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What's News

Business & Finance

Spanish shares and bonds sold off for a third day amid concern the political crisis spurred by Catalonia's independence vote could escalate. The IBEX 35 slid nearly 3%. **B1** The Dow Jones Industrial Average rose 0.2% to 22680 by midday. **B7**

◆ The scale of Amazon's hiring has upended campus recruiting at business schools and stymied other companies that rely on B-school hires. **A1**

◆ Uber's board approved steps to strengthen its governance while curtailing its former CEO's influence. **B3**

◆ Yahoo's 2013 data breach was far more extensive than previously disclosed, affecting all 3 billion accounts, new parent Verizon said. **B3**

◆ Leissner was barred from the U.S. securities industry after he didn't respond to requests for documents stemming from his departure from Goldman. **B7**

◆ Ford plans to shift about \$7 billion toward the development of more trucks and SUVs, while "attacking" costs. **B2**

◆ The EU upped the stakes in its push to collect taxes from U.S. tech giants, pressing its cases against Amazon and Apple. **B3**

◆ PepsiCo's sakes in North America fell after it shifted too much shelf space and marketing money away from its main soda brands. **B2**

World-Wide

◆ Russia opened a new battlefield with NATO, by exploiting personal phones of allied soldiers. **A1**

◆ The Las Vegas gunman's girlfriend is back in the U.S., opening up a new avenue for investigators searching for a motive to the attack that killed 58. **A1**

◆ The shooter planned his rampage carefully, stocking his hotel suite with an arsenal of rifles and cameras. **A6**

◆ A top Spanish court called for the head of Catalonia's police force and two separatist leaders to testify Friday in a sedition investigation. **A4**

◆ Trump commended rescue workers as he toured Puerto Rico, while also saying that the costs tied to the hurricane have "thrown our budget a little out of whack." **A7**

◆ U.K.'s May suffered bouts of coughing, a prankster on stage and falling scenery as she delivered closing remarks aimed at uniting the Conservative Party. **A3**

◆ Mattis told lawmakers that he supports the 2015 international nuclear deal with Iran. **A4**

◆ Key Senate Republicans signaled support for legislation allowing Dreamers to stay in the U.S. **A7**

◆ The House passed a bill to criminalize abortions performed after 20 weeks of pregnancy. **A7**

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U.K.'s May Seeks Unity as Heckler, Mishaps Interrupt



TOUGH TALKING: U.K. Prime Minister Theresa May struggled in a speech aimed at uniting the Conservative Party after a heckler handed her a job-termination form, struggling with coughing fits as a letter fell off a party slogan displayed behind her. **A3**

M.B.A.s Flock to Amazon

Retailer's hiring at business schools upends recruiting, stymies other firms

By KELSEY GEE

Elite business-school students once set their sights on a Wall Street or management-consulting career, but today's M.B.A.s have a new desired destination: Amazon.com Inc.

The Seattle-based retail giant is now the top recruiter at the business schools of Carne-

gie Mellon University, Duke University and University of California, Berkeley, and it is the biggest internship destination for first-year M.B.A.s at the University of Michigan, Massachusetts Institute of Technology, Dartmouth College and Duke. At the University of Chicago Booth School of Business, Amazon took in more interns than either Bain & Co. or McKinsey & Co., which until recently were the school's top hirers of interns, according to Madhav Rajan, dean of the Booth school.

All told, Amazon has hired

roughly 1,000 M.B.A.s in the past year, according to Miriam Park, the company's director of university programs. That is a drop in the bucket for a company planning to add 50,000 software developers in the next year, but at business schools, the scale of Amazon's hiring has upended campus recruiting and stymied other companies that rely on B-school hires.

Business students understand Amazon's customer-obsessed ethos and tend to be "risk-oriented," scrappy and analytical, Ms. Park said. Many

fill the company's future leadership ranks as a senior project manager, a role that typically pays \$120,000 to \$160,000 a year, according to the career website Glassdoor.

M.B.A.s' shift from consulting and finance comes as tech companies, once reluctant to hire PowerPoint-loving B-school grads, have learned to embrace them.

Amazon's recruiting tactics can seem like a microcosm of its larger business strategy to other firms vying for M.B.A. talent. The company's recruit-

Please see AMAZON page A2

Russia Targets NATO Soldiers' Phones

Russia has opened a new battlefield with NATO, according to Western military officials, by exploiting a point of vulnerability for almost all allied soldiers: their personal smartphones.

By Thomas Grove in Tapa, Estonia, Julian E. Barnes in Brussels and Drew Hinshaw in Orzysz, Poland

Troops, officers and government officials of North Atlantic Treaty Organization member countries said Russia has carried out a campaign to compromise soldiers' smartphones. The aim, they say, is to gain operational information, gauge troop strength and intimidate soldiers.

The Russian Defense Ministry didn't respond to a request to comment. Russian officials deny that Moscow stages such attacks.

U.S. and other Western officials said they have no doubt Russia is behind the campaign. They said its nature suggests state-level coordination, adding that the equipment used, such as sophisticated drones equipped with surveillance electronics, is beyond the reach of most civilians.

The campaign has targeted the contingent of 4,000 NATO troops deployed this year to Poland and the Baltic states to protect the alliance's European border with Russia, as tensions with Moscow rise, Western military officials said.

Please see RUSSIA page A3

BASEBALL LEARNS DATA'S DOWNSIDE

Analytics leads to longer games with less action

By BRIAN COSTA AND JARED DIAMOND

The owners of America's baseball teams, gathered at a Houston hotel last year, were discussing once again how their games had become so plodding. This time, however, the explanation was different.

Two Major League Baseball officials and a statistician told the group that the sport was being brought to a standstill by the very phenomenon that has revolutionized it in recent years—the embrace of data analytics to drive strategy.

Baseball has never been more beset by inaction. Games this season saw an average gap of 3 minutes, 48 seconds between balls in play, an all-time high. There were more pitcher substitutions than ever, the most time

between pitches on record and longer games than ever.

A confluence of hitting, pitching and defensive strategies spawned by the league's "Moneyball" revolution have all played a role. That makes baseball, whose early use of big-data strategies was embraced by the business world in general, a case study in its uninhibited consequences.

"The sport is going down a path that is a byproduct of very smart people figuring out the best strategies to win," says San Francisco Giants Chief Executive Larry Baer. "It's up to the owners to say, 'What's the impact on the consumers that are watching?'"

For now, as the postseason begins, there is little economic incentive for owners to

Please see DATA page A8

How Baseball Became Slower

Over the past 30 years, a confluence of changes to the way baseball is played has resulted in longer games and a slower pace of play.

Average length of game	Pitchers used per game	Average time between balls in play	Strikeouts a game
1987 2 hours, 46 minutes	5.8	3 minutes, 6 seconds	11.9
2017 3 hours, 5 minutes	8.4	3 minutes, 48 seconds	16.5

Note: All data from 2017 regular season, through Oct. 2. Length of game based on nine-inning games only. Figures on time between balls in play include between-innings breaks. Home runs not counted as balls in play.

Sources: Stats LLC; Fangraphs.com

THE WALL STREET JOURNAL

In Texas, the Corsage Wears You

* * *

Elaborate 'mums' for homecoming exceed 20 pounds

By ERIN AILWORTH

When senior Brittany Eicker showed up for her homecoming pep rally last month at Alvarado High School outside of Fort Worth, jaws dropped.

Hanging from her neck was an elaborate decorative bric-a-brac shaped like the state of Texas that overflowed with artificial chrysanthemums, braided ribbons, ornaments, glittery letters, a purple boa and a snow-white teddy bear. It was so big that only her face

and feet were visible.

"The mum is ginormous!" says Brittany, 17, an accomplished 6-foot-tall discus thrower and shot putter. "It's not as heavy as it looks, but when I saw it, I was like, 'my back is going to hurt for a week!'

Wearing mums, a homecoming decoration that started as a simple chrysanthemum, is a Texas tradition. But like many things in the Lone

Star State, it is exhibiting a tendency to grow larger.

Modern mums have not only exploded in size, they usually contain no real flowers. The biggest ones resemble samurai armor more than corsages. Lisa Campbell, the designer who assembled Brittany's mum, says that after consulting Brittany and her mother, it took about 14 hours to make.

Please see MUMS page A8



A Texas 'mum'

A Solemn Holiday in Korea



LOOKING NORTH: North Korean refugees and family members pay respects to their ancestors in North Korea during a ceremony near the demilitarized zone in Paju, South Korea. **A5**

Shooter's Girlfriend Is Back on U.S. Soil

By JON KAMP
AND DEL QUENTIN WILBER

The girlfriend of the gunman who carried out Sunday's massacre in Las Vegas is back on U.S. soil, a law-enforcement official confirmed, opening up a new avenue for investigators searching for a motive in the attack that killed 58 people.

Marielou Danley left the Philippines on Tuesday night local time and headed for Los Angeles, said Maria Antonette Mangrobang, a spokeswoman for the Philippine Bureau of Immigration. Agents with the Federal Bureau of Investigation met Ms. Danley when she landed in L.A., the law-enforcement official said.

Police have said Ms. Danley was out of the country when the shooting happened and that they don't believe she was involved.

But she could potentially help authorities gain insight into the elusive motive behind Stephen Paddock's Sunday-night rampage in a hotel room onto a crowd at a country-music festival. More than 500

people were injured in the shooting and the chaos that followed.

She's "a person of interest," said Joseph Lombardo, the Las Vegas Metropolitan Police Department sheriff, during a news conference Tuesday.

Paddock, a 64-year-old retiree and avid gambler, killed himself before a SWAT team breached his 32nd-floor hotel suite and firing perch at the Mandalay Bay Resort and Casino, police said.

While the search for Paddock's motive continues, a picture of how he carried out the attack is steadily emerging. Authorities believe he brought 24 firearms to his hotel suite, where he broke two windows and fired intermittently for nine to 11 minutes onto the crowded festival.

Paddock had wired tens of thousands of dollars to the Philippines in recent weeks, a federal law-enforcement official said.

Ms. Danley arrived in Manila from Tokyo on Sept. 15 before departing from Manila for Hong Kong on Sept. 22, according to a law-enforcement official.

Please see ATTACK page A6

WORLD NEWS

CAPITAL ACCOUNT | By Greg Ip

Trump's Fed Choice: Continuity or Disruption



In less than three weeks, President Donald Trump plans to announce who will run the Federal Reserve when Chairwoman Janet Yellen's term ends in February.

He reportedly has six candidates, but the choice is really binary: Is he happy with how the Fed has run monetary policy? Or does he think it's broken and badly needs fixing? Of the six, two represent continuity, two promise disruption, and two are mysteries.

The continuity candidates

If Mr. Trump likes how the Fed has operated, he should simply nominate Ms. Yellen for a second term. Under her tenure, the U.S. has reached low unemployment with low (perhaps too low) inflation, the Fed's statutory goals, although growth has lagged behind previous expansions. Her qualifications aren't in dispute. She's a respected economist with a fully formed, coherent view of the economy and monetary policy. Markets understand her, and other Fed officials trust her. That's critical because the Fed operates by consensus, which puts a premium on the chairman's abil-

ity to persuade and compromise.

For Republicans, Ms. Yellen has two big drawbacks: She's a Democrat and a strong advocate of the post-crisis expansion in financial regulation. If Mr. Trump likes Ms. Yellen's monetary policy but wants it implemented by a Republican with a lighter regulatory touch, governor Jerome Powell fills the bill.

A lawyer by training, Mr. Powell served in President George H.W. Bush's Treasury Department, where he got crisis-management experience dealing with the collapse of Bank of New England and a bond bid-rigging scandal that nearly sank Salomon Brothers. He went on to work in investment banking and private equity. In 2012, President Barack Obama put him on the Fed, then chaired by Ben Bernanke.

A non-economist as Fed chairman sounds as strange as a non-lawyer as Supreme Court justice. But some of the Fed's longest-serving and most influential leaders were bankers: Benjamin Strong (as head of the New York Fed) in the 1920s and William McChesney Martin in the 1950s and 1960s. Economic historians Christina

Romer and David Romer have found that a chairman's success depends less on economic training than on economic beliefs.

Mr. Powell's economic beliefs and monetary-policy preferences are close to those of the chairmen under whom he has served, though he has worried more that the Fed's policies might fuel financial risk-taking. In 2013, he privately urged Mr. Bernanke to make clear that the Fed's bond-buying stimulus program—known as quantitative easing, or QE—would eventually end, according to Mr. Bernanke's memoir.

Their real difference is over regulation, where Mr. Powell has fretted that the postcrisis crackdown has gone too far, such as on proprietary trading, bankers' qualifications and loans to leveraged companies. This puts him on the same wavelength as the Trump administration, including Treasury Secretary Steven Mnuchin.

The disruptors

What if Mr. Trump doesn't like Ms. Yellen's monetary policy and wants to shake things up? Kevin Warsh, a scholar at the Hoover Institution, has positioned himself as the change agent. Like Mr. Powell, he



they'll get pushback from current Fed officials who are mostly content with the current strategy and unsympathetic either to Mr. Warsh's critiques or Mr. Taylor's insistence on a rule.

The unknowns

Mr. Trump said in July his National Economic Council director Gary Cohn was then a candidate.

Mr. Cohn rose to No. 2 at Goldman Sachs Group Inc. and has been central in implementing Mr. Trump's efforts to roll back regulations and cut taxes. But he has left little evidence of how he thinks about monetary policy or the big macroeconomic issues in which the Fed chairman will be enmeshed.

John Allison, a former chief executive of bank BB&T Corp., has called for the abolition of the Fed and a return to the gold standard. Since neither is going to happen, his actual policy intentions are as much a mystery as Mr. Cohn's.

In deciding between unknowns, disruptors and continuity candidates, Mr. Trump has to select his priority: burnishing his self-styled image as a revolutionary, or leaving as is the one institution that can make or break the economy.

AMAZON

Continued from Page One
ers descend en masse on campus and stay in touch with students constantly; for instance, eight or 10 alumni might attend large events or host coffee meetings for one-on-one conversations with students, compared with a typical one or two presenters from other companies, according to Abby Scott, assistant dean of Berkeley's Haas school. "It's been a huge volume play."

The talent wars begin virtually as soon as classes begin and sometimes sooner. Amazon in June sponsored an event for 650 soon-to-be first-year and returning women M.B.A. students at its Seattle headquarters, some of whom left with internship offers for summer 2018.

Scott DeRue, dean of University of Michigan's Ross School of Business, urges employers to hold off on recruiting until at least the end of the first week of classes.

"It's nearly impossible. You say an academic building is off limits, and they're at restaurants and coffee shops across the street," said Mr. DeRue of avid recruiters like Amazon, which so far this year has



Abhimanyu Kothari, senior project manager at Amazon and an alum of Dartmouth's Tuck School of Business, spoke about his experiences at Amazon at a campus Q&A session on Sept. 19.

hired around 40 Ross M.B.A.s.

At Carnegie Mellon's Tepper School of Business, 25 to 30 people, or 10% to 15% of the graduating M.B.A. class on average, go to work for Jeff Bezos. The retailer fills the nine interview rooms in Tepper's career center, and career-office staff turn over their personal offices for recruiters, too, said Steve Rakas,

career-services administrator. Only PricewaterhouseCoopers LLP sends as many people, he added.

Some M.B.A. career-services officers have had to navigate tensions with other recruiters and become careful keepers of the recruiting calendar.

Consulting firms and big banks that typically were the biggest M.B.A. destinations now ask schools when Amazon is coming to campus so they won't compete for students on the same day, said Erica Marks, a director in the career office of University of Pennsylvania's Wharton School.

Though Amazon is popular, Keith Bevans, partner and global head of recruiting for Bain & Co., said the consulting firm continues to command its share of elite students, hiring roughly 500 M.B.A.s each year.

Where Amazon has lots of young talent, Bain offers new hires the chance to learn strategy and problem-solving from masters of the craft, he said. "Going to the best grocery store in the world doesn't make you a better chef," Mr. Bevans said.

Students are flocking to the grocery store, though. Last fall, at Wharton's recommendation, Amazon moved a recruiting presentation to the nearby Ritz-Carlton because the overflow crowds of 350 students had become "overwhelming," Ms. Marks said.

Each fall at Tepper, Mr. Rakas and his career-services colleagues lead student groups on trips to potential employers' headquarters around the world; a few years ago, about 15 students signed up for the Seattle trip. He turned students away for the first time this fall, capping the group at 50.

Though Amazon is known for a demanding culture, M.B.A.s who also have experience on Wall Street or at big consulting firms say the retail giant's workload seems more manageable in comparison.

Abe Levy interned at Amazon in Seattle this summer as a senior program manager and is considering taking a job there after graduating from Dartmouth College's Tuck School of Business Administration. Mr. Levy, a father of three, found his Amazon coworkers friendly and observed that many seemed to have a better work-life balance than consultants do.

Given the range of businesses Amazon touches, and the number of ex-management consultants in its ranks, Monalisa Dutta and her cohort of M.B.A. interns from Duke University's Fuqua School of Business joke that the company now plays a role similar to that of McKinsey—a place to dive into many industries and try different roles.

Ms. Dutta was interning at Amazon this summer with IMDb.com, its movie and TV database, when the company announced its deal to buy Whole Foods Market Inc. She attended events with the deal makers in the following days.

"It was like being in the center of the universe," Ms. Dutta said. "I can't wait for my M.B.A. to be over so I can go back."

Recent data has cast doubt on that scenario playing out. The European Union's statistics agency said Wednesday that retail sales fell by 0.5% in August from July. Plus, figures published Monday showed the unemployment rate stalled at 9.1% for the third straight month in August.

Wednesday's data was a surprise to economists who had forecasts sales would rebound by 0.4% from their 0.3% decline in July. It was the largest month-to-month drop since March 2016.

Retail sales fell across the 19-country currency union, affecting Germany, with its strong jobs market, almost as much as France, with its high unemployment rate.

The data are likely to concern some ECB policy makers, since a cooling labor market and a greater reluctance among households to spend suggest consumer inflation is unlikely to accelerate over the coming months. The central bank's sole remit is to have an inflation rate of just below 2% over the medium term.

Policy makers are unlikely to hit the panic button yet. A

expectations of future growth reviving after a summer lull," said Chris Williamson, chief business economist at IHS Markit, which conducted the surveys of 5,000 businesses.

Confronted by mixed signals, ECB policy makers are likely to opt for a cautious approach to reducing stimulus. The central bank has signaled it will announce a reduction in its bond purchases when it next meets on Oct. 26, but may stop short of setting a date for the program's end.

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Fine Drinking.



(Pictured Cocktail: Sunraysia Mango Bellini, mix it from your hotel minibar.)



Sunraysia Mango is currently enjoying
minibar residency at Bangkok
Marriott Marquis Queen's Park.
www.sunraysiafivestar.com



The official name of North Korea, the Democratic People's Republic of Korea, was incorrectly given as Democratic Republic of Korea in a World News article Wednesday about testimony delivered at the trial in Malaysia of two women accused of killing Kim Jong Nam.

Put options cover about 20% of the value of the assets in the Calamos Evolving World Growth Fund's portfolio, said Dennis Cogan, co-portfolio manager. A Markets article

Tuesday about third-quarter performance of emerging-market stocks incorrectly said put options cover about one-fourth to one-third of the value of the assets.

Phillip Rucks, owner of Phillip Rucks Citrus Nursery, says he sprays trees with the antibiotics streptomycin and oxytetracycline. A Sept. 27 Page One article about Florida's orange-juice industry incorrectly said he uses tanks for irrigating trees with the antibiotics.

Readers can alert The Wall Street Journal to any errors in news articles by emailing wsjcontact@wsj.com.

WORLD NEWS

Prankster, Mishaps Derail May's Speech

U.K. prime minister's talk to Conservatives marks latest difficult episode while in office

By JENNY GROSS
AND JASON DOUGLAS

MANCHESTER, England—British Prime Minister Theresa May suffered bouts of coughing, a prankster on stage and falling scenery as she struggled to deliver closing remarks at her Conservative Party's annual conference aimed at uniting her party around her.

Wednesday's speech marked the latest difficult episode of her premiership. Since losing her parliamentary majority in a June election she called, Mrs. May has struggled to contain differences among senior colleagues over her plans for Britain's departure from the European Union.

During the speech, a heckler interrupted to hand her a P45 form—given to U.K. employees when their employment is terminated—saying it was from Foreign Secretary Boris Johnson, who has publicly challenged her approach to Brexit.

After the incident, Mrs. May struggled to get back on track, struggling with coughing fits and nearly losing her voice several times. Treasury chief Philip Hammond was cheered when he handed her a cough drop. Later, letters from the Conservative Party slogan behind her dropped from the wall.

Addressing party members,



Theresa May struggled with her closing remarks amid falling scenery and a coughing fit at the Conservative Party's annual meeting.

she accepted responsibility for the election setback, apologizing for a poor campaign she said was "too scripted, too presidential."

"I hold my hands up for that. I take responsibility," she said.

A year ago, the Conservative Party's annual conference was a celebratory event, where the Brexit vote and Mrs.

May's recent appointment as leader buoyed government officials and the party's base.

This year's tone was largely subdued, in a reflection of Mrs. May's tenuous grip on power. Lawmakers spent the four-day conference soul-searching about the party's direction, discussing how long Mrs. May could hold on and brainstorming ways to win over younger voters.

On Wednesday, Mrs. May sought to rally her party faithful, who are worried by the stuttering progress of Brexit

negotiations and the advances made by the opposition Labour Party under left-winger Jeremy Corbyn.

"Let us shape up and give the country the government it needs," Mrs. May said. "Not worrying about our job security, but theirs."

Mrs. May's fumbled speech could garner her a degree of public sympathy, said Simon Hix, a politics professor at the London School of Economics.

"Here she is, a real human person struggling with her voice and her health and all these people are after her," Mr. Hix said. "It's a change from the robotic image of her."

On the other hand, it confirms what some feel about the state of the government—that it is in shambles, he said. "Can she survive the autumn? It's really hard to know."

In a speech that tacked toward the political center, Mrs.

May made pledges on issues as diverse as ending modern slavery and overhauling organ-donation laws. The policies outlined were united by a theme of fighting injustices and renewing a "British dream" of advancing prosperity.

"For too many, the British dream appears increasingly out of reach," she said.

She sought to revive her party's appeal among young voters—who largely deserted the Conservatives for Mr. Corbyn at the election—with a promise to build more homes and scrap a planned increase in college tuition fees.

However, she only briefly touched on the Brexit negotiations, saying the U.K. was preparing for any outcome, including no agreement with the EU.

"I am confident we will find a deal that works for Britain and Europe, too," she said. She urged negotiating teams to quickly come to an agreement and urged EU nationals living in the U.K. to remain. She confirmed the U.K. would leave the EU in March 2019.

Mrs. May is seeking to move Brexit talks beyond their current stalemate. But as she makes concessions to Brussels, such as over the amount the U.K. will pay the EU as part of its divorce settlement, she has faced accusations from euroskeptics in her party of being too conciliatory.

Mrs. May has denied that rivals in her cabinet are trying to oust her from power.

Court Summons Catalan Police Head For Sedition Probe

By JEANNETTE NEUMANN
AND MARINA FORCE

BARCELONA—A top Spanish court called for the head of Catalonia's police force and two separatist leaders to testify in a sedition investigation, a move likely to intensify the strain between Spanish authorities and the region as its leaders prepare to declare independence as early as this weekend.

Spain's National Court is investigating attempts by protesters and their leaders last month to prevent national police from arresting 14 Catalan organizers behind a referendum in which many Catalans defied the central government and voted for independence.

The Sunday vote, which was boycotted by opponents, was marred by clashes with police that injured nearly 900 people, according to regional authorities. Tensions have since risen further, with Catalan

leaders warning that they could announce plans for a split imminently.

"We will declare independence 48 hours after all the official results are counted," Catalonia President Carles Puigdemont said in an interview with BBC broadcast Tuesday. "We will act over the weekend or early next week."

Investors, who had largely discounted Catalonia's push for independence in recent months, are starting to take greater notice. The spread between Spanish 10-year debt compared with equivalent German bonds on Wednesday was about 135 basis points versus 115 basis points on Friday of last week. Spain's benchmark IBEX-35 was down 2% in mid-afternoon trading.

The Madrid-based National Court ordered Josep Lluís Trapero, the chief of Catalonia's Mossos d'Esquadra police force to testify on Friday, a spokeswoman said. Another officer from the regional police force as well as two leaders from separatist groups have also been ordered to testify, she said.

Judge Carmen Lamela Díaz launched the sedition investigation on Sept. 27 after more than 40,000 demonstrators took to the streets of central Barcelona to protest the court-ordered arrests of referendum organizers.

The judge says protesters purposely blocked Spanish security forces from entering and exiting buildings to detain the suspects and gather documents.

—Emese Bartha in Frankfurt contributed to this article.



It said, 'Somebody is trying to access your iPhone.'

Col. L'Heureux, who prepares troop positions to repel a potential Russian invasion, also found he was being physically tracked through his iPhone. Col. L'Heureux said at least six soldiers he commands have had phones or Facebook accounts hacked.

Western officials declined to describe technical security precautions in detail, but note that allied soldiers are trained on a variety of risks including cyberattacks.

Military cyberspies said the drone flights and cellphone data collection suggest Russia is trying to monitor troop levels at NATO's new bases to see if there are

Portugal's Long Climb Back to Health

'Lisbon is happening,' says one entrepreneur of the country's return to strong growth

By PATRICIA KOWSMANN

LISBON—Just four years ago, Portugal was under the thumb of international creditors. Its banks were teetering, unemployment was near 18% and tens of thousands of Portuguese were leaving the country.

Now, the country is one of Europe's hottest stars, with tech start-ups mushrooming, foreigners taking up residence and investment pouring in. In mid-September, Standard & Poor's even raised Portugal to investment grade from junk—a crowning achievement for a country that came within a hair's breadth of default in 2011 and had to accept a bailout valued at €78 billion (\$92 billion).

"Lisbon is happening," said Martin Henk, an Estonian entrepreneur who opened an office in the city, lured by a pool of multilingual, highly skilled talent and affordable living costs. "Everywhere you turn, people are talking about it." Mr. Henk has hired 35 people since starting operations in March and plans to almost triple that by late 2018.

Portugal's economy expanded 3% in the second quarter compared with the same period in 2016, the fastest pace since 2000. Consumer confidence is near all-time highs and unemployment is now 8.8%, below the EU average.

The rebound somewhat mirrors that of Ireland, also forced into a bailout. Dublin kept corporate taxes low—at 12.5% compared with an EU average of 21.5%—which helped attract foreign investment. It set up a "bad bank"

that helped lenders unload sour loans. Ireland's GDP grew 5.2% last year and the International Monetary Fund expects 3%-plus growth through 2019.

Portugal and Ireland stand in contrast to Greece and Italy, where growth is about half that of Portugal's. Greek's crippled banks, inefficient public sector and weak industrial base have hobbled a stronger recovery, while Italy's high cost base,

term."

The seeds of the current boom were sown in part during the bailout, the terms of which required Portugal to enact structural reforms such as new labor laws making it cheaper for companies to dismiss workers in a downturn and a more efficient tax-collection system that helped curb evasion.

Wages fell, making Portugal more attractive for foreign investors—if not for

ports had 44 million passengers last year, up almost 50% from 2011. In August, TAP, the country's airline, set a record for passengers. And some are coming to stay: Tax breaks are luring foreigners, particularly French and Brazilians, into settling in Portugal permanently.

Pastéis de Belém, a cafe and shop that specializes in the traditional Portuguese custard pastry pastéis de nata, has seen sales rise 30% since the depth of the crisis in 2013. To meet demand, it increased staff by 31 to 180 people and expanded the number of seats at the cafe.

Developers are revamping rundown apartments to resell or offer to tourists on Airbnb. Airbnb saw a 60% rise in guests in Portugal this summer compared with summer 2016. Employment in the real-estate sector rose 44% in the spring over the same period last year.

Portugal has also become a surprising hot spot for the tech world. Web Summit, Europe's largest tech conference, abandoned Dublin for Lisbon in 2016. The conference brought the equivalent of €200 million last year.

"Now, suddenly Lisbon, and Portugal, is on everyone's shortlist for visiting or setting up business," said Pedro Rocha Vieira, the co-founder and CEO of Beta-i, a company that helps startups set up and raise funding.

That is helping to slow the brain drain in which many of Portugal's best and brightest headed abroad during the worst of the crisis. In 2013, nearly 54,000 Portuguese left the country for more than a year. Last year, the figure was 38,000.

according to Western officials.

In Latvia, a U.S. soldier standing in line for a sports event was approached by a person who casually dropped details of the soldier's life, including information about family members, said a person close to NATO. A similar incident happened to a U.S. soldier on a train in Poland, that person said. Both encounters were believed to have been with Russian agents.

"Russia has always sought to target NATO servicemen for intelligence exploitation," said Keir Giles, an associate fellow at Chatham House's Russia and Eurasia Program. "But such a campaign of harassment and intimidation is unprecedented in recent times."

RUSSIA

Continued from Page One

Targets are soldiers like U.S. Army Lt. Col. Christopher L'Heureux, who took over as commander of a NATO base in Poland in July. Soon after, he said he returned to his truck from shooting drills to find his personal iPhone had been hacked and reported lost. The hacker was attempting to breach a second layer of password protection through a Russian IP address, he said.

"It had a little Apple map, and in the center of the map was Moscow," said Col. L'Heureux, stationed not far from a major Russian military base.

more forces present than the alliance has publicly disclosed.

Some Western defense officials played down the military significance of the campaign, saying it has caused little if any damage and often involves public information.

Still, other Western officials said that in a crisis, compromised cellphones could be used to slow NATO's response to Russian military action if, for example, the personal cellphone of a commander was used to send out fake instructions.

Near Estonia's border with Russia, numerous soldiers in January complained of "strange things" happening to their phones on the Tapa military base shortly before

French and British NATO soldiers were due to arrive, according to an officer on the base with knowledge of the incident.

A probe indicated Russia had used a portable telephone antenna to gain access to phones in the area, the officer said. The device apparently grabbed data sent from mobile phones and erased information on them.

In March, an Estonian conscript's phone started playing hip-hop music he hadn't downloaded while he was stationed on the Russian border, the soldier said. Contacts started disappearing from his phone around the same time, he said.

Since the Tapa incident in

January, soldiers on the Estonian base remove SIM cards from their phones and are allowed to use the internet only at designated hot spots. Use of geolocation is forbidden.

Estonian conscripts said they are forced to jump into a lake during operations to ensure they are following a "no smartphones" policy. Some get around the practice by wrapping their phones in condoms.

The British contingent at the base said it has taken necessary measures to protect troops.

Information gleaned from personal communication, contact lists and social-networking sites has been used in encounters that indicate a goal of harassment or intimidation,

WORLD NEWS

Mattis Backs Iran Accord Trump Hates

U.S. defense secretary says nuclear deal is in security interests, but urges stringent review

BY NANCY A. YOUSSEF

WASHINGTON—Secretary of Defense Jim Mattis told lawmakers that he supports the 2015 international nuclear deal with Iran, even though President Donald Trump has called it “one of the worst and most one-sided” agreements ever made by the U.S.

At a hearing on Tuesday, Maine Sen. Angus King asked Mr. Mattis whether he thought the deal was in “our national security interest at the present time.” After a pause, Mr. Mattis replied: “Yes, senator, I do.”

He went on to say that he supports a “rigorous” administration review to determine whether Iran is living by the agreement and whether it is in the U.S. interest. “I believe, at this point in time, absent indications to the contrary, it is something the president should consider staying with,” he said.

Mr. Trump must certify to

Congress whether Iran remains in compliance with the deal by an Oct. 15 deadline. Last week, Marine Gen. Joseph Dunford, the chairman of the Joint Chiefs of Staff, testified that Iran is complying with the terms of the deal and that it had successfully “delayed Iran’s development of nuclear weapons.”

Mr. Trump repeatedly has criticized the deal for overlooking Iran’s missile development and regional military involvements, including its support for Syrian President Bashar al-Assad. Secretary of State Rex Tillerson also has said Iran has remained in technical compliance with the terms of the deal.

One Trump administration official said Tuesday that Mr. Mattis was “put on the spot” at the hearing and isn’t at odds with the president.

Mr. Mattis made his comments before the Senate Armed Services Committee at a hearing held to discuss U.S. strategy in Afghanistan. On that issue, members of the committee expressed frustration that the Pentagon had not given them details of the strategy, which Mr. Trump



Secretary of Defense Jim Mattis said President Trump should stick with the 2015 agreement designed to limit Iran’s nuclear capabilities.

outlined in August.

Other senators asked why the latest strategy will work in a conflict that will enter its 16th year this week.

“In the six weeks since the president made his announcement, this committee and the Congress, more broadly, still does not know many of the crucial details of this strategy. This is totally unacceptable,” Sen. John McCain (R., Ariz.) the committee chairman, told Mr. Mattis and Gen. Dunford,

who also testified before the committee. “We expect—in fact, we require—a regular flow of detailed information about this war.”

Committee members asked for details about how the U.S. strategy would drive the Taliban to a negotiated settlement, stop Pakistan from providing havens for extremist groups and how the Trump administration defines success.

Mr. Mattis spoke broadly about the strategy, saying any

details should be revealed in private.

At one point, Sen. Kirsten Gillibrand (D., N.Y.) asked if Mr. Mattis would be “honest with the American people” about the number of troops deployed in America’s longest war.

“No, ma’am, if it involves telling the enemy something that will help them,” Mr. Mattis said.

Mr. Mattis said that the new strategy can succeed because the U.S. is no longer

putting timelines on its presence in Afghanistan but rather its departure will be conditioned based.

The Pentagon has said it would deploy roughly 3,900 additional U.S. troops largely to bolster the U.S. train-and-advise mission for Afghan troops. There are currently more than 11,000 U.S. troops in Afghanistan, Mr. Mattis told the committee.

—Peter Nicholas contributed to this article.

Former Kurdish Commander, Iraqi President Dies at 83

BY ISABEL COLES
AND ALI A. NABHAN

ERBIL, Iraq—Jalal Talabani is a big loss to Kurds, Arabs and to all Iraqis,” Iraqi Vice President Ayad Allawi said. “We have lost an icon who fought oppression, tyranny, and was one of the main figures to reject division and extremism.”

In the political tumult that followed Hussein’s overthrow, Mr. Talabani earned a reputation as a shrewd operator, able to reconcile rival factions and play them against each other. He became president as part of a power-sharing agreement that allotted the position to Kurds.

Iraq’s unity has been tested in recent years, including by the takeover of roughly a third of the country by Islamic State in 2014, though Iraqi forces have won back much of that territory with help from a U.S.-led coalition. Kurdish leaders pushed for a referendum on independence from Iraq, which passed last week and provoked a backlash from the government in Baghdad and the semiautonomous region’s neighbors.

Born in a village in Iraq’s Kurdish north in 1933, Mr. Talabani became active in politics



Iraqi Kurdish soldiers stood near an image of Jalal Talabani at his party’s Baghdad headquarters.

as a teenager and joined the main Kurdish nationalist party at the time, campaigning for Kurdish rights in the Arab-led state of Iraq. After studying law in Baghdad, he rose through the ranks of the party to become one of the most prominent figures in the Kurd-

ish nationalist movement.

When Iraqi Kurds rose up seeking autonomy during the 1960s, Mr. Talabani organized a group of intellectuals and activists to form a new party, the Patriotic Union of Kurdistan, or PUK, which launched its own armed campaign against the Iraqi government.

The Kurdish rebellion collapsed in 1975 and a disillusioned Mr. Talabani organized a group of intellectuals and activists to form a new party, the Patriotic Union of Kurdistan, or PUK, which launched its own armed campaign against the Iraqi government.

For years, the campaign followed a pattern of rebellion followed by cease-fires, negotiations and failed agreements as Iraq sought to crush Kurdish armed resistance. The struggle culminated in the Iraqi regime’s chemical bombardment and mass displacement of Kurds during the 1980s.

Facing a fresh onslaught by Hussein’s army in the wake of the 1991 Gulf War, Mr. Talabani used his contacts to campaign for intervention by the international community, which imposed a no-fly zone over northern Iraq. This effectively granted the Kurds autonomy.

The ensuing decade was marred by civil war between Mr. Talabani’s PUK and the party from which he had broken decades earlier, led by his onetime rival Masoud Barzani—now president of Iraq’s Kurdistan region.

Without Mr. Talabani at its helm, the PUK has been riven by factions that Mr. Talabani had kept together, upsetting the delicate balance of Kurdish politics.

—Ghassan Adnan contributed to this article.

Iran, Turkey Vow to Prevent Kurds From Changing Borders



SIDE-BY-SIDE: With Turkey’s president by his side at a Tehran news conference, Iranian President Hassan Rouhani, right, pledged Wednesday that their nations would ensure borders in the region remain unchanged after the recent Kurdish independence referendum in Iraq. Both Iran and Turkey opposed the referendum, which overwhelmingly passed last week, and have sent troops to their borders with the Iraqi Kurdish region. Iraq’s central government also opposed the vote.

France Seeks to Lock In Antiterror Provisions

BY WILLIAM HOROBIN

PARIS—France’s National Assembly passed contentious antiterror legislation that seeks to enshrine extraordinary powers the government adopted years ago when it declared a state-of-emergency in the wake of the Nov. 13, 2015, attacks.

The bill, first proposed in July and approved in a different form by the Senate, would inscribe in common criminal law some of the emergency measures that France has deployed for the longest period in its history, since the November 2015 series of terrorist attacks that killed 130 people in the French capital. Senators and lawmakers are expected to agree on a single text by mid-October.

At the vote in the lower house Tuesday, 415 lawmakers voted in favor, 127 against and 19 abstained. Most of those voting in favor came from President Emmanuel Macron’s majority, while far-left, National Front and some center-right lawmakers voted against.

The vote revealed divisions in French society over how to tackle terrorism days after authorities opened a terror probe into a man stabbing two women to death at the main Marseille train station.

Interior Minister Gérard

Collomb said the bill aimed to balance concerns over the limits of law enforcement with objections from rights organizations who say new legislation would curtail freedoms.

“We must adapt to a threat whose nature has changed,” Mr. Collomb said in presenting the bill.

Under the new law, for instance, the interior minister would be able without prior authorization from a judge to put people under tight surveillance, confining them to a community and obliging them to check in regularly at police stations, if there is “serious reason to think their behavior” makes them a terrorist threat. The measure seeks to replace the house-arrest provision that had been permitted under the state of emergency, the government said.

Among other measures, the bill also would give authorities the power to implement secure zones around large events and create a new regime for police to raid homes of “people posing a particularly serious threat.”

The bill has provoked an outcry from civil-liberties and human-rights activists. Last month, two United Nations experts said the law risked establishing a permanent state of emergency in France.

WORLD NEWS

Malaysia Trial Displays Evidence of Deadly Poisoning

A Malaysian courtroom viewed bagged samples of bodily fluids from Kim Jong Nam that were tainted with the deadly nerve agent VX, as

By Yantoultra Ngui in Shah Alam, Malaysia, and Ben Otto in Jakarta

postmortem findings dominated a third day of a trial into the death of the half-brother of North Korea's leader.

A judge and members of the prosecution and defense teams donned white masks and gloves as they pored over samples of Mr. Kim's urine, blood and liver in transparent bags, as well as swabs taken from his face and eyes after his death Feb. 13 at Kuala Lumpur International Airport.

The submission of evidence caused a stir in the courtroom as authorities unveiled the samples, unleashing a stench. The prosecution warned that the tainted samples, taken more than seven months ago from the body of the elder brother of North Korean dicta-



A court entrance was cordoned off as the trial of the alleged killers of Kim Jong Nam continued.

tor Kim Jong Un, could still be harmful.

The government pathologist who wrote Kim Jong Nam's postmortem report took the stand for a second day, saying he found no possible

cause of death other than the nerve agent. The report, submitted as evidence Tuesday, pointed to laboratory tests that found VX, its precursor and its degradation product on the body and clothing of Mr.

Kim.

The doctor, Mohd. Shah Mahmood, head of forensic pathology at Kuala Lumpur Hospital, mentioned swollen organs in Mr. Kim's body that were atypically heavy.

He also testified that his examination, completed more than 48 hours after Mr. Kim's death, had been delayed after North Korean diplomats objected to an autopsy. The daylight killing and its ensuing investigation led to a swift breach in diplomatic and other ties between Malaysia and North Korea.

Malaysian officials say two women on trial for murdering Mr. Kim targeted him under the direction of North Korea, wiping him with VX in a crowded airport departure hall. VX is a man-made nerve agent that the United Nations classifies as a weapon of mass destruction, and it is lethal even in small doses. Mr. Kim died shortly after the assault, which was captured on airport security cameras.

North Korea denies any involvement in the killing, and the two women, Siti Aisyah of Indonesia and Doan Thi Huong of Vietnam, say they were duped into believing they were performing a prank for a television show.

The pair, who watched proceedings Wednesday wearing

traditional Malaysian dresses, have both pleaded not guilty. They will face the death penalty if convicted.

Mr. Mohd. Shah said he wasn't able to determine where VX entered Mr. Kim's body, but that the traces of degraded VX in the deceased's eyes and face was evidence of exposure. He said he reached his conclusion after ruling out illness or injuries and based on a toxicology report from the nation's chemical agency.

One of Ms. Huong's lawyers questioned why Mr. Mohd. Shah filed the postmortem report on Feb. 15, more than 48 hours after Mr. Kim died. The pathologist cited an objection by the North Korean embassy, and said he initially wasn't able to even obtain medical records of Mr. Kim from the airport clinic. He said he first encountered Mr. Kim's body on Feb. 14 and completed the autopsy the following day.

He also noted that Mr. Kim's blood tested positive for traces of medicine for hypertension, diabetes and gout.

The trial is expected to last through the end of November.

Trio Win Chemistry Nobel for 3-D Imaging

By ROBERT LEE HOTZ
AND DAVID GAUTHIER-VILLARS

For finding a way to image the molecules of life in three dimensions, an international trio of scientists shared the Nobel Prize for Chemistry on Wednesday.

The Royal Swedish Academy of Sciences awarded the 2017 prize to Jacques Dubochet at the University of Lausanne in Switzerland, Joachim Frank at Columbia University in New York, and Richard Henderson at the U.K.'s MRC Laboratory of Molecular Biology.

"I was fully overwhelmed," said Dr. Frank after learning of the award. "I thought the chance of winning a Nobel Prize was minuscule because there are so many other innovations and discoveries."

Working independently, the three biophysicists made a series of discoveries that led to an innovative imaging technique called cryo-electron microscopy, which allows researchers to freeze biomolecules in mid-movement and make precise images of their atomic structure.

"This discovery is like the Google Earth for molecules in that it takes us down to the fine detail of atoms within

proteins," said Allison Campbell, president of the American Chemical Society. "Understanding proteins in their native state is important to every field of science as they are in every living thing."

Already, researchers have used the imaging technique to expose the structure of hundreds of key biomolecules, including the Zika virus. As the technique is refined and adopted more widely, researchers expect it will lead to new drugs and discoveries across all the life sciences.

"Soon there are no more secrets," said chemist Sara Snogerup Linse, head of the Nobel committee on chemistry. "Now we can see the intricate details of the biomolecules in every corner of our cells, in every drop of our body fluids. We are facing a revolution in biochemistry."

For cryo-electron microscopy, Dr. Frank said, "the practical use is immense." The technique "extends the range of molecules that can be determined at atomic resolution. It also makes it possible to see these molecules in the functional states relevant for life function," he said.

By assembling images of molecules frozen at different stages, like frames of a movie, scientists will be able to grasp what they do, said Peter Brzezinski, member of the Nobel chemistry committee.

—Dominic Chopping contributed to this article.

Jacques Dubochet of the University of Lausanne, left, Joachim Frank of Columbia University, below left, and Richard Henderson of the MRC Laboratory of Molecular Biology in Cambridge, U.K.



Clarissa Horsfall and other demonstrators called for equity, justice and human rights for women in Miami in March.

Little Progress Seen on Gender Pay Gap

By PAUL HANNON

Rich countries have made very little progress toward reducing gaps in income and power between men and women over the past five years, according to a report published by the Organization for Economic Cooperation and Development.

The Paris-based think tank, which provides advice on the best policies to follow to its 35 member governments, said its findings were a "stark call to action" that should "change public policies in tandem with stereotypes, attitudes, and behaviors."

"Gender gaps persist in all areas of social and economic life and across countries, and the size of these gaps has often changed little," said Angel Gurria, the OECD's secretary-general, on Wednesday. "These inequalities should have long been resolved. There is no reason for women to trail behind men in social, economic and political outcomes."

The report found that across its member countries, women earn 14.3% less than men in full-time work. The

U.S. suffers from a wider gap than the average, at 18.9%.

Although women now spend more time in formal education than their male counterparts, they are less likely to study science, technology, engineering and mathematics, which often lead to higher-paid jobs. In addition to earning less, women are more likely than men to work part-time, and less likely to have a management role.

Gender inequality also continues to be a standout feature of political life, with women typically occupying less than a third of legislative offices across the OECD's membership.

The OECD said there has been an increase in policies designed to narrow gender gaps over the half decade since it first offered recommendations on how to tackle the problem.

Back in 2012, the OECD identified childbirth as a key moment in the divergence between male and female incomes.

It said many countries now provide fathers with financial incentives to take parental

leave for at least two months, which it sees as key to keeping mothers in work and advancing in their careers.

The U.S. isn't one of those countries, and is alone among OECD members in not offering a national system of paid maternity leave.

"This is a major impediment to gender equality, as many mothers are forced to leave work after having a child and consequently become the main unpaid caregiver in the household," the report said.

The think tank found that two-thirds of its members had introduced policies to close the pay gap, including a requirement that companies make their pay gaps public. And most OECD members have tried to increase the number of women on boards of directors and senior management.

"Countries that adopted a quota saw a more immediate increase in the number of women on boards, while those that took a 'softer' approach, using disclosure rules or targets, have seen a more gradual increase over time," the report found.

Similarly, a number of po-

litical parties have adopted quotas in an effort to boost the number of women holding high office. The OECD found that the U.S. falls below the average of its members, with women accounting for less than a fifth of the House of Representatives. By contrast, 40% of the seats in the lower house of Mexico's Congress are held by women.

But despite those and other efforts, the think tank reported that "progress has been far too slow" and called on its members to "urgently" address the problem.

"Countries must step up their efforts through sustained campaigns, monitoring policies aimed at gender equality, greater public investment, and the introduction and expansion of legal measures," it said.

The OECD estimates that if the gap between the proportion of women and the share of men in the workforce were to be reduced by a quarter through 2025, economic growth would be boosted by 1 percentage point. A reduction by half would boost growth by almost 2.5 percentage points.

WORLD WATCH

ICELAND

Central Bank Cuts Main Interest Rate

Iceland's central bank said it would cut its key interest rate for the third time in 2017, amid easing tourism growth and subdued inflation.

"There are signs that demand pressures in the economy have begun to subside," Sedlabanki said Wednesday, following its decision to lower the rate on seven-day term deposits to 4.25% from 4.50%.

The move came after Iceland's annual inflation rate fell further below the central bank's 2.5% target, measuring 1.4% in September.

"Measures of underlying inflation are even lower and falling," the central bank said in a brief statement that didn't reference Iceland's strained political situation.

The Nordic island of 330,000 people faces its second snap election in a year later in October. Its government collapsed in mid-September after it emerged that the prime minister's father was seeking the rehabilitation of a convicted child molester.

Iceland's booming economy is forecast to grow at a lower rate this year than in 2016, "in part because growth in tourism has eased," the central bank said, without issuing new projections.

—Nina Adam

CANADA

Attack Suspect Had Faced U.S. Expulsion

A Somali refugee facing multiple charges in Canada over Saturday's attack in Edmonton, Alberta was ordered deported from the U.S. by immigration authorities roughly a year before he was granted asylum in Canada.

In July 2011, Abdulahi Hassan Sharif was held in custody at an Immigration and Customs Enforcement detention center in San Diego. Two months later, a judge ordered him deported to Somalia, and Mr. Sharif waived his right to appeal, according to a statement from ICE. Mr. Sharif was later released but failed to

report to ICE on a scheduled date in early 2012, and efforts to find him were unsuccessful, ICE said.

ICE added Mr. Sharif "had no known criminal history" when held in custody.

The information emerges as Mr. Sharif, 30, had his first court appearance in Edmonton on Tuesday. He faces multiple charges, including five counts of attempted murder, after he allegedly stabbed a police officer and struck four pedestrians while driving a small U-Haul truck in Edmonton on Saturday in what officials have called a terrorist attack. Edmonton police said it found an Islamic State flag in one of the vehicles he was driving that evening.

—Paul Vieira



A Samaritan stands on Mount Gerizim, near the West Bank city of Nablus, during celebrations for the Jewish holiday of Sukkot.

U.S. NEWS

Gunman ‘Extensively’ Planned Ambush

Authorities report multiple rifles and cameras in Paddock’s Las Vegas hotel room

LAS VEGAS—The gunman behind Sunday night’s massacre on the Las Vegas Strip planned his rampage carefully, stocking his 32nd-floor hotel suite with an arsenal of pricey, high-powered rifles and multiple cameras, authorities said Tuesday.

By Jon Kamp,
Dan Frosch
and Zusha Elinson

Stephen Paddock set up three cameras both inside and outside his hotel room, including one located on a service cart and another lodged inside the peephole of his hotel door so he could see into the hallway, police said Tuesday.

What the cameras might have recorded remains unclear, but Joseph Lombardo, the Las Vegas Metropolitan Police Department sheriff, said the gunman may have been using them to watch for police descending on his room. The attack “was pre-planned extensively,” Mr. Lombardo said.

Investigators still don’t know why Paddock, 64 years old, smashed two windows in his suite at the Mandalay Bay Resort and Casino and fired intermittently—for between nine and 11 minutes, according to police—onto a crowded country-music festival below.

The shooting was the nation’s deadliest in at least half a century. The attack and the chaos that followed left 58 victims dead, according to the Clark County coroner, and more than 500 wounded, shocking a city known for gambling and glittery entertainment. Paddock also killed himself, before a SWAT team breached his suite, police said.

Also on Tuesday, authorities said they had recovered 47 firearms linked to Paddock, including 24 they say he brought to his hotel room and others found in his Nevada homes. They said the retiree and avid gambler also had in one of his Nevada homes large stockpiles of ammunition and an explosive that detonates when shot by bullets. Ammonium nitrate, a fertilizer that can be used to make explosives, was found in his car.

A law-enforcement official said Paddock had top-of-the-line weapons in his hotel room, which the official estimated were worth at least



FBI officials on Tuesday started their second day investigating the scene in Las Vegas. The shooting on Sunday night was the deadliest in the U.S. in at least 50 years.

Gun Modification Fueled the Carnage

Gun enthusiasts, apparently including the Las Vegas shooting suspect, have found a cheap way to mimic scarce and costly automatic weapons—“bump stocks,” which modify semiautomatic rifles.

The devices, legal in Nevada and costing a couple hundred dollars, had attracted little attention until the massacre at a music festival Sunday. Law-enforcement officials told The Wall Street Journal and other outlets that suspect Stephen Paddock appears to have used

at least one rifle outfitted with a bump stock, allowing him to fire hundreds of rounds a minute from the windows of his hotel room on the 32nd floor of the Mandalay Bay Resort & Casino.

Semiautomatic firearms shoot one bullet for each trigger pull, while automatic weapons fire bullets continuously with one pull.

Federal law bars civilians from owning an automatic weapon made after 1986. The few available for purchase can cost \$10,000 or more, gun experts said. They must be registered with the federal government, and owners have to submit photos and fingerprints

to the Bureau of Alcohol, Tobacco, Firearms and Explosives.

A bump stock replaces the ordinary stock of a semiautomatic rifle, the end of the gun that is held against the shoulder. The device allows the firearm to slide back and forth rapidly, as the shooter leans into it, harnessing the energy in the recoil. The trigger “bumps” into the finger, faster than it can be pulled.

The ATF has categorized bump stocks as a firearm part and not subject to the same regulations as fully automatic weapons. An ATF spokeswoman declined to comment.

—Joe Palazzolo and Zusha Elinson

\$20,000 in total.

Federal Bureau of Investigation agents and other authorities spent the past two days retracing Paddock’s movements to discern his motives and preparations. They obtained security video showing him hauling luggage into the Mandalay Bay hotel and to his room on more than a half-dozen occasions, a law-enforcement official said. Investigators said they believe

the bags contained firearms.

They also said he visited several casinos in Las Vegas during the past few weeks. He placed bets that total in the tens of thousands of dollars, the official said. The precise amount isn’t yet known. But officials surmise it was more than \$150,000 based on the number of currency-transaction reports they have obtained detailing transactions that sur-

passed \$10,000, which is legally required.

Paddock was a consistent gambler but he wasn’t in debt and his account was up-to-date at Mandalay Bay before Sunday night’s shooting, according to a person familiar with the investigation. He had frequented Mandalay Bay over the past year, coming at least every other month to play video poker primarily, the per-

son said. He was likely among the top 10% of gamblers at that casino during the past year, in terms of the amount wagered, the person said.

“He gambled, he was consistent, he paid his bills consistently, and returned,” the person said.

Paddock was also a Seven Stars rewards member in Caesars Entertainment Corp.’s rewards program, which is the highest tier based on the amount and frequency of play, according to another person familiar with the investigation. The person wasn’t familiar with any outstanding debt issues at Caesars properties.

Eric Paddock, the suspect’s brother, said “he gambled for 20-plus years successfully. It’s like a job for him. He did it mathematically, he did it because it was a way to have a fun life and he didn’t go poor doing it.” He said Tuesday the family is still stunned and struggling to make sense of Paddock’s actions.

“Believe me, I sympathize with everybody on grasping to understand Paddock’s motive, he said. “Who on this planet do you think is grasping for this understanding more

than me?”

Jill Snyder, special agent in charge for the San Francisco division for Bureau of Alcohol, Tobacco, Firearms and Explosives, which is working the case, said a dozen of the rifles found in Paddock’s hotel room were outfitted with a “bump stock,” a device that allows the weapon to fire at a rapid rate. Ms. Snyder said the weapons were bought in Nevada, California, Texas and Utah.

A law-enforcement official said there wasn’t any initial indication that Paddock had purchased any of the guns illegally, though investigators were working to determine whether illegal modifications had been made to the weapons.

The massacre unfolded on a Sunday night, just after 10 p.m. local time, while country-music singer Jason Aldean was wrapping up his show below the Mandalay Bay. Body camera footage released by police late Tuesday showed officers pinned down by gunfire and trying to locate where the shooting was coming from.

—Chris Kirkham, Cameron McWhirter, Del Quentin Wilber and Kate King contributed to this article.

ATTACK

Continued from Page One
cording to Ms. Mangrobang. Ms. Danley then returned to Manila from Hong Kong on Sept. 25, Ms. Mangrobang said.

‘She was away so that she will be not there to interfere with what he’s planning.’

Ms. Danley worked from 2010 to 2013 as a casino hostess catering to higher-spending players at the Atlantis Casino Resort Spa in Reno, Nev., according to her LinkedIn page. Monarch Casino & Re-

sort Inc., which owns Atlantis, said she left the company several years ago. The company said it is cooperating with law enforcement.

In a tearful interview on an Australian television station, two women described as Ms. Danley’s sisters said they believe Paddock sent her away so that she wouldn’t interfere with his plans. The women—they chose to remain anonymous, according to Seven News—said Paddock acted alone and that their sister would be shocked by what happened.

“She was sent away,” one sister said. “She was away so that she will be not there to interfere with what he’s planning.”

One sister described Ms. Danley as a “good person and gentle soul,” and a mother, grandmother, sister and friend. One sister also said

that Ms. Danley could potentially help the investigation because Paddock is no longer alive to talk.

—Jake Maxwell Watts contributed to this article.

out of quitting by Vice President Mike Pence and others.

Mr. Tillerson said that he supports Mr. Trump’s “America first” approach to foreign policy and extolled “what we have accomplished as a team.” He said that suggestions to the contrary were an attempt to divide administration officials.

A former Exxon Corp. chief executive who had never served in government before assuming his current job, Mr. Tillerson has had public differences with Mr. Trump over key national security issues, including the 2015 Iran nuclear agreement and the ad-

ministration’s talks with North Korea.

Despite conflicting public statements on those issues, White House and State Department officials have insisted there have been no ruptures over policy.

Mr. Tillerson in his appearance Wednesday declined to specifically address an NBC report that he referred to Mr. Trump as a moron, describing such talk as “petty nonsense.”

Mr. Trump in a Twitter message afterward said: “The @NBCNews story has just been totally refuted by Sec. Tillerson and @VP Pence. It is #FakeNews. They should issue

an apology to AMERICA!”

Mr. Tillerson said he didn’t consult with Mr. Trump before the abruptly scheduled news conference, but devoted a significant portion of his remarks to praising the president and his agenda.

“Let me tell you what I’ve learned about this president, whom I did not know before taking this office,” Mr. Tillerson said. “He loves this country. He puts Americans and America first. He’s smart, he demands results wherever he goes and he holds those around him accountable for whether they’ve done the job he’s asked them to do.”

The visit comes amid calls on Capitol Hill for tighter gun regulations, with some Democratic lawmakers proposing a ban on “bump stocks,” a modification that allows a semiautomatic rifle to mimic a fully automatic weapon. At the same time, Republicans have backed off legislation that would have made it easier to purchase gun silencers, also known as suppressors.

The White House has signaled that Mr. Trump won’t soften his pro-gun-rights stance in the wake of the shooting, which left 59 dead and more than 500 injured.

Asked about gun control on Air Force One while flying home from Puerto Rico on Tuesday, Mr. Trump said: “We’ll talk about that on a

later date.”

One White House official said: “With this investigation still in its early stages, we should avoid making sweeping policy decisions.”

The week is testing Mr. Trump’s skills as comforter-in-chief. His visit to Puerto Rico received some negative reviews, with the mayor of San Juan, Carmen Yulin Cruz, telling CNN that it “doesn’t make you feel good” to hear Mr. Trump talk about how the Puerto Rico recovery effort is straining the federal budget.

Mr. Trump, though, was pleased with the visit, tweeting Wednesday that he had “a great day in Puerto Rico.... While some of the news coverage is fake, most showed great warmth and friendship.”

Rex Tillerson Says He ‘Never Considered Leaving This Post’

BY FELICIA SCHWARTZ

WASHINGTON—Secretary of State Rex Tillerson said Wednesday he hasn’t contemplated resigning his job and praised President Donald Trump’s foreign policy, calling Mr. Trump “smart.”

“I have never considered leaving this post,” Mr. Tillerson said.

Mr. Tillerson spoke in the State Department’s Treaty Room to deny longstanding rumors about his possible resignation after a report

Wednesday morning that he referred to Mr. Trump as a “moron” and had to be talked

into staying by Vice President Mike Pence and others.

Mr. Tillerson said that he supports Mr. Trump’s “America first” approach to foreign policy and extolled “what we have accomplished as a team.” He said that suggestions to the contrary were an attempt to divide administration officials.

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Rex Tillerson didn’t address a report that he insulted Donald Trump.

CLIFF OWEN/ASSOCIATED PRESS

U.S. NEWS



President Donald Trump visited San Juan, Puerto Rico, to survey damage from Hurricane Maria. Above, Air Force One gets set to land.

Storm's Hit on Budget Cited

SAN JUAN, Puerto Rico—President Donald Trump commended rescue workers and passed out supplies to storm victims as he toured Puerto

proud of all your people—all of our people working together."

The president's visit came as the administration is expected to request more hurricane relief funding from Congress this week, according to Republican congressional aides, to replenish disaster-relief funds as the nation recovers from being hit by three hurricanes in two months.

In their tour, the president and his wife, Melania, met with Puerto Rican officials before getting a firsthand look at the storm damage. While introducing his budget director, Mick Mulvaney, the president noted that the hurricane has strained the government's cof-

"I hate to tell you, Puerto Rico, but you've thrown our budget a little out of whack," the president said. "Because we've spent a lot of money on Puerto Rico, and that's fine. We've saved a lot of lives."

Mr. Trump's remarks about the recovery costs angered Senate Democratic leader Chuck Schumer of New York.

"Mr. President, enough. Stop blaming Puerto Rico for the storm that devastated

their shores, and roll up your sleeves and get the recovery on track," Mr. Schumer said. "I don't remember the president telling Texas that they threw our budget out of whack after Harvey. Or Florida after Irma."

Mr. Trump spent part of the day greeting residents and listening to accounts of the recovery effort. His first meeting brought him face-to-face with the San Juan mayor, Carmen Yulin Cruz, whom he criticized on Twitter after she had said the federal government's response was jeopardizing lives.

The administration is expected to request more hurricane relief funding from Congress.

When the president and Ms. Cruz met Tuesday, they exchanged pleasantries, with Mr. Trump asking, "How are you?" and then thanking the mayor.

Later, asked by CNN about Mr. Trump's comments on the budget impact, Ms. Cruz said it "doesn't make you feel

good" and showed his "lack of sensibility." At the same time, she said she had productive conversations with Office of Management and Budget staff and the head of the Small Business Administration, Linda McMahon, who accompanied Mr. Trump on the trip.

After his motorcade stopped at Calvary Church in Guayanabo, on the island's northern coast, Mr. Trump passed out packages of rice and then pantomimed shooting baskets as he tossed paper-towel rolls into the crowd.

Zoribel Lopez, a 37-year-old customer service representative in San Juan, questioned how heartfelt Mr. Trump's commitment was to Puerto Rico and whether he regarded the U.S. territory on par with the states. "I think he truly believes we're immigrants and we don't deserve the same federal aid," she said.

But Wilfredo Garcia Gonzalez, a 30-year-old computer-engineering student from the hard-hit town of Toa Baja, said he thought Mr. Trump had responded effectively to the storm. He carried a sign that read in part: "make Puerto Rico great again!"

'Dreamers' Support Comes With Caveats

By LAURA MECKLER

WASHINGTON—Key Senate Republicans signaled support for legislation allowing so-called Dreamers to stay in the U.S., but said they want it paired with immigration enforcement inside the U.S., as well as border security.

Those conditions would make finding agreement difficult. Democrats say they want Congress to legalize young undocumented immigrants brought to the U.S. as children but they oppose tying the program to enforcement measures beyond border security.

Debating the issue at a hearing of the Senate Judiciary Committee on Tuesday, Republicans offered lists of enforcement measures that they suggested might be included in a package with the Dreamer program. Sen. John Cornyn (R., Texas) said young people "should not be penalized for being brought here illegally through no fault of their own." But he added what he called a "big caveat."

"Before we provide legal status to these young people, we must reassure and actually regain the public confidence that we're serious when it comes to enforcing the law and securing our borders," he said.

The committee's chairman, Sen. Charles Grassley (R., Iowa), suggested provisions such as requiring all employers to use the e-Verify system to check whether potential employees have authorization to work, making it easier to deport criminals and speeding up deportation for asylum seekers who can't prove their claims.

"I'm confident that if everybody is reasonable, we can reach a solution," he said.

At the same time, Trump administration officials sided with Democrats on another issue, saying it was a bad idea to give people legal status without the ability to become citizens, contradicting Republicans who are advocating that approach as a middle ground.

"Creating second-class citizens or people who never are able to naturalize is not a

good model," said Michael Dougherty, assistant secretary for border immigration and trade policy at the Department of Homeland Security.

The issue of these young immigrants took on urgency last month when Mr. Trump ended the Obama-era program called Deferred Action for Childhood Arrivals, or DACA. Under a six-month phaseout, some 690,000 young people in the program will begin losing their protection from deportation and work permits starting in March. Those whose two-year permits expire before March 5 are allowed to renew one more time, with a deadline to submit applications set for Thursday.

GOP wants it paired with immigration enforcement as well as border security.

Democrats said they would negotiate but that Republicans shouldn't try to include every enforcement idea on their list.

"Please do not put the burden on the Dreamers to accept every aspect of comprehensive immigration reform (in order) to have a chance to become citizens of the United States. That's too much to ask," said Sen. Dick Durbin (D., Ill.), an original sponsor of the Dream Act that inspired the Dreamer moniker.

As Thursday's deadline to sign up for renewals approached, immigrant advocates were helping people fill out paperwork, and pro-immigration lobby groups were highlighting the issue. The group Fwd.us, for example, flew in about 115 young Dreamers from 25 states to lobby members of Congress.

"How would you feel if you were one of those Dream Act kids knowing the only thing between you and certainty is Congress?" Sen. Lindsey Graham (R., S.C.) asked administration officials at the Senate hearing Tuesday.



Sen. John Cornyn (R., Texas), left, with Sen. Lindsey Graham (R., S.C.) during a Senate Judiciary Committee hearing on Tuesday.

Agency Scraps Planned Mining Curbs in West

By JIM CARLTON

The Interior Department has scrapped a planned mining ban covering 10 million acres in Western states that was intended to better protect the greater sage grouse.

The move reopens areas in Idaho, Montana, Nevada, Oregon, Utah and Wyoming to mining and is scheduled to be announced in a Bureau of Land Management news release on Friday morning.

The agency also plans to announce a public comment process to consider other ways to improve sage grouse management, in consultation with the 10 Western states that are home to the bird.

The Obama administration had ordered those lands off-limits to mining and allowed other potential restrictions to protect the habitat of the sage grouse, a Western bird whose numbers have declined precipitously in recent years.

But many ranchers, miners and other Westerners who make their living off the region's vast federal lands said the plan was too rigorous. Interior Secretary Ryan Zinke agreed with them, and in August he ordered the plan revised to include more nonfederal input from states.

Secretary Zinke has said from the beginning that by

working closely with the states, who are on the front lines and a valued partner in protecting the health of these lands, we can be successful in conserving greater sage grouse habitat without stifling economic development and job growth," Bureau of Land Management acting Director Mike Nedd said in a statement.

Environmental groups and their supporters vowed to fight any weakening of sage grouse protections. They say the Obama plan, announced in 2015, came about after years of public input by local communities, and was intended to forestall a potential court-ordered endangered-species listing of the bird that they say could have shut down even more lands. The real aim of the Trump administration plan, they say, is to help industry.

"The Interior Secretary has repeatedly stated his willingness to listen to local communities, but when it comes to decision time, he will side with the oil-and-gas industry," Democratic Sen. Ron Wyden of Oregon said in a statement last week anticipating the reversal.

The sage grouse move is the latest by Mr. Zinke to roll back Obama-era Interior Department policies.

U.S. WATCH

CONGRESS

GOP Hammers Out Child Tax Credit

Republicans left out many details from the tax-code outline they released last week, and few are more important for middle-income households than the fate of the child tax credit.

They plan to bump up the \$1,000 per-child credit for children under age 17, but they haven't settled on how much or at what income levels the credit would start to shut off. There is a divide in the party over the issue. Family advocates want to boost the child tax credit as much as possible; others would rather focus tax cuts on promoting faster economic growth.

Where they settle will determine whether millions of middle-income households get a net tax cut or whether some end up paying more. It also will help shape the broader tax policy debate in the weeks and months ahead.

—Richard Rubin



MID-AUTUMN FESTIVAL: Musicians perform at the Empire State Building in New York on Wednesday in celebration of the festival.

WASHINGTON

White House Explores Alternatives to SSN

The Trump administration is exploring ways to replace the Social Security number with a safer system based on modern technology in the wake of the Equifax Inc. hack, the White House cyber-

security czar said Tuesday.

Rob Joyce, the White House's cybersecurity coordinator, said one possibility is using cryptographic keys, or a combination of long random numbers, to unlock personal data. The merit of such numbers is that they could be revoked once they are found to be compromised, he said.

"I feel very strongly that the So-

cial Security number has outlived its usefulness," Mr. Joyce said at a cybersecurity conference hosted by the Washington Post. "It's a flawed system. If you think about it, every time we use the Social Security number, we put it at risk."

—Yuka Hayashi

NEW YORK

Bill Requires More Disclosure in Ads

New York state would require political ads on Facebook or other social-media platforms to contain the names of the people or groups paying for them, under legislation proposed Tuesday.

Democratic state Sen. Todd Kaminsky said his proposal would discourage false or misleading ads while informing citizens about those trying to influence their votes.

Facebook says it is already working to provide users with more information about political ads on its site.

—Associated Press

IN DEPTH

DATA

Continued from Page One
change. MLB remains buoyed by a combination of lucrative, long-term television-rights agreements and taxpayer-funded stadiums. League revenues exceeded \$10 billion in 2016, a record. Attendance remains strong, with regular-season games drawing around 30,000 fans on average.

Aging audience

The issue is where MLB is headed. Baseball's television audience, the oldest among major North American professional sports, had a median age of 57 in 2016, according to a study of Nielsen data by the ad-buying agency Magna Global. That age, which has remained about the same in 2017, is up from a median of 52 in 2006.

Only 7% of baseball viewers were between the ages of 2 and 17, according to the study, which puts MLB closer to horse racing (5%) than to professional basketball (1%).

MLB spokesman Pat Courtney says television audience isn't the sole measure of the league's future health, since such audiences tend to skew older. He points to a recent uptick in youth baseball participation, after a long-running decline, and the popularity of MLB's mobile app, which is opened more than eight million times a day.

Even optimists in the industry agree that youth interest and pace of play are related to one another and central to MLB's future. The long-term concern is that baseball teams, which rely on ticket revenue for a larger portion of overall income than other pro team sports, could eventually have difficulty filling the seats in their stadiums.

The league is considering installing a pitch clock in 2018 to penalize pitchers who take too long to throw the ball, among other measures.

"We all want to shorten the game and make it more appealing," says Houston Astros general manager Jeff Luhnow. "We want baseball to be popular with generations to come. We absolutely care."

The use of analytics, which has increased dramatically since the early 2000s, is one of baseball's most acclaimed developments. Team front offices, once the domain of executives, are more commonly staffed with Ivy League graduates. Data science has become an integral part of many teams' decision-making. Top executives have landed seats on corporate boards and given paid speeches to business groups.

The search for competitive edges in a growing trove of information has also resulted in the kind of game MLB didn't intend to create.

On July 30, the Tampa Bay Rays took 3 hours, 51 minutes to defeat the New York Yankees, 5-3, in nine innings. Six times, the game was halted in



Frequent pitching changes, like one made by Cleveland Indians manager Terry Francona, second from right, during last year's World Series, are making games longer. Longtime Oakland Athletics executive Billy Beane, pictured at center below in 2005, helped popularize the use of data analytics in the game.

the middle of an inning for a pitching change. There were more strikeouts and walks than balls in play, which came about once every 5 minutes, 47 seconds.

Statistics showing precisely when starting pitchers become less effective have prompted teams to remove them from games earlier than before. That has increased one of the biggest drags on pace of play: pitching changes. Regular-season games this year saw an average of 8.4 pitchers used between both teams, an all-time high. That's up from 5.8 pitchers a game 30 years ago.

Moreover, the pitchers being added are the slowest: The average reliever takes 1.5 seconds longer between each pitch than the average starter. Though most measures of pace of play have been kept for decades, pitch-tracking cameras have enabled more detailed analysis for about the past 10 years.

Baseball's TV audience is the oldest among major North American pro sports.

Analytics, in promoting strikeouts as an optimal outcome, have extended the battle between pitcher and hitter. Teams increasingly value pitchers who can generate swings and misses, because other kinds of outs require varying degrees of good defense and good fortune. Strikeout levels have reached record highs for 10 years in a row.

Pitchers "are not allowing you to put the ball in play as much as they used to," says Yankees third baseman Chase Headley. "That's a huge change."

Defensive shifts

Hitters aren't as interested in routine ground-ball hits, either, a trend driven in part by two analytic insights. The first was more data on hitters' tendencies, which prompted teams to position their fielders in extreme ways. That so-called defensive shifting has made a ground ball less promising as a means of reaching base.

The second was a revelation born of a statistic that only recently came into existence—the launch angle. Radar and camera measurements of the angle at which balls leave the bat have shown that the optimal swing angle looks more like an uppercut than many hitters preferred. Hitters, in turn, have started swinging for the fences in droves. Home runs this season reached a record level.

That all-or-nothing approach means that between each home run there is a lot of standing around and waiting. Some classic displays of athleticism—a daring attempt by a runner to advance more than one base on a teammate's hit, for instance—have become rarer.

"I get excited for those plays, but they are getting lost," says former major-league pitcher and current TBS broadcast analyst Ron Darling. "There's a real collective, conservative style of play that doesn't lend well to the aesthetics of the game."

More than one-third of all plate appearances this season ended in either a home run, a strikeout or a walk, the most ever. There were around 3.9 pitches thrown per batter, also the highest on record.

Proponents of analytics are unapologetic for the kind of baseball they have helped cre-



ate. "I wouldn't call that bad. I would call that progress," says Billy Beane, the longtime Oakland Athletics executive featured in the 2003 book "Moneyball" and portrayed by Brad Pitt in the 2011 film adaptation. "I just think the game is as good as it's ever been."

There are anecdotal signs that even older, avid fans are growing impatient. Shannon Prior, 48 years old, of Morristown, N.J., has written a blog about his favorite team, the New York Mets, since 2008. This year, in addition to watching fewer games, he made a rule. At 10 p.m., typically just short of three hours after the first pitch is thrown, he would stop watching, regardless of the score, which caused him to miss the end of all but a handful of games. He cited the abundance of pitching changes.

"I put the game on and I'm fine," Mr. Prior says. "Then we get to the fifth or sixth inning and we're changing pitchers every batter and the game

grinds to a complete halt. The game stops."

Baseball executives don't expect general managers or field managers to alter their strategies, given that their job is to find the best way to win, irrespective of the impact on the game.

Instead, league officials have looked to the rules of the game for remedies. Earlier this year, MLB commissioner Rob Manfred appointed a 16-member committee comprising owners, team presidents, general managers and field managers to suggest potential changes.

According to one member, the committee has explored a range of possibilities that could diminish some of the impact analytics have had on the pace of play. Among the options discussed were a ban on defensive shifts, restrictions on pitching changes and shrinking the strike zone, this person says.

The changes Mr. Manfred is pushing for are less dramatic.

In addition to the pitch clock, he said at a recent news conference, MLB is discussing with the players' union a limit on visits to the pitcher's mound and shortening breaks between innings. He declined to comment further.

Those tweaks would represent a more conservative approach than some other professional sports leagues have taken. When the National Basketball Association wanted to improve its style of play, it changed its defensive rules. When the National Football League wanted to create more of a highflying spectacle, it added an array of new restrictions on defense.

Even baseball, bound by traditions as it is, lowered the pitcher's mound in 1969 to boost scoring.

"Other sports are always tinkering with the game to make it more entertaining," says Mets general manager Sandy Alderson. "We don't do any of that."

MUMS

Continued from Page One

Final cost: \$650.

People used to make their own mums, or buy them off the shelf at Kroger, and many still do. But as the arms race has escalated, a new class of mum manufacturing experts has been working around the clock during homecoming season to craft massive, personalized versions that can cost several hundred dollars.

"A homecoming mum to some of these girls is like their wedding dress," says Elizabeth Cleaver, who has been making mums for high schoolers in the Houston region for nearly 30 years.

Ms. Cleaver, known to clients as "The Mum Queen," says she starts prepping for homecoming orders in January. Last homecoming season she made some 420 mums. "I have smaller mums; nobody buys them," she says, admitting a preference for the look of a single-flower mum even as she showed off her more complex creations.

The custom remains biggest in Texas, but as Texans have moved around it has spread to other states, including Alabama, Louisiana, Colorado and Virginia, mum makers say. One recently shipped mum supplies to a family in Korea.

Replicas made of silk have

largely replaced the real blooms. Teddy bears have become a mainstay of the centerpiece, often dressed to represent a particular hobby (Brittany's was posed in a shot putter's stance). Trinkets, such as a megaphone, a football or a camera, are added to showcase other interests.

The creations can be heavy—sometimes as much as 20 or 30 pounds—so girls often wear them with a sturdy lanyard around their necks. Boys, who commonly get mums designed to match their dates' mums, have it a little easier: their mums are smaller and worn via a garter around the upper arm.

Some students, often with family help, order their own mums, while others exchange mums with their dates. Because they're so big, modern mums usually aren't worn to the dance. Students typically wear them to school the Friday before the dance, and to the football game.

Ryan Porter, 18, a senior at Prosper High School, north of Dallas, says the mum spectacle is an integral part of homecoming.

"I love to hear the cowbells in the hallway," he says of the popular mum accessory. "It's honestly so loud, you have no idea." His mum, which will be made by a designer in Plano, Texas, will have tennis decorations because he plays the sport, and an eagle, the school



High-school senior Brittany Eicker with her Texas-shaped mum.

mascot, with a diploma in its beak and a graduation cap on its head.

Even those in the mum business say the tradition has been edging toward outrageousness.

"It has kind of gotten, I

think, a little too much—but that's just me," says Gayle Currie, who, along with her husband, runs ACI Distributing & Manufacturing, which provides specialty designers and big craft chains like Michaels Cos. and Hobby Lobby Stores Inc. with mum-making components. She grew up wearing mums made with real flowers, which is why she prefers simpler ones.

Amy Fogarty, co-owner of The Mum Shop in Plano, Texas, recalls a supersize mum she designed for a student last year. "It took up her entire body," says Ms. Fogarty, whose business provides mums for nearly 40 area high schools.

Still, some rules of etiquette do apply. Freshmen mums are typically only allowed to include one fake bloom. Sophomores are allowed two and juniors three. Seniors can go as big as they like.

At Franklin High School in El Paso, homecoming is still a couple weeks away, but seniors Lauren Gasca and Destiny Strayhorn have been dreaming up their mums for months. Their mums will be Texas-shaped, she says, and have lights and a huge cowbell.

"I love big mums because they stand out and I like to stand out," adds Lauren, 17. She says her white and silver-accented mum, which she expects to cover her body, will contain the school logo, a cougar head paired with a purple F, and a

bunch of megaphones because she is a cheerleader.

Freshman Mia Pepe has a lot on her mind as homecoming approaches, including finding the right dress for the dance and practicing cheerleading routines before the big football game. She is also focused on whether she'll wear a mum.

"That's what everybody looks forward to at homecoming," says Mia, 14, who attends Carroll Senior High School in Southlake, Texas, near Dallas.

"They're really supposed to be something small, but they end up being huge."

Her mother, Kristina, who is originally from the Northeast, laughs now about how she once swore she'd never be a mum mom. Then her oldest daughter got asked to homecoming.

"You kind of get sucked in," she says.

These days, she sees the tradition as "good ridiculous." If Mia gets asked to homecoming, she says she will take her to C&C's Floral Events, Homecoming Mums and Supplies, which made mums for Mia's two older siblings when they were in high school.

Cecilia Valudos, who co-owns C&C's, says she and her business partner have embraced the outsize mum style, paraphrasing a line familiar to jewelers. "Our motto is that your mum can never be too big, just like a diamond," she says.

LIFE & ARTS

THE MIDDLE SEAT | By Scott McCartney

How Many Points for That Room?

YOUR AIRLINE MILES buy less and less. Now hotel points appear headed in the same direction.

A new study shows significant declines in buying power at some major hotel programs, with the number of points needed to book rooms rising even as the dollar cost of a room drops.

The study calculates the payback you get from staying at major hotel chains by comparing the price you pay in cash for rooms and how many points it takes to book the same room. IdeaWorks, a consulting firm, conducted 1,350 reward queries at six big hotel companies (none of them clients). Travel technology company Car-Trawler sponsored the study.

The results showed a wide range: At Wyndham, which has a flat cost of 15,000 points for any room—even at its most expensive resorts or Manhattan hotels—the value returned for every dollar spent was nearly 17 cents. That's a heck of a rebate. At the other end, members of the Starwood Preferred Guest program got only 5.4 cents.

Travelers typically give more thought to airline frequent-flier programs, but hotel loyalty programs can be more rewarding. Consumers switch hotel brands all the time based on price, location, ratings, conferences and other factors and have lots of new choices through sharing services like Airbnb.

At the same time, consolidation has given big hoteliers as many as 30 brands under one corporate umbrella. Loyalty programs tie them together, so hotels have historically plumped up benefits to create consumer allegiance.

The IdeaWorks study found that the average low price two years ago for a flexible room rate in 10 specific cities on 15 dates at top Starwood brands was \$337, or 11,450 points.

This year the same survey, conducted in August, found a lower average cash price, but higher average price in points for the same reservation queries. The changes meant a SPG point's buying power was 21% lower.

The study found the same pattern at InterContinental Hotels Group—it took more points to book rooms that were priced lower than two years ago. The buying power of a point was 23% lower than in 2015. IHG includes InterContinental, Crowne Plaza, Holiday Inn, Kimpton, Staybridge Suites and other brands.

Hilton and Marriott showed a more consistent relationship between points and cash. When the dollar cost of a room fell, so did the number of points needed. But the points required didn't decline



MICHAEL WITTE

as much as the price, so buying power diminished. Hilton's eroded 13% since 2015 and Marriott about 9%.

Hotel executives say they have made loyalty programs more generous in areas beyond free rooms and haven't diminished the total value.

Frequent travelers who earn elite status are lavished with perks like room upgrades, free breakfasts and the chance to cash in miles for once-in-a-lifetime experiences, as well as points bonuses.

Credit-card tie-ins can also deliver generous hotel benefits.

While payback for earning miles by staying at Starwood hotels was low compared with others, payback for points earned with spending on the Starwood American Express card was higher than other hotel cards in Mr. Sorensen's study.

Marriott, which has acquired Starwood but won't fully merge the loyalty programs until late next year, says both programs consistently win industry awards. As Marriott continues to link benefits between SPG and Marriott Rewards, such as the ability to earn and redeem points at a combined

total of 6,200 hotels, value is improving, not declining, says David Flueck, Marriott's senior vice president for loyalty.

"We certainly haven't devalued our program," he says.

IHG says research shows members want additional benefits beyond point redemption, and the IHG Rewards Club is evolving.

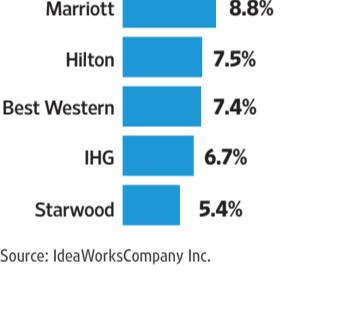
Hilton points to higher redemption rates, indicating members think they are getting good value. The number of new members redeeming points for the first time is up 70% this year compared with 2016, and the number of awards redeemed is up 30% year-over-year, says Mark Weinstein, Hilton's head of loyalty and partnerships.

Hilton launched a new room-pricing system in February for awards that makes real-time adjustments to prices, he says. If room rates go down, the price in points can flex down, too.

The IdeaWorks study looks only at the most basic way to evaluate rewards: how many points you'd earn staying in a room and how much the same room would cost to book with points. That's important to travelers, and offers an uncluttered way to compare the value of

Payback Is Rich

Here are the payback rates for six major hotel company loyalty programs:



Source: IdeaWorksCompany Inc.

\$231. The same room on the same date was priced at 25,000 points. Based on Starwood's standard accrual rate of two points per dollar spent, you'd have to stay at that hotel at that rate for 54 nights before you'd earn a free night.

But the top-ranked Wyndham program offered generous payback at the New Yorker hotel in New York City. A booking for Oct. 14 showed a rate of \$610, but a room the same night was available at 15,000 points. Wyndham gives out 10 points per dollar spent, so you'd have a free room after just three nights.

Wyndham, a chain of mostly budget and midscale hotels with a collection of four-star and five-star properties, set out in 2015 to attract more business travelers by offering generous loyalty returns.

Barry Goldstein, Wyndham's chief marketing officer, says the strategy is working. Redemptions are up 40% this year and the number of people in the program has grown 10%, to 52 million. The company recently took the unusual step of adding its vacation-home-rental program into the rewards pool, letting members book homes at 15,000 points a bedroom a night.

FILMS

WHEN FILMMAKERS TURN THE LENS ON FAMILY

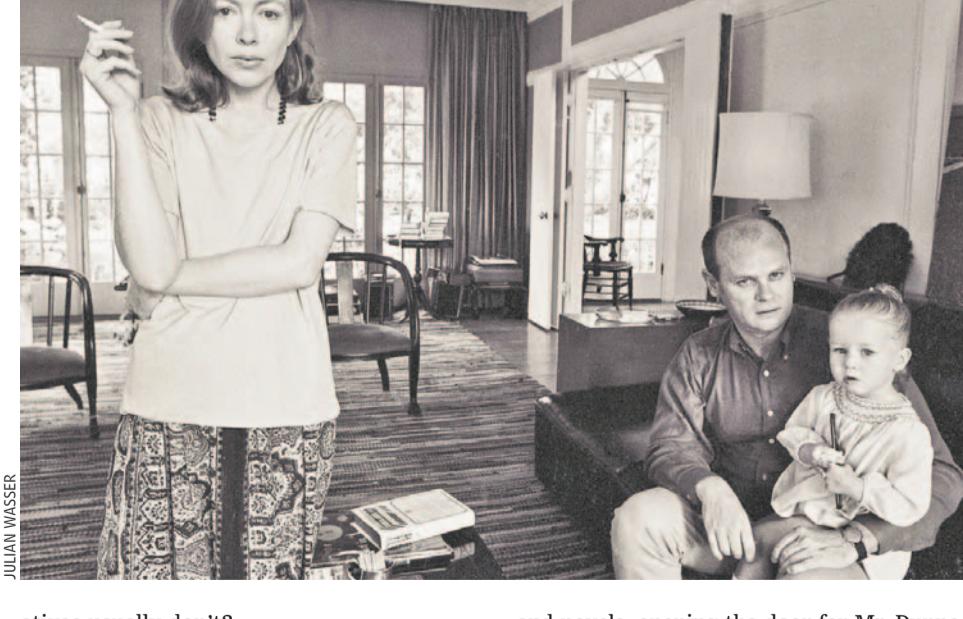
BY CARYN JAMES

IN AN ARRESTING SCENE from the new documentary "Joan Didion: The Center Will Not Hold," the writer discusses her grown daughter, Quintana, who suffered a brain injury when she fell at the Los Angeles airport, and died nearly two years later. "I hate to say, I encouraged her to go to Los Angeles because I thought it would be good for her," Ms. Didion says, then pauses and stares into space with an anguished expression.

"This is where being a family member and a filmmaker is incredibly confusing," says the documentary's director, Griffin Dunne, Ms. Didion's nephew. "She knew what she was signing on for, and I think she would have lost respect for me if I didn't go into all the painful stuff."

The New York Film Festival next week will feature Mr. Dunne's documentary as well as "Arthur Miller: Writer" by the playwright's daughter Rebecca Miller. They are the latest in a spate of films about famous people made by close relatives. Jacob Bernstein chronicled the life and work of his mother, Nora Ephron, in "Everything is Copy" (2015). Nathaniel Kahn's "My Architect," released in 2003, pieced together the truth about his father, Louis Kahn, who simultaneously had families with three women.

Documentaries by family members come with the built-in advantages of access and longstanding trust. But for experienced filmmakers, they raise creative questions: How to balance personal knowledge with a more objective narrative? How to approach delicate personal issues and cross lines that rel-



JULIAN WASER

Joan Didion with her husband John Gregory Dunne and their daughter Quintana in 1968.

"Arthur Miller: Writer" morphed from a daughter's entirely personal portrait into a movie about how Mr. Miller's life could illuminate his plays. To document her famous father, Ms. Miller started filming him in the mid-1990's because the man she saw in interviews "seemed like a different person," she says. "I thought nobody's ever going to know what he was like. I started taking snippets of things," without any plan beyond putting it in a vault. The film will run on HBO in March.

After she made her first film, "Angela" (1995) Ms. Miller saw the snippets of her father as a possible documentary and began recording other family members. She kept filming sporadically, but the project languished even after Arthur Miller died, in 2005.

Five years ago, "it began to weigh on me that I didn't know where a lot of the film even was," Ms. Miller says. She pulled together more than 200 hours of material.

Ms. Miller's mother was the photographer Inge Morath, Arthur Miller's third wife. To make the film, Ms. Miller had to examine intimate details of his earlier years. "That's what the weirdest part of it was," she says. "I'd think: It's unseemly for me to be in certain places," such as looking back at her father's meeting in a hotel room with Marilyn Monroe, who became his second wife.

She says in the film that her father was "funny, cuddly, jokey," seen sitting in a kitchen chair, letting his daughter cut his hair. But she is aware of his flaws. In an interview with her half-brother, Bob, she asks: "Do you think Dad had a weak spot for being adored?" He replies, "Yes."

atives usually don't? Mr. Dunne says of his aunt, who is now 82 years old: "When I was growing up, I was aware that she was a serious writer, chronicling the darkest aspects of society, but to me she laughed all the time." Talking to her nephew on screen, she often beams with affection, a quality at odds with her cerebral public image. Mr. Dunne knew he was in a unique position to capture her warmth, "which was what I most wanted to convey," he says. The film premieres on Netflix on Oct. 27.

Ms. Didion mined her life for her essays

OPINION

REVIEW & OUTLOOK

Trump and the Fed

Donald Trump has thrown more than one curve ball since becoming President, but his looming choice to run the Federal Reserve Board could be his biggest bender to date. He may choose a Fed Chairman who represents the monetary policies that have favored the affluent and done little or nothing for the real economy.

Mr. Trump is considering a mix of insider and outsider candidates. The insiders include current Chair Janet Yellen, whose term expires early next year, and five-year Fed board veteran Jerome "Jay" Powell. The outsiders include Kevin Warsh, a Fed Governor during the financial crisis, and John Taylor, the distinguished Stanford monetary economist. Mr. Trump should know what these choices mean for monetary policy, which as George W. Bush learned can destroy an economic legacy.

* * *

Ms. Yellen and Mr. Powell represent the monetary policies that have prevailed since the 2008 financial panic—and whose consequences Mr. Trump campaigned against. These include bond-buying to drive investors into riskier assets like stocks and junk bonds. This was helpful in the gale of the 2008-2009 panic but has been counterproductive as time has gone on.

The affluent who hold financial assets have done very well as stock prices have climbed. But this financial engineering hasn't helped the overall economy, which has stumbled along at 2% growth. This has exacerbated income inequality, and slow wage gains are one reason so many working-class voters turned to Mr. Trump in 2016. Why would the President want to embrace that policy now?

Mr. Trump may like that the Yellen-Powell Fed has kept interest rates low, but he shouldn't think that will continue. The Fed staff and current board majority believe the economy is already near full employment and can't grow much faster without triggering inflation. They believe the economy suffers from "secular stagnation" that limits growth.

But Mr. Trump is counting on tax reform and deregulation to boost growth to 3% a year from 2%. If that growth happens, the Yellen-Powell Fed may believe it has to raise rates rapidly, endangering faster growth. Guess whose policies will be blamed? Not the Fed's.

This is why the old "hawk vs. dove" monetary debate isn't all that relevant at the current moment. Outsiders like Messrs. Warsh and Taylor, or Columbia's Glenn Hubbard, believe that tax reform and deregulation can increase the economy's capacity to grow above 3%. They therefore might raise interest rates more slowly than the Yellen-Powell faction would.

The outsiders think the Fed's main recent mistake has been taking so long to unwind its

Will he embrace the monetary policy that he campaigned against?

\$4.5 trillion balance-sheet holdings. These Fed purchases are a political overhang in the economy that misdirects capital to big companies and government. The great unwinding has now begun but no one knows what economic impact it will have. This is one reason to be cautious about raising rates if inflation remains low.

Mr. Trump might also notice that the same people who hate his tax reform also oppose the outsider Fed candidates. The economic left has been staging its own panic since word broke last week that the President had interviewed Mr. Warsh. Progressives aren't worried Mr. Warsh would raise rates; they're worried he'd support the Trump tax and deregulation agenda.

Another issue is the need for a Fed Chair who can maneuver in a financial crisis. Whatever his talents as a salesman, Treasury Secretary Steven Mnuchin has no experience with turbulent financial markets. Mr. Powell arrived at the Fed after the crisis and hasn't been an intellectual leader on the board. His main market experience is with the Carlyle Group, the private-equity outfit. Ms. Yellen was president of the San Francisco Fed during the panic but wasn't one of the Fed's leaders at the time.

By contrast, Mr. Warsh was part of former Fed Chairman Ben Bernanke's inner circle during the worst of the panic. Having worked at Morgan Stanley, he provided crucial insight into the real condition of Wall Street, and well before the panic he told his Fed colleagues that the financial system was vastly undercapitalized.

"I think, most fundamentally, that the business model of investment banks has been threatened, and I suspect the existing business model will not endure through this period," Mr. Warsh told a Fed meeting on March 18, 2008, according to the official transcript. At the same meeting, then Fed Vice Chairman Tim Geithner disagreed: "It is very hard to make the judgment now that the financial system as a whole or the banking system as a whole is undercapitalized." Mr. Warsh was right.

At the Bush Treasury in 2001-02, Mr. Taylor helped to prevent a currency crisis in Latin America after Argentina defaulted on its debt. Both Messrs. Warsh and Taylor also have contacts around the world and know the importance of global exchange rates to financial stability.

All of this would make it a stunner if Mr. Trump bet on the Yellen-Powell Fed for the next four years. It would be comparable to promising as a presidential candidate to nominate someone like Antonin Scalia to the Supreme Court and then nominating a younger version of Ruth Bader Ginsburg. Mr. Trump needs a Fed Chairman who won't be a hostage to the Fed staff or at odds with the President's growth agenda. He needs an outsider who is a reformer.

Evening the Cuban Score

After more than 10 months Cuba still hasn't explained how 22 American diplomats in Havana suddenly came down with brain trauma, permanent hearing loss, dizziness, nausea and cognitive disruption. Experts believe the injuries are a result of mysterious "sonic" attacks, but the police state claims to be clueless.

On Tuesday the State Department responded by giving Havana a list of 15 Cuban diplomats (spies) at the Cuban Embassy in Washington who have seven days to leave the U.S. The decision follows a Friday announcement that State is recalling all nonemergency personnel and their families from the U.S. Embassy in Havana. State also warned Americans against traveling to Cuba since some of the attacks have occurred at hotels.

Havana has to protect U.S. diplomats if it wants good relations.

That means bringing Havana-based staff home, especially since the latest attack occurred as recently as August. State says the expulsion of Cuban personnel from Washington this week is an effort to ensure there "would be an equitable impact in our two embassies' ability to operate."

The ruling Castro regime wants to be a respected member of the civilized world, but it first has to be civilized.

Supreme Court 'Gobbledygook'

The Supreme Court debated the legality of partisan gerrymanders on Tuesday, with swing Justice Anthony Kennedy giving few clues about his vote in *Gill v. Whitford*. But for our money, the key exchange came in Chief Justice John Roberts' questioning of Paul Smith, the lawyer for plaintiffs who say Wisconsin's gerrymander is so partisan that it violates the Constitution.

The Chief zeroed in on risks for the credibility of the judiciary if the Supreme Court invalidates a state electoral map on purely political grounds for the first time. His reference to EG is to a political science standard offered by the plaintiffs as a test of when an electoral map is too partisan.

Chief Justice Roberts: "We will have to decide in every case whether the Democrats win or the Republicans win. So it's going to be a problem here across the board."

And if you're the intelligent man on the street and the Court issues a decision, and let's say the Democrats win, and that person will say: Well, why did the Democrats win? And the answer is going to be because EG [the efficiency gap] was greater than 7%, where EG is the sigma of party X wasted votes minus the sigma of party Y wasted votes over the sigma of party X votes plus party Y votes.

And the intelligent man on the street is going to say that's a bunch of baloney. It must be because the Supreme Court preferred the Democrats over the Republicans. And that's going to

come out one case after another as these cases are brought in every state.

And that is going to cause very serious harm to the status and integrity of the decisions of this Court in the eyes of the country."

Mr. Smith: "Your Honor—"

Chief Justice: "It is just not, it seems, a palatable answer to

say the ruling was based on the fact that EG was greater than 7%. That doesn't sound like language in the Constitution...."

Mr. Smith: "If you let this go, if you say this is—we're not going to have a judicial remedy for this problem, in 2020, you're going to have a festival of copycat gerrymandering the likes of which this country has never seen."

And it may be that you can protect the Court from seeming political, but the country is going to lose faith in democracy big time because voters are going to be like—everywhere are going to be like the voters in Wisconsin and, no, it really doesn't matter whether I vote."

Chief Justice: "No, but you're going to take this—the whole point is you're taking these issues away from democracy and you're throwing them into the courts pursuant to, and it may be simply my educational background, but I can only describe as sociological gobbledegook."

Gerrymanders are unsightly, but worse would be the sight of federal judges becoming political arbiters of every electoral map based on evidence that voters are likely to conclude is itself partisan.

LETTERS TO THE EDITOR

There's Little Remedy in Remedial Education

I am dismayed to read "Colleges Rethink Remedial Education" (U.S. News, Sept. 28). I am a beneficiary of remedial college classes that took a lazy, unprepared 18-year-old kid and taught him how to be an active and analytical thinker. In my case, these courses were transformative. I ultimately earned a Ph.D. in economics from one Ivy League school, and today I am an economist at one of the world's leading policy institutions. The simple reality is that many teens simply aren't mature enough or don't have enough of a support structure to make the right choices early in their lives.

Many of these kids are bright and gifted people who can make a difference in the world if they are provided with a second chance. Among the things that make our country great are that one's life path isn't determined by birthright and that people have multiple opportunities to make the right choices. An overly rigid and hierarchical educational system that identifies winners and losers at the age of 18 moves us far too close to a world in which one's fate is all but determined before a person has the intellectual and emotional capacity to make an informed choice. I wince at the notion that the number of second chances available to young people is getting smaller and not larger. Ultimately, we all pay the price of misaligned human capital.

SEAN CAMPBELL
Clifton, Va.

The world's most expensive high-school education is the one you get from your college. Students who fail basic readiness tests should be sent back to a high school—not necessarily the one from which they got their diplomas—for remedial education. It's dishonorable for colleges to admit

these students just to fill seats and fill coffers. Send them back to high school, and let them enter college only when prepared.

JORDAN ROSENBERG
San Francisco

Reteaching basic skills isn't analogous to an inoculation. It isn't a one-time shot but must be seen as a resetting of lifelong habits, which takes real commitment. Without a solid reading habit, college is impossible. It takes years of reading to become competent. Math skills are essential for every STEM subject. Science and math are a continuum. I have vivid memories of trying to teach college chemistry to a class that was essentially anumeric—numbers were unknown territory to them. I was instantly transported into a fourth-grade teaching mode. These students hadn't incorporated the concept of fractions and couldn't see that 1/4 of something is a smaller amount than 1/2. It isn't necessary to be a math whiz to learn science, but no one can balance a chemical equation without a basic understanding of how much stuff in a reaction are we talking about.

Remediation at the college level is doomed to fail for most students because the work habits essential to sustained learning are all too often absent. People who can accept the idea that endless practice for sports excellence is necessary for proficiency should be able to realize that the same dedication of time and effort is necessary for noncontact pursuits. If people do want to change their lives, there should be a place for them; college isn't that place. This is like learning a new language as an adult, which takes both time and dedication. It cannot fit in the same time slot with a full-time college program or a full-time job.

BARBARA CHARTON
Brooklyn Heights, N.Y.

It Is Like 'Jaws' but ObamaCare Is the Shark

Alan Blinder sounds the alarm that "The Graham-Cassidy Show Is Like 'Jaws'—and You're the Swimmer" (op-ed, Sept. 22), lending credence to

your same-day editorial that "The Panic Over Graham-Cassidy" is an indicator of the left's belated horror that the bill might be passed. Mr. Blinder's "Jaws" metaphor is interesting, given that the bipartisan consensus appears to be that we all now are standing on a sinking ObamaCare ship. As your editorial notes, Democrats already are salivating over a single-payer, Medicare-for-all rescue at sea; a last-minute GOP course change away from ObamaCare wreckage would be devastating to that goal.

Mr. Blinder says that "you" will be sadly mistaken if you thought it was safe to go in the health-care waters and a resurrected Graham-Cassidy suddenly passes. Mr. Blinder's "you" obviously means the readers of the Journal.

The majority of readers, however, are likely to be taxpayers, and the majority of taxpayers are likely to have private health insurance. Private insurance premiums are rising already, as the insurance industry tries to make up for low profit margins or losses on ObamaCare policies. At the same time, health-care costs are rising as health-service providers try to make up for price squeezing by Medicaid and Medicare. When health-care providers and insurers are squeezed, taxpayers even

tually end up in the jaws of Washington.

ALAN JONES
Atlanta

Prof. Blinder is half right. I am the swimmer. What he misses is that he and the rest of the ObamaCare supporters are the shark.

I am a healthy 60-year-old who is now paying \$12,000 a year for insurance before I ever visit a doctor. I would go without health insurance, but the law Mr. Blinder supports makes that a finable offense.

PAT ASCIONE
Wayne, N.J.

I thought the repeal and replacement of ObamaCare was a major point of the last election.

MAX HENSLEY
San Antonio

Overregulation Is the Main Block to Affordable Housing

Granger MacDonald of the National Association of Home Builders (Letters, Sept. 22) responds to a Sept. 19 editorial that suggests "Kill the Loopholes, Including the One for 'Low-Income Housing.'" His argument that zoning and regulatory reform itself cannot sufficiently reduce the costs required to provide feasible rents tears a hole in the laws of supply and demand. In what universe does the concept that if you build more of it, it will become cheaper, not apply? Only in the trough-filled regulatory morass of government agency. Building anything where people want to live has become a nightmare because of government.

Let the builders and would-be homeowners build. This thinking that "people are the problem" has led to a massive failure of our government to make our infrastructure work. In all my years in construction I've met a lot of builders slogging through the swamp for a permit, but not one looking for a subsidy.

J. GREGG
Larkspur, Calif.

Pepper ... And Salt

THE WALL STREET JOURNAL



"Everything from our kitchen is hunted and gathered."

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

OPINION

The Health Reform That Hasn't Been Tried

By Scott Atlas

Republicans have now failed twice to repeal and replace ObamaCare. But their whole focus has been wrong. The debate centered, like ObamaCare, on the number of people with health insurance. A more direct path to broadening access would be to reduce the cost of care. This means creating market conditions long proven to bring down prices while improving quality—empowering consumers to seek value, increasing the supply of care, and stimulating competition.

First, equip consumers to consider prices. Critics always claim this is unrealistic: Are you supposed to shop around from the back of the ambulance? But emergency care represents only 6% of health expenditures. For privately insured adults under 65, almost 60% of spending is on elective

ObamaCare subsidizes bloated insurance policies. Republicans should try a whole new approach.

outpatient care. Likewise, nearly 60% of Medicaid money goes to outpatient care. For the top 1% of spenders—a group responsible for more than a quarter of all health expenditures—a full 45% is outpatient. Giving consumers an incentive to consider price when seeking such care would make a huge difference.

ObamaCare moved in the opposite direction, shielding consumers from having to care about prices. Its broad coverage requirements and misguided subsidies encouraged bloated insurance policies, furthering the misguided idea that the purpose of coverage is to minimize out-of-pocket costs. When the insurer picks up nearly the entire tab, patients

have little reason to consider costs, and doctors don't need to compete on price.

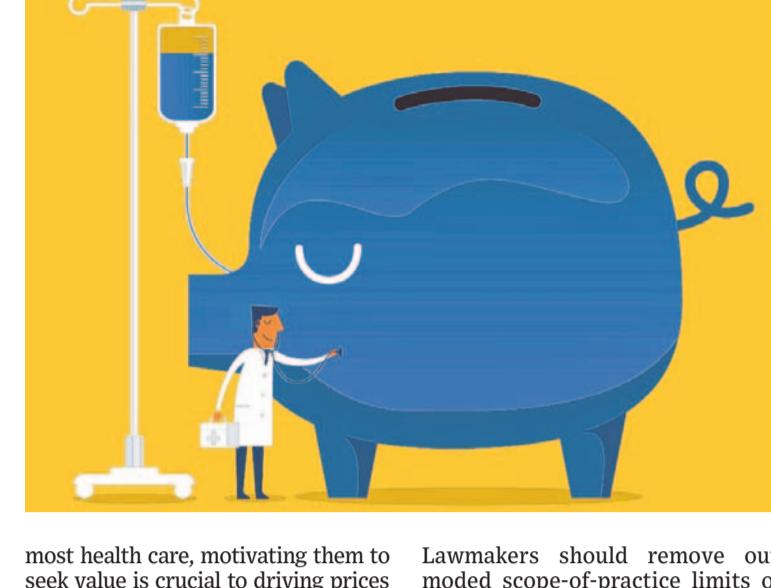
Effective reform would put patients in charge of their own spending, while giving them a way to gain from paying less. The first step is to broaden the availability of high-deductible insurance plans with fewer mandated coverage requirements. ObamaCare went in the wrong direction. Its regulations—including required “essential benefits”—raised prices on these plans and limited their availability.

My analysis of data from the Employer Health Benefits Annual Survey shows that premiums on high-deductible policies rose between two and five times as fast as other types of coverage. It would also help to repeal ObamaCare's 3-to-1 age rating, the rule that insurers can charge the oldest customers only three times what they charge the youngest ones. This alone raised premiums for young people by 19% to 35% in 2014, according to an estimate for America's Health Insurance Plans.

A second tool for motivating patients to consider price is large, liberalized health savings accounts. These tax-sheltered accounts are generally used to pay for the noncatastrophic expenses that form the bulk of medical care. Better than tax deductions, HSAs introduce something unique—an incentive to save.

When people have savings to protect in HSAs, the cost of care drops without harmful effects on health. A study two years ago that analyzed data from 2003-07 showed that the spending of patients with HSAs and high-deductible plans decreased by 15% a year. If even half of Americans with employer-sponsored insurance enrolled in this kind of coverage, U.S. health expenditures would fall by an estimated \$57 billion a year, according to a 2012 study in *Health Affairs*.

HSAs should be available to all Americans, including seniors on Medicare. Given that seniors use the



GETTY IMAGES

most health care, motivating them to seek value is crucial to driving prices lower. Life expectancy from age 65 has increased by 25% since 1972, meaning Americans need to save for decades of future health care. Raising maximum HSA contributions, now \$3,400 a year for an individual, to at least match the limit on individual retirement accounts of \$5,500 a year, is one important step. When a person with an HSA dies, the funds should be allowed to roll over tax-free to surviving family members. HSA payments should also be permitted for the expenses of the account holder's elderly parents.

The information that patients require to assess value must be made radically more visible. A 2014 study on magnetic resonance imaging showed that price-transparency programs reduced costs by 18.7%. The most compelling motivation for doctors and hospitals to post rates would be knowing that they are competing for price-conscious patients empowered with control of their own money.

Second, work strategically to increase the supply of medical services to stimulate competition. In large part, this means deregulation.

Lawmakers should remove outmoded scope-of-practice limits on qualified nurse practitioners and physician assistants. That would enable them to staff private clinics that would provide cheaper primary care, including vaccinations, blood-pressure checks, and common prescriptions. In a 2011 review, 88% of visits to retail clinics involved simple care, which was provided 30% to 40% cheaper than at a physician's office, while keeping patients highly satisfied.

Medical credentialing should be simplified, and the licensing boards should institute reciprocal (national) licensing for doctors to help telemedicine proliferate across state lines. Medical school graduation numbers have stagnated for almost 40 years. Some projections suggest a shortage of 124,000 doctors by 2025, with almost two-thirds being specialists. Yet medical societies artificially restrict competition by imposing protectionist residency limits that raise prices and harm consumers.

Archaic barriers to medical technology also impede competition and raise prices. Although originally intended to restrain “health care facility

costs,” certificate-of-need requirements, which require health-care providers to get permission from the state to add medical technology like MRI scanners, are an example of bureaucratic overregulation. Despite unintended consequences, they are still in place in 34 states, Puerto Rico and the District of Columbia.

Third, introduce the right incentives into the tax code. Today employees aren't taxed on the value of their health benefits—and there is no limit to that exclusion. This creates harmful, counterproductive incentives. It encourages higher demand for care and minimizes concerns about cost.

Similarly, ObamaCare's premium subsidies and the tax credits proposed by Republicans artificially prop up high insurance premiums for bloated coverage that minimizes out-of-pocket payments. This prevents patients from caring about the bill, which reduces the incentives for doctors and hospitals to compete on price. If health-care deductions are maintained, the tax code should cap them and limit eligibility to HSA contributions and catastrophic premiums.

In other countries, governments hold down costs mainly by limiting access to care, drugs and technology. The results are long waits and worse medical outcomes, particularly for the poor and middle class, who are unable to circumvent those single-payer systems. If Republicans want to avoid going down that road, they need to educate the public on the benefits of a different approach: leveraging incentives and deregulation to reduce prices so that quality health care is affordable for all Americans.

Mr. Atlas is a senior fellow at Stanford's Hoover Institution and author of “Restoring Quality Health Care: A Six Point Plan for Comprehensive Reform at Lower Cost” (Hoover Press, 2016).

'Price Gouging' After a Disaster Is Good for the Public

By Donald J. Boudreaux

As Hurricane Maria barreled toward Puerto Rico, Sen. Bill Nelson worried that ticket prices for flights out of San Juan and other Caribbean cities would surge. The higher costs would prevent some people from fleeing the storm, the Florida Democrat figured. Using his influence as head of the Senate committee that oversees airlines, he urged major U.S. airlines to cap fares for flights leaving cities in Maria's path.

Airlines quickly complied. Mr. Nelson's office declared victory. Economists wept.

That's because high prices are an essential way to ensure that resources get where they are desperately needed. Imposing artificially low prices creates shortages of vital supplies and makes it harder for people to recover from disasters.

Consider gasoline. In Orlando, Fla., a gallon of regular was selling for as much as \$5.99 in the days before Hurricane Irma made landfall, and a 24-pack of bottled water was spotted selling for \$99.99 from a third-party vendor on Amazon.

The impulse to denounce the greed reflected in such prices is human. But price hikes are a response to scarcity, and signals that reveal the true severity of scarcity are critical during storms and other crises. Price hikes let consumers know that fuel is scarcer than it was. Price hikes prompt consumers to use fuel more judiciously, buying less gasoline than they would at a lower price. They take fewer unnecessary trips, diminishing pressure on supplies. Price hikes also create a financial incentive for suppliers from outside the area to move their product into high-demand zones. As supplies return to normal, so do prices.

Unfortunately, some politicians can't restrain themselves from intervening to stop prices from rising.

Florida merchants are fined \$1,000 for price-gouging during emergencies. Multiple violations in a single day can draw fines as high as \$25,000. Members of the House Judiciary Committee recently asked the Federal Trade Commission to investigate “disaster profiteers” who exploited hurricane victims with price gouging.

If government prohibits suppliers from charging more, consumers hoard, exacerbating shortages.

Yet politicians who suppress prices make it more difficult for storm victims to get much-needed supplies. Artificially low gasoline prices ensure that limited supplies are depleted too quickly, as consumers hoard cheap fuel while they can get it. When price controls on

gasoline kicked in with the 1973 OPEC oil embargo, consumers increased the average “reserve” level in their gas tanks. Six years later they began hoarding again when price controls came back after Iran's 1979 revolution.

The behavior was rational, but only because U.S. policy makers created panic and artificial shortages. During both crises, global oil supply hardly decreased. But Americans wasted hours in long lines and filled their tanks with gas they didn't necessarily need.

Wasted time has real costs. In 1980 a regulatory quirk forced a handful of California Chevron stations to sell gasoline at below-market prices. Long lines formed, consumers purchased more gas than they otherwise would have, and stations had to ration supplies.

Most of the consumers taking advantage of artificially low prices would have been better off doing just about anything else. In a 1985 study, economists Robert Deacon

and Ron Sonstelie concluded that those who waited in line for 15 minutes saved only about \$2—less than the average nonsupervisory employee would have earned in a quarter-hour at the time.

History proves that artificially low prices reduce supply, too. As New Year's revelers in New York City welcomed 2015, Uber's surge-pricing algorithm stopped working for nearly 30 minutes. Without the guarantee of extra pay, drivers had little incentive to brave New Year's traffic. Requests spiked 300%, wait times doubled, and the rate of completed trips fell 80%. People who really needed Ubers—and would have been willing to pay surge pricing—couldn't get a ride.

A similar situation unfolded in Florida last month when JetBlue, Delta and American voluntarily restrained ticket prices on flights out of Florida before the hurricane.

By dropping prices during the evacuation, the airlines ensured that flights filled up more quickly, making it harder for many to escape. Some evacuees no doubt booked multiple low-cost flights after prices dropped as a hedge against cancellation. Paying a premium for airline tickets is unpleasant, but letting seats go to waste during an evacuation is tragic.

Price increases are an important means of encouraging as many people as possible to cope as well and as creatively as possible with natural disasters. True, the rising price of goods like gasoline can create problems for consumers, particularly the poor. But these drawbacks are negligible compared to the life-threatening shortages that can result when ill-informed public outrage keeps prices artificially low.

Even a poor person is better off being able to buy a bottle of water for \$10 when the alternative is to have \$10 and go thirsty.

Mr. Boudreaux is a professor of economics at George Mason University.

Bangladesh and the Rohingya Refugees

By Sadanand Dhume

Few people would have predicted a year ago that the face of compassion in an Asian refugee crisis would be not Aung San Suu Kyi, the soft-spoken Nobel laureate from Burma, but her little-known neighbor, Prime Minister Sheikh Hasina of Bangladesh.

Since the end of August, some 500,000 Rohingya Muslims fleeing persecution in Burma's Rakhine state have flooded makeshift refugee camps in Bangladesh. Many have shared blood-curdling tales of violence by Burma's military—at times aided by local vigilante groups—that followed an Aug. 25 attack by Rohingya militants on border posts.

The United Nations human-rights chief calls the actions of Burma, also known as Myanmar, a “textbook example of ethnic cleansing.” But so far only Bangladesh, one of Asia's most densely populated countries, has opened its borders to the displaced.

In an interview last month in New York to address the U.N. General Assembly, Ms. Hasina explained why the Rohingya crisis has struck a chord with her and many of her compatriots. The prime minister finds parallels with her own nation's blood-drenched birth in 1971, when what was then East Pakistan seceded to form Bangladesh.

“What the Pakistani military did with us, with our people, was the same thing,” Ms. Hasina says. In her telling, this traumatic history—official Bangladeshi accounts say the Pakistani army and its allies killed three million people in their bid to prevent independence—places a responsibility on Bangladesh to help the persecuted. “We know what suffering means,” she says.

Though the Rohingya are Muslims, and Bangladesh is a Muslim-majority country, Ms. Hasina's hospitality doesn't come naturally. Her country holds about half as many people (163 million) as the U.S., in a flood-prone area roughly the size of Iowa. Though it has pulled itself out of extreme poverty—no longer the “basket case” Henry Kissinger dubbed it at birth—with a per capita income of \$1,360, it's not exactly wealthy either.

Moreover, although the Burmese government labels the Rohingya as “Bengalis,” refusing to acknowledge them as one of the nation's ethnic groups, the average Bangladeshi doesn't speak the same language or

feel any particular kinship toward the refugees. In the past, Bangladesh has resisted accepting waves of fleeing Rohingya, working with Burma to repatriate them.

Even now, speedy repatriation, rather than stepped-up aid, is Ms. Hasina's main demand from the rest of the world. “So many countries are coming up with relief materials and are supporting them. What we want from them [the international community] is that they should pressure the Myanmar government. They should take them back.”

Faced with an influx of refugees from Burma, Prime Minister Sheikh Hasina shows compassion.

Though Ms. Suu Kyi is far better known in the West, the two leaders' lives bear striking similarities. Both were born in the turbulent 1940s, during the first flush of independence for many postcolonial Asian nations. Their fathers—Gen. Aung San and Sheikh Mujibur Rahman—are regarded as the founding fathers of their nations. Political rivals assassinated them.

Over the past month, a chorus of condemnation has fallen on Ms. Suu Kyi for largely ignoring the plight of the Rohingya. Fellow Nobel Peace laureate Bishop Desmond Tutu published an open letter calling on the Burmese leader to “intervene in the escalating crisis.” Malala Yousafzai, another Nobel laureate, publicly called on Ms. Suu Kyi to condemn “this tragic and shameful treatment.”

An editorial in this newspaper spoke of “the collapse of the Aung San Suu Kyi myth.” A petition on Change.org to rescind Ms. Suu Kyi's Nobel Peace Prize, awarded in 1991 for her campaign for democracy in Burma, has attracted more than 425,000 signatures.

Despite all this, or perhaps because of it, Ms. Hasina refuses to criticize Ms. Suu Kyi. “Why do you blame only her?” she asks. “Why not the military rulers or the government?” Ms. Hasina says Burma's democracy is “very nascent” and Ms. Suu Kyi is “not the head of the government.”

Having experienced military dictatorship herself, the Bangladeshi leader empathizes with her neighbor's tenuous grip on power. “Yes, she may have shown more sympathy to these people. She should be sympathetic,” she says softly. “But she couldn't do that. Why, I don't know.”

Over the years, Ms. Hasina hasn't endeared herself to the West. This is due in part to her not belonging to her country's Anglophone elite. (She signed a copy of her father's unfinished memoir for this columnist in Bengali.) She's also displayed an autocratic streak, clamping down on free speech and railroading political rivals.

But on the Rohingya issue Ms. Hasina has stood up to be counted while leaders feted in the West—including Narendra Modi in India—have looked the other way. “Bangladesh is not a rich country, but we have a big heart,” says Ms. Hasina. Hundreds of thousands of weary refugees would agree.

Mr. Dhume is a resident fellow at the American Enterprise Institute, and a columnist for WSJ.com.

THE WALL STREET JOURNAL.

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BUSINESS & FINANCE

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THE WALL STREET JOURNAL.

Thursday, October 5, 2017 | B1

Yen vs. Dollar 112.9020 ▲ 0.05%

Hang Seng 28379.18 ▲ 0.73%

Gold 1273.30 ▲ 0.14%

WTI crude 50.45 ▲ 0.06%

10-Year JGB yield 0.057%

10-Year Treasury yield 2.342%

Spanish Markets Continue Slide

Stocks, bonds suffer further weakness as Catalan independence vote rattles investors

By CHRISTOPHER WHITTALL

Spanish shares and bonds sold off for a third consecutive day Wednesday amid concern the political crisis spurred by Catalonia's independence vote could escalate.

Spain's IBEX 35 slid 2.9% to 9964.90, posting its largest percentage decline in more than a year. The yield spread between 10-year Spanish government bonds and ultra-safe German debt reached its highest level since just after the first round of the French elections in April, when concerns

that anti-euro candidate Marine Le Pen could win the French presidency prompted investors to sell riskier Euro-zone bonds.

Now, Catalan banks are shouldering the brunt of the selling, with shares in Banco Sabadell SA and CaixaBank SA down by more than 5%.

Still, the turmoil in the eurozone's fourth-biggest economy has yet to significantly dent the region's debt markets, a fact that some investors attribute to the European Central Bank's €2.3 trillion (\$2.7 trillion) bond-buying program.

Catalonia's leaders say they may announce independence from Spain following Sunday's referendum, which showed a majority of voters favor secession but which Ma-



A man carries a Catalan pro-independence 'Estelada' flag.

drid has deemed illegal and many voters boycotted.

Wednesday's intensified selloff came after the king of Spain accused Catalan's leaders of pushing the country toward a constitutional crisis Tuesday. On the same day,

hundreds of thousands of Catalans protested against the actions of Spanish police around the referendum, which left nearly 900 injured, according to regional authorities.

Many believe Madrid and Catalonia will ultimately reach

a compromise that stops short of full independence. However, the increased uncertainty has prompted some investors to avoid risks. "There's an awful lot of uncertainty and there's a lot of moving parts," said Kevin O'Nolan, a multiasset portfolio manager at Fidelity International.

The IBEX 35 is down 3.5% this week, compared with a 0.4% gain for the pan-European Stoxx Europe 600. Every stock in Spain's equity benchmark was down Wednesday. The yield on Catalan bonds maturing in 2018 rose to 2.98% Wednesday, up from 2.455% Friday and a recent closing low of 1.065% in May. Yields rise as prices fall.

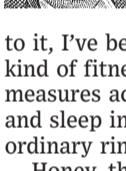
—Riva Gold

contributed to this article.

PERSONAL TECHNOLOGY

By Geoffrey A. Fowler

Track Your Fitness Using Just One Finger



I'm giving fitness the finger.

No, not that finger. On the one next to it, I've been testing a new kind of fitness gadget that measures activity, heart rate and sleep in the shape of an ordinary ring.

Honey, they shrunk the Fitbit. The \$200 Motiv Ring (not actually made by Fitbit) packs a ton of sensors into a band as thick as four stacked nickels. It runs for three days on a charge. This thing's an engineering marvel, but that isn't why you should care. The Motiv Ring is the first wearable tech that just blends in.

Since the arrival of the Apple Watch, wrist wearables and trackers have advanced to about a 6 on the handsomeness scale. Yet plenty of people still don't want to strap anything on their wrists. Shrinking fitness tracking down to a ring opens wearables to a wider audience. You can just leave the Motiv Ring on—for days at a time—without fuss.

Motiv isn't the first "smart" ring; competitors such as Oura and the Ringly also track fitness. Yet unlike its competitors, the San Francisco startup's Ring doesn't look like costume jewelry. Motiv wants to serve both men and women; as a guy, I can report that most friends didn't notice I was wearing the ring, much less a tiny computer. Made from slate-gray or rose-gold titanium, it's only a tad thicker than my wedding band, though it feels conspicuously lighter. There are no buttons; the waterproof device's sole light rarely glows, just to signal it's charging or syncing wirelessly.

Miniaturization does mean some compromises. Unlike a wrist wearable, you have to be careful to get the right ring size. Even then, serious athletes won't find it accurate enough for training. And since the Ring has no screen, you can't just glance down for fitness info. It's on you to go into Motiv's app to check progress (or lack thereof).

Motiv overcomes some of those problems by focusing the Ring on a single, useful purpose: getting you moving often enough to strengthen your heart.

How does the Motiv Ring extract useful body data from your finger? It isn't as crazy as it sounds: Fingers are packed with blood ves-

Please see FOWLER page B4

Visionary Equipment Takes Shape



Apple executive Philip Schiller at last month's unveiling of the iPhone X, which uses facial-recognition software for unlocking.

By TED GREENWALD

Chip companies are adding greater smarts to cameras, spurring a new generation of equipment that not only captures imagery but interprets and acts on what it sees.

Such advances in computer vision—the ability to extract information from images—can enable, say, a network of security cameras to track a package's movement. Or, in the case of Apple Inc.'s newly unveiled iPhone X, unlock a smartphone by recognizing a person's face.

Alphabet Inc.'s Nest Labs in September announced a doorbell equipped with a Qualcomm Inc. chip, a video camera and facial-recognition software that can send an alert to a Nest mobile app if it sees a familiar face.

The market for computer-

vision systems is nascent, poised to expand from roughly \$1 billion last year to \$2.6 billion in 2021, according to International Data Corp. Emerging products such as autonomous vehicles and personal robots portend continuing growth, and Intel Corp., Qualcomm and other chip makers are jockeying to supply the brains to new machines.

"These [applications] are edging into viability," said IDC analyst Michael Palma. "Maybe not mass viability, but very, very close."

Blue River Technology, a Silicon Valley startup acquired for \$305 million last month by Deere & Co., is using computer vision powered by Nvidia Corp. to help lettuce farmers boost productivity and reduce or reallocate labor costs.

Farmers tend to plant lettuce seeds densely and then



Nest Labs' video doorbell

thin the overcrowded sprouts using hoes, a time-consuming operation.

Blue River's See & Spray, a rig that hitches to the back of a tractor, uses as many as two dozen cameras, each equipped

with an Nvidia computer called Jetson, to identify individual sprouts and evaluate their distance from neighbors with quarter-inch accuracy. Those too close together get doused automatically with a precisely aimed shot of fertilizer, enough to kill an individual plant even as it nourishes the field—no manual labor required.

See & Spray can typically thin an acre of lettuce in 12 minutes, work that would take a person eight hours, according to Richard Smith, a specialist in vegetable crop production from the University of California, Davis.

Blue River claims the machine can increase yields by 10%. Deere plans to extend the technology to other crops as part of its effort to shift agriculture from tending fields to nurturing individual plants.

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Cryptocurrencies Pitched in China's Shadows

By CHUIN-WEI YAP

An Uncertain Future

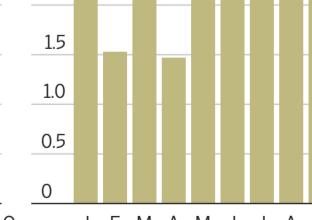
China's crackdown on cryptocurrency trading has clouded a rally in bitcoin markets.

Bitcoin price*



* Through Oct. 4
Sources: CoinDesk (price); Bitcoinity (volume)

Bitcoin trading volume



THE WALL STREET JOURNAL.

venues for digital currencies, clandestine sales pitches seeking as much as \$100,000 per investor are taking place out of regulators' sight, according to investors and traders. Some of the activity that used to take place on widely accessible online platforms is shifting to

low-profile offices and online messaging services, as digital-currency promoters and investors try to get around the new curbs.

At a cryptocurrency conference in Hong Kong in September, participants discussed ways in which trading in bit-

coin and other digital currencies could continue despite China's crackdown. "You can close the exchanges, but you can't shut off the demand for such investment products," said Leon Liu, chief executive of Bitkan, a bitcoin-trading firm in Shenzhen. "The government doesn't have any way of policing offline sales" of cryptocurrencies, he added. Mr. Liu said Bitkan doesn't pitch digital-currency investments that could be illegal.

Hawked in some cases as fail-safe investments, virtual currencies rode China's swift digitization of its financial system in recent years. Concerns over irrational exuberance grew after individuals began piling into digital-currency investment programs that Chinese police said in some instances resembled pyramid schemes. Groups of investors were at times lured to seminars at secret venues that

Please see PITCHES page B2

◆ A primer on the initial coin offering..... B8

Wanda's Oscar Dream Is Fading

The calls started going out last year. Wang Jianlin, the Chinese billionaire on a Hollywood spending spree, wanted to win an Oscar. Who could help?

The quest was led by former Academy of Motion Picture Arts and Sciences president Hawk Koch, who along with other representatives of Mr.

By Wayne Ma in Beijing and Erich Schwartzel in Los Angeles

Wang's Dalian Wanda Group approached studios across Hollywood in search of prestige projects, according to people familiar with the situation.

The effort initially focused on partnerships with boutique studios known for mining Oscar gold, including Weinstein Co., Fox Searchlight and Sony Pictures Classics, the people said. Eventually, it led to the creation of "the O Project"—O as in Oscar—to establish a film division within Wanda to produce awards-caliber movies, they said.

Those Oscar dreams have now been sidelined after Wanda came under fire from the Chinese government for

Chinese officials were displeased with the company's costly overseas acquisitions.

spending money on costly overseas acquisitions, a move at odds with China's efforts to rein in capital outflows, people close to the matter said. President Xi Jinping in June approved a decision barring state-owned banks from making loans to Mr. Wang's company, underscoring the government's displeasure.

An unlikely victim of the clampdown, these people said, is Mr. Wang's best shot yet at an Oscar. Mr. Wang backed away from plans to finance 50% of "Arc of Justice," a film set to star Russell Crowe and David Oyelowo, because it would have meant seeking regulatory approval to move money out of China. The film's expected budget was \$12.5 million.

The abandoned Oscar campaign illuminates the rise and fall of Mr. Wang's Hollywood ambitions. After making a fortune in Chinese real-estate development, Mr. Wang spent billions of dollars to acquire theater chain AMC Entertainment Holdings Inc. and block-

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PepsiCo Health Push Hurts Soda Brands

By JENNIFER MALONEY

PepsiCo Inc., attempting to diversify its beverage portfolio with less sugary drinks, shifted too much shelf space and marketing money away from its main soda brands in the third quarter, causing a drop in North American sales, company executives said.

The Purchase, N.Y., company's North American beverage unit posted weaker-than-expected results, with sales down 3%, to \$5.3 billion, and profit falling 10%.

PepsiCo this year moved resources away from its namesake cola and Mountain Dew toward new products such as its premium bottled-water brand, LIFEWTR, and a sparkling lemonade called Lemon Lemon, finance chief Hugh Johnston said in an interview Wednesday.

But those brands weren't big enough to compensate for the resulting drop in market share for Pepsi and Mountain Dew. Gatorade sales also fell, hurt by weak convenience-store sales and cooler weather compared with the previous two summers.

"We're on a multiyear journey to move people to healthier products, to lower-calorie options," Mr. Johnston said. "You're always sort of managing your pacing. How quickly will consumers change their

habits?"

He added: "We just got ahead of our skis a little bit."

The company's namesake colas, including Diet Pepsi and other Pepsi-branded sodas, accounted for 12% of its revenue in 2016.

PepsiCo aims by 2025 for two-thirds of its global beverage portfolio volumes to contain fewer than 100 calories from added sugar per 12-ounce serving. Currently, 40% of its beverage volumes meet that standard.

In the third quarter, PepsiCo's beverage volumes fell 6% in North America and 1% globally.

Chief Executive Indra Nooyi called the North American beverage results "a toe stub" and said the company has made "a few course corrections," reallocating shelf space and marketing spending back to Pepsi and Mountain Dew.

"We have a good handle on what happened," she said during a conference call with analysts, adding that she expects the North American beverage business to return to growth.

Overall, PepsiCo's net income rose 8%, to \$2.14 billion, up from \$1.99 billion a year earlier. Revenue inched up 1%, to \$16.24 billion.

PepsiCo shares rose 0.6%, to \$109.78, in midday trading.



The company's North American beverage-unit sales fell 3%.

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BUSINESS & FINANCE

Ford Makes Big Truck Bet

Auto maker to focus on high-growth areas, slash costs and source small cars from China

By MIKE COLIAS

Ford Motor Co. will shift about \$7 billion toward the development of more trucks and sport-utility vehicles while "attacking" costs, part of new Chief Executive Jim Hackett's strategic plan for the No. 2 U.S. auto maker.

Mr. Hackett, the former office-furniture executive appointed in May, outlined his strategy to investors and analysts in New York late Tuesday. He emphasized faster action to deploy capital in regions and product lines with solid growth potential while positioning the auto maker for a future of electric vehicles and connected and driverless cars.

Moving capital investment to higher-margin trucks and SUVs is a response to fast-shifting consumer tastes in the U.S. market and abroad, as buyers abandon sedans for vehicles with greater utility and space. Part of the \$7 billion



OLIVER SHEN/BLOOMBERG NEWS

Ford plans to invest more in high-margin trucks like the F series.

capital reallocation includes reintroducing the Ranger pickup truck and Bronco SUV in North America and moving production of the next-generation Focus small car to China.

Ford also said it would shift about one-third of its scheduled investment in gas and diesel engines over the next five years—about \$500 million a year—into cars that run fully or partly on battery power. That will come on top of \$4.5 billion the company is spending over five years to expand its electric-vehicle lineup.

The Dearborn, Mich.-based

auto maker appointed Mr. Hackett to succeed Mark Fields, who was ousted in the spring amid a downturn share price and belief inside and outside the company that the auto maker lacked a clear vision.

The 62-year-old is out to prove to Wall Street that Ford has a plan to take on Tesla Inc. in electric cars and deep-pocketed tech giants like Google's Waymo unit in driverless technology while also fending hard-charging traditional rivals like GM, which many analysts believe has a lead in ad-

vanced technology. Ford is investing \$1 billion in startup Argo AI to develop autonomous-driving technology, which executives said is on track for commercial deployment by 2021.

Mr. Hackett, who emphasized smart design during his long tenure running Michigan-based Steelcase Inc., wants to slash costs by modernizing and simplifying Ford's vehicle lineup, factories and product-development process. The company aims to cut material costs by \$10 billion and engineering costs by another \$4 billion over five years.

Executives said they would move quickly to shore up low-margin or unprofitable parts of the business, as GM has done in recent years by exiting Europe, India and other money-losing markets. Ford Global Markets Chief Jim Farley said the company will be "looking very carefully at the actions we have to take" in South America and Europe, including potential partnerships in those regions.

On its vehicle lineup, Ford plans to "double down" on its F series line of pickup trucks, Mr. Farley said.

OSCAR

Continued from the prior page
buster producer Legendary Entertainment.

Mr. Wang, known to many in his orbit as "the chairman," also wanted Hollywood's ultimate accolade: an Academy Award. "The chairman loves big, shiny things," said one Hollywood producer approached by Wanda. "Buildings, malls, shopping centers, big companies—and an Oscar."

A Wanda representative declined to comment.

Mr. Koch, with decades of experience networking in Hollywood, was key to Wanda's O Project. The 71-year-old producer, whose credits include "Wayne's World" and "Primal Fear," met Mr. Wang when the billionaire visited Los Angeles in March 2013. He was later invited to travel in China with Mr. Wang to consult on the location of a new sound-stage business, Wanda Studios, people familiar with the situation said.

In September 2013, Mr. Koch attended the groundbreaking for the Qingdao sound stages. Wanda brought in a bevy of Hollywood luminaries for the occasion, including actors Leonardo DiCaprio, Nicole Kidman and John Travolta and producer Harvey Weinstein.

Afterward, Mr. Koch was hired as a part-time adviser—drawing a salary of between \$300,000 and \$500,000 a year—to promote Wanda Studios in Hollywood, according to people familiar with the matter.

In pursuit of his Oscar goal, Mr. Wang at first targeted Weinstein Co., known for its success in producing award-winning films. In 2014, Wanda spent \$30 million to fully finance the boxing drama "Southpaw," starring Jake Gyllenhaal. In contract negotiations with the studio, Wanda wanted a guarantee that "Southpaw" would receive an Oscar nomination or else the

Balancing Act

Dalian Wanda Group has spent billions of dollars on entertainment assets...

Year	Company (Location)	Industry	Deal value
2016	Legendary Entertainment (U.S.)	Production	\$3.5 billion
2012	AMC Entertainment Holdings (U.S.)	Theaters	\$2.6
2016	Carmike Cinemas (U.S.)	Theaters	\$11
2017	Nordic Cinema Group (Sweden)	Theaters	\$0.9
2016	Odeon & UCI Cinemas Group (U.K.)	Theaters	\$0.7
2016	Hoyts Cinemas (Australia)	Theaters	\$0.4
2016	Mtime.com (China)	Marketing	\$0.3
2015	Starplex Cinemas (U.S.)	Theaters	\$0.2
2016	Propaganda GEM (U.S.)	Marketing	Not disclosed
2016	Hoolai Games (China)	Videogames	Not disclosed

...but sold its cultural and tourism projects amid government scrutiny.

2017 \$13.4 billion

Note: all deals include debt

Source: the companies

THE WALL STREET JOURNAL.

to pull financing for the film, one person said.

It is unclear what will happen to "Arc of Justice" now. One person said there was "zero possibility" Wanda will nominate in any category.

Mr. Wang later changed tack and decided to bring the projects in-house.

By 2016, he agreed to set up the O Project. Mr. Wang allotted Mr. Koch about \$600,000 to rent office space in Los Angeles, hire assistants and bid on book rights and other intellectual property. Mark Gordon, a producer whose credits include "Saving Private Ryan" and "Grey's Anatomy," was brought on to help develop projects. Mr. Gordon declined to comment.

Mr. Koch soon found a

contender in "Arc of Justice," a

drama based on the 2004 National Book Award winner about a landmark civil-rights trial. Wanda was set to cover half of the movie's \$12.5 million budget in return for an equity stake of about 50%, according to the people.

But when the Chinese government clamped down on companies moving money out of the country, Wanda decided

company would receive a payout, according to people familiar with the matter. Wanda was told the Motion Picture Academy doesn't work that way, the people said. The film wasn't nominated in any category.

Mr. Wang later changed

tack and decided to bring the projects in-house.

By 2016, he agreed to set up

the O Project. Mr. Wang allotted

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and "Grey's Anatomy," was

brought on to help develop

projects. Mr. Gordon declined to comment.

Mr. Koch soon found a

BUSINESS NEWS

Yahoo Hack Swells to 3 Billion Accounts

Company disclosed last year that 2013 hack exposed data of over 1 billion users

BY ROBERT McMILLAN
AND RYAN KNUTSON

A massive data breach at Yahoo in 2013 was far more extensive than previously disclosed, affecting all of its three billion user accounts, new parent company **Verizon Communications** Inc. said on Tuesday.

The figure, which Verizon said was based on new information, is three times the one billion accounts Yahoo said were affected when it first disclosed the breach in December 2016.

The new disclosure, four months after Verizon completed its acquisition of Yahoo, shows that executives are still coming to grips with the extent of the security problem in what was already the largest hacking incident in history by number of user accounts.

A spokesman for Oath, the Verizon unit that now includes Yahoo, said the company determined within the past week that the break-in was much

worse than thought, after it received new information from outside the company. He declined to elaborate on that information. Compromised customer information included usernames, passwords, and in some cases telephone numbers and dates of birth, the spokesman said.

The number of individuals affected by the 2013 attack is smaller than three billion, because some people have multiple accounts across Yahoo's sites, including email, fantasy sports, Tumblr and Flickr, the spokesman said. He said Oath will immediately begin notifying by email users who own the additional roughly two billion accounts. That is expected to take several days, he said.

Victims won't need to take additional action, however, because Yahoo already forced all account holders to reset their passwords after the December 2016 disclosure.

Verizon's chief information security officer, Chandra McMahon, said in a statement that the company is "committed to the highest standards of accountability and transparency" and that Yahoo's cybersecurity team was benefiting from Verizon's "experience

Breaking In

New information about the 2013 Yahoo hack triples the number of accounts affected in the largest data breach in history.

Selected data breaches by number of consumers/user accounts

COMPANY	SIZE OF BREACH	YEAR DISCLOSED
Yahoo*	3 billion	2016-17
Yahoo*	500 million	2016
Equifax	143	2017
Heartland Payment Sys.	130	2009
LinkedIn	117	2016
Sony	100	2011
TJX	90	2007
Anthem	80	2015
J.P. Morgan	76	2014
Target	70 ^b	2013

*Believed to be separate incidents ^bMillions of households ^cInitial disclosure

Source: the companies

THE WALL STREET JOURNAL

and resources."

The disclosure is the latest chapter in a long-running saga that tattered the reputation of a former Silicon Valley icon and continues to spawn problems for its new owner.

It began in September 2016, two months after Verizon agreed to acquire the fallen internet pioneer, with Yahoo first disclosing a separate attack that took place in 2014 and affected 500 million ac-

counts. Yahoo later revealed the larger 2013 incident.

The breaches already have been costly for Yahoo, and lawsuits and a regulatory investigation could add to that.

Verizon agreed to buy it in mid-2016 for \$4.83 billion, but the deal was delayed after Yahoo's disclosure of the two large hacks, plus a third incident in which hackers forged digital files, called cookies, that could have been used to

access 32 million user accounts.

Verizon knocked \$350 million off the deal price as a result of those breaches, ultimately paying \$4.48 billion.

When renegotiating the price, executives at Verizon built into their assumptions that Yahoo's entire user base had been breached, but didn't find the evidence until now, a person familiar with the matter said.

The deal closed in June 2017, and Verizon gave up its right to sue the entity that sold Yahoo, now called Altaba Inc., over any allegations that it had covered up the hacks.

In addition, Yahoo's former Chief Executive, Marissa Mayer, gave up her 2016 cash bonus following the incident and the company's top lawyer, Ronald Bell, resigned after a board review found problems with the company's handling of this and the other breaches.

Ms. Mayer couldn't be reached to comment. In a statement at the time, she said she learned that a "large" amount of user data was stolen in September 2016. Mr. Bell didn't respond to a request to comment.

About 43 consumer class-action lawsuits have been filed

against the company relating to these security incidents, Yahoo said in a May filing with the SEC.

The SEC itself has opened an investigation into whether Yahoo should have reported the two incidents sooner to investors.

The Oath spokesman said the new disclosure won't affect the terms of Verizon's acquisition, in which it agreed to evenly split with Altaba costs and liabilities related to any lawsuits from consumers or partners about the breaches. Altaba retains liability for the SEC investigation and any shareholder lawsuits.

The status of the SEC investigation is unclear. The SEC issued guidance in 2011 that required companies to disclose material information about cybersecurity issues, and legal observers have said the agency has been looking for a case to clarify what type of conduct would warrant an enforcement action. The SEC declined to comment.

In the May SEC filing, Yahoo also said it is "cooperating with federal, state, and foreign governmental officials and agencies seeking information and/or documents" about the incident.

Uber Board Clears Governance Reset

BY GREG BENSINGER

Uber Technologies Inc.'s board unanimously approved a series of corporate changes along with a multibillion-dollar investment from **SoftBank Group** Inc. that are designed to strengthen the ride-hailing company's governance while at the same time curtail former Chief Executive Travis Kalanick's influence.

Among the approved proposals late Tuesday, Uber's 11-person board agreed to revoke certain investors of their supervoting rights, which granted them multiple votes per share, a person familiar with the matter said. The provision effectively limits Mr. Kalanick's power by creating equal voting power among shareholders.

The board also agreed to spread the power on the board by adding as many as six new seats—three independent, one new chairman and two possibly designated for SoftBank, this person said. Uber's board cleared the Japanese company to invest \$1 billion to \$1.25 billion in Uber at last year's valuation of \$68 billion and buy shares at a discount from investors and employees that could total about an additional \$9 billion, this person said.

The SoftBank board seats, which would give Uber a board of 17 directors, are contingent on the Japanese company and a consortium of investors amassing a stake of between 14% to 17% of shares primarily through the purchase of shares from other stockholders at a discount to Uber's earlier \$68 billion valuation.

In a statement, Uber said its

board voted unanimously on the SoftBank investment and governance changes, which "would strengthen its independence and ensure equality among all shareholders."

As part of the measures, Uber's board set a deadline to hold an initial public offering sometime in 2019.

That gives the company and its new CEO, Dara Khosrowshahi, at least 15 months to repair a damaged reputation among customers, drivers and regulators, fix a culture beset by sexual-harassment allegations, fill a number of top-executive roles, resolve a series of prominent lawsuits and improve financial losses that totaled over \$3 billion last year.

But first some board members felt they needed to loosen the grip of Mr. Kalanick, who, since resigning as CEO in June, has remained a divisive force at the company he co-founded in 2009 and built into a ride-hailing powerhouse with operations in more than 70 countries and revenue totaling \$6.5 billion last year.

Some board members and investors privately fretted he has been working to return to the company as chief and said he sabotaged a process to identify a chief operating officer earlier in the year by rejecting candidates.

Mr. Kalanick, reasserted himself on Friday by appointing two new directors to seats he had controlled since last summer. The move gave seats to Xerox Corp. ex-CEO Ursula Burns and ex-CIT Group Inc. CEO John Thain.

In a statement, Mr. Kalanick said the board "came together collaboratively."

Takata Victims Face Compensation Delay

BY MIKE SPECTOR

Victims of **Takata** Corp.'s rupture-prone air bags face additional lag time in receiving roughly \$1 billion in payouts from the Japanese supplier after a court-appointed official encountered delays in the compensation.

The special master overseeing two compensation funds told a U.S. judge on Tuesday he will likely need an extension to a 90-day deadline for establishing procedures for evaluating claims and making payouts.

Eric Green, a Harvard University law professor appointed at the end of July to oversee the compensation funds, said he and a hired team have requested settlement data and other information related to the problematic air bags from auto makers, plaintiffs' lawyers and regulators and will need several weeks to analyze it before

drafting claim forms and developing other procedures.

A Takata spokesman declined to comment.

Takata agreed to pay \$850 million to auto makers shelling recall costs for its defective air bags and \$125 million to consumers harmed or yet to be affected by the safety devices as part of a plea agreement that settled a U.S. criminal case. Takata in February pleaded guilty to criminal wire fraud for providing misleading testing reports to auto makers on air bags installed in millions of vehicles that risk exploding and spraying shrapnel.

The safety problem is linked to numerous deaths and injuries and has forced nearly all auto makers to eventually recall tens of millions of vehicles in the U.S. alone, the largest such campaign in history. Takata, reeling under mounting recall liabilities, filed for bankruptcy protection earlier this year.



EU Commissioner for Competition Margrethe Vestager. The EU ordered Luxembourg to recoup close to \$300 million from Amazon.

EU Pushes Amazon for Back Taxes

BY NATALIA DROZDIK
AND SAM SCHECHNER

BRUSSELS—The European Union on Wednesday upped the stakes in its push to collect taxes from U.S. tech giants, pressing its cases against **Amazon.com** Inc. and **Apple** Inc.

The European Commission, the bloc's antitrust regulator, ordered Luxembourg to recoup €250 million (\$294 million) from Amazon in allegedly unpaid taxes over an eight-year period, which would be one of the largest-ever tax recoveries under EU state-aid rules.

The EU said Luxembourg

billion from Apple in uncollected taxes. The regulator had said Dublin's illegal tax benefits allowed Apple to avoid paying that money, which the government was supposed to recover by early January.

In addition to the Apple decision, the EU is now considering legislative proposals to force large digital companies, such as Google Inc. and **Facebook** Inc., to pay more tax in Europe.

"Companies must pay their fair share of taxes," said EU antitrust chief Margrethe Vestager at a press conference. "Amazon was allowed to pay four times less tax than other local companies subject to the same national tax rules."

"We believe that Amazon did not receive any special treatment from Luxembourg and that we paid tax in full accordance with both Luxembourg and international tax law," an Amazon spokesman said in response. Amazon added that it would consider an appeal.

Luxembourg said it took note of the decision, adding

that Amazon hadn't been granted incompatible aid because it had been taxed in accordance with the tax rules applicable at the time.

Both Amazon and Luxembourg can appeal the decision.

Wednesday's decision concerns a structure Amazon set up in Europe between 2006 and mid-2014, part of a series of transactions known as Project Goldcrest.

Under the plan, the company funneled all of its e-commerce sales in the EU—totaling €61.59 billion between 2006 and 2013, according to Luxembourg corporate filings—through an operating company called Amazon EU Sarl. But that company paid a significant royalty every year to an untaxed Luxembourg-registered parent called Amazon Europe Holding Technologies SCS, reducing the operating company's taxable income.

According to company filings in Luxembourg, the untaxed parent took in €3.39 billion in income "related to royalties from affiliated under-

takings," or "based on agreements with affiliated companies," and reported €1.71 billion in untaxed profit between 2006 and 2013.

The EU says Amazon had improperly inflated the royalty to eat up nearly all of the operating company's profit after expenses such as paying for its merchandise.

The amount of the tax could change depending on the outcome of litigation in the U.S., Ms. Vestager said.

The U.S. Internal Revenue Service had sought as much as \$1.5 billion in additional taxes from Amazon over the same set of transactions, which could reduce its liability in Europe, but a tax court in March sided with Amazon, ruling that the IRS had made arbitrary determinations and abused its discretion in several instances. Ms. Vestager said Wednesday that the IRS was planning to appeal.

An IRS spokesman declined to comment.

—Richard Rubin
in Washington
contributed to this article.

BUSINESS WATCH

FIAT CHRYSLER

SUVs Are Recalled To Repair Brakes

Fiat Chrysler Automobiles NV is recalling 709,837 sport-utility vehicles sold in North America with a potential braking defect stemming from a previous recall three years ago.

The company said Tuesday that the recalled 2011-14 model year Dodge Durango and Jeep Grand Cherokee SUVs might have improperly installed brake-booster shields used to prevent corrosion that could degrade

braking functionality.

Fiat Chrysler said it was aware of one accident that might be linked to the defective brake parts, but no injuries have been reported. The problem stems from a 2014 recall in which the shields were placed in vehicles to protect brake joints from water corrosion.

—Chester Dawson

MATTEL

Toy Maker Names New Financial Chief

Troubled toy maker **Mattel**

Inc. appointed a new financial chief on Tuesday.

The move comes as recently named Chief Executive Margo Georgiadis attempts to turn around a company that has stumbled to keep pace in the digital arena.

Mattel said Joseph Euteneuer, former chief financial officer at **Sprint** Corp., has taken over for financial head Kevin Farr, who spent about 17 years in the role.

Mr. Euteneuer served as Sprint's CFO for a little more than four years, leaving the role in August 2015. He became co-

CEO and CFO for the Americas of Rivada Networks, a Virginia-based spectrum trading company. A company spokesman said Mr. Euteneuer will remain on Rivada's board.

Mattel posted a net loss of \$56.1 million for the three months ended June 30, a steeper loss than the \$19.1 million the company lost in the 2016 period.

Ms. Georgiadis, a former executive for **Alphabet** Inc.'s Google, has been with Mattel since February.

—Ezequiel Minaya

and Tatyana Shumsky

TECHNOLOGY

WSJ.com/Tech

Chernin Wagers on Sports Betting

Technology firm will supply data, analysis to subscribers, even as U.S. curbs wagering

BY CHRIS KIRKHAM

Betting on sports isn't legal in most of the U.S., but that isn't stopping entrepreneurs from building a new digital media platform that will be solely dedicated to the practice.

Media and technology firm Chernin Group, led by media mogul and investor Peter Chernin, said it acquired three sports-betting- and fantasy-sports-data sites that will combine to form a new venture called Action Network. The new platform will be a subscription service that gives sports bettors access to data and analytical tools, along with articles, podcasts and videos that analyze sports from the perspective of a fan who has money on the line.

The company didn't disclose terms of the deal.

"The sports marketplace in general is in a time of enormous transition," said Mr. Chernin, chairman and chief executive of Chernin Group. "We're living in a world where people are getting scores almost immediately, getting highlights almost immediately."

He said by focusing on fantasy-sports aficionados and those who wager on games, the new platform will reach those who "by definition are among the most passionate sports fans, and that felt like a potentially very lucrative niche for us."

The move comes amid momentum toward a wider legalization of sports betting in the U.S. A federal law from 1992 bans sports betting except in Nevada and three other states, but the U.S. Supreme Court in coming months will hear a



Members of the Arizona Diamondbacks celebrated clinching a Major League Baseball playoff spot in their stadium's pool last month.

challenge to that law brought by the state of New Jersey.

Depending on how the court rules, individual states could have more latitude to decide whether to allow regulated sports betting. The ruling also could put pressure on Congress to revisit its stance on sports wagering.

U.S. professional sports commissioners, including the National Basketball Association's Adam Silver, Major League Baseball's Rob Manfred and the PGA Tour's Jay Monahan, have increasingly warmed to the idea of legal, regulated sports betting.

Mike Kerns, Chernin Group's president of digital, acknowledged there is "a lot more discussion" around the issue, but said the company's decision to invest in the space wasn't contingent on regulatory changes.

"We intend to serve the market that exists today," he said.

The illegal sports-betting market in the U.S. is about 10 times as large as the regulated market, according to a new report from industry consultant Eilers & Krejcik Gaming. The group projects legal sports betting revenue of \$270 million this year, mostly in Nevada, compared with an estimated \$2.5 billion to \$3 billion in black-market revenue.

They estimate total revenue could grow to \$7.1 billion if sports betting were legalized at casinos and racetracks in all 50 states, or nearly \$16 billion if online sports betting were added alongside brick-and-mortar locations.

Chris Grove, managing director at Eilers & Krejcik Gaming, said sports leagues, broadcast networks and other media

outlets realize how much betting increases fan engagement.

"Betting on sports probably followed the invention of sports by a matter of a few minutes," he said. "People watch more minutes of more games when they have money on the game."

Mr. Kerns pointed to survey research commissioned by the company showing eight million to 10 million people in the U.S. bet on sports at least once a week, even in the absence of regulations. "Where they're betting is really independent of what we're going to be offering," he said.

Mr. Kerns said the goal is to attract new users in the "statistically interested, sophisticated market" of sports bettors, along with what he noted is a much larger group of "sports fans who bet for fun to make

the game more interesting."

Chernin Group has hired Chad Millman, a former digital editorial director at ESPN who also ran ESPN The Magazine, to oversee editorial content on the new product.

The deal brings together Sports Insights, a sports betting analytics site; FantasyLabs, a daily fantasy-sports data site in which Mark Cuban has invested; and SportsAction, a live scoring and odds site that targets more casual bettors.

The deal comes after several other sports-media investments and acquisitions by Chernin Group in recent years:

The company bought the edgy and controversial sports site Barstool Sports last year, and has invested in the Athletic, a startup subscription sports site that tailors content to fans of particular teams.

Microsoft Gets a Boost in Virtual Reality

BY JAY GREENE

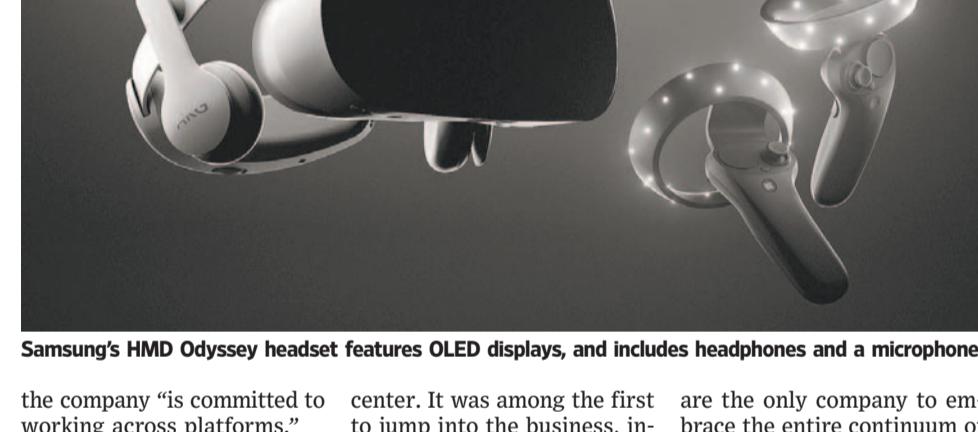
SAN FRANCISCO—Microsoft Corp. enlisted one of the world's largest consumer-electronics makers, Samsung Electronics Co., as it works to crack the emerging virtual-reality market.

At an event here Tuesday hosted by Microsoft, Samsung introduced HMD Odyssey, a virtual-reality headset that uses Microsoft's Windows Mixed Reality, a piece of Windows 10 that enables immersive computing through headsets and other devices.

Samsung joins Acer Inc., Dell Inc., HP Inc. and Lenovo Group Ltd. in building headsets on top of the Windows platform. The devices all use virtual-reality technology, which occludes users' view of the real world and immerses them in digitally generated sights and sounds.

Samsung is an important partner for Microsoft, which is ramping up in the virtual- and augmented-reality markets where it will compete against Apple Inc., Alphabet Inc.'s Google, Facebook Inc. and others. Samsung is already a leader in virtual reality with its Gear VR device that runs Facebook's Oculus technology.

Samsung Electronics America Vice President and General Manager Alanna Cotton said



Samsung's HMD Odyssey headset features OLED displays, and includes headphones and a microphone.

the company "is committed to working across platforms."

The Odyssey, which comes with two controllers, features sharp OLED displays, rather than the LCD displays used on lower-priced headsets. It includes headphones and a built-in microphone, and can be preordered for \$499. It will be available Nov. 6.

Headsets from Microsoft's four other partners, which the company had previously said would start at \$399, can also be preordered, and will be available Oct. 17.

Microsoft is trying to build an entire technology ecosystem for virtual and augmented reality, and put itself at the

center. It was among the first to jump into the business, introducing its HoloLens augmented-reality headset nearly three years ago, though the device isn't commercially available yet.

Windows Mixed Reality, part of the Windows 10 operating system, aims to serve as the technical underpinnings for both VR devices and augmented-reality devices such as the HoloLens, which overlays digital elements onto a person's view of the real world.

Alex Kipman, a leader on Microsoft's HoloLens team, touted the company's bid to operate in both markets. "We

are the only company to embrace the entire continuum of mixed reality," he said during the event.

The combined market is one that analysts say is set to explode. Market-research firm International Data Corp. forecasts sales of 13.7 million virtual- and augmented-reality headsets this year, and expects that to jump to 81.2 million units by 2021, a compounded annual growth rate of 56%.

Microsoft will vie with Apple, which is nudging developers to create applications for its augmented-reality development platform, ARKit. Google, too, is in the augmented-reality market with its ARCore, a

tool to help developers on its Android mobile-device platform create augmented-reality apps.

Microsoft is also working to add games content to its ecosystem. In August, the company announced a deal to bring games from Valve Corp.'s popular Steam business to Windows virtual- and augmented-reality devices.

Microsoft also announced the acquisition of AltspaceVR Inc., a social-networking service where users can interact in a virtual space even if in separate locations. AltspaceVR had said in July it was shutting down.

Mr. Kipman announced the deal in an Altspace virtual environment, where he connected with Terry Myerson, Microsoft's executive vice president in charge of Windows, in Redmond, Wash., and AltspaceVR founder and Chief Executive Eric Romo in Santa Clara, Calif.

Terms of the deal, sealed with a virtual fist bump, weren't disclosed. Mr. Kipman said the majority of Altspace employees will join Microsoft. He doesn't expect any significant changes at the company.

"Day 1 is keeping them precisely where they are," Mr. Kipman said. "They have a very vibrant community in virtual reality."

FOWLER

Continued from page B1
sels, so even hospitals use them to monitor pulse. Along with its internal accelerometers, the Motiv Ring places a green-light optical heart-rate sensor against your skin.

And don't think that because the tracker is on your finger you can trick it into thinking you're doing jumping jacks when you're just typing an angry email. Motiv's software knows the difference on its own.

In fact, you don't have to tell the Motiv Ring much. During setup, you give your height, weight and birthday. The ring's companion iOS app (no Android version yet) determines on its own whether you're sleeping, walking or running—and how active you actually are being.

But I didn't just take Mo-

tiv's word for it. In addition to wearing the Ring, I've been going on hikes and runs hooked up to a Polar chest-strap heart monitor and stride sensor, as well as an Apple Watch Series 3. I've collected more personal data than a Russian hacker.

Using the Polar as a baseline, I found the Motiv Ring was pretty decent at counting footsteps.

But it was further off on heart rate. When I described my experience, the company's co-founder suggested my Ring might be the wrong size. When you order, Motiv first sends you plastic dummies so you can size your finger; it's up to you which finger to use. I chose a size that fit comfortably on my ring finger—but the heart-rate monitor wasn't always making contact.

After I switched to a smaller size, Motiv's heart-rate accuracy improved—but was still spotty during more

strenuous activity. On an uphill hike, Polar and the Apple Watch both found my heart peaked at 150 beats a minute, but the Ring topped out at 136.

Motiv says it's working on software updates to improve accuracy. But Motiv chose to collect less-frequent heart data—at the risk of missing some peaks—to help its tiny

battery last longer. Ultimately, that makes the Ring better for round-the-clock monitoring than marathon training.

The biggest challenge for fitness trackers is turning data into action. For nonathletes like me, the numbers matter a lot less than the motivation to get moving. On that front, the Motiv Ring is on the right

track.

The usual guidance has been to reach 10,000 steps a day and you're golden, right? As I've written before, that measure originated with a 1960s Japanese step-counter marketing campaign—and is no guarantee of better health.

Recent research has shifted the focus to your heart: What matters most is raising your heart rate high enough and frequently enough so it remains strong.

Motiv's app calls these intervals "active minutes." It calculates those by gauging your resting heart rate—measured while you're sleeping—and setting that as a personal baseline.

Elevate your heart rate above the baseline for a consistent 10 minutes, and you're "active."

Motiv says you need at least 150 active minutes a week.

Living with that measure has its pros and cons. Since it's built around a weekly

Sonos Speakers Now Play Catch-Up

BY YOREE KOH

Sonos Inc., the pioneer in wireless speakers, was on its way to \$1 billion in sales in 2015 when Amazon.com Inc.'s Echo smart speaker took off. Sonos's sales fell off a cliff.

Sonos now has a new game plan: Partnering with its rivals—all of them.

On Wednesday, the Santa Barbara, Calif.-based company is announcing its first smart speaker, the \$199 Sonos One, powered by Amazon's Alexa voice assistant. By next year, the company will integrate Alphabet Inc.'s Google voice assistant, and down the road hopes to make its smart speaker compatible with Apple Inc.'s Siri and others. The partnerships would mean consumers wouldn't need to choose one tech giant's services over another—Sonos could serve them all.

The company built a loyal fan base by letting customers play music in every room of a home through a network of wireless speakers that supported streaming services such as Spotify and Apple Music. Speakers, though, are no longer just for listening to music.

Chief Executive Patrick Spence admits the company became "complacent" when it came to artificially intelligent assistants. Sonos "missed the turn on voice," he said in an interview.

Amazon's Echo has become a game-changing product thanks to Alexa, which can play music, answer questions, relay the day's news, provide weather forecasts and more. The Echo has captured about three-quarters of the U.S. market for smart speakers, with more than 15 million total devices sold as of June, according to Consumer Intelligence Research Partners.

On Wednesday, Google, which has the other quarter of the smart-speaker market, is expected to unveil a successor to its Google Home speaker. Apple is readying its \$349 HomePod speaker for a December release.

Sonos saw itself getting shut out of a category it helped create.

Its pivot came amid change at the top. In January, founder John MacFarlane stepped down after 14 years as chief. Mr. Spence took over and has sought to make Sonos, known for its obsessive but time-consuming attention to detail, move faster to catch up in the smart-speaker revolution.

Sonos, which has raised about \$110 million in primary funding from investors, including Index Ventures and KKR & Co., also is seriously considering an initial public offering, the company said.

As part of its strategy of working with the very rivals that upended it, Sonos said it would support Apple's AirPlay 2 in 2018, letting owners control their Sonos speakers through any Siri-enabled device such as an iPhone. A free software upgrade will allow Sonos speakers to be controlled through any Alexa device such as an Echo or Dot.

(rather than daily) cycle, it's all right if you're stuck in a day of sedentary meetings. You can make up for it by going on a run the next day.

In my life, earning my 150 active minutes was a bit more taxing than closing the motivational rings on the Apple Watch. One evening, I took an hour-long walk, earning myself a ton of credit with Apple. But Motiv only granted me 15 active minutes—the time when my heart actually got a workout.

What's missing is an effective way for the Ring to, occasionally, reach out and give you a good slap. It's easy to forget to check in with the app. Motiv said readouts on the Ring would be annoying, but it's considering more notifications (right now, it only reports low battery).

Perhaps we aren't too far off from a 21st-century mood ring that begins to glow when you've been lazy too long.



The \$200 Motiv Ring measures activity, heart rate and sleep.

EMILY PRAPOLENIS/THE WALL STREET JOURNAL

FINANCE & MARKETS

Payday-Lending Battle Gets Personal

Borrowers wrote letters in campaign to head off federal oversight of lenders

BY YUKA HAYASHI

WASHINGTON—Florida payday lender **Amscot Financial Inc.** in the summer of 2016 rounded up about 600,000 letters from customers protesting a regulator's plan to clamp down on high-interest loans. The letters, many handwritten, were scanned, packed in 131 cartons and shipped to Washington.

The unusual campaign by Amscot was part of a fight between the payday industry and consumer advocates to try to sway the Consumer Financial Protection Bureau, which is expected in the coming days to introduce federal oversight of the \$38.5 billion sector.

Payday loans are used by an estimated 10 million to 12 million Americans every year, many of whom live paycheck to paycheck. The loans are typically a few hundred dollars and due in two weeks, or on the borrower's next payday. Their annualized interest rates, which can rise to nearly 400%, have long troubled regulators.

The CFPB rule would supplement a mishmash of state rules. It would likely require lenders to assess borrowers' ability to repay and make it harder to roll over loans, a lucrative part of the business. The practice, where customers take out new loans to repay old ones, often leads to snowballing fees. Lenders say such requirements would wipe out



Amscot CEO Ian MacKchnie, right, said the payday lender provided paper and pens to customers, some of whom wrote to the CFPB

the market for short-term payday loans.

The battle over the payday rule offers a glimpse into the changing landscape of rule making and the tactics employed to influence regulators. The CFPB received 1.41 million comments on the payday rule during the comment period between July and October 2016.

Payday-industry executives say more than 1 million comments came from opponents of the new rule, while consumer groups say those who support the rule were respon-

sible for about 400,000 entries. In addition to the reams of paper comments, experts say the total was boosted by the use of software that pre-writes comments for people to submit electronically.

Agencies are using software to identify identical or similar comments. The CFPB's 1.41 million tally includes all the comments it received on the rule, although the agency labels some comments "duplicates" or "substantially similar" when posting them online.

The payday industry says the labeling shows the CFPB

isn't paying sufficient attention to individual comments from customers.

A CFPB spokesman said the bureau is "committed to ensuring that all of its regulations reflect a thorough and balanced review of stakeholder viewpoints," including consideration of public comments.

Payday lenders encouraged hundreds of thousands of customers to pen personal letters when they came into their stores to take out loans. Many other customers signed pre-written letters. "We made blank paper and pens available

for them," said Ian MacKchnie, chief executive of Amscot, which has 240 stores in Florida.

"The cash advance helps me with my bills. I need it every month," Amscot customer Dennis Schneider of Lakeland, Fla., said in a handwritten letter.

"The government shouldn't tell me when I can have a loan. I'm smart enough to make my own decisions," opined David Hernandez of Hialeah, Fla.

Consumer groups, which relied on methods including online petitions, say their effort

was drowned out by the lenders' letter-writing drives. "This is just one bullet point in a long list of tactics that payday lenders have deployed to block this rule any way possible," said Diane Standaert, director of state policy at the Center for Responsible Lending.

Comment letters are a part of the lobbying that takes place when regulators work on a rule. Under the Administrative Procedure Act, agencies must consider submitted comments but aren't required to reflect the input in their rules. No matter how many people express their opinion to regulators, if that isn't relevant to the questions being looked at, regulators aren't supposed to pay attention, said Ronald Levin, a law professor at Washington University in St. Louis who is an expert on administrative law.

Still, interested parties make efforts to gather comments as a way to show the public—and lawmakers who could later overturn or revise rules—that their positions have strong support. Payday-industry executives say they would point to the CFPB's handling of comments if they decided to sue over the rule.

The CFPB's payday rule is among a handful of recent regulations that generated millions of comments. In recent years, the Environmental Protection Agency's rule to curb carbon emissions from power plants drew 4.3 million comments. The "net neutrality" plan governing internet-service providers attracted more than 22 million comments.

—James V. Grimaldi contributed to this article.

Veteran Financier to Lead Remade Rockefeller Firm

BY LIZ HOFFMAN

Greg Fleming, a well-known Wall Street executive, is resurfacing nearly two years after leaving his role at **Morgan Stanley** as a top lieutenant of Chief Executive James Gorman.

Rockefeller & Co., the family office of 19th-century oil baron John D. Rockefeller, on Wednesday named Mr. Fleming its new CEO, part of a deal in which the firm will be acquired by hedge-fund firm **Viking Global Investors LP** and recast as an adviser and asset manager to the ultrawealthy.

The deal is a reboot for the 135-year-old firm and a comeback for the 54-year-old Mr. Fleming, who came close to the top jobs at Merrill Lynch & Co. and Morgan Stanley but fell short at both.

Since leaving Morgan Stanley in 2016 amid signs he

wouldn't succeed Mr. Gorman, he has flirted with a few high-profile Wall Street firms and tended to a client roster that includes Canadian billionaire Paul Desmarais and former New York Yankee Derek Jeter, whom Mr. Fleming advised on the \$1.2 billion consortium purchase of the Miami Marlins baseball team.

Now with Viking's backing, Mr. Fleming will be charged with turning a storied family office with \$16.6 billion in assets into a broader concierge for the Rockefellers' peers—wealthy families, endowments, nonprofit foundations and other institutional investors. The idea is to bolt merger and other strategic advice onto the firm's existing wealth-advisory and fund-management arms.

"The resonance of the [Rockefeller] name is huge," Mr. Fleming said. "Rather than having to spend time putting

the brand on the map, I can focus on operating it and talking to clients."

Viking, which has about \$25 billion under management, will buy a majority of the firm and rebrand it as Rockefeller Capital Management. The pur-

chase price wasn't disclosed, but a person familiar with the matter pegged it at low nine-figures, plus a commitment from Viking to invest more.

Rockefeller family members will continue to own about 10% of the company. Mr. Flem-

ing will invest as well.

"This deal gives us the ability to reinvest in the business and offer our clients a broader array of services, neither of which we had before," said David Rockefeller Jr., the firm's chairman.

Viking is one of the world's largest stock-focused hedge funds. It is led by the billionaire Andreas Halvorsen, a triathlete who earlier worked for the hedge-fund luminary Julian Robertson.

Wealth management, asset management and corporate advice are prized on Wall Street these days for their stable returns and little need for capital. Still, they are competitive and fragmented, with hundreds of small shops vying with the major banks.

Rockefeller & Co. traces its roots to 1882, when John D. Rockefeller launched an office to manage his oil fortune. It

began taking outside money in 1979, and today the family accounts for about one-third of its assets, which are at about half of their 2012 level.

CEO Reuben Jeffery III, a former Goldman Sachs partner who later worked in President George W. Bush's State Department, will remain on Rockefeller's reconstituted board.

Mr. Fleming rose up the ranks as a Merrill Lynch investment banker, brokering deals for money managers and other financial firms. His crowning achievement: helping wrangle \$50 billion out of Bank of America for a teetering Merrill in September 2008.

Speaking of his latest commitment, Mr. Fleming said: "I spent half my career in senior executive positions at public companies," he said. "I was looking for something else."



SHANNON STAPLETON/REUTERS

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Rockefeller & Co. traces its roots to 1882, when John D. Rockefeller launched an office to manage his oil fortune. It

Key Lawmaker Calls for SEC to Delay Database

BY DAVE MICHAELS

WASHINGTON—The House's leading lawmaker on financial regulation urged the Securities and Exchange Commission on Wednesday to delay the launch of a vast database of stock-market trades that promises to be a target of hackers.

The comments by Rep. Jeb Hensarling (R., Texas), chairman of the House Financial Services Committee, add to renewed calls for SEC Chairman Jay Clayton to postpone the database's launch after he disclosed last month that hackers accessed a key SEC system that stores market-moving information.

At a hearing of the House committee on Wednesday, Mr. Hensarling pressed Mr. Clayton to push back a Nov. 15 deadline for stock and options exchanges to report orders and trades to the database, called the Consolidated Audit Trail. The SEC mandated that Wall Street build the audit trail after regulators couldn't immediately detect the cause of the 2010 "flash crash" in which the Dow Jones Industrial Average plunged almost 1,000 points before quickly recovering.

"With the Consolidated Audit Trail serving as a central repository for order and trading activity data, I urge the



ZACH GIBSON/BLOOMBERG NEWS

Rep. Jeb Hensarling

SEC to delay its implementation date until the commission can ensure that the appropriate safeguards and internal controls are in place to protect this data," Mr. Hensarling said.

Mr. Clayton told lawmakers Wednesday that the SEC wouldn't access information from the audit trail until he is satisfied that the agency needs the detailed data and can protect it. He also told lawmakers that he intends to hire a chief risk officer to oversee the SEC's cybersecurity programs.

Last week, Mr. Clayton said he didn't believe a "full timeout" on the audit trail was necessary, adding the SEC is assessing the type of information reported to the database.

Responding to questions about the hack of the SEC's

electronic-filing system, known as Edgar, Mr. Clayton told lawmakers Wednesday that the hackers likely got a sneak peek at corporate earnings news or "other events," which would have allowed them to trade and profit ahead of the announcements.

"This is serious because it does affect the integrity of our markets," the chairman told lawmakers.

Mr. Clayton said earlier this week that the hackers who broke into Edgar also accessed personal details about two people, including their names, dates of birth and Social Security numbers.

Lawmakers also questioned Mr. Clayton about why it took until August for SEC staff to tell him about the 2010 hack.

Rep. Sean Duffy (R., Wis.) suggested on Wednesday that the "deep state," a term used to describe government bureaucrats, withheld information from Mr. Clayton and other SEC commissioners.

"There is some conversation about a deep state," said Mr. Duffy, a senior member of the House panel. "That the chair, the head of an organization, wouldn't be apprised of this on day one is concerning to me."

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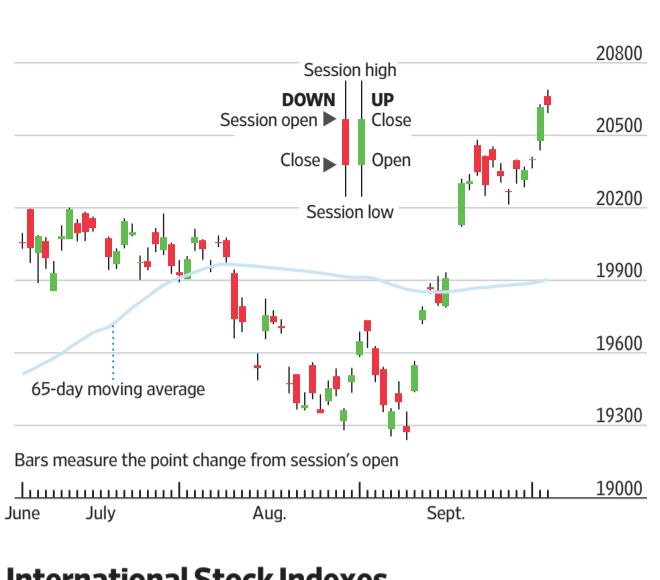
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MARKETS DIGEST

Nikkei 225 Index

20626.66 ▲ 12.59, or 0.06%
 High, low, open and close for each trading day of the past three months.



Bars measure the point change from session's open

June July Aug. Sept.

STOXX 600 Index

390.40 ▼ 0.32, or 0.08%
 High, low, open and close for each trading day of the past three months.



June July Aug. Sept.

S&P 500 Index

2539.05 ▲ 4.47, or 0.18%
 High, low, open and close for each trading day of the past three months.



Data as of 12 p.m. New York time
 Last 24.22 Year ago 24.45
 Trailing P/E ratio 19.19 P/E estimate * 18.52
 Dividend yield 1.98 All-time high 2534.58, 10/03/17
 All-time high: 2534.58, 10/03/17

Weekly P/E data based on as-reported earnings from Birinyi Associates Inc.

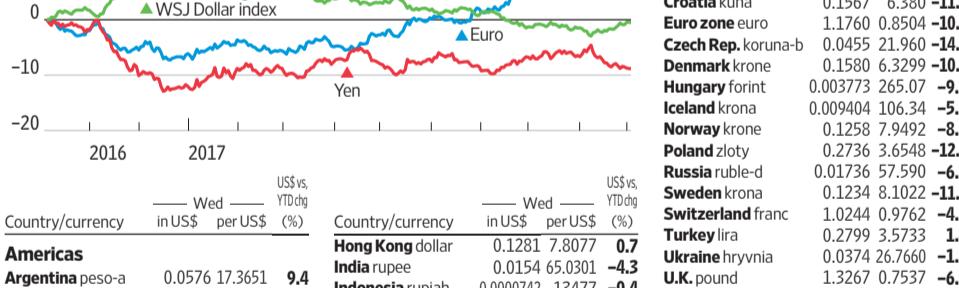
International Stock Indexes

Data as of 12 p.m. New York time

Region/Country	Index	Close	NetChg	% chg	52-Week Range	Low	Close	High	YTD % chg
World	The Global Dow	2925.75	1.69	▲ 0.06	2386.93	2928.54	15.7		
	MSCI EAFE	1975.78	-2.12	-0.11	1614.17	1981.49	15.1		
	MSCI EM USD	1102.88	5.85	▲ 0.53	838.96	1112.92	38.9		
Americas	DJ Americas	613.67	1.14	▲ 0.19	503.44	613.77	13.6		
Brazil	Sao Paulo Bovespa	76872.45	109.54	▲ 0.14	56828.56	76966.94	27.6		
Canada	S&P/TSX Comp	15752.00	23.49	▲ 0.15	14472.78	15943.09	3.0		
Mexico	IPC All-Share	50636.76	21.47	▲ 0.04	43998.98	51772.37	10.9		
Chile	Santiago IPSA	4120.82	6.27	▲ 0.15	3127.84	4130.89	27.9		
U.S.	DJIA	22674.23	32.56	▲ 0.14	17883.56	22684.05	14.7		
	Nasdaq Composite	6538.39	6.67	▲ 0.10	5034.41	6540.07	21.5		
	S&P 500	2539.05	4.47	▲ 0.18	2083.79	2539.28	13.4		
	CBOE Volatility	9.76	0.25	▲ 2.63	8.84	10.00	23.01	-30.5	
EMEA	Stoxx Europe 600	390.40	-0.32	-0.08	328.80	396.45	8.0		
	Stoxx Europe 50	3192.76	-2.32	-0.07	2720.66	3279.71	6.1		
France	CAC 40	5363.23	-4.18	-0.08	4344.88	5442.10	10.3		
Germany	DAX	12970.52	67.87	▲ 0.53	10174.92	12976.24	13.0		
Greece	ATG	750.72	-1.72	-0.23	571.82	859.78	16.6		
Israel	Tel Aviv	1432.90	...	Closed	1346.71	1490.23	-2.6		
Italy	FTSE MIB	22456.38	-328.44	-1.44	16039.59	22860.14	16.8		
Netherlands	AEX	541.65	-0.60	-0.11	436.28	542.51	12.1		
Russia	RTS Index	1137.14	7.24	▲ 0.64	956.36	1196.99	-1.3		
Spain	IBEX 35	9964.90	-292.60	-2.85	8512.40	11184.40	6.6		
Switzerland	Swiss Market	9283.97	0.23	▲ 0.002	7585.56	9284.79	12.9		
South Africa	Johannesburg All Share	56750.03	391.77	▲ 0.70	48935.90	56896.89	12.0		
Turkey	BIST 100	104547.86	640.29	▲ 0.62	71792.96	110530.75	33.8		
U.K.	FTSE 100	7467.58	-0.53	-0.01	6676.56	7598.99	4.5		
Asia-Pacific	S&P/ASX 200	5652.10	-49.30	-0.86	5156.60	5956.50	-0.2		
China	Shanghai Composite	3348.94	...	Closed	3004.70	3385.39	7.9		
Hong Kong	Hang Seng	28379.18	205.97	▲ 0.73	21574.76	28379.18	29.0		
India	S&P BSE Sensex	31671.71	174.33	▲ 0.55	25756.14	32575.17	18.9		
Indonesia	Jakarta Composite	5951.48	12.02	▲ 0.20	5027.70	5951.48	12.4		
Japan	Nikkei Stock Avg	20626.66	12.59	▲ 0.06	16251.54	20626.66	7.9		
Malaysia	Kuala Lumpur Composite	1761.84	2.17	▲ 0.12	1616.64	1792.35	7.3		
New Zealand	S&P/NZX 50	7949.69	16.27	▲ 0.21	6664.21	7949.69	15.5		
Philippines	PSEI	8344.05	31.12	▲ 0.37	6563.67	8344.05	22.0		
Singapore	Straits Times	3236.65	-9.43	-0.29	2787.27	3354.71	12.4		
South Korea	Kospi	2394.47	...	Closed	1958.38	2451.53	18.2		
Taiwan	Weighted	10469.35	...	Closed	8931.03	10631.57	13.1		
Thailand	SET	1687.77	-2.20	-0.13	1406.18	1689.97	9.4		

Currencies

Yen, euro vs. dollar; dollar vs. major U.S. trading partners



London close on Oct. 4

US\$ vs. Country/currency

— Wed — YTD chg

FINANCE & MARKETS

Ex-Banker at Goldman Tied To 1MDB Is Barred by Finra

By JUSTIN BAER
AND TOM WRIGHT

A former **Goldman Sachs Group** Inc. senior banker linked to alleged financial fraud involving Malaysian state fund 1Malaysia Development Bhd. was barred from the U.S. securities industry for failing to cooperate with a regulator's investigation.

The Financial Industry Regulatory Authority, a U.S. industry body, said it issued its ban on Tim Leissner on Sept. 11, after the former banker didn't respond to requests for documents and other information stemming from his departure from Goldman in 2016.

Mr. Leissner was suspended by Goldman and later quit the Wall Street firm after it discovered he had written an unauthorized letter vouching for Jho Low, a Malaysian businessman who is at the center

of international probes alleging that billions of dollars were stolen from the state investment fund, The Wall Street Journal has reported.

"Without admitting or denying the findings, Mr. Leissner consented to the sanction and to the entry of findings," the regulator wrote in Mr. Leissner's file, noting that Mr. Leissner failed to provide Finra with certain requested documents and information during the course of an investigation into a reference letter that led to his departure from Goldman.

Representatives for Finra and Goldman Sachs declined to comment. Mr. Leissner's lawyer declined to comment. Mr. Low has previously denied wrongdoing, as has 1MDB, which has said it would cooperate with the investigations.

U.S. Justice Department investigators are trying to de-

termine whether Goldman had reason to suspect that money it helped 1MDB raise was misused and, if so, whether the bank was obligated to report any concerns to authorities. The Federal Reserve, the Securities and Exchange Commission and New York state's Department of Financial Services also have undertaken examinations of some of the bank's actions, as have Singapore authorities, the Journal reported last year, citing people familiar with the matter.

Goldman had raised \$6.5 billion for the fund and earned nearly \$600 million in fees, making the Malaysian client among its most lucrative, the Journal reported at the time. Goldman has previously said it did nothing wrong and had no way of knowing there might be fraud surrounding 1MDB.

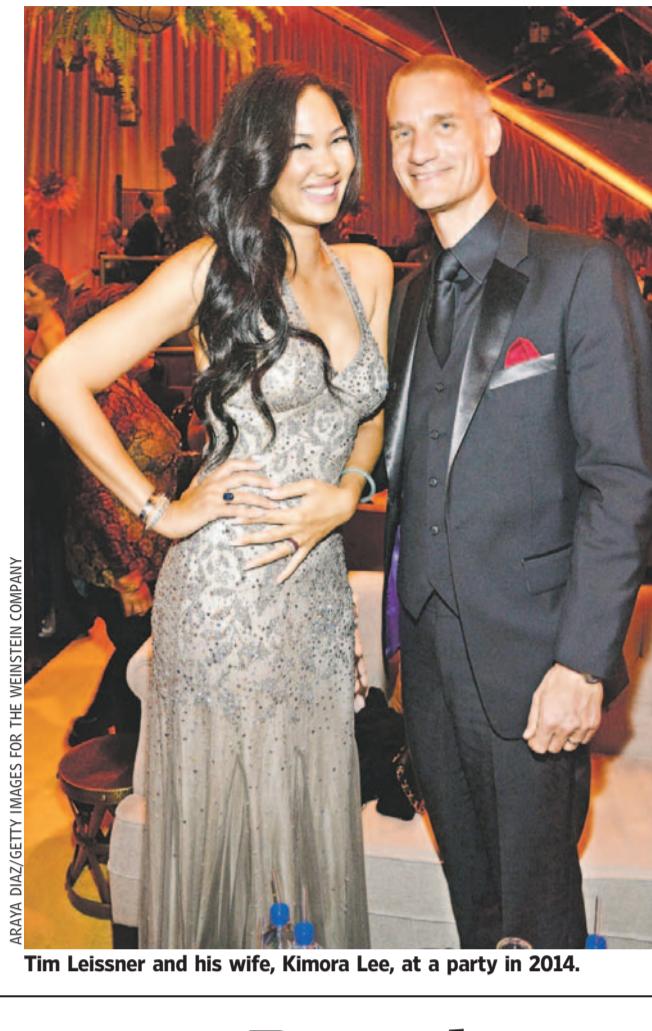
Central to Goldman's 1MDB dealings was Mr. Leissner,

chairman of the firm's South-east Asia office.

In June 2015, Mr. Leissner wrote to **Banque Havilland**, a small Luxembourg private bank, vouching for Mr. Low, who wanted to open an account there, the Journal reported, citing people familiar with the matter. The letter said Goldman had done due diligence on Mr. Low and found no issues. Banque Havilland hasn't responded to requests for comment.

Goldman compliance executives unearthed the document in a January 2016 email search, The Journal reported. The firm said it confronted Mr. Leissner about the letter, which violated its policies, and he resigned the next day.

Later, Singapore's Monetary Authority cited the letter in barring Mr. Leissner from doing business in the city-state for a decade.



Tim Leissner and his wife, Kimora Lee, at a party in 2014.

ARAYA DIAZ/GATGET IMAGES FOR THE WEINSTEIN COMPANY

U.S. Stocks Edge Higher, Led by Internet Retailers

By RIVA GOLD
AND AMRITH RAMKUMAR

Shares of internet retailers rose Wednesday, helping to offset declines elsewhere in U.S. stocks.

The Dow Jones Industrial Average edged up 39 points, or 0.2%, to 22,680 by midday. The S&P 500 rose 0.2%, and the Nasdaq Composite gained 0.1%. All

WEDNESDAY'S MARKETS three indexes have risen to fresh records this week, but swung between small gains and losses Wednesday.

Because profit growth has been one of the main factors driving this year's rally, investors are waiting to see if October earnings reports remain

robust. The Dow industrials, S&P 500 and Nasdaq have each set at least 40 all-time highs in 2017.

"When we've had such a strong move with so few setbacks, then people get a little bit more nervous, which is completely understandable," said Paul Quinsee, global head of equities at J.P. Morgan Asset Management.

Still, Mr. Quinsee said the earnings and economic backdrop for stocks remains favorable heading into the rest of the year.

Netflix was among the biggest gainers in the S&P 500, rising 3.3% around midday after UBS raised its price target on the stock. The bank raised its subscriber-growth projections for the streaming giant, noting that the previous quar-

ter's momentum likely continued.

Other internet retailers also rose, with TripAdvisor shares climbing 3.1%. Shares of e-commerce giant Amazon.com edged up 1%.

PepsiCo shares swung lower after the food and beverage giant reported weaker-than-expected sales in the most recent quarter. Shares were down 0.5% around midday, after falling as much as 2.7% earlier in the session.

Wednesday's muted market moves came after mixed economic readings. First, a report showed hiring at private U.S. employers grew less than expected last month, with hurricanes denting economic growth. Then, the Institute for Supply Management said its index measuring service-sec-

tor activity rose to its highest level since 2005. Investors will be closely monitoring Friday's monthly jobs report for another reading on the economy.

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Traders were also awaiting a speech from Federal Reserve Chairwoman Janet Yellen, expected later Wednesday, for clues about the central bank's latest views on sluggish inflation.

The yield on the 10-year U.S. Treasury note edged up to

2.342%, according to Tradeweb, from 2.332% Tuesday. Yields rise as prices fall.

The WSJ Dollar Index, which tracks the U.S. currency against a basket of 16 others, inched down 0.1%.

Elsewhere, the Stoxx Europe 600 fell nearly 0.1% after rising for nine consecutive sessions—the longest run since July 2015.

Spain's IBEX 35 index led global declines—falling 2.9% to extend this week's losses—as investors continued to weigh the implications of escalating tensions around Catalonia.

Hong Kong's Hang Seng Index rose 0.7% to its highest close since April 2015, while Japan's Nikkei Stock Average rose less than 0.1% to post its highest close since August 2015.

Markets in mainland China and South Korea were closed for the week.

Oil prices wavered between gains and losses Wednesday morning, after the U.S. Energy Information Administration reported that crude stockpiles shrank sharply as foreign buyers clamored for cargoes of U.S. crude.

The amount of crude oil being held in U.S. storage tanks fell by 6 million barrels last week, according to the EIA. Analysts and traders surveyed by The Wall Street Journal had anticipated a 300,000-barrel decline.

Crude for November delivery traded up 3 cents, or less than 0.1%, to \$50.45 a barrel by midday on the New York Mercantile Exchange.



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MARKETS

A Primer on the Initial Coin Offering

Nontraditional way for a tech startup to raise money involves digital currencies and wallets

By PAUL VIGNA

A new method of capital raising called the initial coin offering has exploded this year. It is a process by which tech startups, mainly from inside the digital-currency sector, create a new virtual coin or token and offer it for public sale. It lies somewhere between a traditional initial public offering of stock and a crowdfunding. Firms raised a record \$1.32 billion this way in the third quarter alone. Here are some of the most common questions about the offerings:

What are they?

An initial coin offering, also called an ICO or token offering, is a way for private, generally younger startups to raise money that goes around the traditional capital markets. Some coin offerings are selling a token that can be used within an online service; some are selling the equivalent of shares in an investment fund. The token can be used to encourage certain uses and goals, which is why some people also call it "programmable money."

How does it work?

In an ICO, a company simply creates a new digital currency and sells it publicly. The original digital currency, bitcoin, is an open-source software project, meaning anybody is welcome to create their own version of it. Another digital-currency platform, Ethereum, standardized the coding for creating a token. That made it easy to create new coins, which is a big reason the field took off.

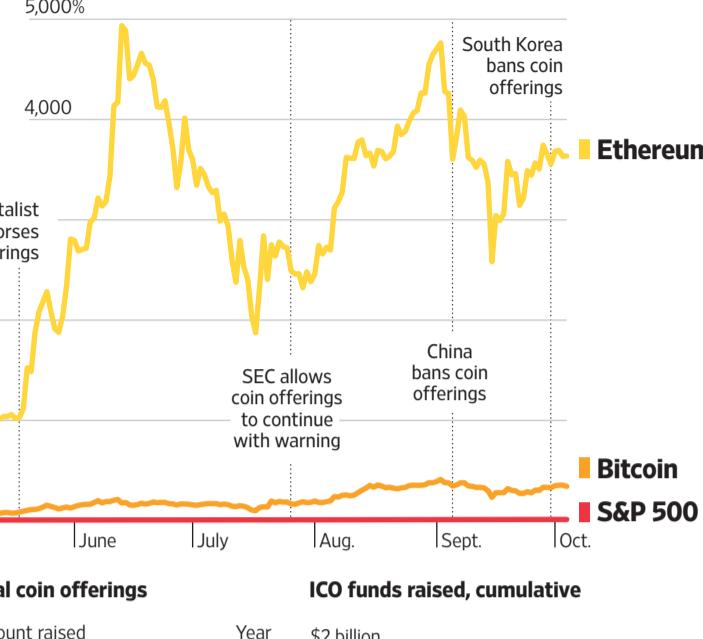
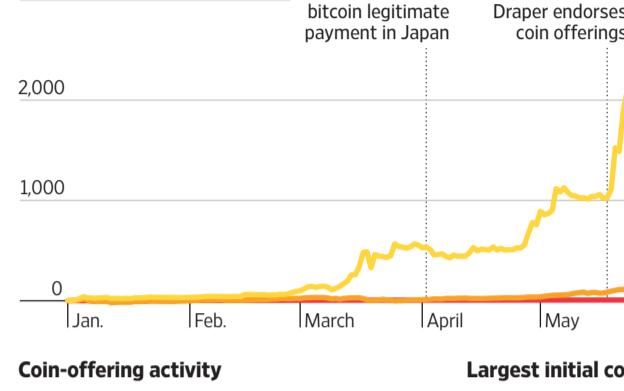
How much money are we talking about?

In the third quarter through Sept. 27, 105 coin offerings worth \$1.32 billion were sold, according to research firm Token Report. That is more than

Minting Money

Initial coin offerings have soared in popularity this year along with the rallies in bitcoin and the smaller virtual currency ethereum.

Performance, year to date



Coin-offering activity



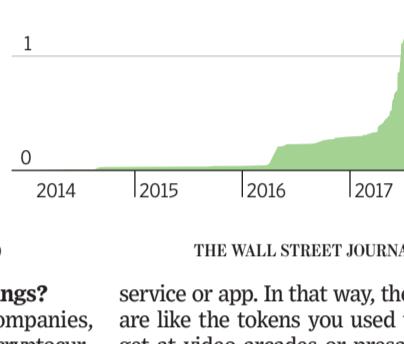
Note: With coin offerings, people invest in technology and other services in exchange for virtual tokens instead of shares.

Sources: FactSet (S&P 500); CoinDesk (bitcoin, largest offerings, funds raised); CoinMarketCap (ethereum); Token Report (activity)

Largest initial coin offerings

	Amount raised	Year
Filecoin	\$262M	2017
Tezos	\$232M	2017
Bancor	\$153M	2017
The DAO	\$152M	2016
Status	\$95M	2017
TenX	\$83M	2017
PressOne	\$82M	2017

ICO funds raised, cumulative



THE WALL STREET JOURNAL.

the \$956 million raised from 67 offerings in the first half of the year. And the year-to-date tally of \$2.27 billion is more than 20 times the roughly \$100 million raised in 2016. Even though these totals are commonly quoted in dollars, investors generally aren't sending U.S. currency. Instead, investors send bitcoin and Ethereum's native currency, also called ether.

Coin offerings have quickly become big enough to be comparable to venture-capital fundraising. The \$1.32 billion raised in the third quarter was close to the \$1.41 billion raised by early-stage tech companies, according to data from research firm CB Insights. In the first quarter, these angel and seed-stage venture fundraisings totaled \$1.43 billion, compared with just \$38 million for coin offerings.

How big are the individual fundraisings?

The largest was \$262 million raised by startup Protocol Labs for a computer-memory marketplace called Filecoin. San Francisco-based Dynamic Ledger Solutions raised \$232 million for its Tezos ledger-technology service. Before 2017, the largest coin offering was for a project called The DAO that raised \$152 million. But about a third of that money was stolen by hackers.

What kinds of companies

are doing coin offerings?

Mainly, tech companies, more narrowly in the cryptocurrency sector. Most of the time, it can be hard for an outsider to even understand the project. On the other hand, the company PAquarium raised \$620,000 in a coin offering to build a giant aquarium.

What exactly am I buying?

The ICO coin-offering moniker makes it sound very much like an IPO. That is an initial public offering, often a highly regulated sale of securities. What exactly you are buying in an ICO, though, varies widely. Most of these new assets are designed to provide access to some kind of

service or app. In that way, they are like the tokens you used to get at video arcades or presale tickets to a Broadway show. Others are constructed like shares in an investment fund.

How do I buy one?

You will need one of the digital currencies mentioned earlier, (ether or bitcoin) and a digital wallet. In general, firms conduct the offerings through their own websites, so you would be sending the digital currency directly to a wallet the firm maintains. But every firm does it somewhat differently, trying to find the best mix of terms. If you miss the offering, many coins will later trade on digital ex-

changes in the secondary market, much like a stock after its IPO. A warning though: The high volatility can make the penny stocks of old look like a stable Treasury bill.

What does a business need to conduct an ICO?

On one level, it needs the right code, a story to sell and some luck. The reality, though, is it helps to have a product. Perhaps it is an online commerce website or a gaming site. ICOs have raised millions in minutes, which can be both a blessing or a curse for a new company.

How can I tell if a coin offering is legit?

The easiest way to tell a fraud from a legitimate offering is simple: information. The less provided, the higher the odds of a scam. Does the startup have identifiable ownership? Not all do. Does it have a working product? Does it at least have the code for the product? Does it have outside advisers? Legal counsel? If the company makes vague statements like "we're backed by a major sovereign nation" but won't give specifics, that could be a red flag, too.

Where are the regulators?

They have been rushing in. The U.S. Securities and Exchange Commission in July warned about coin offerings, and China and Korea recently banned them. On Friday, the SEC charged a businessman and two companies with defrauding investors in a pair of small coin offerings.

So, if it isn't a scam, should I buy?

Not so fast. Just because it isn't a scam doesn't mean it will succeed. The success rate for new companies is notoriously low. You may find an investment idea with a promising product, a legitimate, well-meaning team and even, perhaps, celebrity appeal. But the company may still fail to find a market. Many coin offerings come from people who started working on their idea only weeks ago. Be prepared to endure losses.

HEARD ON THE STREET

FINANCIAL ANALYSIS & COMMENTARY

WSJ.com/Heard

Email: heard@wsj.com

Auto Stocks Take a 'Robotaxi' Ride

OVERHEARD

Car stocks are back in vogue. The latest rally is underpinned by a speculative set of hopes.

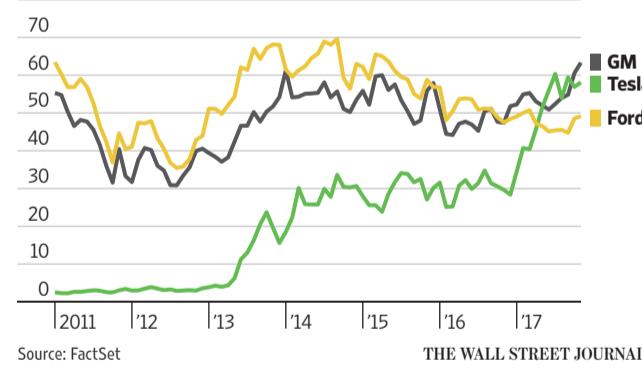
U.S. car sales were strong in September, but this won't reset expectations that the industry is entering a rough patch after seven years of growth. Insurance windfalls from hurricanes Harvey and Irma boosted sales, but the key reason for the monthly bonanza was discounting to clear an inventory glut. Car makers continued to trim production and lay off workers last month.

Car stocks have been strong not because of hopes that growth in car sales can be maintained. Instead, investors have become more optimistic about the capacity of incumbent car makers to withstand—and even benefit from—the disruptive forces of technology.

General Motors is the poster child of the new optimism. When the Detroit company's market value was briefly overtaken by that of loss-making Tesla over the summer, analysts started

Speeding

Market value of U.S. car companies



mystery; that it hasn't announced its plans publicly is cause for skepticism.

Even if GM has suddenly emerged as a self-driving leader, the uncertainties are still legion. "Mobility as a service"—imagine fleets of self-driving shared cars or "robotaxis"—may well be the endgame for mass-market cars in cities. But the business model remains unproven.

Ford's new chief executive, Jim Hackett, who used to head the company's "smart mobility" unit, made much of the idea of robotaxis in a strategic update Tuesday evening. But he was unprepared to lay down milestones or targets. "The matching of markets and technology is something there's a long history of people getting wrong," he cautioned when asked whether he would sell Ford's robotaxis to third-party fleet providers.

The value investors should attach to car makers' efforts to compete with Silicon Valley is open to debate. Investors should be wary of clutching at straws.

—Stephen Wilmot

Never say never.

Doug Parker, the chief executive officer of American Airlines, apparently never got the memo about that one. In a meeting with financial analysts last week he declared that "I don't think we're ever going to lose money again."

If ever an executive was guilty of extrapolating the recent past, then this is it. American lost money for six years in a row through 2013 and the entire industry globally was in the red as recently as 2009, according to the International Air Transport Association.

In fact, as Mr. Parker well knows, there are things a lot worse than just being in the red for a year or even a few. The predecessor company to his own airline went bankrupt in 2011.

It exited bankruptcy through a merger with US Airways, which itself had gone bankrupt in 2002 and then again in 2004.

Runways are long but memories are short in this business.

FDA Shocker Puts Teva in Tough Spot

A surprise move from the U.S. Food and Drug Administration means that a recovery for Teva Pharmaceutical Industries just got much more difficult.

The generic drugmaker has struggled with a debt burden and falling prices of generic drugs in the U.S. Investor worries intensified after generic rival Mylan announced it had won FDA approval to sell a generic version of Teva's blockbuster branded drug, Copaxone, which treats multiple sclerosis.

Mylan shares shot up 19% by late morning Wednesday, while Teva's plunged 13%.

Given the high sales for Copaxone, those moves make sense. Copaxone sales have averaged more than \$1 billion over the past eight quarters.

In the second quarter the drug accounted for nearly 20% of total company revenue.

Teva's guidance for the full year, issued most recently in August, assumed that no competition for Copaxone in its strongest dosing form would arrive before the year ended. Teva already had forecast a decline in 2017 operating cash flow on the order of 25% from 2016 assuming Copaxone exclusivity. Meanwhile, several other generic drugmakers also have applications pending for their own version of Copaxone with the FDA, which will eventually pressure prices further.

The result might mean that new Chief Executive Karen Schultz will be forced to pursue asset sales, already on the corporate agenda, more aggressively. That strategy will help service Teva's debt load of more than \$30 billion, but it will come at the expense of future profitability.

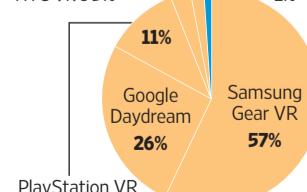
Mr. Schultz and Teva's reeling shareholders have some tough decisions to make.

—Charley Grant

Microsoft Sticks With a Mixed Message on Virtual Reality

Plugging In

Virtual reality headsets projected market share for 2017



avoids the term virtual reality. The company's preferred designation—"mixed reality"—is intended to convey its belief that the respective formats of VR and its close cousin known

as augmented reality will one day blend together. This isn't possible with current technology, as creating a virtual world requires the user's vision to be completely occluded by a headset, whereas augmented reality imposes virtual images on real-life backgrounds.

Augmented reality already has enjoyed some commercial success thanks to the blockbuster "Pokémon Go" mobile game that launched last year. Virtual reality, by contrast, hasn't quite lived up to the hype. Expensive equipment and a lack of compelling games have limited the appeal of high-end gaming headsets from HTC, Sony and Oculus. Facebook, which

spent a surprising \$2 billion to buy Oculus three years ago, appeared to pivot this year to focus more on augmented reality. Microsoft's HoloLens headset launched last year also uses augmented reality.

Microsoft's intransigence on the mixed reality name may prove smart in the long term. But it risks confusion in the market now, as the company prepares to support its hardware partners going into the important holiday season. That support will be needed. The Windows-based headsets announced so far range in price from \$399 to \$