. Every American over the age of 17 would be given one share of the ASF, which could not be sold and would pay a regular dividend.

The ASF would be capitalized primarily with taxes and fees on private wealth, publicly traded companies and financial transactions. A public entity would manage the fund and its investments.

"This is a piece of the capital stock of the country that we all collectively own and collectively benefit from," Bruenig said. "All 300 million of us are going to come together and collectively own 30% of the country's wealth."

Alaska's example

In fact, residents of one U.S. state with a reputation for being rugged and individualistic have been tapping a social wealth fund for almost 40 years. Every man, woman and child in Alaska receives a royalty share through the Permanent Fund Dividend (PFD), which made its first payout in 1982. The dividend amount changes year to year; in 2018, the PFD is \$1,600 and available to anyone who has lived in Alaska for at least one calendar year — \$6,400 for a family of four, for example — no strings attached.

The now-\$65 billion fund has become an indelible symbol of Alaska. "It is not looked at like an entitlement. We talk about it in terms of how we share our resources," said Bill Wielechowski, a member of the Alaska Senate who represents Anchorage, the state's largest city. "This is your share, just like you own stock. Why should the benefit go only to a select few? It's a way to make sure that everyone has a piece of the pie."

Not incidentally, Alaska, helped by the PFD supplement, has the lowest level of income inequality of any U.S. state.

Americans' rising financial insecurity due to automation and artificial intelligence is an obvious catalyst for the creation of a social wealth fund envisioned by the likes of the People's Policy Project's Bruenig. But if a universal, national dividend has a place in the future of Americans' money, a groundswell of grass-roots support will need to grow among those who would benefit.

That's what happened with Social Security, which came about after millions of retirees banded together in the early 1930s to support a government pension to care for them in old age. As their numbers and clout swelled, lawmakers listened; President Franklin Roosevelt signed the Social Security Act in 1935. And, today, American retirees can receive up to \$2,788 a month in Social Security payments.

Barnes, whose proposal for an Alaska-like national fund appealed to Clinton, said he believes that a 21st-century version of the Social Security movement would lead to a universal dividend for Americans.

"At some point, some plan will catch on, and that will generate the noise the political class will respond to," Barnes said. "It's going to begin as something smaller; hopefully it will be set up in such a way that it will grow over time. If the robots come and put everybody out of work, fine — there's an infrastructure that can deal with it."



MarketWatch Special Report**The disconnect between GDP and median income**

on how national income is distributed among the poor, the middle class and the rich.

Alternate indicators

There are other proposals that would change the way we measure the economy even more dramatically. For instance, in the tiny kingdom of Bhutan, between India and China, the government tracks a "gross national happiness" indicator, with the idea that improving civic participation, health, education or the environment does more for the average citizen's happiness than a boost in,

say, steel output. The concept of the little-followed index has spread globally.

There have been many attempts to measure what matters. There's the Happy Planet Index, the United Nations' Human Development Index, the Legatum Prosperity Index, different versions of a so-called genuine progress indicator, the Organisation for Economic Co-operation and Development's well-being indicators and others.

Most of them suffer from the same flaw: They add apples and oranges. In attempting to produce a single index number that can be

compared across countries and time, they arbitrarily assign weights to the different components to create a recipe for well-being — two cups of growth, one cup of inequality, two tablespoons of happiness.

Changing the weights assigned to each component would produce a completely different answer. Which one you believe depends on what you value most.

Dashboard approach

The alternative to constructing a single index number is to use the dashboard approach, much like a car has separate gauges. This approach may be more robust, but the public hasn't embraced these sorts of dashboards in economics.

The Doyle and Mitra-Kahn paper "Making the Future Count" argued for a dashboard approach. A seven-person team led by Carol Corrado of the Conference Board in New York and Jonathan Haskel of the Imperial College Business School in London shared the prize with Doyle and Mitra-Kahn.

The authors based their approach on Indian economist Amartya Sen, who argued that economic development should be seen in terms of human freedom. Their dashboard would include six essen-

Source: BEA, Census Bureau

tial assets people need to live a full life, including physical and social resources.

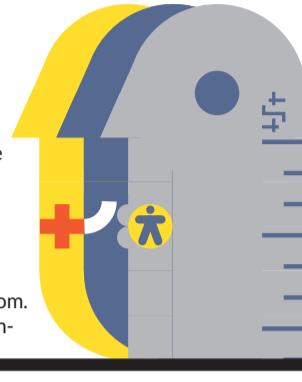
Unified index

But the Corrado and Haskel team took the opposite approach, attempting to do what's always been considered impossible: to create a unified index of well-being by putting a price on everything we value, including clean skies and happy homes. They advocate extending GDP to cover intangible and environmental capital, leisure and security.

To create an index that's not entirely subjective, Corrado and Haskel would assign prices to nonmarket production and to dimensions of well-being, such as life expectancy, education, health, the environment, social interactions and creativity.

This is difficult. How do we assign prices to clean air, or having friends on Facebook, or good government? One way is to ask people how much they would be willing to pay for those things. For instance, a study found that people value a month of Facebook at \$14, a month of email at \$500 and a month of search engines at \$1,300. To verify that experiment, a few were actually offered money to give up those digital goods.

The same could be done for other things that we value but that don't have a price.



How changing the way we pay for health care could save money and lives

EMMA COURT

LWhen its employees are diagnosed with certain common cancers, Walmart offers a new option: a visit to the renowned Mayo Clinic, with the retailer footing the bill.

The collaboration, part of Walmart's "Centers of Excellence" program, isn't intended for everyone. Patient records are reviewed ahead of time, and selection is done with an eye toward treating those who could be misdiagnosed or mistreated by local doctors, or simply wouldn't have access to cutting-edge care options back home.

More than 600 Walmart employees have participated since the program was started in 2015, and 219 were chosen to go to one of three Mayo sites. Of those, 15% were given a different diagnosis at the medical center.. Mayo doctors changed about 20% of patients' treatment plans, came up with a plan for the 33% of patients who'd come without one, and made minor changes to boost the treatment plans of about 2% of patients.

"These are associates who have been told they have cancer — they don't have cancer," said Lisa Woods, Walmart's senior director of U.S. health care. "It could be a different type, [or] it could be that it's metastasized. There's so many different variations."

'Proved wrong'
The 3-year-old program focuses on three of the most common U.S. cancers: breast, lung and colorectal. Together, they are expected to make up an estimated 640,000 new diagnoses this year, or nearly 37% of 2018's new cancer cases.

Because local doctors would likely have the most experience with those types of cancer, "I didn't think we would change as many courses of treatment [as we are]," said Dr. Charles Rosen, medical director at Mayo's department of contracting and payer relations. "But I've been proved wrong."

Walmart, based in Bentonville, Ark., has a lot at stake. Because it self-insures the health coverage of about 1 million employees (of a total of 1.5 million), it has increasingly carved out a reputation as a health-care innovator. Employers that self-fund their health plans take on the financial risk of the health care of all their employees, rather than having an insurer do so.

Direct contracting
Walmart and other companies including Boeing, Walt Disney

and Intel are increasingly contracting directly with health providers to cover care for employees, in many cases at a flat rate. The approach, called direct contracting, represents a distinct break from the status quo, in which health services are mostly arranged by a health insurer on an employer's behalf.

The way U.S. health care is priced and paid for is slowly changing, and direct contracting is one channel, termed value-based care or pay-for-performance, in that movement.

Wrong incentives

The U.S. health system typically uses a fee-based model, under which doctors and other players are paid only when they perform services such as office visits, procedures and tests. But creating incentives for more procedures doesn't make for good medicine, critics have argued, and the system doesn't reward keeping down costs or tracking patients outside of, say, the operating room.

Direct contracting is a potential solution and part of the overall value-based-care movement. Because doctors who participate in most of Walmart's programs get paid a total rate for patient care, they are incentivized to do what will help patients get better, including, in some cases, not ordering any procedures at all, or holding off on a procedure until a patient is a better candidate.

That's easy to get on board with, especially as U.S. health costs grow unsustainably.

Health-care spending makes up almost a fifth of the U.S. economy, and spending increases have long outpaced inflation. And who doesn't want a better value proposition? But progress has been slow going. Though in the works for decades, value-based care remains in its infancy, as such entrenched problems in the health system as poor communication among doctors, difficulties with electronic patient records and difficulty in measuring how patients are doing over the long term create barriers.

Limitations and risks

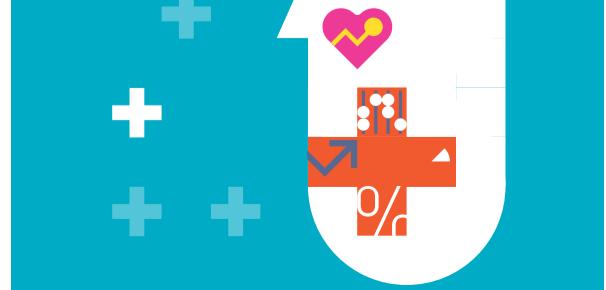
The all-inclusive cost model also presents clear financial risks for health providers, since they get paid the same even for complex medical scenarios.

There are doubts about whether value-based care can accomplish its lofty goals. Concerns about discrimination against old and sick patients, whose health care is more expensive, remain unaddressed. Elsewhere, public and private attempts at bringing down U.S. health costs have faltered for decades, which could well be value-based care's largest problem.

The complexity of global currencies evolved 12-fold over the last decade.

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MarketWatch Special Report

Your state may have a plan to rescue your retirement

ALESSANDRA MALITO

Luke Huffstutter, owner of Annastasia Salon in Portland, Ore., said a wry joke runs through the hair-salon business in the U.S.: "When was the last retirement party you attended?"

The answer is never. That's because stylists tend to work for small businesses, most of which don't offer retirement-savings plans. Thus, stylists don't retire.

But failing to save for retirement isn't funny, and even if Huffstutter's team stays in his employ for decades, his salon workers, like all Americans, will need money when they stop working. "We have a responsibility to prepare them for after-work," he said. "That's just my belief as an owner. That's my responsibility."

Huffstutter spent a decade looking for the right retirement plan, with little to show for it. His business is successful — the company expects more than \$2 million in sales this year — but, like many small businesses, has never been profitable enough to sustain a 401(k) plan.

At the same time, he knew that offering anything less than ideal would come at a cost to employees, in the form of tacked-on fees that would inherently damage their future balances. He solicited bids from six administrative companies, but nothing worked out.

Then along came Oregon's state-sponsored retirement program, OregonSaves.



In the U.S., no employer is legally required to offer a retirement plan

To get 10 members of his company to start saving for retirement on their own took him 10 years, he said. With OregonSaves, 26 people were able to sign up in 10 minutes. Huffstutter said 95% of his 42 employees are now saving for retirement, either through OregonSaves or outside of the program.

Ten states sign on
In the past few years, 10 states — Maryland, California, Connecticut, Illinois, New Jersey, New York, Washington state, Vermont and Massachusetts, in addition to Oregon — have agreed to create a retirement program designed for the private sector, and nearly all other states are considering implementing one.

Half of the private-sector workforce — 58 million full- and part-time workers, according to the Pension Rights Center — is not participating in a workplace-sponsored retirement plan, a deficit that, if it continues,

could quash workers' futures and health, and strain the economy.

In the U.S., no employer is legally required to offer a retirement plan. Employers, especially small businesses, that don't offer retirement plans to their workers often complain that doing so is too complicated and expensive.

State-based Roth IRAs

The state plans are Roth individual retirement accounts, but employees are able to automatically invest in them through payroll deductions, as they do with 401(k) plans. Because the state plans are Roth IRAs, they are funded with after-tax dollars, and therefore are withdrawn tax-free at retirement. Oregon's version of the plan has become a model: In just over a year since its pilot began, OregonSaves has amassed more than \$7.6 million in contributions in about 19,100 accounts. That figure jumps by about \$200,000 every week, according to Tobias Read, Oregon's state treasurer.

California is starting its pilot program in November, and contributions will begin with the first payroll cycle after Jan. 1, 2019. The statewide launch is slated for July 1. The state is even considering opening up the program to individuals who are self-employed or working in the so-called gig economy, said Katie Selenski, executive director of the program, called CalSavers. Illinois' program, Secure Choice, began its pilot program in May.

What the programs look like

There are three types of models for

state-sponsored retirement plans:

- Mandatory individual retirement accounts with auto-enrollment. Private-sector employers that don't offer retirement accounts must give employees access to state-run IRAs, either established as a traditional IRA, to which employees allocate pretax money, or a Roth IRA, into which are placed employees' after-tax dollars, which then grow tax-free and are withdrawn tax-free.
- Marketplace plans, which establish a platform through which any employee — including freelancers and the self-employed — can choose from a variety of low-cost retirement-account options offered by financial firms that contract with the state.
- Multiple-employer plans, which pool employee accounts from numerous companies. These are 401(k) plans, not IRAs, which allow workers to save more.

OregonSaves costs participants about 1%. Small 401(k) plans have fees 1.5% to 2% (of the account balance), according to Brightscope.

Like other state programs, OregonSaves is meant for people without options, said Lisa Massena, vice president of business development at Dresher, Pa.-based Ascensus, the investment company that Oregon, California and Illinois hired for their programs.

"This is a rising tide that floats many boats," Massena said.

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Bio-bonds: A new way to invest in the medical miracles of the future

There's finally a funding mechanism that could attract a new crop of investors to help find elusive cures. **ANDREA RIQUIER**

Scientists call it "the valley of death." Pharmaceutical and medical research tends to follow a well-worn path in the U.S.: In its early stages, research is funded by the government and nonprofits, and conducted at universities and research institutes. At the end of its life cycle, when the outline of a promising drug or treatment takes shape, venture capitalists and drug companies show up with checkbooks.

It's in the middle when things fall apart.

Today, it's hard to entice investors to pour money into that void. That's because medical research is hard. It takes an average of about 10 years to bring a drug to market, and nine in 10 drugs fail before that stage. A 2017 Deloitte report found that it costs the big pharmaceutical companies about \$2 billion to bring a single medication to market.

Private investors, venture capitalists and public companies with shareholders are reluctant to step in because of the high risk of failure. As researchers often say, before you can get money, you need to answer investors' questions, but, to answer the questions, you need money.

The emergence of bio-bonds

That's where so-called bio-bonds come in. A bill introduced in Congress in July, the Faster Treatments and Cures for Eye Diseases Act, introduces an entirely new financial instrument for funding disease research, with the hope of bringing new classes of investors, and thus new money, into the process.

The bonds are the deeply considered, intricately constructed brainchild of perhaps the only person who could have shepherded into being a new financing mechanism designed to cure disease. And if Karen Petrou's labor of love takes off, it's not just medical research that could be transformed. So could the lives of millions of people like her.

Petrou is the founder and chairwoman of Federal Financial Analytics, a Washington-based policy-analysis firm that's attracted a high-powered clientele in Washington, on Wall Street and among global central bankers for decades. For nearly as long, the 65-year-old has been blind. Petrou has had retinitis pigmentosa, a progressive disease that eventually leads to total blindness, since high school. She's spent the past five years hashing out with her husband and business partner, Basil Petrou, the details of bio-bonds, and lining up support from like-minded people.

The idea came to her, she said, during a conference at which a blindness foundation brought together researchers, venture capitalists and biotech companies to "see whether

er or not there were ways to get Big Money to do more."

The conclusion: probably not. But Petrou went home and told her husband, "They're talking about a financial-market impediment to funding research, and financial-market modeling is what we do. Can we solve this?"

Pilot program

If Congress approves the bill — an outcome that Petrou calls hard to handicap, given everything taking up lawmakers' attention — bio-bonds would start off as "eye-bonds," backing an attempt to make substantial progress toward curing blindness, a goal that suddenly seems tantalizingly close, owing to recent breakthroughs.

Eye-bonds, as a five-year pilot for the broader program, would work as follows: The National Eye Institute, which is a part of the National Institutes of Health, would serve as a trusted arbiter, selecting projects eligible to be funded. Those projects would fall across the late stages of the life cycle of the drug-development process. While some would be pre-clinical, others would be in Phase 1 and Phase 2 of the clinical research paradigm. (By the time research reaches Phase 3, venture-capital and pharmaceutical-industry money is effectively assured.)

The researchers whose projects are selected for funding would get loan proceeds, to be paid back on a regular schedule or in a lump sum to the institutional investor buying the bond. That bond may be better thought of as a securitized asset — an investment in which many income streams are bundled together, making it less risky than asking a lender to go all-in with one borrower.

Spreading around the risk

Petrou likes to think of bio-bonds as being akin to "green bonds," those financial

assets that were first sold, to a somewhat skeptical market, about a decade ago, and will soon reach a market capitalization of \$1 trillion, according to the London-based Climate Bonds Initiative. Green bonds finance projects that promote environmental sustainability.

By including projects in various stages of funding, from different companies, with distinctive approaches to medicine, investors spread around their risk — while broadening the base of money being funneled to scientific experiments.

Even if a research project fails, all is not lost. Biopharma companies have diverse revenue streams. They frequently resell their intellectual property — whatever progress has been made in their research up to the time a project is terminated — into a robust secondary market.

If all else fails and enough of a bond's participants aren't able to make payments, a taxpayer guarantee would kick in, but only when the investor's losses on principal top 50%.

Bio-bonds' impact could be modest — or enormous. The uncertainty results, in part, from the fact that the "valley of death" itself is impossible to quantify. It's a bit like Sherlock Holmes's dog that didn't bark in the night: How does one account for all the projects that don't get executed, or the ideas that never get tested, either temporarily or permanently, for lack of funding?

Perhaps the best way of quantifying the potential marketplace is an estimate by industry group PhRMA putting total research-and-development funding at about \$16.7 billion over the 2009-13 period. That's down 21% from pre-financial-crisis levels.

Concerned about costs

Don Zack is co-director of the Center for Stem Cells and Ocular Regenerative Medicine at Johns Hopkins University's Wilmer Eye Institute and a member of the scientific advisory board for the Columbia, Md.-based Foundation Fighting Blindness, where Petrou is a member of the board of directors, and has spent nearly a decade trying to advance a promising research development: a neuroprotective treatment for glaucoma. He described a recent conversation with a pharmaceutical company this way: "They acknowledged the science but were very concerned about the cost of bringing the drug to clinical trials. That's the valley of death."

Meanwhile, blindness researchers are increasingly excited about new developments in the field. Late last year, the Food and Drug Administration approved the first-ever gene therapy for a genetic disease, one that attacks the retina. New therapies such as whole-eye transplants are being perfected. Just over a million Americans are blind, and about 3.2 million more are visually impaired, according to a recent paper in the Journal of the American Medical Association. Those numbers are expected to roughly double by 2050.

Nearing a cure

"I am convinced, absolutely convinced, that most forms of blindness can be cured in a decade," Petrou said. "The science is so close, and what's missing isn't knowledge. The work is moving forward really fast."

Petrou, who's addressed august institutions including Congress, the Japanese Diet and Federal Reserve regional banks, is adapting to talking about her own personal cause very publicly and somewhat uncomfortably. She is hopeful her unease will bear fruit.

"I would like to see color again," she said. "I'd love to see art again and landscapes and the beauty of the world. And I'd like not to trip over curbs."

Average cost of drugs approved by year in the U.S.

	R&D (in billions)	Approved	Cost per approved (in millions)
2004	\$37.0	36	\$1,027.8
2005	\$39.9	20	\$1,995.0
2006	\$43.4	22	\$1,972.7
2007	\$47.9	18	\$2,661.1
2008	\$47.4	24	\$1,975.0
2009	\$46.4	26	\$1,784.6
2010	\$50.7	21	\$2,414.3
2011	\$48.6	30	\$1,620.0
2012	\$49.6	39	\$1,271.8
2013	\$51.1	27	\$1,892.6
Total	\$462.0	263	Average \$1,756.1

MarketWatch Special Report

Student-debt crisis: This is what it would take to make college tuition-free

The free-college movement is making inroads, but funding and equality are big stumbling blocks.

JILLIAN BERMAN

It wasn't until the second semester of his freshman year in college that Tinashe Chaponda realized how good he had it.

The now-23-year-old watched as his friends at Western Michigan University stressed out over affording tuition and finding jobs with salaries high enough to pay back student loans after they graduated from the Kalamazoo, Mich., university.

Chaponda built his class schedule around what he was interested in, not necessarily what would lead to a job that paid well. And, since he could afford not to work while in school, Chaponda had the time to start an organization that connects students interested in volunteering with local nonprofits.

How did he do it? He credits an innovative program, the Kalamazoo Promise, which covers tuition and fees at many state universities in Michigan for students who have attended the city's public high schools for all four years and graduated.

Chaponda, who immigrated to the U.S. from Zimbabwe with his family when he was 6, eventually received a degree in acting.

"I know it sounds cliché," Chaponda said, but the Promise, as the program is known, "made it easier for me to figure out what I'm passionate about."

Chaponda, who is working in video production while pursuing a career in theater, is an early beneficiary of an experiment playing out across the country: What happens when students are offered the opportunity to get a college degree for free?

Kalamazoo's program, which was started in 2005 and is funded by anonymous donors, was one of the first notable examples of what has become a movement. The idea gained momentum with a 2015 proposal from President Barack Obama to make two years of community college free. Separate plans floated by the Bernie Sanders and Hillary Clinton presidential campaigns put the idea front and center. There has been no progress on the issue at a national level under President Donald Trump.

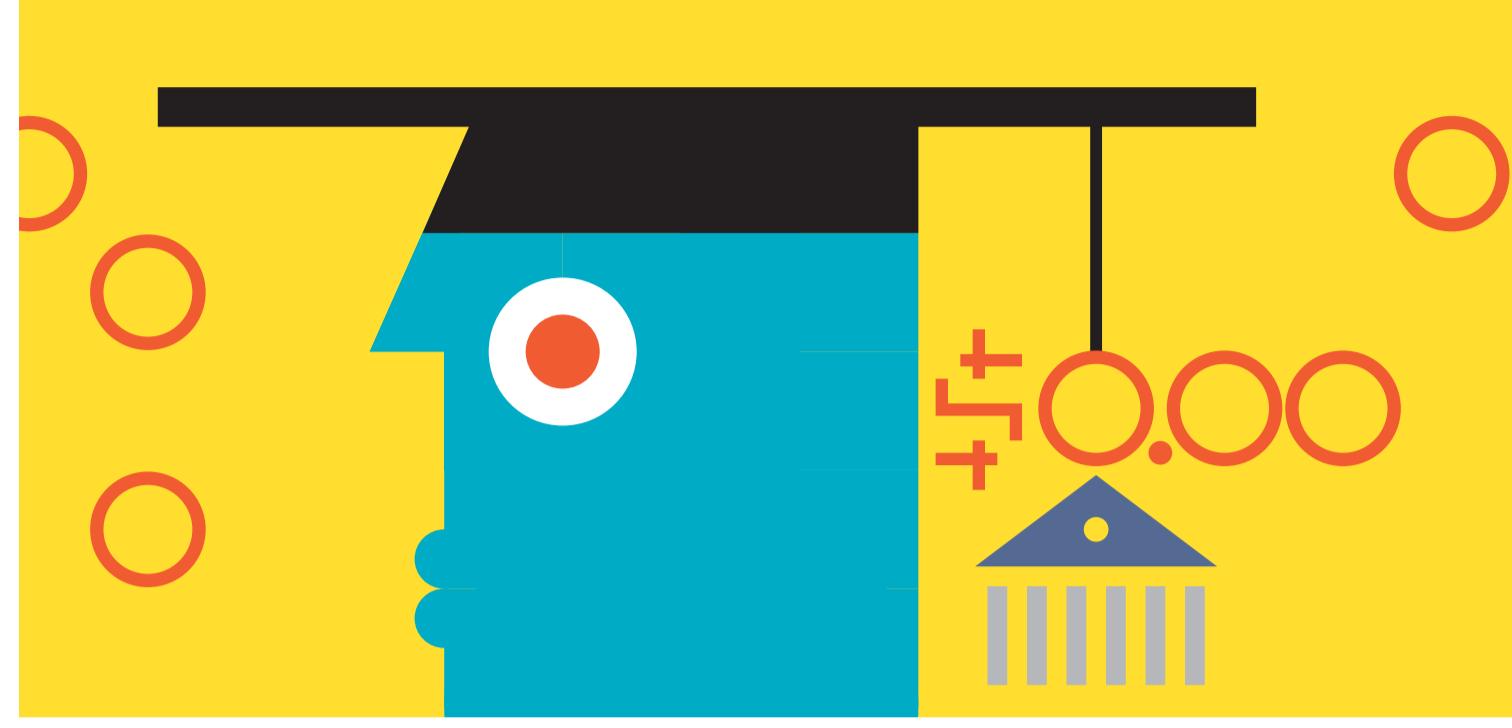
'Very messy'
Still, states, municipalities and even individual higher-education institutions are taking a stab at addressing college affordability on their own. The result is a patchwork of experiments across the country working out the kinks of a lofty idea in real time amid both soaring praise and intense criticism.

"It's very messy," said Sara Goldrick-Rab, a professor at Temple University in Philadelphia and one of the architects of the free-college movement.

With student debt at a staggering \$1.5 trillion, tuition costs continuing to rise, wages still relatively stagnant and a college degree a prerequisite for many decent-paying jobs, getting the idea right has taken on a new urgency.

"People want to go to college, they know they need to, and they're finally realizing our financing system hasn't made it possible," Goldrick-Rab said.

And as localities and institutions iterate on the idea, the most successful programs could have implications for what a permanent and, perhaps, national free-college program might look like. The College Promise Campaign, a clearinghouse and advocacy organization for free-college initiatives, counts more than 200 programs across the country offering some



version of a promise-style program.

Only some of those initiatives include provisions such as a sustainable funding source and increased support to help students get through school successfully that the organization hopes new promise programs will adopt and replicate, according to the group's executive director, Martha Kanter. "All promises are not created equal," she said.

Types of programs

Michelle Miller-Adams, a senior researcher at the W.E. Upjohn Institute for Employment Research in Kalamazoo who has studied promise programs for years, divides them into three categories.

The first are place-based scholarships. Like the Kalamazoo Promise, those programs provide free college to students from a specific region. The idea is that the promise of free college will encourage investment in local institutions that prepare students to take advantage of the scholarship, such as K-12 public schools, and draw families and businesses to the area.

The second type is free-college initiatives at the state level. In states including Tennessee and New York, a major goal is to buoy the state's workforce, Miller-Adams said.

The third encompasses programs offered by the postsecondary schools themselves.

Individual colleges

The idea that colleges themselves will transform the way higher education is financed received buzz earlier this year with the announcement that New York University will give students free tuition at its medical school. That's worth \$55,018. The remaining costs total \$27,108 for a first-year student.

Other institutions have taken steps in that direction. Columbia University's Vagelos College of Physicians and Surgeons, which says a first-year student's budget ranges from \$93,211 to \$100,665, including tuition, fees, food and housing, promises a debt-free medical education. Through charitable gifts spearheaded by a \$150 million donation to fund an endowment, the New York City school will replace all loans in financial-aid packages with grants. Columbia estimates that about 20% of students in the medical school will have their full tuition covered by the program, while about half of its students will get some sort of scholarship.

Covering tuition for aspiring doctors requires philanthropic backing unavailable to most schools. So far, NYU has raised

\$450 million, including \$100 million from one donor, to fund the free-tuition program. Officials say the school will need an endowment of \$650 million for the program to be self-sustaining.

At the undergraduate level, a handful of flagship public colleges have launched programs that allow certain students to attend tuition-free. They include the University of Illinois, the University of Michigan and the University of Missouri.

The University of Illinois announced in August that in-state students from families earning \$61,000 or less would have their tuition and fees covered by the school. Though \$61,000 happens to be the state's median income, officials landed on that number as the cutoff for the program, in part, because it's the income level at which the program would become sustainable if they received no new donations toward the effort, said Kevin Pitts, vice provost for undergraduate education. Still, officials are hoping for considerable philanthropic support for the initiative, he said.

Illinois Commitment, as it's known, kicks in after other federal and state grants are applied. That means very-low-income students may not actually receive a lot of new funding from the initiative.

To be sure, students must first gain entrance to the institutions, an obstacle for some lower-income students who may lack resources like test preparation that can make them competitive applicants.

Goldrick-Rab, of state-backed Temple University, likens flagship public universities' initiatives to those at elite private schools. Though generous, the scholarships serve a limited share of students because so few are able to secure admission to the schools in question. The class entering the University of Michigan in 2018 had an average high-school grade point average of 3.88.

"When we're talking about elite schools and, certainly, free medical schools, I don't think that's what's going to be driving the policy process," said Mark Huelsman, a senior policy analyst at Demos, a think tank with operations in three cities including Boston that advocates for a diverse, expanded middle class and racial equality.

Community colleges

The most widespread category of free-college programs offered at the school level comprises those at community colleges. The advantages of programs at two-year institutions is that they're more likely to reach students in need of help paying for school.

Dabney S. Lancaster Community Col-

lege in Clifton Forge, Va., started the Dabney Promise program in 2016 for any student in the school's service area — about 165 miles west of the capital, Richmond — who has a 2.25 high school GPA and maintains that standard while at the school. The program graduates 42% of Dabney Promise scholars within three years, compared with a 28% overall graduation rate at the school, said the college's president, John Rainone.

A handful of flagship public universities have launched programs that allow certain students to attend tuition-free

A 'promise' from Chevron
Well before headline-grabbing announcements from individual schools, local communities turned to creative funding streams to provide free college to area students. For years, Tom Butt, the mayor of Richmond, Calif., was looking for a way to fund a promise program in his city across the bay from San Francisco. He finally found an opportunity when oil giant Chevron pledged to invest \$90 million in the Richmond community as part of the company's plan to upgrade a local refinery. The city earmarked \$35 million of that sum to pay for the Richmond Promise program, offering renewable \$1,500-a-year scholarships to be used at two- or four-year institutions, over the coming decade. The program is in its third year.

State-level programs
The success of hyperlocal free-college programs inspired officials to take up the idea at the state level. And as those initiatives have spread, some advocates are hoping they'll fuel urgency for a federal free-college program.

Tennessee Gov. Bill Haslam started a free-college program in 2015 after local communities had success with regional scholarships. A major motivation behind the statewide program is to improve the talent pipeline in Tennessee in hopes of attracting more businesses to the state, said Mike Krause, the executive director of the Tennessee Higher Education Commission in Nashville.

Under the program, the state funds tuition and fees for two years of community college for full-time students after other financial aid is applied. As a condition of the program, students are required to work with a mentor to chart their pathway through school. The state recently expanded its offer to adults.

So far, it's optimistic about the results, Krause said. Nearly 77% of students who enrolled in the promise program during the 2016-17 academic year returned the following fall, compared with 66% of promise students who enrolled the previous year.

Why it may be time to end the two-week pay cycle

MARIA LAMAGNA

Teresa Long, an assistant manager at a Walmart store near Dallas, is like many Americans: She sometimes struggles to pay her monthly bills on time, especially when her bi-weekly paycheck fluctuates.

Occasionally, when she was not able to budget correctly, she would default on a bill, miss a payment or send in a check late. Sometimes Long would take out a payday loan, but the fees were crippling. "You're taking a \$300 loan, and, by the time you pay it off, it's probably \$1,000 or \$1,500," said the 40-year-old mother of four.

So when she saw information on an internal Walmart website about a new service from an Oakland, Calif.-based company called Even, Long was intrigued. It promised to pay her up to half her wages in advance, on demand, for an average \$6 monthly subscription fee.

Even aims to address the "mismatch of expenses and income," said Jon Schlossberg, the company's chief executive officer. Being able to get money when you need it — along with some self-control — is far more important than some arbitrary pay cycle.

Pay cycle's shortcomings

The origin of the U.S.'s common two-week pay cycle is somewhat mysterious, but one thing is for sure: It's costly for workers. At least 15 million people each year use at least one small-dollar credit product, including expensive payday or pawn loans, according

Employees are no longer satisfied with the traditional pay cycle, especially those with fluctuating work schedules

to the Chicago-based Center for Financial Services Innovation.

But now, companies including Even, Stripe and Green Dot are changing the way Americans are paid. As a result, they are helping lower- and middle-income earners avoid predatory lenders, said Louis Hyman, a historian of work and business and a professor at Cornell University in Ithaca, N.Y.

In the future, we all may be able to tap into our paychecks using on-demand services, much as we do with apps that play music and movies. More than a third of U.S. households experience large fluctuations in income — changes of more than 25% from one year to the next, according to Pew Charitable Trusts.

Unintentional precedent

Pay cycles today are based more on "historical momentum" than an intentional decision

that a biweekly or monthly schedule is best, said Emory Nelms, a senior researcher at the Common Cents Lab, part of the Center for Advanced Hindsight at Duke University in Durham, N.C.

The payroll company ADP, which serves one in six working Americans, says about half of its customers are on a biweekly pay cycle, according to Don Weinstein, the Roseland, N.J.-based company's vice president of product and technology. A quarter of companies use a weekly pay cycle, and the rest pay their employees monthly.

Employees today are no longer satisfied with the traditional pay cycle, especially those with fluctuating work schedules, including workers in the so-called gig economy. With the rise of peer-to-peer payment apps, such as Venmo, Zelle and the Cash App, and other fast payments in the consumer world such as quick ATM transactions or money

transfers through services like PayPal and Square, many Americans have grown reliant on faster payments. (PayPal owns Venmo, while the Cash App is a service of Square; Zelle is owned by a consortium of big banks.)

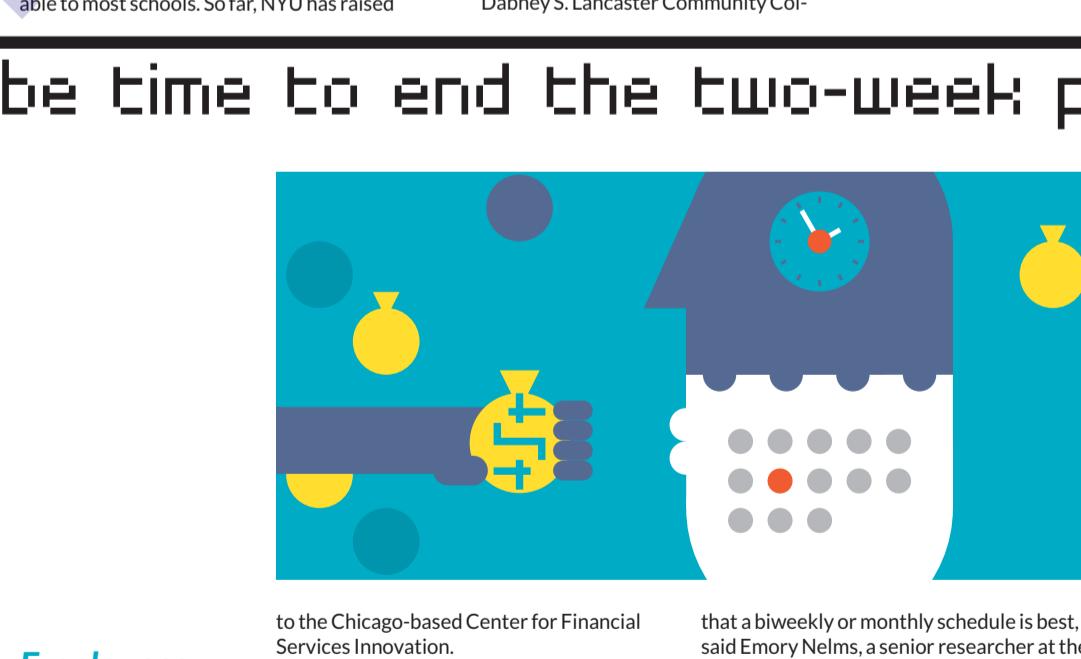
Companies have been gradually introducing immediate payments to their contract employees, and full-time workers now expect the same. As the unemployment rate has dropped to the lowest level in five decades, companies increasingly must compete for talent, as workers have elevated bargaining power. How they get paid is part of that.

Uber, Lyft on board

That's exactly what happened with Lyft and Uber, the rival San Francisco-based ride-sharing companies. Lyft wanted to provide a way for its drivers — there are more than 1.5 million in the U.S. and Canada — to cash out whenever they wanted to. So it built a customized platform called Express Pay with the payment company Stripe, also based in San Francisco. The service became available in December 2015.

Uber followed suit shortly afterward. It partnered with payment company Green Dot, based in Pasadena, Calif., to pay its drivers more frequently. The ride-sharing company launched a service called Instant Pay for its drivers in San Francisco in March 2016. It's now available to its more than 900,000 drivers in the U.S.

"I talk to drivers constantly who are excited about that fact," said Brett Narlinger, chief revenue officer at Green Dot. "If I realize I'm short on cash, I now have the ability to make it up. I don't have to ask people for money or ask for a loan; I just go drive."



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Unintentional precedent

Pay cycles today are based more on "historical momentum" than an intentional decision

MarketWatch Special Report

Artificial intelligence could replace credit scores and change how we get loans

EMILY BARY

Iou may not think the number of words in an email subject line says anything about you, but at least one company is betting that this metric can help determine your likelihood of paying back a loan.

LenddoEFL, based in Singapore, is one of a handful of startups using alternative data points for credit scoring. Those companies review behavioral traits and smartphone habits to build models of creditworthiness for consumers in emerging markets, where standard credit reporting barely exists.

In addition to analyzing financial transaction data, Lenddo's algorithm takes into consideration factors such as whether you avoid one-word subject lines (meaning you care about details) and regularly use financial apps on your smartphone (meaning you take your finances seriously).

Lenddo also looks at the ratio of smartphone photos in your library that were taken with a front-facing camera, since selfies indicate youth, helping the company divide people into customer segments.

'Massive potential'

The data points are unconventional, but Darshan Shah, Lenddo's managing director for South Asia, said the company's overall algorithm is a reliable predictor of creditworthiness for the so-called underbanked. For those who lack formal credit histories, Lenddo and others believe artificial intelligence can help sort through a variety of data points that, in sum, indicate financial responsibility.

"The potential this technology has is massive," said Arjuna Costa, a partner at the Omidyar Network, which was founded by billionaire entrepreneur Pierre Omidyar.

The Omidyar Network has invested in alternative lending companies including LenddoEFL and Boston-based Cignifi. Costa estimated that new forms of scoring could help provide credit access to 1 billion people worldwide, especially in emerging economies in Africa, Asia and Latin America.

If such methods work in emerging economies, they could be used in the U.S., where more than 30 million individuals are underbanked, said PayPal CEO Dan Schulman. The underbanked lack access to common



financial products such as checking accounts, savings accounts, credit cards and loans.

In the U.S., creditors rely on FICO scoring, which takes into account borrowing history when gauging whether you're likely to pay back a loan. The system works well enough for those who've already gotten loans and paid them back on time, but it excludes those who aren't in the digital financial system and can't get loans in the first place.

From cash to credit

Credit access is worse in emerging markets, where most people conduct cash-based transactions, lack bank records and don't have assets to serve as collateral. Until recently, financial providers have deemed it too risky and costly to provide loans to the underbanked, but the wealth of data available from smartphones is changing that.

About 65 million smaller businesses in the developing world have unmet financing needs that amount to \$5.2 trillion in total, according to a report from the International Finance Corp. and the SME Finance Forum. That number represents the amount of financing that would be possible if small businesses in developing countries had the same credit access that companies in developed countries have.

Traditional emerging-market lenders have considered moving down-market for decades, but it was often time-consuming and costly to identify potential borrowers, assess risk and collect payments. New credit systems that make use of AI, coupled with rising smartphone penetration, cut out some

of those impediments: Mobile phones make it easier for financial-services providers to find customers and collect their money, while algorithms reduce the costs of risk assessment, said Omidyar Network's Costa.

The data points that get fed into alternative credit models vary, but many involve information from mobile devices. The GSM Association, a telecommunications trade group, predicted last year that smartphone penetration in developing markets could increase to 62% in 2020 from 47% in 2016. A 65% level of smartphone penetration is considered to be "mature" in developed markets.

Satellite monitoring

A Newark, Calif.-based startup called Harvesting employs satellite technology and artificial intelligence to scan small farms for dimensions, crop type, harvest progress and weather effects. Using algorithms, the company helps eligible farmers get loans.

Though they're more focused on business loans than consumer loans, companies such as Square and PayPal already make use of artificial intelligence to provide merchants credit by reviewing transaction data and employing other nontraditional methods.

PayPal's Schulman has suggested that consumer applications could be next, especially in the U.S.

"If you can really understand an individual or small business through advanced ways of looking at data and information, then you can responsibly lend to individuals who might otherwise be forced out of the financial system," he said.

Americans' data is worth billions — and you soon might be able to get a cut of it

KARI PAUL

In today's data market, every purchase you make online, every website you click to via a browser and each move you make that identifies your location can be sold by a company.

Some 2.5 quintillion bytes of data are created every day — a massive amount. If 2.5 quintillion pennies would be laid out flat, they would cover the Earth five times. Most of the data are harvested, stored and owned by large companies.

When Facebook, Instagram and Twitter sell this data to advertising companies — at \$44 billion a year — users get nothing in return except the free use of the social-media platform.

Now, nearly a dozen startups have emerged to enable consumers to reclaim that information and, if they want, to sell it to advertisers, creating a kind of "universal basic data income." If they don't want to sell the data, they have at least secured their information and protected their privacy.

Many of those programs work by scraping data from banking and social-media apps with users' permission, keeping it all in one central network and allowing it to be auctioned off to the highest bidder. Facebook and Twitter already collect large amounts of data on consumers, but users retain enough privacy to maintain some measure of leverage.

Data control

According to Digi.me, a personal-data company based in Washington, D.C., the data market is shifting to enable consumers to decide exactly what to share, first by letting them control it all. The company allows users to down-

load their own data from 15,000 third-party sources including health tracker Fitbit, GPS-tracking-technology company Garmin and social-media platforms.

Datum, a San Francisco-based company, lets users sell their information directly, positioning itself as the "eBay of data" — a marketplace, of sorts. Data generated by using apps is stored on the encrypted, decentralized network and only shared if the consumer consents.

Datum claims a person could make up to \$2,000 of passive income a year by continually auctioning off personal data. That includes varying prices for different kinds of data, such as \$5 for a targeted email or 10 cents a month for location data.

Blockchain technology

Startups such as Digi.me and Datum have given way to a new paradigm of security and privacy, said Mick Hagen, CEO of decentralized-messaging-technology company Mainframe. The decentralized way that companies such as Datum are built is integral to the idea of reclaiming data, he said. The technology used, known as blockchain, involves hosting data on the computers of many participants, meaning no one person is in control.

Major hacks and data breaches have underscored the need to reclaim data for profit, said Dana Budzyn, who is creating a monetization framework for Digi.me at UBDI.

"People are beginning to realize that everything they do is tracked," Budzyn said. "People are starting to realize they are valuable, and some are starting to consent, saying, 'I don't mind if companies sell me; I just want a piece of it.'"

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