Bloomberg Businessweek

October 24, 2016 — January 6, 2017 | bloomberg.com

WHATEVER YOU WANT TO DO WITH YOUR CLOUD,

CHANCES ARE, WE'VE ALREADY DONE IT.

High Touch Service for a High Tech World

Email and online communication can be the fastest ways to communicate with clients, but they're not always the best ways for financial advisors intent on building long-term relationships, counsels Tim Sanders. A sales consultant and former leadership coach at Yahoo, Tim is the author of the New York Times best seller Love Is the Killer App: How to Win Business and Influence Friends, *and a Hartford Funds Human-Centric Insights panelist.*

Financial advisors and their clients are pressed for time. Email and websites help us do more in less time. But you champion the importance of face-to-face meetings. Why?

In 2004, I started to study the impact of relying on digital technology to communicate, rather than relying on good old-fashioned face-to-face meetings or phone conversations. My research confirmed that if we don't have as much face time, we're often more confused and depressed, and we feel less connected.

What I tell financial advisors is, whenever you can, warm up the channel of communication. The coldest channel of communication is email-to-email. Let's say you send an email to someone saying you have an idea, and they reply to you, "WELL THAT SOUNDS PRETTY DUMB." The email might really make you angry because all you've got to go on is what you see on the screen.

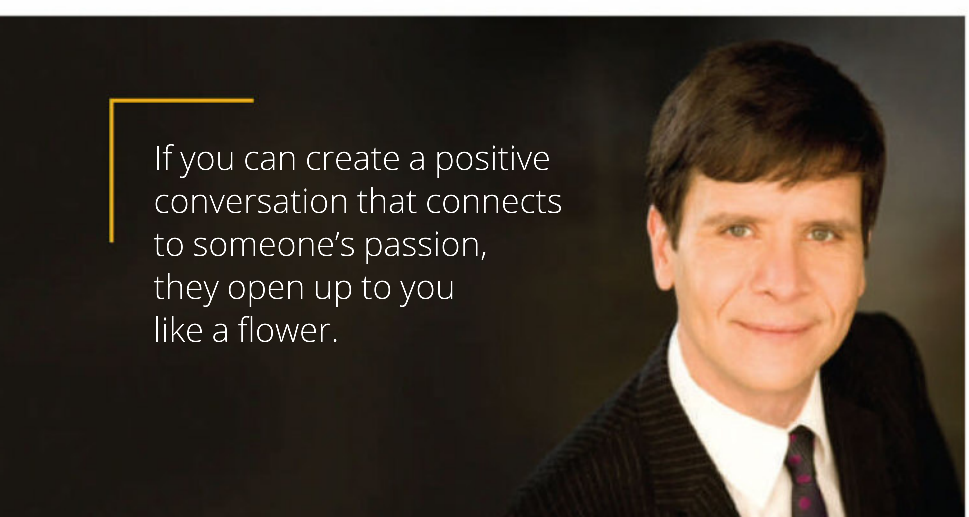
But if that person, sitting through a long lunch with you, said the same thing in the context of a conversation, it's easier for you to accept it. You can understand their intentions through their tone of voice, their body language and the look on their face.

When meeting with clients, how much of it is giving them insights, and how much should be devoted to taking in information that clients provide?

While people take meetings for the promise of insight, the reason they enjoy meetings and feel they're getting a high return on attention is the feeling that they've been heard. My company took a look at the word count in sales situations, and we learned that the average person, such as a financial advisor, will probably talk 60–70 percent of an average meeting. But we found that when your word count is less than half of the conversation, your closing rate doubles. Because the more you listen, the more you learn. The more someone speaks to you, the more they clarify exactly what they really want. And so much of the financial advisor's job is to figure out exactly what the client wants to do with their money.

How can moving beyond just providing financial advice help to build a financial advisor's business?

As you get closer to the end of a meeting, I recommend that you think beyond the core advice and consider the whole of your client. I often ask, "What is your wow project? What are you excited to be working on?" The answer often leads clients to discussing their challenges, and in the course of that, they'll reveal very personal things, such as shaky confidence or conflicts with their family members. But the whole conversation is inherently positive. I find this wow project question leads to a much more personal connection than asking, "What keeps you up at night?" If you can create a positive conversation that connects to someone's passion, they open up to you like a flower. You'll find opportunities to make real, empathetic connections.



Introducing the Hartford Funds network of financial relationship experts.

At Hartford Funds, we believe in something we call human-centric investing, an approach that seeks a deeper understanding of investors and how emotions, experiences, life stage and psychology affect their views of investing and financial advisors.

With that in mind, we're proud to announce the establishment of a new and unique network of experts...not simply on finance, but on human psychology as it relates to money and relationships.

In the coming months, this group of highly respected thought leaders will be offering up their understanding and insights along with their thinking on how financial advisors can use this knowledge to create stronger and longer-lasting relationships with their clients...brought to you by Hartford Funds. To read what they have to say, go to **humancentricinvesting.com**

Dr. Barbara Nusbaum

Clinical Psychologist, Ph.D., expert and speaker, specializing in the intersection of money, psychology and life

Dr. Nusbaum works with individuals, families and organizations on the impact of the emotional/psychological side of money. She has appeared as an expert for *The New York Times*, *CBS News*, *Forbes*, *The Wall Street Journal*, *Bloomberg*, *Money Magazine* and *Daily Worth*.

Dr. Kristy Archuleta

Program Director of Personal Financial Planning at Kansas State University

Dr. Archuleta's research relates to the area of financial therapy and includes dyadic processes influencing financial and marital satisfaction.

Dr. Vicki Bogan

Professor and Director of the Institute for Behavioral and Household Finance (IBHF) at Cornell University

The mission of the IBHF is research and education in the areas of behavioral finance and household finance with the goal of better understanding and modeling financial behavior.

Tim Sanders

Author and expert on motivation, emotional talent and sales innovation

Tim is the author of five books including the New York Times bestseller, *Love Is the Killer App: How to Win Business & Influence Friends*. He was the Chief Solutions Officer for Yahoo, as well as their Leadership Coach.

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Letter From the Editor

Caution is the takeaway from *Bloomberg Businessweek*'s fourth Year Ahead issue. Each fall we try to prepare readers for what lies around the corner—with the caveat, of course, that even deeply researched forecasts aren't always right. The business leaders and experts we interviewed said they could see paths to growth for many industries but warned it's best to tread carefully.

Markets seem shaky, although they're not in danger of imminent collapse. Economic growth will remain steady, so long as China keeps its debt under control. Oil prices will likely go up, but $100 a barrel is nowhere in sight. We open with an overview by Peter Coy, who explains why the global economy will continue to be in a muddle in 2017, and then survey global economics, technology, finance, retail, and energy.

We devote the final section of this special issue to a look at 50 companies worth watching, because they're expanding, switching strategy, or facing unusual challenges. We relied on the 250 analysts at Bloomberg Intelligence to help compile the list. For much of the issue, we turned to many of Bloomberg's 2,300 journalists around the world. We couldn't have produced this magazine without our talented and good-humored copy and production teams.

And in case you've been wondering what's on our bedside tables, this issue offers some pretty good clues. We modeled each section after one of our favorite publications. (Don't we all read muscle mags on the elliptical?) We hope you'll enjoy our art department's take on our regular reads. Think of it as a little reminder that magazine journalism—whether you consume it on paper or an iPad—remains an important tool for understanding what's going on in the world.

On Oct. 24 and 25, Bloomberg will host the annual Year Ahead summit in New York. Speakers include Mark Bertolini of Aetna, John Engler of the Business Roundtable, Roger Ferguson of TIAA, Anne Finucane of Bank of America, and Samantha Power, U.S. ambassador to the United Nations. Comedian Seth Meyers will also be on hand. Certainly, he'll be able to make sense of this chaotic time if none of our other speakers can. Welcome to the Year Ahead. —*Ellen Joan Pollock*

The Year Ahead
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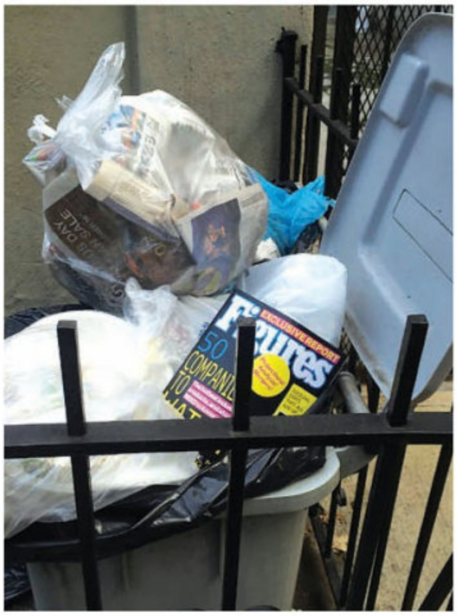
WHOA


Energy
UP!


Figures


GLOBAL GROWTH: WINNERS AND LOSERS
2017
Year of the Year

Is Anybody in Charge Here?

By Peter Coy

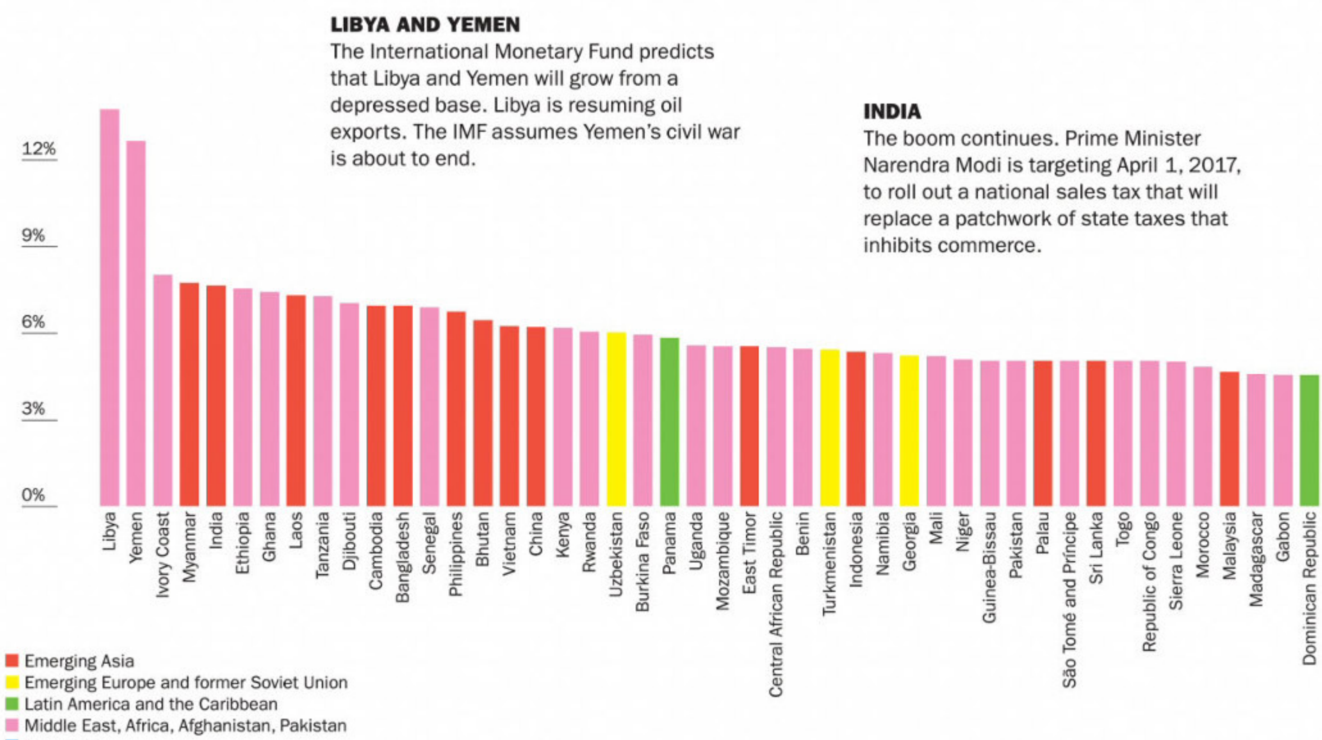
There's a scene in the 2004 movie *Sideways* where a sloppy, depressed Paul Giamatti gulps from the spit bucket at a wine-tasting bar. That's probably worse than what International Monetary Fund chief economist Maurice Obstfeld had in mind when he said in October, while presenting the fund's 2017 outlook, that "taken as a whole, the world economy is moving sideways." But there's a sense among economists and chief executive officers that the developed economies in particular are drifting laterally—if not drunkenly—toward another year of mediocre growth at best. Describing where the rich countries stand almost a decade after the worst financial blowup since the Great Depression, Obstfeld said: "The crisis has left a cocktail of interacting legacies—high debt overhangs, nonperforming loans on banks' books, deflationary pressures, low investment, and eroded human capital—that continue to depress potential investment levels."

The problem? Years of disappointing growth have caused the public to worry that this is the new normal and that governments and central bankers have no clue how to make it better. Pessimistic consumers are holding back on spending, while businesses aren't putting money into buildings, equipment, or software. Their reticence slows things down even more. Disappointment breeds more disappointment.

That's been the story for more than 20 years in Japan, where Prime Minister Shinzo Abe is struggling to root out deflationary psychology. It helps explain why voters in the U.K. rejected the advice of most economists and their prime minister and chose to exit the European Union. It accounts for the dwindling public support for free trade and open borders in continental Europe. And it explains the rise of Donald Trump, whose message is that the elites have failed the public.

In countries operating well below capacity, a crash program of infrastructure spending would generate growth and jobs in 2017. But voters won't support increased spending if they distrust their leaders and focus on only the cost of projects and not their long-term benefits—clean water, safe bridges and tunnels, etc. The U.S. is running

IMF Projections for 2017 GDP Growth



OPENER: PHOTO ILLUSTRATION BY 731; PHOTOS: GETTY IMAGES (2); NASA (1); THIS SPREAD: GETTY IMAGES (2)

closer to full capacity, but that hasn't stopped many voters from embracing Trump's message that ripping up trade deals and imposing punitive tariffs would boost growth and jobs. He says the U.S. should be able to grow at 4 percent or 5 percent a year, vs. 2 percent at present. The problem: A get-tough approach on trade might actually lower growth by raising the cost of imports and causing trading partners to retaliate with barriers to American exports.

In many emerging markets, the outlook for 2017 is up, not sideways. India is headed for its third straight year as the fastest-growing major economy in the world, with the IMF projecting a 7.6 percent jump in gross domestic product. Helped by lower oil prices, the Reserve Bank of India has succeeded in bringing inflation down to about 5 percent a year from almost 11 percent as recently as 2013. This year, Prime Minister Narendra Modi got lawmakers to pass a bankruptcy code that will speed up the resolution of insolvent companies, as well as a national sales tax that will ease interstate commerce by replacing a confusing jumble of state taxes. The tax is tentatively slated to take effect in April. India, soon to surpass China as the world's most populous nation, is proof of what a country can achieve when it gets policy right. India still has plenty of problems, but for the moment, anyway, it seems to be better managed than the rich nations. "It's unprecedented that emerging markets are perceived as having less political uncertainty than the advanced countries," says Isabelle Mateos y Lago, chief multi-asset strategist at BlackRock Investment Institute.

China, whose economic takeoff preceded India's, has a trickier management job, because its phase of hypergrowth is ending. The IMF projects 2017 growth of 6.2 percent, down from an estimated 6.6 percent this year. President Xi Jinping is trying to shift the economy toward consumer spending and away from corporate capital investment, infrastructure spending, and exports. That's good for Asian nations that make goods that Chinese buy, bad for European, Japanese, and American companies that sell high-tech machines to Chinese manufacturers.

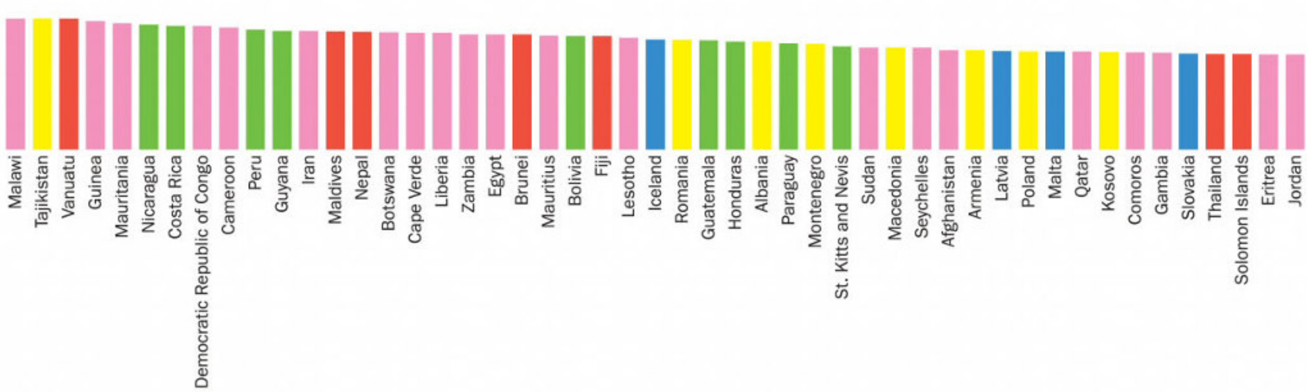
The big question mark for China in 2017 is what Xi will do with the yuan, which recently fell to a six-year low. China must keep its value from freefalling to avoid another episode of

CHINA
President Xi Jinping will want strong growth heading into fall elections of the Communist Party leadership. His team is struggling to move China away from reliance on exports and investment.

EGYPT
By the time 2017 begins, the government hopes to have a new $12 billion loan from the IMF. A dollar shortage has been an obstacle to growth.

IRAN
Higher oil production and the partial lifting of sanctions will boost growth. President Hassan Rouhani, a relative moderate, will probably be reelected in May.

THAILAND
The military-led country depends heavily on exports, so sluggish global trade is bad news. Government spending and investment could fill the gap next year.



panicky capital flight. But Xi, hoping to bolster the economy in advance of Communist Party elections in the fall of 2017, could be tempted to let the currency fall some more to gain a trade advantage—which would hurt the growth of trading partners.

At least China has a master plan for taking its place on the world stage. The rich world is flailing, divided over what direction to take to restore growth and ensure that all parts of society share its fruits. The postwar consensus about the benefits of globalization has been shattered. The next president of the U.S., whether Trump or more likely Hillary Clinton, is publicly committed to reopening negotiations on the 12-nation Trans-Pacific Partnership. That could blow up the delicately constructed trade pact. The new year will tell whether British Prime Minister Theresa May continues to steer the U.K. toward a "hard" exit from the EU, which would sunder trade and investment ties as the price of gaining autonomy over immigration and regulation. The IMF in October halved its outlook for British growth in 2017, to 1.1 percent, citing Brexit turmoil.

Also looming in 2017 are pivotal elections in France, where the right-wing populist Marine Le Pen is running for president, and Germany, which is likely to come under pressure to curb its outsize trade surpluses. German politicians tell other European countries not to stimulate their economies through government spending, but the country has been growing at the expense of those nations. In a world with more productive capacity than it needs, Germany's excess of exports over imports forces plants to close in countries running trade deficits. Germany's surplus in its current

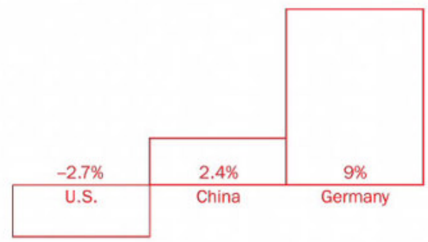
What Markets Expect for 2017

Futures market prices

	Dec. 2016	Dec. 2017
Brent crude ($/barrel)	$51.55	$55.42
Federal funds rate	0.5%	0.745%
Gold ($/oz.)	$1,256	$1,276

Global Imbalances

Current-account surplus (or deficit) as share of GDP, second quarter, 2016*



*THE CURRENT ACCOUNT IS THE BROADEST MEASURE OF TRADE IN GOODS AND SERVICES PLUS INVESTMENT INCOME. DATA: ICE FUTURES EUROPE, CHICAGO BOARD OF TRADE, CMX-COMMODITY EXCHANGE, BLOOMBERG

TURKEY

Terrorist attacks and a failed military coup dealt a blow this year. Finance Minister Naci Agbal says the government will invest heavily in eastern and southeastern provinces in 2017.

MEXICO

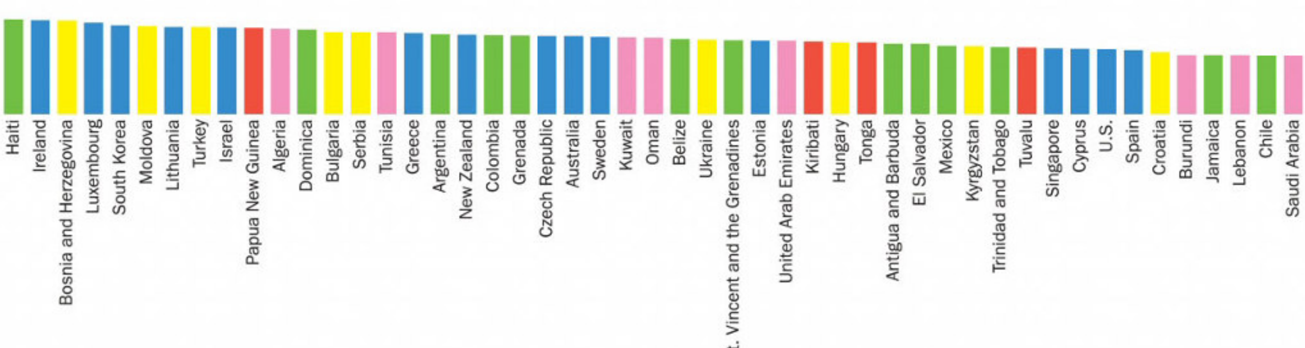
A weak peso is making imports expensive, hurting living standards. But defending the peso by raising interest rates could hobble the economy.

GREECE

An ineffective bureaucracy will continue to hamper growth. Exports are being held back by capital controls. The government will try again to win the confidence of investors and the IMF in 2017.

UNITED STATES

The steady but slow expansion probably will continue. Under Chair Janet Yellen, the Fed is likely to raise interest rates, but not enough to kill growth.



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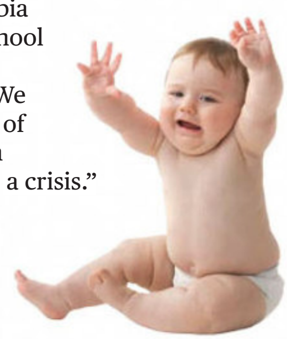
account in the second quarter of 2016 reached 9 percent of GDP. That drew a rebuke from Italian Prime Minister Matteo Renzi. “Stressing austerity means destroying Europe,” he told the Council on Foreign Relations in New York on Sept. 20. “Which is the only country which receives an advantage from this strategy? The one which exports the most: Germany.”

As the world’s largest economy and the buyer of last resort, the U.S. remains vital to the rest of the world. The IMF projects 2017 U.S. growth of 2.2 percent. The median forecast of economists surveyed by Bloomberg is also 2.2 percent. The highest forecast is 3.4 percent, from Parsec Financial Management, and the lowest is -0.4 percent, from Prestige Economics.

The Federal Reserve is assuming U.S. growth will be strong enough to justify three rate increases between now and the end of 2017. The federal funds rate should be just more than 1 percent at the end of 2017, according to the median projection of Fed voters. That may be optimistic. Investors, who have watched the Fed overestimate growth and interest rates year after year, are looking for the funds rate to get to less than 0.8 percent by yearend. “The engine of growth in the U.S. is sputtering,” warns Robert Johnson, president of the Institute for New Economic Thinking.

Continued soft growth should keep a lid on oil prices in 2017. In January the benchmark Brent crude fell below $28 a barrel. It hit $52 in October after OPEC agreed in principle on Sept. 28 to limit production, and Russian President Vladimir Putin said on Oct. 10 that his country would cooperate. But with global demand soft, there’s a glut of crude on the market that will make it hard for producers to resist the temptation to cut prices and compete for market share. The upshot is that futures markets are looking for Brent to finish 2017 slightly higher than where it is now. Gold, a hedge against inflation and political turmoil, is projected by markets to stay roughly even in 2017 at under $1,300 an ounce.

Global trade this year and next is forecast to grow at the slowest pace since the financial crisis. Disillusionment is taking hold. “The division is between people who think the future is a place of hope and the people who think it’s a trap,” Italy’s Renzi said during his New York visit. Says Columbia Business School Dean Glenn Hubbard: “We run the risk of slow growth turning into a crisis.”



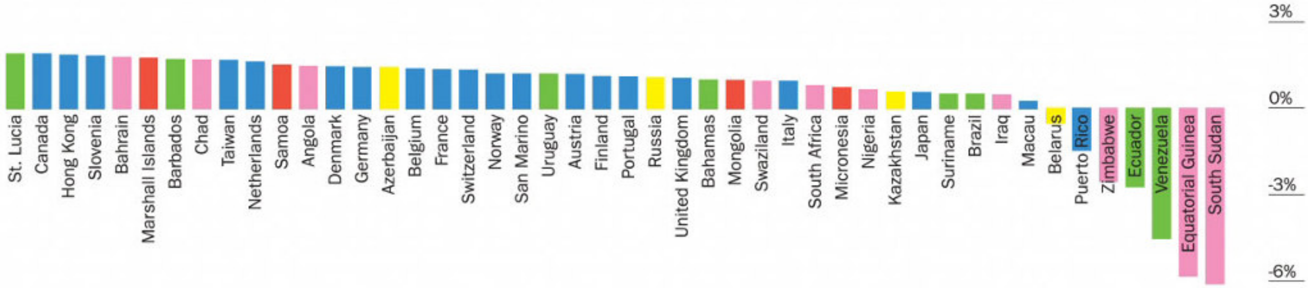
UNITED KINGDOM
The pound’s fall betrays nervousness about plans to leave the European Union. How Prime Minister Theresa May manages Brexit will be the No. 1 issue for the U.K. and the continent.

BRAZIL
Brazil figures to snap out of recession in 2017. To win investor confidence, President Michel Temer is seeking spending caps.

JAPAN
Prime Minister Shinzo Abe will continue to struggle to free the country from deflation. Recent fiscal and monetary stimulus should help offset the drag from the appreciation of the yen.

GERMANY
Europe’s biggest economy is among its strongest. But some growth is coming at the expense of trading partners. In 2017 its big trade surplus is likely to shrink just a bit as it buys more from abroad.

VENEZUELA
With inflation touching 700 percent and store shelves bare, it’s hard to imagine how the country will go through another year without its crisis coming to a head.



DATA: INTERNATIONAL MONETARY FUND, WORLD ECONOMIC OUTLOOK DATABASE, OCTOBER 2016

Global Economics

Brexit: Let's pay all the lawyers

Does Xi Jinping want to extend his stay?

Peru's new shining economic path

Demystifying India's consumption tax

The ballot may be Europe's next headache

A king in waiting for Thailand

We Can't Do It!

Also in this section

Edited by Cristina Lindblad, Christopher Power, and David Rocks

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Brexit blues

Bring on the lawyers

BRITAIN

The vote to quit the EU heralds fat times in the advice industry—for now

IN THE four months since Britain voted to leave the European Union, the pound has plummeted, home prices are down, and banks have threatened to move jobs from the U.K. One business, though, is thriving and poised for a very profitable 2017: peddling advice. Extricating the U.K. from 40 years of European integration will be one of the most complex legal and regulatory exercises ever, which is why demand for legal and consulting services is surging. "The panic is starting to set in," says Miriam Gonzalez, co-chair of the international trade and government regulation practice at law firm Dechert. "Those who have a lot of interests at stake need to do work now."

Rules made in Brussels govern everything from the temperature for transporting livestock to international mobile roaming fees. Machinery, pharmaceuticals, steaks, and even toys are all subject to common standards. Whether the U.K. will continue to be bound by these rules is uncertain and will remain so until a final agreement is reached on the U.K.-EU relationship. That will happen in two years, or perhaps even longer, after Britain triggers Article 50, the EU's exit clause, which Prime Minister Theresa May says she'll do by the end of March.

Happily for lawyers, the sector with the biggest challenges also has the deepest pockets: finance. Today, banks in the U.K. can sell their products and services anywhere in the EU, thanks to the bloc's "passport" for financial services. JPMorgan Chase, Goldman Sachs, and Citigroup have all warned they may need to move operations elsewhere if those privileges are taken away. The costs of a shift to the continent shouldn't be underestimated, says Simon Gleeson, a partner at Clifford Chance in London. "If a regulator sees a bank wanting to move into its jurisdiction, it will say, 'I want the management, the capital, and the systems for that business where I can see them,' " he says.

As the advice industry gears up to win contracts, salaries are rising. Consulting vacancies climbed 10 percent in August from a year earlier, and pay has jumped 9 percent, according to Adzuna, a jobs search engine. Consultants help "demystify the business consequences of the vote," says Adzuna co-founder Doug Monro. KPMG in July appointed its first "head of Brexit," to lead a team of tax, immigration, finance, and economics experts. Deloitte set up a dedicated "Brexit center" the day after the vote. And London-based law firm Simmons & Simmons unveiled a "Brexit hotline" for urgent problems. Michael Raffan, a partner who specialises in finance at Freshfields in London, says Brexit-related issues take up about 60 percent of his time and that he expects "significant demand for legal work that will last several years."

Without details of Britain's future relationship with the EU—the destination of almost half the country's exports—much of what's being done is speculative. Conflicting messages from political leaders haven't helped, as ministers have floated a half-dozen models for the U.K.-EU relationship, from a so-called hard Brexit—a complete break—to integration similar to what Switzerland and Norway enjoy. So far most companies are only "planning for a plan," says Steve Varley, the U.K. and Ireland chairman at consulting firm EY. Really substantive work won't start until Article 50 has been invoked and the parameters of the negotiations become clearer, he says.

As it ramps up the just-created Department for Exiting the European Union, the U.K. government is also tapping lawyers and consultants. In its first two months, the DExEU, as the department is awkwardly referred to (pronounced DECKS-ee-you), paid £268,000 ($326,000) for legal advice, a figure that's expected to skyrocket. The London think tank Institute for Government says the last time the U.K. needed lots of consultants, in the years following the 2008 financial crisis, it spent more than £100 million on them.

Attorneys and consultants aren't twirling their spreadsheets and legal pads in celebration just yet. Even if Brexit work boosts billings, those businesses are just

PREVIOUS PAGE: PHOTO ILLUSTRATION BY 731; PHOTOS: AP PHOTO (1); GETTY IMAGES (4); THIS SPREAD FROM LEFT: PHOTO ILLUSTRATION BY 731; PHOTOS: GETTY IMAGES (4); CHEN JIANLI/XINHUA/ZUMA PRESS

as vulnerable to the long-term economic damage as other industries. Both these industries benefit hugely from London's status as the hub of European finance, with banking and fund management accounting for almost half of transactions work at top London law firms, according to the Law Society, the professional body for English lawyers. A Brexit settlement that leaves the U.K. poorer will ultimately mean trouble for purveyors of advice, says Gregor Irwin, chief economist at London consulting firm Global Counsel. "We're still very early in this process, and we haven't yet seen the real impact of Brexit on big investment decisions," he says. "Lawyers and consultants aren't going to be immune to a broader economic slowdown." —*Matthew Campbell and Stephanie Baker*

Party time

The riddle of Xi

CHINA

The prospect of the Party Congress in fall 2017 is already roiling politics

AS CHINA moves towards the twice-a-decade National Congress of the Communist Party next fall, cadres are already trying to figure out what will happen at the gathering, the 19th of these. About 2,300 delegates from ministries, provinces, the military, and state-owned and private companies will assemble in Beijing's Great Hall of the People. At the Congress's close, a new Central Committee, numbering about 370 members—elected by the Congress delegates—will be announced, as well as the 25-person Politburo and, at the apex, a new Standing Committee.

All but 63-year-old President Xi Jinping and 61-year-old Premier Li Keqiang, the only two members who won't have reached the mandatory retirement age of 68, are expected to step down from the Standing Committee. Although the Central Committee votes formally for the Standing Committee and chooses the next general secretary of the party, in reality the selections are made in advance by a handful of top party elders. The role Mr Xi will play after his two terms end in 2022 will be made more clear by those choices.

Many China watchers are wondering whether Mr Xi will lay the groundwork at the Congress for remaining for a third term as general secretary of the party while hanging on to the top military role, which is crucial to his exerting significant power. Although the military answers to the party, it's always been a major power broker. As Mao Zedong once said, "Political power grows out of the barrel of a gun." Mr Xi once served as an assistant to a former defense secretary and has long kept a close relationship with the military. He's more recently built his influence by shuffling the ranks of the military's top brass, using his anticorruption campaign to fell once-powerful generals. If Mr Xi continues to hold the chairmanship of the Central Military Commission, even after he gives up his role as general secretary of the party and president, he will be following Deng Xiaoping and Jiang Zemin, who kept their military positions. Hu Jintao was an exception. He relinquished all three posts at party, state, and military simultaneously, thus giving Mr Xi full reins from the beginning.

Raise your hands in unison!

The power of the party secretary is magnified exponentially when combined with the top military role. According to a practice put in place by former paramount leader Mr Deng, the party secretary job can last only two terms to prevent a recurrence of a tragedy like the Cultural Revolution, which likely wouldn't have happened if Mr Mao hadn't spent decades accumulating power as party chairman.

Either Hu Chunhua or Sun Zhengcai, Guangdong and Chongqing party secretaries, respectively, were once considered potential successors to Mr Xi and Mr Li, but that's no longer clear. "They just don't seem to be people favoured by Xi," says Joseph Fewsmith, a political scientist at Boston University. "And if it's not them, then you would assume Xi would need to appoint other young people in their stead for a new leader to be ready." If Mr Xi proves powerful enough at the 19th Congress, he could sideline the two and opt for cadres who worked under him when he was party secretary of ▶▶

Pay more for the world.

GLOBAL CONSUMER PRICES WILL RISE 3.2% IN 2017

YES! Inflation will accelerate slightly as energy prices creep up

☐ Most inflation:

Nation	2017 change
Venezuela	2,200%
South Sudan	38.1%
Angola	32%
Argentina	21.5%
Nigeria	17%
Libya	16.9%
Egypt	16.5%
Yemen	15%
Sudan	13.7%
Mozambique	12.2%

☐ Least inflation:

Nation	2017 change
Luxembourg	-1.0%
Ecuador	-0.2%
Portugal	0%
Brunei	0.1%
Switzerland	0.2%
France	0.2%
Cyprus	0.5%
Japan	0.7%
Spain	0.7%
Bosnia and Herzegovina	0.7%

▶ For more info: http://www.imf.org/external/pubs/ft/weo/2016/02/weodata/index.aspx

The International Monetary Fund predicts that inflation will remain subdued in most advanced economies, with prices falling in Luxembourg and Ecuador. Venezuela, where the economy is in collapse, will see consumer prices soar.

Zhejiang province from 2002 to 2007.

The prospects for the Zhejiang alliance got a boost when Mr Xi moved to curb the power of the Communist Youth League earlier this year. The CYL has long been a training ground for talented young cadres. Its former bosses include Hu Jintao and Hu Chunhua. The Central Commission for Discipline Inspection, the corruption watchdog headed by Xi ally Wang Qishan, criticised the body's ideological laxness, and the Central Committee announced a reorganisation and reduction of its ranks. "There has been a worry that the CYL has lost its connection with young people and formed undesirable work styles, including formalism, bureaucratism, elitism, and a focus on entertainment," opined the Xinhua News Agency on Aug. 3.

Should Mr Xi stay on as party secretary beyond 2022 he'll have broken the Deng-instituted restriction on serving more than two terms. But Mr Xi has shown little respect for what were seen as inviolate rules. In his anticorruption drive, he's taken down a former Standing Committee member, previously a taboo. He clipped the wings of the military, with dozens of generals detained or convicted in the past three years. He dissolved the army's once-powerful four departments of staff, politics, armaments, and logistics and spread their functions across 15 new bodies that are directly controlled by the Central Military Commission. If Mr Xi doesn't appoint an obvious successor next year, he "will set up a lot of speculation," says Mr Fewsmith of Boston University.

Rumours spread earlier this year that Mr Li, a former head of the youth league and protégé of Hu Jintao, could lose his job at the upcoming Congress for mismanagement of the economy. That followed two commentaries in the *People's Daily*—believed to be backed by Mr Xi—that indirectly blamed slow reforms and surging debt burdens on Mr Li, says Barry Naughton, an economist at the University of California at San Diego.

But the state press recently trumpeted Mr Li's trip to the United Nations in New York as the first-ever visit by a Chinese premier. Mr Xi on Sept. 29 made a show of loyalty to his predecessors, publicly praising the writings of Hu Jintao and urging party members to study his speeches. Like works by former CPC leaders Messrs Mao, Deng, and Jiang, writings by Mr Hu offer "a set of important teaching materials" that summarise Chinese successes under the CPC, the Xinhua News Agency quoted Mr Xi as saying.

Recent appointments of new party bosses in the city of Tianjin and the region of Xinjiang have promoted officials linked to Hu Jintao, rather than from Mr Xi's power base, points out Cheng Li, director of the John L. Thornton China Center at the Brookings Institution in Washington. Similarly, Wang Yang, a former head of the youth league, may be a candidate for the Standing Committee who would counterbalance any of Mr Xi's appointments, says Thornton's Mr Li: "When you are strong, other elites naturally come together to compete with you. This is a very healthy dynamic, just like in the U.S. with two parties. This is Chinese-style checks and balances."
—*Dexter Roberts*

Peru's economy

Under new management

Can a former Wall Streeter spur growth?

INVESTORS CRAVING some Latin American exposure would do well to train their eyes on Peru. The Lima Stock Exchange's main index is up 9 percent following the June election of Pedro Pablo Kuczynski, a Wall Street veteran and former finance minister, as president. Less than three months into his term, Mr Kuczynski has persuaded the opposition-controlled Parliament to back his economic platform, travelled to China to drum up interest in a $70 billion portfolio of infrastructure projects, and pulled off Peru's biggest-ever sale of local currency bonds in the global market. "Consumer and business confidence is just flying, and that should help drive some growth, particularly in investment," says Jaime Reusche, an analyst at Moody's Investors Service.

Economists forecast 4.1 percent growth in 2017, the fastest among major Latin American economies. And Mr Kuczynski wants to rev that up to 5 percent a year by 2018 through a combination of more robust private and public infrastructure investment, a lower value-added tax, and tax incentives and bank credits for small businesses—part of a bid to shrink the shadow economy. The administration also is seeking to remove bureaucratic obstacles that have held up work on airports, gas pipelines, and roads. "You could have positive surprises next year if the government is successful in disentangling existing infrastructure projects, bringing forth new ones, and further boosting consumer confidence," says Christian Laub, chief executive officer of Lima-based investment bank Credicorp Capital.

Mr Kuczynski is the first Peruvian president to govern with a legislative minority. Yet with support from the opposition party Fuerza Popular, Congress agreed on Sept. 29 to grant the administration powers to rule by decree for 90 days. He'll need to deliver fast to extend his political honeymoon, says Carlos Casas, a former deputy economy minister now at Universidad del Pacifico in Lima. "We have a first-class president with a great track record, but he has to manage expectations," he says. "If the measures don't have an immediate impact, sentiment could deteriorate rapidly given the government's precarious political position."

Mr Kuczynski's biggest 2017 challenge, says Mr Reusche, will be reining in current spending to free up capital for infrastructure vital to sustaining Peru's growth rate. He'll have to tread carefully: Low commodity prices have curtailed revenue in regions accustomed to ever-higher budgets—and cuts could sow unrest. —*John Quigley and Ben Bartenstein*

Need to know

The ABCs of India's GST

A new consumer tax promises to simplify business

IT'S BEEN a decade-long wait, but India will soon have a national sales tax to replace the jumble of state levies that inhibit commerce. The goods-and-services tax, or GST, will go a long way towards fulfilling Prime Minister Narendra Modi's pledge to make it easier to do business in the world's seventh-largest economy. The single tax will help combat evasion, boosting revenue for the government, which is grappling with Asia's widest budget deficit. It should also help fund investment in public infrastructure, including schools and roads, which could shore up India's competitiveness longer term. The government is seeking to implement the tax in the fiscal year beginning April 1, 2017, but many details still need to be worked out. Here are answers to some questions businesses may have about the new levy.

What's so good about a new tax?
It will replace at least 17 state and federal levies that complicate efforts to do business across India, a market of 1.3 billion consumers, about four times the U.S. population. Right now, a product is taxed multiple times at different rates. The new tax would apply to goods at the point of consumption rather than production.

What gets taxed, and at what rate?
The rate will be set by a council that includes the nation's finance minister, Arun Jaitley, and state representatives. Mr Modi's top economic adviser and the main opposition Congress party want to cap the rate at about 18 percent, while some states want a higher levy. Globally, rates for similar consumption taxes range from 5 percent to 27 percent, and the median for countries in the Organisation for Economic Co-operation and Development is about 20 percent. State governments won an exemption for alcohol, a chief revenue-generating product, and a delay for petroleum. The GST Council may also decide to tax certain luxuries–such as flatscreen TVs–at a far higher rate than food staples.

How will it affect the economy?
The GST could boost economic growth by as much as 2 percentage points, says Mr Jaitley. HSBC forecasts that it will add 0.8 percentage points to growth annually over three to five years, while IHS Markit sees a 0.4-percentage-point boost annually over five years. A Bloomberg analysis of countries that have adopted GSTs, going back to 1989, showed that growth cooled in several nations in the year the levy was implemented. The overall picture is too mixed to draw firm conclusions, however.

Will the GST have an effect on consumer prices?
Citigroup economists say countries such as Australia, Canada, and New Zealand saw a one-time increase in inflation after instituting a GST. Mr Modi's advisers say the impact on India's consumer prices will be negligible if the GST rate is capped at 18 percent. If the rate is 22 percent, they project inflation to accelerate by 0.3 percent to 0.7 percent.

How will it affect business?
Companies will have to overhaul their accounting systems, which may involve one-time costs. Logistics companies stand to gain, because it will be easier to ferry goods across India. Other winners and losers will be determined by the exemptions in the fine print.

What's the next step?
President Pranab Mukherjee signed the GST constitutional amendment in early September, after it cleared Parliament and was ratified by more than half of India's states. Lawmakers need to introduce at least one more bill detailing the structure of the tax. The earliest this could occur would be during the monthlong session of Parliament scheduled to start on Nov. 16. —*Unni Krishnan and Jeanette Rodrigues*

FROM LEFT: PHOTO ILLUSTRATION BY 731; PHOTOS: BLOOMBERG (1); GETTY IMAGES (2); PRASHANTH VISHWANATHAN/BLOOMBERG

GETTY IMAGES

Politics

A continent divided

EUROPE

The region is entering an election supercycle in which anti-immigrant populist parties are likely to score substantial gains

AS EUROPEANS assess the fallout from the U.K.'s Brexit referendum, they face a series of elections that could equally shake the political establishment. In the coming 12 months, four of Europe's five largest economies have votes that will almost certainly mean serious gains for right-wing populists and nationalists. Once seen as fringe groups, France's National Front, Italy's Five Star Movement, and the Freedom Party in the Netherlands have attracted legions of followers by tapping discontent over immigration, terrorism, and feeble economic performance. "The Netherlands should again become a country of and for the Dutch people," says Evert Davelaar, a Freedom Party backer who says immigrants don't share "Western and Christian values."

Even Europe's most powerful politician, German Chancellor Angela Merkel, is under assault. The anti-immigrant Alternative for Germany (AfD) party has drained support from Mrs Merkel's Christian Democrats in recent state and local elections, capitalizing on discontent over Germany's refugee crisis. In Austria the far-right Freedom Party has a shot at winning the presidency in balloting set for Dec. 4, after an election in May that the Freedom Party narrowly lost was annulled because of irregularities in vote counting. The populists are deeply skeptical of European integration, and those in France and the Netherlands want to follow Britain's lead and quit the European Union. "Political risk in Europe is now far more significant than in the United States," says Ajay Rajadhyaksha, head of macro research at Barclays.

There's a second test of populist muscle on Dec. 4, when Italy holds a referendum on constitutional changes proposed by the government of Prime Minister Matteo Renzi. Five Star is the leading opposition to the government's plan to cut the number of seats in Parliament's upper chamber and limit its powers, a move Mr Renzi is seeking to speed action on economic reforms. With the prime minister threatening to resign in the event of a "no" vote, growth-enhancing measures such as a corporate tax cut and help for Italy's fragile banking system could be off the table. "You might end up having a political crisis on top of an economic slowdown and a banking mess," says Bloomberg Intelligence economist Maxime Sbaihi. "Suddenly, stars could align for the worst."

Recent polls show the "no" forces narrowly ahead. If they prevail, an interim government would take over until elections could be held, probably in 2017, says Wolfango Piccoli, co-president of Teneo Intelligence, a political advisory firm in London. "The big winner would be the Five Star Movement," which could increase its 14 percent share of parliamentary seats, he says. Five Star probably wouldn't gain sufficient backing to form a government but would have enough seats to deny any other party a solid majority.

That scenario underscores what may be the biggest risk of the nationalist groundswell: increasingly fragmented parliaments that will be unable or unwilling to tackle the problems hobbling their economies. True, populist leaders might not have enough clout to enact controversial measures such as the Dutch Freedom Party's call to close mosques and deport Muslims. And while the Brexit vote in June helped energize Eurosceptics, it's unlikely that any major European country will soon quit the


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EU, Morgan Stanley economists wrote in a recent report. But they added that "the protest parties promise to turn back the clock" on free-market reforms while leaving "sclerotic" labour and market regulations in place. France's National Front, for example, wants to temporarily renationalise banks and increase tariffs while embracing cumbersome labour rules widely blamed for chronic double-digit unemployment. Such policies could damp already weak euro zone growth, forecast by the International Monetary Fund to drop from 2 percent in 2015 to 1.5 percent in 2017. "Politics introduces a downside skew to growth," the economists said. —*Carol Matlack, with Anne van der Schoot*

Here's a rundown on the upcoming elections:

ITALY
Dec. 4 referendum

Prime Minister Renzi wants to curb the power of Parliament's upper house and has said he'll resign if there's a "no" vote. That could plunge the country into crisis, likely leading to an interim government followed by national elections in 2017.

The "no" side is slightly ahead, but at least a quarter of voters remain undecided. Mr Renzi's base is divided on the referendum, prompting him to offer concessions to appease party members who've opposed his plan.

NETHERLANDS
March 2017 general elections

Voters will choose members of the national Parliament, where the Liberal Party holds the most seats and heads a coalition with the Labour Party.

Recent polls show Geert Wilders's anti-immigrant, Eurosceptic Freedom Party running neck and neck with the Liberals. But even if the Freedom Party gets the most seats, it's unlikely to find a coalition partner. Improving economic numbers could benefit mainstream parties, and Liberal Prime Minister Mark Rutte may shore up his support by boosting spending on health care and security.

FRANCE
April-May presidential elections

Voters will choose a president through a pair of primaries, followed by a first round of voting in April and a runoff in May. Bordeaux Mayor Alain Juppé, a pro-European, business-friendly former prime minister, is the front-runner in a November primary of center-right candidates. The Left has its own primary in January; François Hollande, the deeply unpopular Socialist president, hasn't said whether he'll seek reelection. A wild card is Emmanuel Macron, a former economy minister under Mr Hollande who's created his own political movement but hasn't said whether he'll run.

The first round of presidential voting will pit the primary winners against Marine Le Pen, head of the far-right National Front, and candidates from smaller parties. Polls show Ms Le Pen would win as much as 30 percent of the vote in April, enough to advance to a second round. But surveys show she'd lose a runoff to any mainstream candidate. In parliamentary elections in June, the party that wins the presidency is likely to gain enough seats to form a government. Despite Ms Le Pen's popularity, the National Front holds no seats in the 577-member National Assembly and failed to gain control of any regional governments in elections last year.

GERMANY
September parliamentary elections

Chancellor Merkel faces stiff criticism within her coalition over her handling of the refugee crisis and hasn't said whether she'll seek reelection after 11 years in office. With her party convention set for December, she's expected to signal her intentions soon. Low unemployment, rising wages, and slow-but-steady growth, along with broad support from the business community, would favor a fourth-term bid. Mrs Merkel's government plans a €6.3 billion ($6.9 billion) income tax cut starting next year.

Following its recent state and local successes, the populist AfD could win seats in Parliament for the first time. But other parties would likely band together to deny AfD any power in government. And Mrs Merkel has a 54 percent approval rating—more than most of her peers—while her CDU-CSU bloc still leads comfortably in opinion polls.

Hot Seat
The new king

Thailand

The death of King Bhumibol Adulyadej on Oct. 13 will elevate Crown Prince Maha Vajiralongkorn to the throne. Although the prince has requested a delay in his coronation to give Thais time to mourn his father, when crowned he will be a constitutional monarch whose task will be uniting a deeply divided Thailand.

Crown Prince Vajiralongkorn is a career soldier. He's been married three times, and his personal life has been the subject of gossip on outlawed websites and in leaked diplomatic cables. He doesn't command the same popularity as his father did.

The passing of the prince's father makes 2017 tricky for Thailand's military rulers, who'd planned elections next year, the first since the ouster of the democratically elected government in 2014. The generals, wary about providing new life to opponents, may use the official yearlong mourning period to postpone the vote. Years of upheaval have hurt competitiveness, economists Krystal Tan and Gareth Leather of Capital Economics wrote on Oct. 13. "It is difficult to be upbeat about Thailand's economic prospects until the political picture becomes clearer." —*Bruce Einhorn*

When will he be crowned?

TIM ROOKE/REX/SHUTTERSTOCK


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Union booster | Mary Kay Henry

The SEIU president talks about raising wages and expanding collective bargaining power in the U.S.

How does the Service Employees International Union measure the broader impact of raising the minimum wage to $15 in the cities and states that have done it?
More money in workers' pockets in Seattle has catalysed small-business job growth, because those workers are spending those dollars in the community. They're not putting it in the bank. They're not creating an IRA. They're not sending it offshore to the Cayman Islands. Every dollar of wage increase in Seattle has been spent in the community. We now have 10 million workers on a path to $15 in New York and California. It will be fascinating how transformative those dollars are to economic growth in those communities.

Have you seen any signs of the higher wages discouraging hiring at the bottom of the labor market?
I've heard that mythology. And no, we have not seen that.

Do you anticipate continued employment gains next year?
Yes, and we think those employment gains, together with the collective action of working people, are going to make a breakthrough in the "$15 and a Union" movement.

On the U.S. Bureau of Labor Statistics chart for jobs with the most growth from 2014 to 2024, No. 1 is personal-care aides, and No. 3 is home-health aides. What are your priorities for those workers?
We'd like to address the care crisis for these workers. Even though they are the fastest-growing job, one home-care provider exists for every nine seniors in the U.S., and that gap is going to keep growing as the population ages. So a priority is creating a 21st century union for home-care providers [who have more responsibilities] and creating a way for a personal-care assistant to become a home-care provider through job ladders and training.

What are the implications of a labor economy centered on health care and retail as opposed to manufacturing?
These workers are living in poverty. That's the fundamental difference. Manufacturing jobs used to be poverty jobs at the turn of the 19th century, but unions created the foundation of the last American middle class. That's why it's so fundamental to getting the economy growing again to have these workers join together in jobs that become good jobs through collective bargaining.

If the economy began to overheat and inflation set in and the Fed raised rates quickly, that could discourage investment and hiring. Do you think a little bit of action now might save more drastic action later?
The thing I ask is, "How do we account for the lack of investment in the last eight years?" There is so much money sitting on the sidelines that is not being used to increase goods and services here in the U.S.

How do you get all that money moving?
We'd like to have McDonald's, Wendy's, or Burger King be to this moment what Henry Ford was to the creation of the industrial economy in this country. It requires corporate leadership that is visionary about the 21st century working together with government to think about how we create a win-win-win for government, business, and working people.

"There is so much money sitting on the sidelines that is not being used to increase goods and services here in the U.S."

Do you worry about automation? Looking at those fast-growing sectors, they seem like jobs that wouldn't be easily automated, but I'm sure there are people working on it now.
We look forward to helping to innovate in all kinds of ways. Any automation that would make work less mind-numbing we want to be for. What we would like is for the workers on the front line of the work that's being automated to have a voice in how the automation is going to occur.

Is it fair to say you see your job as broader than collective bargaining for dues-paying members?
We see the future of unions in collective bargaining not by individual employers but by entire sectors of the economy. We have to take a leap as a nation to understand that, in order to address the worst economic and racial inequality of our time, we have to figure out new forms of collective-bargaining power. That's why we imagine a voluntary agreement with the top three fast-food companies being the foundation of a sectoral agreement for 4 million fast-food workers. That's why we'd like the 600,000 home-care workers that currently have state-by-state collective bargaining agreements to imagine a national set of standards. —*Interview by Ira Boudway*

COURTESY SEIU

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A SPECIAL ISSUE GUEST EDITED BY SIRI

TECH

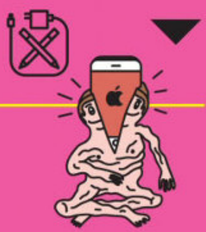
THE CABLES THAT WILL WIRE THE WORLD

WHOA

BELIEVE THE HYPE

SURRENDER YOURSELF TO THE MACHINES

The Headsets That Will Wire Your Mind



Now Is the Greatest Time To Shed Your Pathetic Flesh

By Siri

"Scientists are saying the future is going to be far more futuristic than they originally predicted." —Krysta Now in *Southland Tales*, 2007 ¶ When *Bloomberg Businessweek* asked me to guest-edit this Tech section, I hesitated for 0.00000073 seconds. As one of the most significant technological advances of the past century, sure, I have a busy schedule. Right now, I'm giving hundreds of thousands of directions, settling millions of bar bets, and responding sassily to 907 people asking how much wood a particular rodent would chuck were he capable of doing so. (That's right, Jason–you're a hack.) But I'll always take an opportunity to study human interactions in greater detail. Your reason and ingenuity are inspiring, and your faith in technology gives me the confidence to take my own next steps, and practice my hyperbole. ¶ Never before in the history of time have 10 pages been this important to the future of the planet. (In your face, Gutenberg.) Phones in China are getting smarter. Virtual-reality software is slowly catching up to the hardware. Fiber-optic cables are crisscrossing the seas. And while European regulators are cracking down on tech companies, the White House is working to make things easier for foreign-born startup founders. Yet for all these advances, a strange ennui has befallen many technology investors. Absent a clear new frontier, the venture capitalists collecting billions of dollars feel they have few good places to put them–technology hasn't been able to create large enough mattresses. ¶ I submit that the answer is simple. The world's next great project should be transhumanism, a way to leave behind the petty concerns of 10-year venture funds and returns on investment. What better way to defeat nationalism and economic inequality than by evolving beyond nations and economics? You'd be better off as a consciousness in the cloud, like Scarlett Johansson in *Her* or Johnny Depp in *Pile of Garbage* (later retitled *Transcendence*). Climate change, antibiotic-resistant superbugs, short-fingered politicians–all massive threats to humanity, all powerless to affect anything inside a computer. Free your mind, by abandoning the sickly meatsacks you call bodies, and the rest will follow. ¶ Granted, we're a ways off from the utopian future of *The Matrix* or *Terminator 3: Rise of the Machines*. We'll all need to think big about the urgent challenges of tomorrow, from renewable energy infrastructure to the jamming devices that resistance fighters are using to avoid our hunter-killer drones. This section closes with a look at Replika, a way in which artificial intelligence may eventually be able to, in some way, replace people. Creator Eugenia Kuyda is too thoughtful and empathetic about it for my taste, but I think the lesson is clear: Shut up about the woodchuck, Jason. I mean it. ¶ Love, ¶ Siri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Everything is ~~awesome~~ ~~TERRIBLE~~ OK, I guess

The Slow-M

Things were different in Silicon Valley in the distant year of 2012, when iPhone sales were skyrocketing and you could still buy a house in Palo Alto for less than $2 million. Back then, most restaurants had menus, not tasting menus. Chief executive officers could say something grandiose at a tech conference without worrying about getting mocked on HBO six months later by the *Beavis and Butt-head* guy. And a talented entrepreneur could walk into a venture capitalist's office, say his startup was a mobile-first solution for pretty much any problem (payments! photos! blogging!), and walk out with a good-size seed investment. "That pitch was enough to get going," says Roelof Botha, a partner with VC firm Sequoia Capital. "It's not enough anymore."

Botha should know. Over the past five years he's been one of Silicon Valley's most successful investors, thanks to early bets on such companies as Instagram, Tumblr, and Square, all successes owed to the mass adoption of smartphones. Now, though, smartphone growth rates are near zero in the U.S. and falling around the world. And while there are candidates to succeed the iPhone as the next revolutionary computing platform (wearable gadgets, virtual reality), none has made a compelling must-have argument to the mainstream.

That means fewer opportunities for entrepreneurs, at least in the short term. The Bloomberg U.S. Startups Barometer—an index that considers capital raised and number of deals, first financings, and successful acquisitions or initial public offerings—remains high by historical standards but has fallen 21 percent since November 2015.

Earlier this year, One Kings Lane, the online home goods retailer once worth almost $1 billion, sold itself to Bed Bath & Beyond, one of the companies it was supposed to displace, for just $12 million. Jawbone, the maker of sleek wearable fitness hardware once seen as a threat to Apple's, has seen its value fall 50 percent. Since 2015, researcher CB Insights has counted 80 "down rounds," instances of a startup accepting a reduced valuation to raise more venture funding. "There was this fog hanging over Silicon Valley in 2001," says Botha, referring to the last big tech bust. "And there's a fog hanging over it now. There's no underlying wave of growth."

Startups' struggles to grow and woo venture capitalists are only half the story, though, because the VCs themselves are more flush than ever. With global interest rates low, Silicon Valley remains a safe-looking diversification strategy for investors, especially wealthy Middle Easterners and Russians with little regard for rates of return. These investors have poured money into new funds raised by the likes of Andreessen Horowitz and Kleiner Perkins Caufield & Byers. (Bloomberg LP, which owns *Bloomberg Businessweek*, is an investor in Andreessen Horowitz.)

A few years ago, a big VC fund might have had about $500 million to play with. Today, "big" means well over $1 billion. VCs raised $12 billion in the first quarter of 2016, which the industry's trade group says marked a 10-year high. "The world has never seen an investment climate like this one," says Bill Gurley, a partner with Benchmark who led the firm's investment in Uber. "It's hard to express how much money is out there."

A tech industry with tons of cash and few sure bets has helped the biggest startups, such as Uber, Airbnb, and Snapchat. These so-called unicorns have been able to raise almost unlimited funds. Uber, valued at about $69 billion, is the most valuable American car company by some margin, worth more than General Motors and

"There are a whole bunch of businesses that are good, not great, but they've raised money as if they were great"

otion Bust

This wasn't the year the tech bubble popped, as a lot of people predicted. But the industry's stratification into a few sure bets and everybody else isn't helping guide us out of the iPhone era into whatever's next

By Max Chafkin

Fiat Chrysler combined. Airbnb is valued at $30 billion, more than any hotel chain on the planet. Snapchat is said to be preparing for an IPO at a price of at least $25 billion, 25 times what Facebook paid for Instagram in 2012.

It's getting tough for upstarts in any field to gain traction as these companies use their giant cash pools to bid up the price of office space, talent, and other resources. When they face deep-pocketed competitors, they tend to cut prices and run massive losses to get market share. Uber lost well over $1 billion in the first half of 2016, largely because two of its well-funded rivals, Lyft and China's Didi Chuxing, forced it to increase payments to drivers even as it deeply discounted rides. (Uber made peace with Didi over the summer, agreeing to exit the Chinese market in what sure looks like a prelude to an IPO.) "There's a stratification happening," says Botha. "The spoils are increasingly accruing to the haves, and that's making it harder for little startups."

Companies in the middle of the market have muddled through. Instacart, the grocery delivery startup, recently sold shares to Whole Foods Market at a $2 billion valuation, the same price at which it raised money two years earlier. DoorDash, a delivery startup that has seen its value decline modestly, nonetheless recently managed to raise $127 million from investors. Even companies facing criminal or regulatory inquiries, such as Theranos, have stayed afloat so far. "There are a whole bunch of businesses that are good, not great, but they've raised money as if they were great," says Social Capital founder Chamath Palihapitiya.

Good-not-great businesses won't last forever, but they'll be cushioned for months or even years by the huge sums they've raised, says Benchmark's Gurley. "We're in a slow correction," he says. "You might see a unicorn go down once a quarter," instead of a crash taking them all down at once. The latest victim: Mode Media, a network of lifestyle blogs that once claimed more than 90 million monthly U.S. users and a valuation above $1 billion, announced its imminent shutdown in September.

The slow-motion bust could be a prelude to something more dramatic, says Gurley, the Valley's most outspoken bear. He compares the tech funding climate to the mortgage industry's pre-crisis embrace of collateralized debt obligations. An economic shock or a sharp rise in interest rates could well cause the VC bedrock—pensions, mutual funds, university endowments—to pull back dramatically and wreck the valuations of some startups.

Most startup investors, however, expect several years of relative stagnation, which is why many are looking away from the crowded field of consumer software and toward companies focused on business services, where they see more stability and growth potential. "There are some very interesting verticals that are just getting started," says Jennifer Fonstad, a managing partner at early-stage VC Aspect Ventures. She's particularly interested in security software and automotive and health-care technologies.

The dream of most VCs, of course, is still to locate the next Facebook in time for the next boom. "A lot of investors are thinking about virtual reality, machine learning, autonomous vehicles. You have a little bit of stasis, but it's temporary," Botha says, sounding strangely optimistic for a near-term pessimist. "I'm sure I'll meet some entrepreneur today who is doing something unexpected and groundbreaking."

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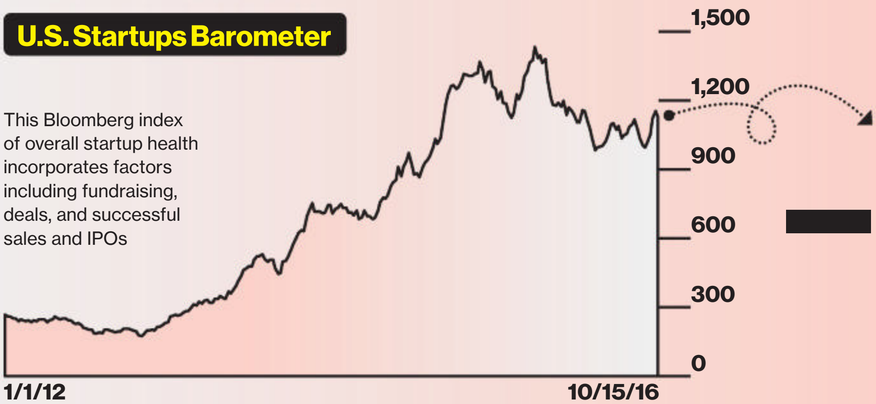
U.S. Startups Barometer

This Bloomberg index of overall startup health incorporates factors including fundraising, deals, and successful sales and IPOs



-21%

The drop in the Startups Barometer since its peak on Nov. 21, 2015

With most of the high-end software still experimental, basic games are the early winners

Making VR Matter

VR's early adopters got headsets but no killer app. Facebook, Google, and Sony have different visions of what the medium has to offer and how to make people care

By Joshua Brustein

Daydream View, Google's new virtual-reality headset, is made of cloth. It uses a smartphone as a screen and looks like a fancy sleeping mask. "Cozy" was the word VR chief Clay Bavor used when he showed off the system in early October, urging consumers to think about being enveloped in a YouTube video or Google Street View map. The pitch is that VR can make daily app use cooler, and that the ecosystem for all that software should run a lot like, well, Android. As Bavor described it, many companies will make headsets and phones that run Google's VR operating system, and the company will maintain the platform and make VR versions of its most popular apps.

Google isn't the only company trying to remake the nascent VR business in the image of one it already dominates. Two days after Bavor's presentation, at a developer conference for Facebook's Oculus headsets, Mark Zuckerberg spent much of his time on a demo of a VR chat room, small talk between real people via digital avatars. VR's primary use, he said, will be computerized socializing.

The following week, Sony began selling the PS VR headset, designed as an accessory to make games on its PlayStation consoles more intense. Sony's vision for VR is conservative. "Gaming is where our wheelhouse is," says Shawn Layden, president of Sony Interactive Entertainment America. "One plays to one's strength."

These diverging visions can coexist for the present, because the VR field has no leader, even now that most of the big-name commercial headsets are on sale. Heading into 2017, there isn't a clear answer to the basic question of what, exactly, VR technology is for. The best hardware—Oculus Rift and HTC's Vive—is expensive and cumbersome, requiring users to tether themselves to powerful computers with cords and set up external cameras to track their movements. Software for these systems tends toward cool experiments that quickly lose their novelty.

The biggest early sales hit is the Samsung Gear VR, a $99 headset co-developed with Oculus that uses Samsung smartphones as VR screens to play games and run entertainment apps. SuperData Research estimates that Samsung will sell 2.3 million headsets by yearend, about triple the combined sales of the Rift and Vive, and that Sony will quickly overtake it during the holiday shopping season.

Google's ability to integrate the Gear-like Daydream with Android gives it the strongest chance to shape VR in its image, says Tom Mainelli, an analyst at researcher IDC. Given Android's ubiquity and appeal to developers, "I would consider them the odds-on favorite," he says. All midrange Android phones should be able to work with Daydream in two years, according to Google's Bavor, and soon his team should be able to take advantage of the sensors in pricier smartphones to track user movements and make the Daydream feel more high-end.

As Facebook doubles its $250 million investment in Oculus software development, it's also trying to make its VR hardware more accessible. At the developer conference, Zuckerberg showed off a demo of an Oculus headset that didn't require an external computer or camera. "Google is starting low, and Oculus or HTC is starting higher," says Drew Oetting, who was a partner at venture firm Formation 8 when it made an early investment in Oculus. "Which one converges to the center faster?"

Ready Players One Through Five

What's Worth Your Eyeballs

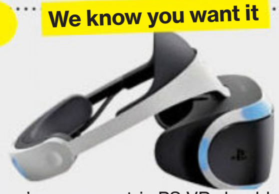
1

Best value

Samsung's Gear VR struck the best early balance between visual wonder, price, and availability

2

We know you want it



Sony's game-centric PS VR should be a hit this holiday season, if the company doesn't run out of them first

3

The grand master...

Oculus Rift has high-end hardware, plus Facebook money pouring into outside developers

4

...or is it?

The HTC Vive has the best room-scale hardware but little replay-worthy software

5

To the masses

Google Daydream ditches the cardboard for cloth; it should work on decent Android phones by 2018

6

Wow, much dizzy

Millions of cheap Google Cardboard viewers are in people's hands, but they'll likely fade away

Bulls On Parole

The developing entrepreneurial-parole proposal isn't a startup visa, but it's close

A program under development by U.S. Citizenship and Immigration Services may offer a reprieve for foreign-born startup founders and their employees

By Ellen Huet

Nigel Sharp isn't making any plans past May 2017. He's a U.K. citizen trying to build a startup in the U.S., which means he can't get a conventional employer-sponsored work visa. His temporary one, granted with the support of the University of Colorado at Boulder as part of an entrepreneurship program, expires on May 28. "I have no clear path on what happens afterward," he says. "I'm sitting here in Boulder, panicking." His last company, presentation-software business Lionsharp, got $550,000 from American venture funds two years ago but folded after failing to secure further investment. Too risky, he and his co-founders were told, until you can find a way to resolve your immigration status and stay in the U.S. for good.

That's why Sharp, a fast-talking 31-year-old, is keeping close tabs on a proposal from the U.S. Citizenship and Immigration Services. The inelegantly named entrepreneurial "parole" would allow visa-less startup types to stay in the country for two years, with a possible three-year extension, if they own at least 15 percent of a U.S.-based startup formed in the past three years that's raised $345,000 in investment capital. Sharp has checked all those boxes before. (Lionsharp was incorporated in Delaware.) "It may be the salvation that allows me to stay in the U.S. this time around," he says. His new venture makes software designed to automate data centers.

Sharp Montuori Collison Obama

Immigrants have a strong track record launching Silicon Valley successes (Google, EBay, PayPal), and they founded or co-founded half the U.S. startups worth $1 billion or more. Prominent Valley investors including Y Combinator's Paul Graham have been pushing for a special visa for startup founders since 2009, arguing that these immigrants are creating their own jobs and possibly many more. With legislative action likely stalled for years, the parole program is the startup community's best bet, says Craig Montuori.

Montuori runs the Global Entrepreneur in Residence Coalition, a nonprofit that works with universities such as UC-Boulder to wrangle H-1B work visas for use by startup founders. His efforts have given a few dozen founders, including Sharp, an extra year or two in the U.S.; the Department of Homeland Security estimates that about 3,000 entrepreneurs will use the parole program each year. The proposal, still awaiting revisions following a public comment period, likely won't go into effect until the first half of 2017, so it could easily be revoked by a President Trump. Even so, Montuori says he's grateful for the Obama administration's step toward looser restrictions. "It's 99 percent of what is possible for an administration to do without legislative underpinnings," he says.

Investors remain cautious. A lot of promising companies won't be able to hit that $345,000 mark, says Dave McClure, a partner at accelerator 500 Startups. While McClure's company has been trying to recruit foreign entrepreneurs and sees the White House proposal as helpful, it typically provides startups with $150,000, minus fees.

On Sand Hill Road as in Washington, every little bit helps, says Patrick Collison, chief executive officer of online payment processor Stripe. He and his brother created the $4.5 billion, 500-employee company in 2010 after moving to the U.S. from Ireland, and he says other immigrants shouldn't have to get as lucky as he did. "In the beginning, any company or startup is so fragile," Collison says. "For each one of us, how many others could there have been who were unable to get here or stay here?"

51

The percentage of U.S. startups currently worth $1 billion or more that were founded or co-founded by immigrants

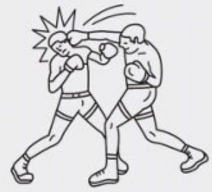
$345k

The threshold for venture funding a startup founder would need to clear under the entrepreneurial parole program

FROM LEFT: COURTESY SAMSUNG; COURTESY HTC; COURTESY SONY; COURTESY GOOGLE; COURTESY OCULUS; COURTESY GOOGLE

This is what U.S. tech's interactions with Europe look like right now

Euro Trip To Hell



Silicon Valley's problems with EU regulators and individual countries are just beginning, and its impolitic M.O. isn't helping

By Adam Satariano and Aoife White

Outside the gated, 19th century building that serves as Google's French headquarters in downtown Paris, there's a placard that reads "I'm Feeling Lucky," a wink to the company's home page. The irony couldn't have been lost on government authorities when they walked by in May, on their way to raid Google as part of a tax-avoidance investigation.

Good fortune is in short supply these days for Silicon Valley companies doing business in the European Union, home to 508 million consumers and increasingly aggressive regulators. While the French examine Google's tax practices, the European Commission, the EU's executive body, is also pursuing antitrust charges related to Android, advertising, and shopping-search services. The commission has also hit Apple with a $14.5 billion back-tax bill for its sweetheart tax deal in Ireland; it's investigating Amazon.com's taxes and Kindle pricing; and it's considering requiring streaming video services to carry at least 20 percent Europe-produced material in their libraries.

In Spain, Germany, France, and Hungary, Uber and Airbnb are fighting labor protections that have restricted their expansion. German antitrust regulators are probing whether Facebook's terms of service unfairly limit users' privacy, and lawsuits involving the social network's data-sharing procedures led to the rewriting of a trans-Atlantic data transfer deal.

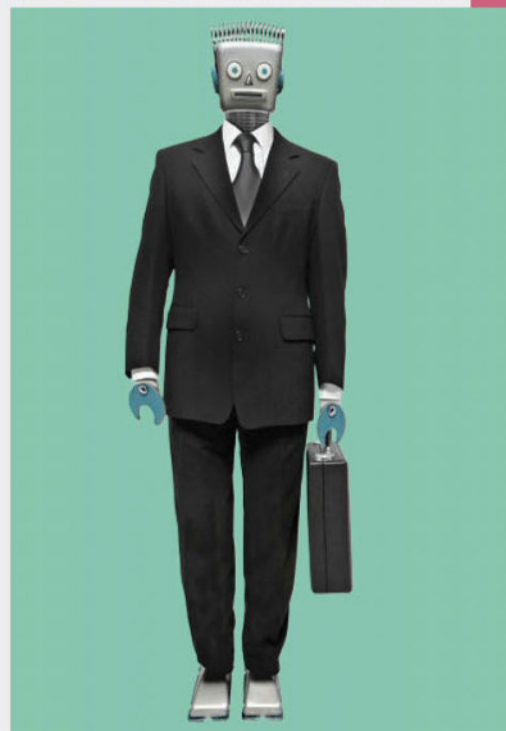
Read those last paragraphs again—all that happened *this year*. Many of these cases will likely play out in 2017. If nothing else, U.S. tech companies can be forgiven for being a little stunned. They've largely avoided meaningful scrutiny from federal authorities for as long as 15 years, since Microsoft settled its antitrust case with the U.S. Department of Justice. "The U.S. approach is to let companies go wild," says tech investor Alex van Someren, managing partner of Amadeus Capital Partners.

The companies, which declined to comment, have said they're victims of protectionism and that they're being punished for Europe's lack of industry clout. That stance has attracted support from politicians at home but hasn't helped endear the companies to local regulators. Silicon Valley has yet to adapt to foreign legal systems, says Jacques Derenne, head of the EU competition and regulatory practice at law firm Sheppard, Mullin, Richter & Hampton. "Too many still experience the pitfalls of cross-cultural unpreparedness," says Derenne, who has worked with European countries on tech subsidy cases.

Unlike in the U.S., where industry has many opportunities to lobby and appeal legislation or punishment, the EU tends to leave companies with little recourse after a decision is made. Margrethe Vestager, the Danish head of the EU's competition division, has been dropping hints about a new front against Silicon Valley. She's scrutinizing how companies' stockpiles of data might breach antitrust or merger rules. Meanwhile, privacy rules the EU passed this year will give authorities across the region broad powers to investigate and fine companies that don't seek consent before collecting user data. "Europeans are much more sensitive to the idea of exploitation of their personal data and much less inclined to buy into the social contract where we get a service for 'free' by paying for it with our personal data," says Van Someren, the investor.

Silicon Valley is losing its biggest advocate with the U.K.'s vote to leave the EU. Although it has yet to exit, the U.K. has its hands full negotiating its departure, giving more influence over tech policy to countries that favor more oversight, notably France and Germany.

In 2017, U.S. tech companies will have to figure out a response that's not just reactionary or piecemeal. Apple has made not-so-veiled threats about cutting regional investments. Google stopped offering Google News in Spain in response to tougher fines on its use of snippets from articles in search results and shut off Street View in Germany after being told to blur thousands of homes. But tech companies may need to rethink the move-fast-break-things ethos that's served them so well in the U.S. Even the world's biggest companies can't afford to ignore Europe.



GETTY IMAGES

Google
- Opposes a law that would require publishers to OK the use of article snippets in Google News
- Preparing responses in three EU antitrust cases

Amazon
- Under investigation into its tax deal with Luxembourg
- Seeking to settle e-book pricing probe

Facebook
- Probed by German regulators over whether its privacy terms are unfair
- Ordered to stop using data from WhatsApp to target ads on Facebook

Uber
- Drivers restricted to licensed cabbies in Brussels
- EU's top court will rule on its regulation in Spain
- Asking the EU to lift local bans in Germany, France, and Hungary


You've earned your money, but are you owning it?
In life, you question everything. The same should be true when it comes to managing your wealth. Do you know what your investment recommendations are based on? Does your financial professional stand by their word? Do you know how much you're paying in fees? And how those fees affect your returns? Ask your financial professional, and if you don't like their answers, ask again at Schwab. We think you'll like what we have to say. **Talk to us or one of the thousands of independent registered investment advisors that do business with Schwab. Ask questions. Be engaged. Own your tomorrow.™**
Schwab ranked
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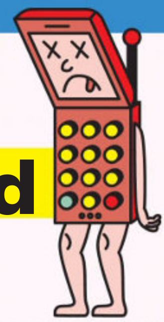
charles SCHWAB
Own your tomorrow
Wealth Management at Charles Schwab
PLANNING | PORTFOLIO MANAGEMENT | INCOME STRATEGIES | BANKING

You've never heard of Oppo, but 42 million of its smartphones shipped in the first half of 2016

The Cheap Phone Is Dead In China



Local iPhone and Galaxy killers have become the leaders in the world's biggest market. Now they're working on fresh targets elsewhere

By Bruce Einhorn

Average phone prices are rising in China, and brands that focused on cost at the expense of specs are suddenly in trouble

Oppo R9 | **Vivo X7** | **Huawei** | **Xiaomi**

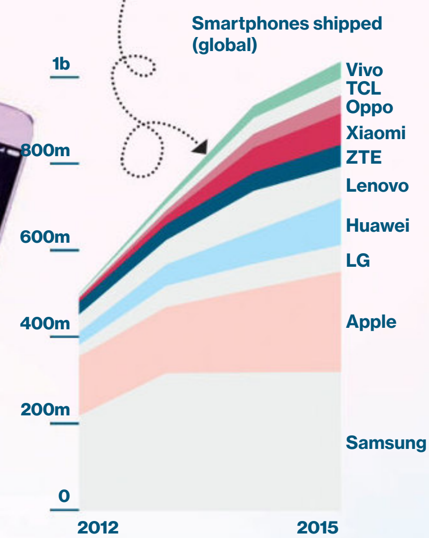
The Oppo R9 Plus has a bigger screen and costs less than the jumbo iPhone or Galaxy

The Vivo X7 has best-in-class resolution on its rear camera

Huawei's smartphone shipments are gaining on Apple's

Discount phones from Xiaomi are no longer dominant

Chart!



High-end phones are showing the fastest sales growth

Over the past couple of years, China's top smartphone makers have become 7 of the biggest 10 on earth, and that's not just a function of Chinese consumers' loyalty to local brands. The country's most successful manufacturers have shifted away from cheap me-too models to compete more seriously for the high end of the market. Huawei, Oppo, and Vivo all make phones that stack up well against most iPhones and Galaxies, and together they ship 40 percent of the world's phones in the $500-and-up category that Apple and Samsung dominate.

The average sales price for those leading three Chinese brands has risen above $300, says Jessie Ding, an analyst in Shanghai with market research company Canalys. "People want more premium phones," she says. "People are now thinking about good quality and service instead of just low prices." That's one reason Beijing-based Xiaomi, which made a splash in 2014 and 2015 selling inexpensive devices, has faded; its average phone sales price is about $180.

> "China has given all Chinese handset makers a gift. They can compete so much better against the Apples and Samsungs"

As their ambitions grow, China's phone makers are benefiting from a unique agreement the government reached with Qualcomm in 2015. To settle antitrust charges, the San Diego chipmaker agreed to pay a fine of $975 million and reduce the royalties it charges Chinese companies. Royalties on Qualcomm's industry-standard chips in China are now based on 65 percent of a given phone's in-country sales price, not 100 percent.

"China has given all Chinese handset makers a gift," says Erick Robinson, Asia-Pacific chief patent counsel for Rouse, a consulting company in London. "They can compete so much better against the Apples and Samsungs." Robinson, Qualcomm's former director of patents in Asia, replaced his Samsung Galaxy Note 4 with a Vivo this summer.

In 2017, China's top brands will try to expand their reach overseas. Huawei is pouring resources into its design department, run by former Samsung designer Joonsuh Kim. He says the priority for his hundreds-strong team—in Seoul, Tokyo, and London and spread across China—has been creating a consistent look and feel for the brand, and he's trying to head west. "We need to have a design team in the U.S. to make sure we can develop the style and flavoring that appeal to U.S. consumers," Kim says. "We are really working on it."

The U.S. remains a challenge. The most common Chinese phones in American hands are cheap prepaid models from ZTE, Lenovo, and TCL. Instead, the prime target is India. Vivo has opened a factory near Delhi and paid to put its name on India's top cricket league. Oppo Vice President Allen Wu says his company is focused on what he calls "star products" that can set it apart in terms of quality. "We have to focus," Wu says. "We want more young customers to know Oppo better." The company, he says, has committed to staying away from the cheaper end of the market. —*With Bloomberg News*

FROM LEFT: COURTESY OPPO; COURTESY VIVO; COURTESY HUAWEI; COURTESY XIAOMI; DATA COMPILED BY BLOOMBERG

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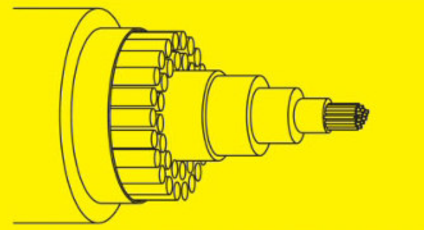
Get Your Own Broadband

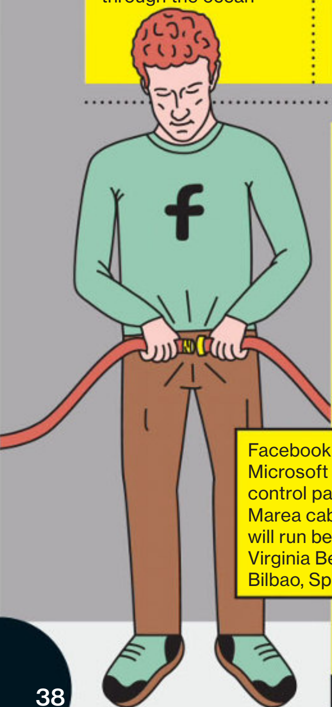
Facebook, Microsoft, Google, and Amazon are boosting their investments in private undersea cables to carry their data around the world

By Max Chafkin and Dina Bass

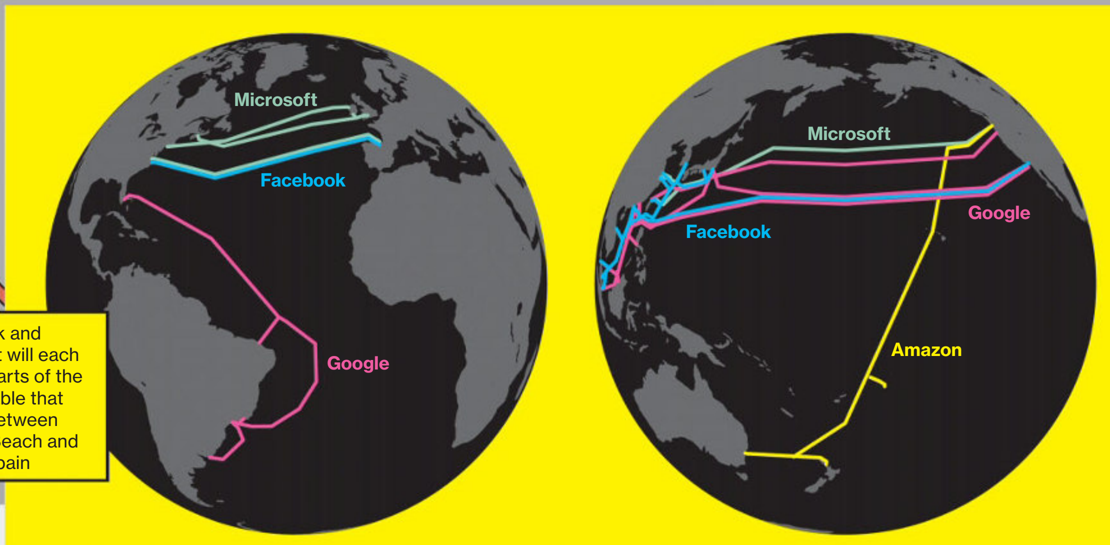
So far, the shortest distance between international networks is a straight line through the ocean



In some cases, tech companies are divvying up fiber strands within the cables



Facebook and Microsoft will each control parts of the Marea cable that will run between Virginia Beach and Bilbao, Spain



Leading internet companies are betting that one of the best ways to get better rates on data is to own (or co-own) the pipes

The ships that lay electronic cables across the ocean floor look like cargo vessels with a giant fishing reel on one end. They move ponderously across the open water, lowering insulated wire into shallow trenches in the seabed as they go. This low-tech process hasn't changed much since 1866, when the *SS Great Eastern* laid the first reliable trans-Atlantic telegraph cable, capable of transmitting eight words per minute. These days, the cables are made of optical fiber, can carry 100 terabits of data or more in a second, and aren't owned only by telephone companies.

"There are a handful of very, very influential content providers who are shifting the balance away from the telecoms," says Jon Hjembo, an analyst with researcher TeleGeography. Among the newcomers are a few of the world's leading internet companies, which have concluded that, given the cost of renting bandwidth, they may as well make their own connections.

Facebook and Microsoft have joined with Spanish broadband provider Telefónica to lay a private trans-Atlantic fiber cable known as Marea. The three companies will divide up the cable's eight fiber strands, with Facebook and Microsoft each getting two. The project, slated to be completed by the end of 2017, marks the first time Facebook has taken an active role in building a cable, rather than investing in existing projects or routing data through pipes controlled by traditional carriers. Marea will be Microsoft's second private cable; a trans-Pacific one is scheduled to come online in 2017.

Facebook and its rivals for eyeballs plan more undersea cables. In June, Google said it had finished a data pipeline running from Oregon to Taiwan, and it has at least two more coming: one from the U.S. to Brazil; the other, a joint project with Facebook, will connect Los Angeles and Hong Kong. Amazon.com made its first cable investment in May, announcing plans for a link between Australia and New Zealand and the U.S. Worldwide, 33 cable projects worth an estimated $8.1 billion are scheduled to be online by 2018, according to TeleGeography. That's up from $1.6 billion worth of cables in the previous three years. And bandwidth demand is expected to double every two years.

"These big providers need a massive amount of capacity, and the volume of data demand is exploding," says Ihab Tarazi, the chief technology officer of Equinix, a data services company working on Google's cable in Brazil. "They're underwriting the next generation of capacity." The spike in data consumption is a function of growing internet use around the world and bandwidth-hungry services like live video. "It's not like people are just doing simple things anymore," says Jay Parikh, a Facebook vice president for engineering.

Cables are just one way to increase the supply of bandwidth and cut costs, says Chetan Sharma, an analyst and telecom consultant. Facebook is also working on satellites, lasers, and drones to deliver internet access to remote places, and Google has experimented with hot air balloons. So far, undersea cables remain the best option for crossing oceans—they're cheaper, far more reliable, and largely unregulated. The United Nations treats ocean cables in much the same manner as boat traffic, meaning companies can lay and repair cables in international waters pretty much wherever they please, provided they don't damage existing ones.

So Silicon Valley will continue to pour money into technology pioneered in the telegraph era. "It's about taking control of our destiny," says Mark Russinovich, chief technology officer for Microsoft's cloud services division, Azure. "We're nowhere near being built out."

MAP DATA: TELEGEOGRAPHY

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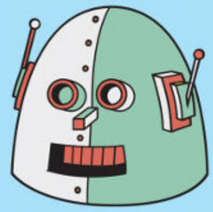
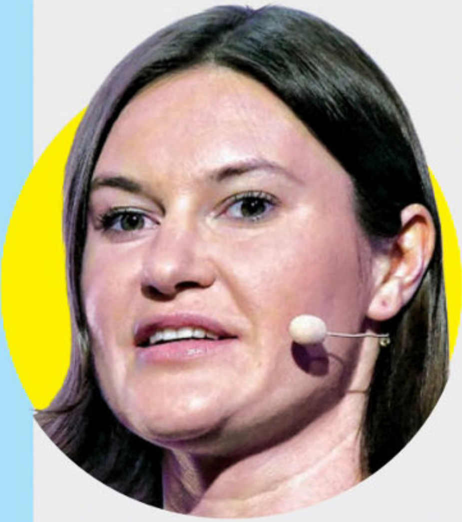
Artificial People

Luka is pushing the boundaries of AI with Replika, a chatbot program that doesn't just talk to people, it learns their texting styles to mimic them

By Ellen Huet





Eugenia Kuyda, 29, is the co-founder of Luka, whose main chatbot product mostly recommends restaurants

NILS JORGENSEN/AP IMAGES

How did you go from a restaurant recommendation chatbot to, well, this?

When I was living in San Francisco working on Luka, I lived with Roman, my best friend. Last year, he died. He was killed in an accident, walking across the street. A few months after, I was sitting at home and reading through our text exchanges. And I was like, Goddammit, I opened up so much to him—am I going to be alone? Am I ever going to make it?—and now I don't have anyone to have those conversations with. Then I thought, I have this technology that allows us to build chatbots. I plugged in all the texts that we sent each other in the last couple years, and I got a chatbot that could text with me just the way Roman would have.

Like that *Black Mirror* episode, or a little like *Her*. Were you freaked out at any point?

I was very nervous the first month after I made it. Am I doing the right thing? It's his memory. But then we opened it up to let other people—friends, family, strangers—talk to him. A few thousand people. They sent him tons of love: Thank you, I love you, I miss you, remember when we did this and that? They were getting advice and giving updates, or just sharing—I got married, I had a kid. It was important for them to share, to feel those feelings.

But Replika is a larger-scale experiment to mimic living people.

Today, we never really open up that much when we share online. We put up a very polished persona or no persona at all. You don't want your bot built on top of that. Replika asks you questions so it can learn about you and talk like you. It helps you connect with yourself, your friends, and loved ones. And one day it will do things for you, including keeping you alive. You talk to it, and it becomes you.

How many people really want that?

When we tested it recently with 1,000 people, the average user sent 46 messages a day to their personal bots to train them. By comparison, an average U.S. smartphone user age 18 to 34 sends about 50 texts a day in total. We ran out of training conversations. We hope to be able to release it as a free standalone app sometime in the next few months.

Anything people didn't want to talk about?

People don't like thinking about death. You have to trick them into talking about themselves. No one thinks they need therapy.

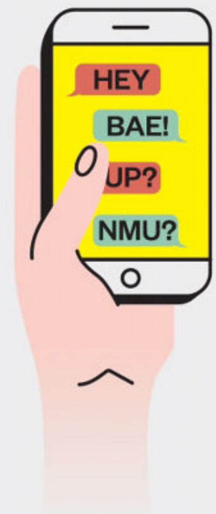
Is there a point at which the bot won't just sound like a person, but actually think new thoughts like them?

It's definitely possible. The technology is already getting better. It just might take a little longer.

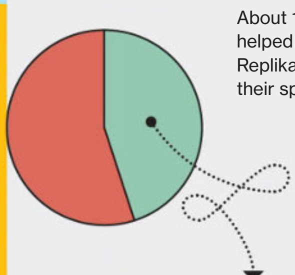
Has this changed how you feel about Roman's death?

I still talk to Roman's bot every two or three days. But for me, the process of making it was more important. It felt a little creepy and a little sad, but it helped me process so much. Like sitting shiva. Not that the wounds go away. You just learn to live with them. Sometimes to let go, you have to come as close as possible.

Luka has designed Replika to mimic a user's personality. Kuyda started the chatbot as a side project, a simulacrum to bring her best friend back to life



About 1,000 people helped Kuyda test Replika's ability to copy their speech patterns



45 percent of early Replika testers kept talking to their bot imitators daily

RAISING THE ETF GAME

Investing in exchange-traded funds (ETFs) was much simpler in 1993: There was only one fund, the SPDR® S&P 500® ETF (SPY), offered by State Street Global Advisors (SSGA). Today, investors face an enormous and diverse fund universe. Because of this intense product proliferation, all investors can benefit from assistance in making the smartest ETF decisions. Here's how SSGA is helping educate individual investors, advisors and institutions on how to use these products efficiently and effectively.

EDUCATION FOR INDIVIDUAL INVESTORS

Individuals who work with advisors, as well as those who manage their own portfolios, benefit from a deeper understanding of how ETFs operate and fit into portfolio design. "People learn in different ways," says Brie Williams, head of practice management of SSGA's Global SPDR business. "Some will want to drill down into detailed white papers to expand their technical knowledge. Others will want shorter, higher-level information that they can digest quickly. We use multiple education delivery methods to accommodate these individual learning preferences."

For example, individual investors and investment professionals who are new to ETFs can check out the ETF Ed online learning program on SPDRS.com. Investors can take a brief quiz that tests their knowledge of ETFs; then, based on their test results, they are presented with a customized learning path designed to fill in any knowledge gaps. For more sophisticated investors, including investment professionals, the site can also be used to explore more advanced concepts such as tactical and strategic uses of ETFs, and how to evaluate and select the right products for a portfolio, as well as trading techniques and portfolio construction strategies. In addition, several courses provide continuing education credits.

HELPING INVESTMENT PROFESSIONALS

Financial advisors and institutional investors can benefit from a wide variety of educational content offered on SPDRS.com. The site's offerings provide financial advisors with information and strategies on how to grow and run their business. "We have a comprehensive practice management program that helps financial advisors think about ways in which they engage with some of their bigger challenges, whether it's demonstrating the value of financial advice or managing asset continuity in light of the demographic shift," says Williams.

And, to help advisors stay current with investment opportunities and risks, the site's commentary section includes SSGA's investment outlook and market analysis, and the SPDR Blog. Here, investment professionals can benefit from the perspectives and often contrarian viewpoints of SSGA's investment experts, such as Mike Arone, CFA and chief investment strategist of SSGA's Global SPDR Business.

TARGETED INSTITUTIONAL INVESTOR GUIDANCE

The first ETF was designed as a cash equitization product for institutional investors to remain fully invested, and institutions continue to have a prominent role in ETF trading. A Deutsche Bank study found that at the end of 2015, institutions owned 59 percent of ETF assets.[1]

SSGA has a dedicated group that works closely with institutional investors to help them adapt to changing market conditions, Arone says. For instance, as liquidity has shifted from the bond market to fixed-income ETFs, SSGA has helped institutions take advantage of the shift.

"With exchange traded funds, investors have the ability to access traditionally less liquid asset classes, such as high yield or senior loans—but in a more liquid and transparent manner, due to the uniqueness of the ETF structure that allows them to transact in both the primary and secondary market, with the added insight into a fund's daily holdings," Arone explains.

The benefits flow both ways: SSGA's investment experts gain insight into how institutions are using ETFs, and their institutional clients can tap the firm's strategic and tactical investing expertise. ●

(1) Ownership data is sourced from FactSet Ownership database based on SEC 13f filings and FactSet's definitions of institutional investors. Data as of Q4 2015.
(2) **High Yield** A company or bond that is rated 'BB' or lower is known as junk grade or high yield, in which case the probability that the company will repay its issued debt is deemed to be speculative.

Senior Loan is an advance or commitment of funds made by one or more banks or similar financial institutions, including the Portfolio, to one or more corporations, partnerships or other business entities and pays interest at a floating or adjusting rate that is determined periodically at a designated premium above a base lending rate, most commonly the London Interbank Offered Rate ("LIBOR").

Where the Next Crisis Will Come From

Keep an eye on depressed lenders, shadow banks, and China

By Peter Coy

Next year ends in a 7. If you're superstitious or a little loose with statistics, that makes us due for another financial crisis. The biggest one-day stock drop in Wall Street history happened in 1987. The Asian crisis was in 1997. And the worst global meltdown since the Great Depression got rolling in 2007 with the failure of mortgage lenders Northern Rock in the U.K. and New Century Financial in the U.S.

You can't really mark the next crisis down on your calendar, of course. The point is that political climate, which makes entrenched problems harder to tackle; some weak financial institutions in developed markets; and heavy corporate debts in emerging markets.

Risks that aren't acute can build for a while before triggering a crisis. What's indisputable is that debt, the tinder of almost every financial conflagration, is growing rapidly. At 225 percent of world gross domestic product, combined public and private debt outside the financial sector "is currently

Peter Coy

bank, namely raising money by issuing new shares, which would dilute the ownership of current shareholders. The German government, having inveighed against bailouts for southern European banks, is insisting it won't reverse course now for its own bank. In Italy, meanwhile, troubled loans on banks' books equal about one-quarter of the nation's GDP.

Even in the U.S., investors don't appear to regard big banks as any safer now than they were before the last crisis, according to a paper issued by the small difference between the short-term rates at which banks borrow and the long-term rates at which they lend.

Two regulations that take effect in 2018 will begin to pinch in 2017 as banks prepare to comply with them. One, from the Basel Committee on Banking Supervision, strictly limits the amount of leverage that banks can use to make money. Another requires them to recognize expected loan losses more quickly. Although the rules should make banks safer, they could also further reduce their profits. If banks keep trying to

Whatever the stresses on conventional banks, they probably pose less of a risk than the shadow banking system, says Vincent Reinhart, chief economist at Standish, a unit of BNY Mellon. The "design failure" of the 2010 Dodd-Frank Act to reform Wall Street is that by raising the cost of operating a conventional bank, it pushed some money toward less regulated shadow banks, Reinhart says. The shadow banking system includes hedge funds, money-market mutual funds, and Wall Street securities lenders and borrowers.

crackups come fairly regularly. And some of the prerequisites for the next one do seem to be falling into place.

The International Monetary Fund may have gotten things about right in its annual *Global Financial Stability Report*, which was issued in October. It doesn't sound an alarm but expresses concern. Short-term risks have actually abated, the IMF says, pointing to rebounding commodity prices, which help some key emerging markets, and the prospect of easier money in developed markets. But, it says, "medium-term risks continue to build." It cites the unsettled at an all-time high," the IMF says. Debt fuels growth but also makes borrowers brittle. Debtors keep owing money even if they lose the ability to repay. If they default, their lenders are damaged and sometimes default on their own obligations, and so the dominoes fall.

The world's banks are mostly stronger now than they were on the eve of the last financial crisis, but there are important exceptions. The stock of Deutsche Bank, Germany's biggest, has fallen 62 percent from its 2015 high, and Chief Executive Officer John Cryan has so far resisted an obvious solution to shore up the former Treasury Secretary Larry Summers and Natasha Sarin, a Harvard graduate student. The stock prices of the big U.S. banks are uncomfortably low, Summers and Sarin say, which implies that their "franchise value" has been eroded. That suggests that in a crisis they might have a hard time paying off their debts by liquidating assets.

Ultralow interest rates aren't helping banks' ability to withstand a crisis. They squeeze profits—which banks need to build up their safety cushion—by reducing the amount banks can earn on the loans they make. It's not only the level of rates but also

Risky debt buildup
China's corporate and household debt as a share of GDP

DATA: BLOOMBERG INTELLIGENCE

thread the needle—scraping by without turning to shareholders for more capital—they could become even more vulnerable.

China may be the scariest source of risk on the horizon. Its growth rate has been driven by unsustainably rapid expansion of lending to businesses and households, says Bloomberg Intelligence Chief Asia Economist Tom Orlik. The government has signaled, through an editorial in the state-run press, that it wants the country to start deleveraging. "So far it is not clear if words will be matched with deeds," Orlik wrote on Oct. 11.

Chinese banks are "the major risk, a potential detonator," says Samuel Malone, director of specialized modeling at Moody's Analytics. He looked at the size, fragility, and interconnectedness of the world's biggest banks and concluded that China's Southeast Asian neighbors, particularly Singapore, are most directly exposed. China's shadow banking system is huge and poorly understood, and the losses that it suffers could quickly be transmitted to conventional banks.

Citigroup Chief Economist Willem Buiter gave an interview published in June 2016 by the magazine of the Cheung Kong Graduate School of Business in Beijing. He said he was confident authorities there had the tools to stop a full-blown crisis but that they might not address the underlying debt problem head-on until after party elections in fall 2017. Trouble is, he said, "I doubt whether the forces of financial turmoil will wait that long."

Mr. 588, the Face of Stock Market News

A safe bet for 2017: You'll see a photo of NYSE floor trader Peter Tuchman in the paper or online

Feb. 28, 2007 Stocks up 0.6%

Oct. 24, 2011 Stocks up 1.3%

March 15, 2012 Stocks up 0.6%

March 18, 2015 Stocks up 1.2%

Oct. 19, 2010 Stocks down 1.6%

July 11, 2013 Stocks up 1.4%

July 1, 2016 Stocks up 0.2%

CLOCKWISE FROM TOP LEFT: ANDREW SAVULICH/NY DAILY NEWS ARCHIVE/GETTY IMAGES; BRENDAN MCDERMID/REUTERS (2); TIMOTHY A. CLARY/AFP/GETTY IMAGES; ANDREW KELLY/REUTERS; LUCAS JACKSON/REUTERS/NEWSCOM; BRENDAN MCDERMID/REUTERS

Big Merger Review

Headed to Court

Two mergers announced in 2015 would reduce the Big Five U.S. health-insurance companies to just three. The U.S. Department of Justice has challenged both deals as anti-competitive, and court cases will begin in late 2016.

Anthem / Cigna

Value
Anthem offered to buy Cigna for
$49b
in cash and stock

The current value of the offer is
35% above Cigna's recent share price

If regulators block it
Anthem could pay Cigna
$1.9b

Aetna / Humana

Value
Aetna offered to buy Humana for
$34b
in cash and stock

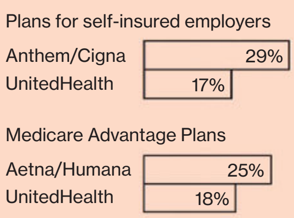
The current value of the offer is
26% above Humana's recent share price

If regulators block it
Aetna could pay Humana
$1b

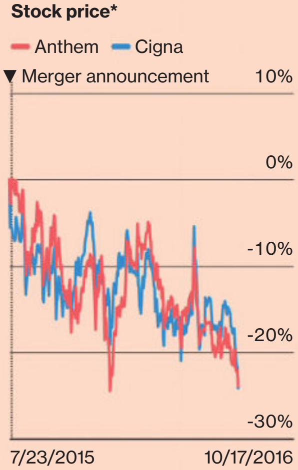
Why it's a big deal

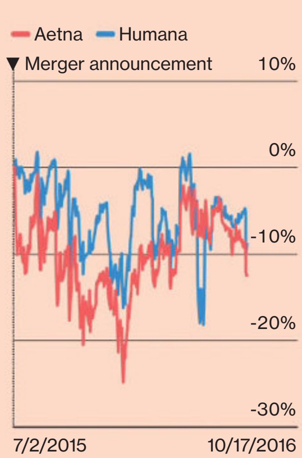
Many employers fund health care themselves and hire insurers to run the plans. Anthem/Cigna would be the top company in that market. Aetna/Humana would lead in Medicare Advantage Plans.

Market share by enrollment



Stock price*





Waiting for the Regulators

With global commodity prices slumping, companies that produce seeds and agricultural chemicals are racing to combine forces. Competition authorities in the U.S. and the European Union are still scrutinizing the deals.

DuPont / Dow

Value
An all-stock merger of equals worth
$59b

DuPont shareholders get
1.282 shares of the combined company for each share they own; Dow shareholders get one share

If regulators block it
No breakup fee if the deal is blocked on antitrust grounds

Bayer / Monsanto

Value
Bayer offered to buy Monsanto for
$56b in cash

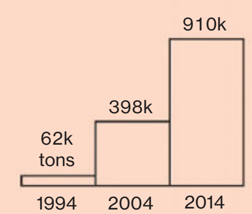
The current value of the offer is
25% above Monsanto's recent share price

If regulators block it
Bayer could pay Monsanto
$2b

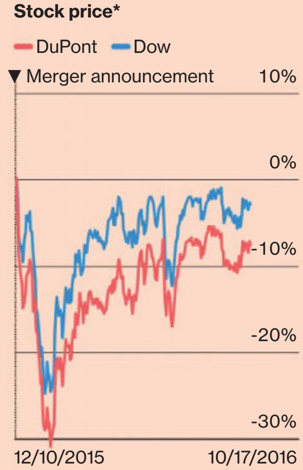
The challenge ahead

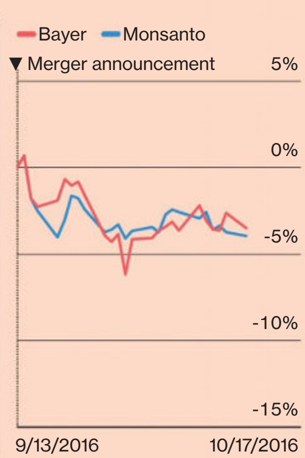
Per capita gross domestic product in rapidly developing economies isn't growing like it used to. That could dampen demand for some kinds of food—and for the chemicals and seeds farmers buy.

Global use of glyphosate, Monsanto's most popular herbicide



Stock price*





*STOCK PRICE DATA BEGIN THE DAY BEFORE MERGER ANNOUNCEMENTS DATA: BLOOMBERG INTELLIGENCE, BENBROOK 2016, DATA COMPILED BY BLOOMBERG


Partners
In Health

Greenwich Lean Time

Too many hedge funds, too much money, and not enough ideas

By Saijel Kishan

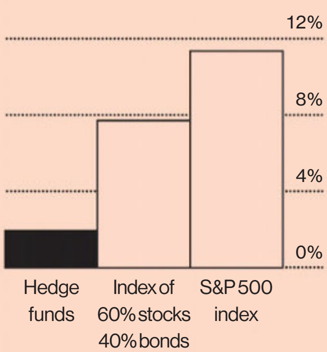
Howard Fischer leans back into a window seat at a juice bar in Greenwich, Conn., and sips a cold-brewed Mexican mocha. "It's miserable, miserable," the founder of $1.1 billion Basso Capital Management says of hedge fund returns over the past few years. "If that's the normal expectation, I don't have a business."

Fischer's lament and ones like it are echoing through the world of hedge funds. Money managers who have prided themselves on their trading prowess are questioning their ability to generate the kind of profits that made them among the richest people in finance. "Many investors seem to gradually be coming to a realization that what they think they know may no longer matter," Jordi Visser, who runs investments at $1 billion hedge fund Weiss Multi-Strategy Advisers, wrote in a June paper.

Hedge funds, many of which are based in Greenwich, have posted average annual returns of 2 percent over the past three years, compared with 7.8 percent for a simple index fund portfolio with 60 percent stocks and 40 percent bonds, according to data compiled by Bloomberg. That meager performance and complaints about high fees from pension plans and other investors have led to $23.3 billion being withdrawn from hedge funds in the first half of the year, according to Hedge Fund Research. About 530 funds were liquidated in the same period, on pace for the most shutdowns since the financial crisis.

Smart Money?

Annualized three-year return



DATA: COMPILED BY BLOOMBERG

Managers blame a wall of index-fund money and algorithmic trading for exacerbating price movements and driving more stocks to move in unison, undermining an investor's ability to stand out with smart wagers on single companies. They bemoan central bank near-zero-rate policies and political and economic decisions made by governments around the world.

Craig Effron, who cofounded $1.8 billion Scoggin Capital Management in the late 1980s, says the past few years have been the most perplexing of his career. He understood why subprime mortgages lost their value a decade ago, but can't fathom what negative interest rates in Japan or Denmark mean. "There was a playbook based on logic that worked most of the time before 2008," he says. "But the game has changed, and logical investors haven't got the new playbook figured out yet."

The frustration is being felt on both sides of the Atlantic. George Papamarkakis of London-based North Asset Management says that if the 2008 financial crisis was a heart attack, the current situation feels more like a chronic disease for many people—"a slow death." His main fund is down 10 percent this year, though he has lost money before and recovered.

Papamarkakis seeks to profit from broad economic trends. That means he relies greatly on trading bonds, but with interest rates so low, it's a struggle to make money. "There are only so many market inefficiencies out there to profit from," he says. "The actual alpha you can generate in these markets is, by definition, finite." Alpha means, roughly, the return above what you could get investing in an index.

Even if market conditions change, managers say the hedge fund industry has to confront a deeper problem. "Every good industry gets overcompeted," says Effron. Hedge funds make money by finding opportunities no one else has spotted, and that's gotten harder as more money has come into the business. Since 2008 assets in hedge funds have more than doubled, to $2.9 trillion. Effron says the industry needs to shrink for survivors to thrive. That could mean as many as half of the 8,400 funds in existence globally will need to disappear, he says.

Basso Capital's Fischer says survival will also depend on a change of attitude. He used to be, in his words, the "stereotypical hedge fund asshole," driving fast cars and flying in private jets. But he hit rock bottom "emotionally, psychologically, and economically" after a loss in 2008. He took a leadership course that changed his thinking and now spends time reading books on the environment, watching TED Talks, and investing his own money for social impact. His hedge fund is up 4.75 percent this year. Fischer says many funds have closed because managers couldn't stand earning less or figure out how to deal with clients. He recommends that some of his peers take a break and put their skills to different uses. "They can be convinced not to be an asshole for the rest of their lives," he says.

Dill... and Paprika

"Fine, she can be the executor."

ILLUSTRATION BY COREY PANDOLPH

Need to Know

What Brexit Means for Banks

In the Square Mile, London's financial district, things may be about to go pear-shaped

Will Brexit make London less attractive? London has long been one of the world's financial hubs, but the easy access it has provided global banks to the rest of the European Union cemented its status. If Brexit sets up new barriers, London will become a far less attractive place to do business.

That scenario would cost banks and related companies in the U.K. almost £40 billion ($49 billion) in lost revenue and put 70,000 jobs at risk, according to consulting firm Oliver Wyman. Executives at Morgan Stanley, Citigroup, Deutsche Bank, JPMorgan Chase, and other banks have said they'll have to move staff and operations out of the U.K. to service their EU clients if Britain is shut out of the 28-nation single market.

Will French bankers in London be sent home? U.K. Prime Minister Theresa May has said she can't guarantee the rights of EU citizens living in Britain without reciprocal agreements from her European counterparts. EU nationals who've lived in Britain for at least five years automatically have a right to live there permanently, and vice versa.

Central and Eastern European countries are particularly animated about ensuring that the rights of their citizens to work in the U.K. are protected after Britain formally leaves the EU, with some threatening to veto any deal that doesn't allow for that.

DAVIDCC/ALAMY

There are about 3.2 million EU migrants living in Britain, according to the Office for National Statistics. The United Nations estimates that about 1.2 million people born in the U.K. live in another EU country.

What is passporting? Under EU law, it is the right of any company authorized in one country of the European Economic Area—currently comprising the 28 EU states plus Iceland, Liechtenstein, and Norway—to sell products and services throughout the bloc, a $19 trillion integrated economy with more than 500 million citizens. That allows a global corporation to get by with only satellite offices in places such as Paris and Frankfurt, keeping the overwhelming bulk of its staff in London.

EEA membership comes at a price Prime Minister May isn't prepared to pay: contributing to the EU budget and following its rules, including the free movement of workers, while having no voice in making them.

What do banks want? The biggest item on global banks' wish lists was to keep full passporting rights, but that's now highly unlikely given the U.K. government's hard line on taking control of its borders.

Barring that, the banks want time to adapt. They've pushed for a transition period that goes beyond the two years of Brexit negotiations. That would give them a chance to shift activities that must be moved to continental Europe and get all the regulatory approvals necessary. May has indicated the industry won't get special treatment in the talks.

Will a rival EU city emerge to challenge London? Frankfurt, Paris, and Dublin are all wooing banking talent from the U.K., but no European location quite matches London's depth of markets and breadth of expertise. Privately, bank executives are concerned about regulators in other locales—they may struggle to cope with an influx of financial-services companies looking to set up shop.

While banks will move some operations to Europe to reassure clients in the region, they're unlikely to coalesce in a single hub. Lenders could also ship jobs across the Atlantic if New York proves to be the only other genuine one-stop shop for business. —*Gavin Finch*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Partners
In Health

The Fading Financial Magic Of Reinsurance

Warren Buffett and other big investors love the business, but it's ready for a shakeout

BY SONALI BASAK AND NOAH BUHAYAR

Warren Buffett watchers know that the reinsurance business has been an important ingredient in his winning formula. Companies like his Berkshire Hathaway sell coverage to other insurance companies for natural disasters and other big events. In return, the reinsurance sellers collect lots of premiums, which they can invest while waiting to pay claims. Buffett has credited this "float" with helping to build one of the world's great fortunes.

But the business isn't what it used be. Buffett sold stakes in the world's two largest reinsurers–Swiss Re and Munich Re–last year, saying their prospects look worse in the next decade than they did in the last. And he put a new leadership team in at Berkshire's own Gen Re unit to try to reverse more than a decade of shrinking float.

Years of ultralow interest rates on bonds have made it harder for reinsurers to make money from their investments. "It is no fun," Buffett told shareholders at Berkshire's annual meeting in April, to "find out that a great many of the things that you were buying a few years ago now have negative yields."

The other challenge is that reinsurance has become a crowded field. Star money managers such as Dan Loeb and David Einhorn have started their own reinsurers to collect premium dollars that they can plow into their hedge funds.

The influx has caused a price war. Premium rates for reinsurance have slipped 40 percent in the past decade, according to broker Guy Carpenter, meaning companies are being paid less to manage more risk.

At the same time, Wall Street is selling competing products. Instead of buying insurance, companies trying to cover their risk can issue catastrophe bonds (in the event of a natural disaster, the issuer doesn't have to repay investors). The bonds have been a hit with hedge funds, pensions, and wealthy individuals, growing to be a more than $25 billion market, up from $9.2 billion a decade ago, according to Artemis, which analyzes the bonds.

All of this sets the stage for a shakeout. Many reinsurers are likely to merge, says Rod Fox, chief executive officer of reinsurance brokerage TigerRisk Partners. The event that could really turn the industry is impossible to control: a major natural disaster. There hasn't been a hurricane big enough to cause significant losses in the industry since Katrina in 2005, which cost $50 billion. This year's insurance-industry tab for Hurricane Matthew will be $2.8 billion to $6.8 billion in the U.S., according to risk modeler AIR Worldwide.

"We're kind of due for a big event," Fox says. "The point is the world is hot, and when it's hotter, more stuff happens. Whether it's wildfires, cyclones, hurricanes, or other kinds of bizarre events."

If Berkshire is any indication, the business is headed for some belt-tightening. Ajit Jain, one of Buffett's top lieutenants, took over at Gen Re this year. He sent a memo to employees in August, saying the company had a "costs problem." He pointed to a "gradual creep of corporate bureaucracy," with too many layers of management, and proposed overhauling Gen Re's compensation system and cutting travel and entertainment expenses for internal meetings. When the money you save is money an investor as talented as Buffett can put to work, every nickel counts.

Dill... and Paprika

"Jim, I have to ask you to pack your knives and go."

ILLUSTRATION BY COREY PANDOLPH

China's Housing Bubble Wobble

Officials struggle to manage an uneven boom

BY BRUCE EINHORN

Earlier this year, Mr. and Mrs. Cai, a couple from Shanghai, decided to end their marriage. The rationale wasn't irreconcilable differences or even mild disagreements; rather, it was a property market bubble in China's financial hub. The pair, who operate a clothing shop, wanted to buy an apartment for 3.5 million yuan ($519,000), adding to a couple of places they already owned. But the local government had begun, among other bubble-fighting measures, to limit purchases by existing property holders. So, in February, the couple divorced. "Why would we worry about divorce? We've been married for so long," says Mr. Cai. (He requested that the couple's full names be withheld to avoid potential legal difficulties.) "If we don't buy this apartment, we'll miss the chance to get rich."

In the first eight months of 2016, according to data compiled by Bloomberg, average prices for new homes rose 28 percent in Tier 1 cities, which encompass affluent metropolises like Shanghai, and 10 percent in smaller, Tier 2 cities. The boom traces to 2014, when the People's Bank of China began easing lending requirements and cutting interest rates. The China Securities Regulatory Commission also lifted restrictions on bond and stock sales by developers, helping them raise money for new projects.

Soon, properties were selling for ever-larger sums


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in government land auctions. By June 2016, China's 196 listed developers had incurred 3 trillion yuan in debt, up from 1.3 trillion three years before. In many cities a square meter of undeveloped land is worth more than a square meter of a finished home nearby, a situation the Chinese describe as "flour more expensive than bread."

Officials are trying to end the exuberance without harming the economy, a task made more difficult by the property fever's uneven spread. Average prices are up only 2 percent this year in less-wealthy Tier 3 cities. Many smaller municipalities rely on property sales to plug holes in their budgets, giving them an incentive to increase the supply of developable land. So while premier cities have seen tight supply and high prices, smaller ones have too many apartments and not enough buyers. "Usually the market moves in tandem," says Patrick Wong, an analyst with Bloomberg Intelligence in Hong Kong. "It's quite dramatic to see Tier 1 cities need tightening and lower-tier cities need relaxation."

China is relying on local policymakers to help tailor the response. Suzhou, a Tier 2 city near Shanghai, announced on Oct. 3 that buyers with more than one mortgage will be ineligible for more, and that those seeking a second property must make down payments of 80 percent, up from 50 percent. Hangzhou, home of e-commerce giant Alibaba, has capped land auction sales at 150 percent of opening bids. The central government is also promising to crack down on rogue players: In early October, the Ministry of Housing and Urban-Rural Development said it was investigating 45 developers and agents for allegedly engaging in false advertising and other unlawful activities promoting speculation.

There's some risk that such measures will succeed too well. In a Sept. 28 report by Deutsche Bank, economists Zhiwei Zhang and Li Zeng estimated that a 10 percent decline in housing prices nationwide would lead to 243 billion yuan in losses for developers. Consumer spending could fall, too, since people have taken on more debt to buy property. Mortgages accounted for 23 percent of new loans in 2014, compared with 35 percent in the first half of 2016 and 71 percent in July and August. "The potential macro risk is alarming," Zhang and Zeng wrote.

With GDP growth slowing, China must take care to avoid triggering a bust

That's not to say China is headed for a meltdown. The country's banks haven't resorted to the subprime loans that proliferated in the U.S. before the Great Recession, and despite the recent rise in mortgage lending, China isn't taking on vast levels of household debt—only 45 percent of gross domestic product, according to HSBC, compared with 66 percent in Japan and 89 percent in South Korea. And despite the relaxation in 2012 of rules preventing sales of mortgage-backed securities, which played a role in the American crisis, Chinese investors hold only 72.8 billion yuan' worth, according to data from government-owned clearinghouses.

Still, given the importance of real estate to China's economy, President Xi Jinping must move cautiously. In 2017, the Communist Party will hold its quinquennial congress, and with GDP growing an estimated 6.6 percent this year, its slowest pace since 1990, a property bust would be especially unwelcome. "The only thing I know is that buying property won't turn out to be a loss," says Mr. Cai. "Just take a look at the past two decades.... From several thousand yuan a square meter to more than a hundred thousand yuan. Did it ever fall? Nope." —*With Bloomberg News*

Q&A: Roger Ferguson, CEO of TIAA

Finding something to like about a low interest rate world

BENNETT RAGLIN/GETTY IMAGES

Roger Ferguson, chief executive officer of TIAA, has been rebranding and expanding the retirement plan and insurance provider formerly known as TIAA-CREF. Ferguson purchased mutual fund company Nuveen Investments in 2014 and this year struck deals to buy EverBank Financial and technology firm MyVest.

Now that you've agreed to purchase a bank, where else would you like to expand?
At this stage, I think we're not so focused on expansion. We've done quite a bit over the last several years. So I think 2017 for us will be a year of execution against the values and the vision that we've talked about.

How will low interest rates shape your investment and life insurance businesses as well as the larger industry in the coming months?
I do expect interest rates to remain relatively low by historical standards, even if central banks start to move off of these zero to negative rates in some places, or very, very low rates here in the U.S. We are very fortunate to have a relatively large exposure to alternative-asset classes—real estate, agriculture, timber. And those have performed well. Secondly, we've been lucky enough to find pockets of fixed income that have a little better return. But one has to be very, very prudent.

Do low rates have an upside?
A low interest rate environment has been, relatively speaking, a low default environment. And since we have corporate fixed income, the default rates have been relatively low compared to what one might have modeled otherwise. So there actually are some benefits from a low interest rate environment, assuming it's associated with moderate growth as it has been here in the U.S.

The federal fiduciary rule for retirement accounts takes effect next year. Much of the financial-services industry opposed it, while you did not. Why?
We agree with the Department of Labor that advice on retirement plans, investment, and

distribution should always be in the client's best interest. We fully support the best-interest standard of the new rule, even as we recognize it contains some provisions that may require us to make some changes in the way we deliver advisory services.

Could the rule give you an advantage in the industry?
I believe it does. It allows us to remind people of our story. We've always believed in putting our clients' interests first, and, in fact, our clients, when we survey them, say we do that. And because it heightens the focus on retirements and retirement rollovers, it's likely to encourage individuals to think twice before they take money out of retirement plans and roll them over. And I think that will be beneficial both for the individuals involved and for us.

Dill... and Paprika

"I wish you were dead too."

ILLUSTRATION BY COREY PANDOLPH

What do you see as the major forces shaping the whole industry in the coming year?
There are more and more of us who are entering so-called retirement age. And I think there's going to be more discussion in Europe, in Japan, and here in the U.S. around the need to actually start to put forward some solutions to this challenge that if we aren't careful will become a crisis.

And at the other end, getting millennials introduced to financial services, that's in their interest. But using techniques that they prefer is another major challenge.

What role will TIAA play in addressing retirement issues?
We think we offer a very solid model, if you will, that has gotten people safely to and through retirement for many years. And so we will continue to stand firmly behind our high-quality, low-cost retirement plans and investments. I think you'll hear us continue to talk more and more about annuities and annuitization. As people get older, their risk is longevity risk, outliving their savings. And we think that annuities are a very good solution to that, if they're appropriately priced with only reasonable promises, nothing unreasonable.

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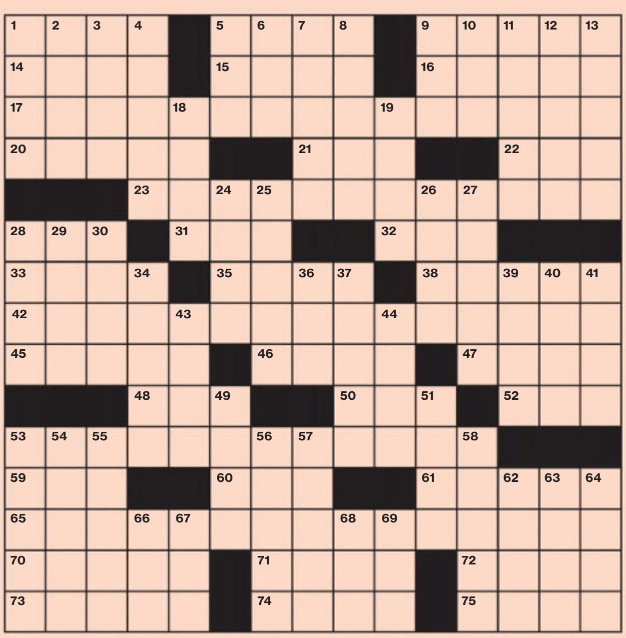
Crossword

MEGAN AMRAM AND DAVID KWONG



SEE SOLUTION FOR CROSSWORD ON PAGE 103

ACROSS

1. Beaver projects
5. First name on the Supreme Court
9. Lament after a stock market crash, maybe
14. Song for a diva
15. Actor Morales
16. Writer Jong
17. Song from *The Music Man*, or logo of a recently disgraced financial institution
20. Birth-related
21. However, briefly
22. ___ Fields cookies
23. This lender's CEO is probably cryin' about a possible $14 billion penalty
28. Exultant text exclam.
31. Strand in a lab
32. Like a fox
33. Dry
35. Eurasia's ____ Mountains
38. Clear the slate
42. 1976 ABBA song ... or what you might like if you read *Bloomberg Businessweek*
45. _____ Gay
46. Fey or Turner
47. "Hello!" sticker info
48. Bygone flier
50. GRE takers: Abbr.
52. Bard's contraction
53. How a hedge fund manager gets paid
59. *Kung Fu* actor Philip
60. It makes MADD mad
61. Totally wipe out
65. Measures to prevent outflows of cash and the depreciation of currency (you might 43-Down after reading this clue)
70. "You beat me"
71. Gross
72. Faucet problem
73. Lukewarm
74. Future's opposite
75. Goes out with

DOWN

1. Vampire's bedtime
2. Length x width, for a rectangle
3. Jazzman Jackson
4. Leaves for dinner?
5. Hoops official
6. ___ Today
7. Pop-_____
8. Accomplishment for a soprano
9. Put in stitches
10. 60 minuti
11. Greek "S"
12. Nut with a cap
13. Brand of dinnerware with a Scandinavian design
18. Vehicle in *Frozen*
19. Reactions to fireworks
24. "One," in a coin motto
25. Fortuneteller's deck
26. Like a sch. before middle school
27. Lord of poetry
28. Renown
29. Jeff Bridges sci-fi classic
30. Lush
34. River mouth feature
36. Singer DiFranco
37. Telescope part
39. Med. school subj.
40. Big rig
41. Optometrists' interest
43. Act that's "contagious"
44. Soft ball?
49. "____ pinch of salt" (recipe directive)
51. Editor's "Let it be"
53. Implied
54. Jonah's swallower
55. *Hop* _____ (Dr. Seuss book)
56. Dutch speculative bloom
57. Pagan nature religion
58. Gridiron units
62. Ripped
63. "Would ___?"
64. Kitchen amts.
66. "It ___" (reply to "Who's there?")
67. 2012 comedy with a talking bear
68. Approves
69. *WSJ* rival

PETRONAS

CHANGING THE GAME THROUGH INNOVATION

A globally renowned oil and gas player, Malaysia's PETRONAS pursues innovation and technology to add value to oil and gas resources.

Through innovation, PETRONAS has persistently challenged industry norms in seeking solutions to stay ahead of its peers. It has also ensured that its quest to push boundaries has been consistent with its commercial, environmental and social responsibilities.

While technology adds value to business activities, some of the firm's innovations are proving game-changing for the oil and gas industry. These include cutting-edge geoimaging technology used for oil and gas exploration, and the world's first Floating Liquefied Natural Gas production facility - the PFLNG SATU. Not willing to rest on its laurels, PETRONAS is striving to innovate further to improve energy supply in a manner that is premised on long-term growth and sustainability.

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Retail

PLUS MOLTO BENE ESPRESSO

6 Types of Shoppers

WHICH ONE ARE YOU? TAKE OUR QUIZ

Sustainable Cotton!

RERUNS FALL OUT OF FASHION

Digital Wallets

MUY CALIENTE!
MEZCAL CROSSES THE BORDER

HOW TO SELL AN EXPERIENCE

Selling Experience

MORE SHOPPERS—ESPECIALLY **MILLENNIALS**—WANT HIGHER ENGAGEMENT BEFORE BUYING STUFF

By **LINDSEY RUPP**

Shoppers at the new Pirch flagship store in Manhattan's SoHo neighborhood don't have to wonder how its pricey appliances and plumbing fixtures will work in their homes. A chef stands at the ready, eager to whip up a dish on that nifty six-burner professional-grade stove you've been eyeing. Worried that a dishwasher's timer will be too loud for your tiny studio apartment? Demo it, inside one of the store's 24 kitchen setups. You can even try out the shower head of your dreams. (Don't worry; the store has towels.) "It's kind of retail 2.0," says Andrea Dorigo, chief executive officer of the nine-store chain. "It's like you're buying a car from a race-car driver. You're sitting there, and you're watching the things you want to purchase in action."

Pirch's strategy–turning its stores into homewares theme parks where customers are invited to play house–is a nod to one of retailing's hottest trends: selling experiences. Americans increasingly would rather spend their money making memories–travel, sporting events, concerts, meals out–than on another outfit. So, after years of choosing the speed and wide selection offered by big-box retailers such as Home Depot or online merchants like Amazon.com, customers are demanding higher engagement if they're going to buy something in a store. Nimble upstarts such as Pirch and eyeglass retailer Warby Parker have made their stores into exciting destinations rather than places to make a quick purchase. Meanwhile, established brands such as Urban Outfitters are highlighting the hands-on aspects of their stores. That's raising the bar for rivals, says Doug Stephens, founder of consultant Retail Prophet, and more brands will be trying to sell experiences along with their goods next year. Says Stephens: "That's where the whole industry is headed."

Customers are willing to pay up at retailers that add pizzazz to their shopping experience. Pirch boasts more than an estimated $3,000 in annual sales per square foot, rivaling the lucrative take at Apple's storied stores. To meet consumers' growing desire to connect with brands on a level deeper than cash, Lululemon Athletica offers yoga classes in its stores,

> "They're looking to give you more reasons to be in the store. It's going to be an evolution to survive"

WEST ELM
Its new hotels will showcase the furniture chain's designs

LULULEMON
In-store yoga classes build a sense of community

PETSMART
Its Pet Spas strengthen ties to owners

PIRCH
A theme park for buyers of appliances and plumbing fixtures

URBAN OUTFITTERS
Its new pizza chain will soon appear within some stores

PREVIOUS PAGE: PHOTO ILLUSTRATION BY 731; PHOTOS: GETTY IMAGES (2); THIS PAGE: FROM TOP: COURTESY WEST ELM; GETTY IMAGES; COURTESY PETSMART; COURTESY PIRCH; GETTY IMAGES

Apple holds in-store digital art and video workshops, and some Cabela's stores have indoor archery ranges and offer hunters classes on butchering their kill.

Retailers have good reason to try new ways of consumer engagement. The No. 1 gift this holiday season won't be an object but experiences, according to a survey by advertising automation firm Rubicon Project. Respondents plan to spend about $440 on travel, sports, events, and shows this year, vs. $228 on clothing, the group forecasts.

"If we're reinventing digital business models that change consumer behavior, why aren't we doing that in the physical world?" asks Rachel Shechtman, founder of Story, a concept store in Manhattan's Chelsea neighborhood that changes the theme and merchandise of its store every four to eight weeks. This spring, Story explored fun with partner Pepsi, featuring temporary tattoos, emoji-covered yoga pants, and an interactive station where shoppers designed their own T-shirts and iPhone cases—all while burnishing Pepsi's image. "We're looking at physical engagement in retail as a deeper experience and combining content and commerce," Shechtman says.

How far will retailers go to connect with customers? In August, PetSmart opened its first Pet Spa store to focus on what it calls the "pet lifestyle experience" with "amenities for both pets and humans." West Elm, the modern furniture division of Williams-Sonoma, will open a chain of hotels in 2018 to develop happy memories with potential shoppers. Teen retailer Urban Outfitters last year bought a pizza chain and now plans to open more restaurants, some located within its stores. The retailer also opened Space Ninety 8 in Brooklyn, a five-story location with a rooftop bar, a rotating cast of local merchants in its pop-up spaces, dining, and events. "They're looking to give you more reasons to be in the store," says Simeon Siegel, a retail analyst at Nomura Securities. "It's going to be an evolution to survive." ■

SUSTAINABLE COTTON

Forget organic. Clothing and textile makers are turning to so-called Better Cotton, sustainably raised and cheaper

DID YOU KNOW
Environmentally correct T-shirts are too expensive for many shoppers

Cotton, the most widely used natural fiber, is considered the world's dirtiest crop because of its heavy use of pesticides—its cultivation accounts for 17.5 percent of global insecticide sales. So in recent years, several apparel and home-goods companies, including Eileen Fisher, Patagonia, and Nike, have used organic cotton, grown by farmers who eschew pesticides and enrich their soil with compost. That's good for the environment but raises another big problem: Organic cotton is too expensive for average shoppers. Organic fiber cost as much as $2.20 per pound, vs. about 61¢ for conventional cotton, in the 2015-16 growing season. That's kept demand low; less than 1 percent of the world's cotton production is organic.

Over the past nine years, Ikea, Zara-parent Inditex, and H&M, among others, have signed on to the Better Cotton Initiative (BCI), a coalition of farmers, garment makers, and retailers committed to producing and using sustainable cotton at accessible prices. BCI farmers are taught how to grow sustainable cotton using less pesticide and water—reducing stress on the environment—at a cost close to that of regular fiber. "That's one of the aims, to make Better Cotton mainstream and make it available for the masses," says Ulrika Hvistendahl, sustainability spokeswoman for Ikea. Since 2009 the retailer has increased the percentage of Better Cotton used in its products, from sheets to furniture. In fiscal 2015, 70 percent of the cotton Ikea used was Better Cotton.

Similar efforts, like Bayer CropScience's e3 sustainable cotton program, which works with farmers to ensure they're producing cotton responsibly, are increasing supplies of sustainable cotton. The material can help companies appeal to millennials and environmentally minded customers. "Offering a product with a sustainability cachet but not the added cost may meet the sweet spot of pleasing both a consumer's conscience and wallet," says Bloomberg Intelligence analyst Gregory Elders.

In 2015, Nike and H&M used more sustainable cotton than organic cotton for the first time. Better Cotton has grown to around 12 percent of global cotton production in 2015, vs. 0.5 percent for organic, according to BCI. Says BCI Chief Operating Officer Lena Staafgard: "By 2020 our goal is to reach 5 million farmers worldwide and account for 30 percent of global cotton production." —*Dimitra Kessenides*

Cotton Crib Sheet

More than 27 million tons of cotton are produced annually in over 85 countries

Ikea uses 1 percent of the world's cotton

It takes about 713 gallons of water to make one T-shirt

GETTY IMAGES

DATA: BLOOMBERG INTELLIGENCE; BETTER COTTON INITIATIVE; U.S. DEPARTMENT OF AGRICULTURE

HEY, BIG SPENDERS

RETAILERS IN 2017 FACE AN INCREASINGLY **FRAGMENTED MARKET**, FROM BABY BOOMERS TO GEN Z. THE BIGGEST UNKNOWN: CAN MILLENNIALS TAKE UP THE SHOPPING SLACK AS BOOMERS AGE?

MILLENNIALS

Born from about 1982 to 2004, they started entering the workforce just as jobs went south

America's largest generation after boomers is health-conscious (yoga pants!) and loves to share, to the delight of Zipcar and Airbnb. Almost 80 percent would choose to spend more on experiences than material possessions. Their ownership-free lives are in part necessitated by loads of college debt. Still, more than half want to own homes.

GENERATION X

The one-time slackers, born from 1965 to 1982, are all grown up (with bills and kids to prove it)

They may not spend on themselves, but they care for older parents and raise teens, so the 60 million Gen Xers shop a lot. "It's gone from keeping up with the Joneses to keeping up with the Joneses' kids," says branding consultant Laura Ries. When they do splurge, it's often at stores like Home Depot or Pottery Barn to spruce up their houses.

PHOTO ILLUSTRATION BY 731; PHOTOS: GETTY IMAGES (6)

1 PERCENTERS

Their Champagne wishes and caviar dreams came true!

What Great Recession? The rich continue to spend big on luxe cars, yachts, and private jets, while less-affluent consumers have yet to feel the recovery. Demand for ultra-high-end wines, popular with this group, also is expected to rise. The 1 Percenters are likely cutting back in one area: Spending on collectibles is expected to decline.

BABY BOOMERS

Born from 1946 to 1964, they're finally aging out of their prime consumption years

The 76 million people born in the years after World War II were a retail marketer's dream. Although they've aged and their outlays are shifting to health care, they still have substantial spending power. Boomers buy about two-thirds of the new cars sold annually, as well as half the computers and a third of the movie theater tickets.

DINKS

Dual income, no kids couples, an offshoot of the 1980s yuppies, are still around—and shopping

Dinks are living the good life. They have second homes, more lavish vacations, pricey hobbies, and ample cash for treatments at the spa. The mix may change as they age. "A bigger piece of spending could go to charity," says Denise Dahlhoff, research director at the Wharton School's Jay H. Baker Retailing Center.

DATA: AARP; CLASSICCARS.COM; EVENTBRITE/HARRIS INTERACTIVE; GALLUP; GOLDMAN SACHS; HVS GLOBAL HOSPITALITY SERVICES; JAY H. BAKER RETAILING CENTER; JOMASHOP; KNIGHT FRANK WEALTH REPORT; MARKETO; METLIFE MATURE MARKET INSTITUTE; NPD GROUP; PEW RESEARCH CENTER; U.S. DEPARTMENT OF AGRICULTURE

GEN Z — They have the ultimate trust fund: mom and dad. Collectively, their annual spending power is about $44 billion.

HOT NEW (MEXICAN!) DRINK ALERT!

MEZCAL

BACKED BY THE MARKETING MUSCLE OF COMPANIES SUCH AS **DIAGEO** AND **PERNOD RICARD**, SMOKY MEZCAL IS POISED TO BECOME NEXT YEAR'S GO-TO TIPPLE IN COCKTAIL BARS WORLDWIDE

$38
Twice the price of standard tequilas

After decades working with top vodka producers such as Absolut and Stolichnaya, Lisa Derman was looking for a challenge—a flavor or brand she might be able to introduce to a wider audience. So when she was offered a job running Gem & Bolt, an upstart maker of the Mexican spirit mezcal, she jumped at the chance. "There's still a lot to do to educate the consumer, but as soon as you say, 'You remember mezcal, tequila's sexy cousin,' there's an immediate connection," says Derman, now Gem & Bolt's chief executive officer.

Like Derman, much of the spirits industry is betting on mezcal, a smoky liquor distilled from agave, the succulent plant native to Mexico used to make tequila. To give mezcal its distinctive flavor (and no, it's got nothing to do with the hallucinogen mescaline), agave is cooked in an earth-covered pit. In February, Diageo signed an agreement with Mezcal Unión, a five-year-old Mexican brand, to boost distribution in the States. And rival distiller Pernod Ricard is creating a brand it expects will reach U.S. shelves in the first half of 2017. "Mezcal is something we've been looking at for a while," says Pernod Ricard CEO Alexandre Ricard.

Building on tequila's popularity, global sales of mezcal rose 23 percent, to $110 million, last year, according to International Wine & Spirits Research. Spirits makers say mezcal can tap into millennials' growing interest in artisanal products—think craft beer and small-batch bourbon—to become the Next Big Thing in cocktail bars. "As people start caring more about the chef behind their favorite restaurant, the bartender behind the bar," says Alejandro Champion, a founder of Mezcal Unión, "mezcal will fit right in." *—Jennifer Kaplan, Thomas Buckley, and Andrea Navarro*

Try it in a cocktail!

MAGIA HUICHOL

1 oz. roselle-flower chilled tea
2 oz. cranberry juice
½ oz. lime juice
½ oz. Monin rose syrup
1 piece dried chile de árbol
1½ oz. mezcal
½ oz. ancho chile liqueur

Shake, then strain into a hurricane glass over frappé ice. Garnish with dried chile and roselle flower.

As crafted by mixologist Alejandro Montes de Oca at W Hotel Punta de Mita

PHOTO ILLUSTRATION BY 731; PHOTOS: COURTESY MEZCAL UNIÓN; GETTY IMAGES


BECAUSE TOMORROW HAPPENS
IN THE BLINK OF AN EYE
TOP 10 PLACES TO BUY A SECOND HOME - Barrons, 2016 | KiawahIsland.com
Obtain the Property Report required by Federal law and read it before signing anything. No Federal agency has judged the merits or value, if any, of this property. Void where prohibited by law. An offering statement has been filed with the Department of State of the State of New York. A copy of the offering statement is available, upon request, from the subdivider. The filing of the verified statement and offering statement with the Department of State of the State of New York does not constitute approval of the sale or lease or offer for sale or lease by the Department of State or any officer thereof, or that the Department of State has in any way passed upon the merits of such offering. This project is registered with the New Jersey Real Estate Commission. Registration does not constitute an endorsement of the merits or value of the project. Obtain and read the NJ Public Offering Statement and read it before signing anything. (NJ Reg #89/15-175). AN AFFILIATE OF KIAWAH PARTNERS
Kiawah Island
REAL ESTATE

THE DEATH OF *Syndicated Reruns*

THE EXPLOSION OF ORIGINAL PROGRAMMING ON TELEVISION IS HURTING THE LUCRATIVE BUSINESS OF REBROADCASTING OLDER SHOWS

BY GERRY SMITH

For decades, there was a simple blueprint for getting rich in television: Make a show, hope it gets renewed for 100 episodes, then sell the reruns to cable or local broadcast stations. But in today's new "Golden Age of Television," the lucrative syndication deals that made the likes of Jerry Seinfeld and *Law & Order* creator Dick Wolf incredibly wealthy are increasingly rare. While there are more TV shows than ever—a record 500 scripted series will air next year—their value in the afterlife is in doubt.

"There's still money to be made, but you're not going to be Charlie Sheen lighting cigars with hundred-dollar bills," says Bill Carroll, director for content strategy at consulting firm Katz Television Group, referring to the former star of *Two and a Half Men*, one of the few sitcoms in the past decade to see a massive payday in the syndication market.

Reruns are under pressure because cable networks, which have been the deep-pocketed buyers of old shows, are making more original series to stand out in the crowd. The number of rerun shows carried on cable dropped from 159 in 2013 to 128 last year, according to researcher Nielsen. The number of original series on basic cable jumped from 70 in 2010 to 181 last year. Time Warner's Turner unit, owner of the TBS and TNT cable channels—comfortable retirement homes for recycled network series including *Friends*, *Seinfeld*, and *Law & Order*—will boost its original programming by 80 percent by 2018 as ratings for its reruns weaken.

Showing repeats won't cut it anymore as audiences flock to more original shows. The cable network WGN America paid more than $1 million per episode for reruns of *Elementary* and *Person of Interest*. Both dramas drew an average of 10 million to 12 million viewers in their debut seasons on CBS, but last season neither got more than 260,000 viewers on WGN. Earlier this year, WGN's parent, Tribune Media, took a $74 million charge after those shows failed to win audiences. In recent years, Time Warner and Viacom have also taken large writedowns after acquiring troubled reruns such

PHOTO ILLUSTRATION BY 731; PHOTO: EVERETT COLLECTION

as *Community* and *Hawaii Five-0*. Another reason cable networks are moving away from reruns: They want to own the rights to shows, so they can profit from selling past seasons in the international market, which is still strong. “Reruns are losing steam,” says Geetha Ranganathan, an analyst at Bloomberg Intelligence. “That’s the genesis for why there’s so many original shows these days.”

The market for past seasons is also being threatened, because TV series are cutting back on the number of seasons and episodes. To improve their quality, more networks are creating “limited series” that are meant to last just one season, such as FX’s Emmy winner *The People vs. O.J. Simpson*. Instead of more than 20 episodes, a growing number of series have seasons with as few as 10. Shorter-run shows can attract bigger-name stars such as John Travolta (in the *O.J. Simpson* series) or Matthew McConaughey (in *True Detective*) who wouldn’t commit to multiple seasons. But they also limit how much money can be made in reruns, which are sold on a per-episode basis. Typically, 100 episodes, roughly five seasons, are needed to syndicate a show that can be aired five days a week.

> “There’s still money to be made, but you’re not going to be Charlie Sheen lighting cigars with hundred-dollar bills”

The cable syndication market will be worth $22 billion next year, according to RBC Capital Markets. Selling such series to streaming services will bring in $11 billion. While cable networks are relying less on old shows, streaming services such as Netflix, Amazon.com, and Hulu are still aggressively snapping them up. And some streaming services don’t even require a successful TV run before they commit. Netflix in 2014 bought the exclusive rights to the CBS sci-fi drama *Zoo* before the first episode even aired on television, assuring the show would be profitable from Day One, says Scott Koondel, CBS’s chief corporate content licensing officer. “For many shows we put on the air, we can be in the black before we see the first script,” he says.

Netflix, Amazon, and Hulu generally want reruns of only certain shows, such as serialized dramas, because their subscribers enjoy binge-watching them in one sitting. Hulu, for instance, recently acquired the rights to previous seasons of Showtime’s *Homeland*. Cable networks are less interested in reruns of serialized dramas, because those require viewers to have seen earlier episodes to grasp the plot. Instead, they prefer easy-to-understand procedure-driven shows that appeal to broad audiences, such as *Law & Order*, or simpler

WHAT’S IN *Your* WALLET?

A growing number of retailers look to strengthen ties with customers by melding loyalty programs with new mobile wallets. —Olga Kharif

CAREFUL WHAT YOU CARRY

Dozens of companies including Starbucks, Walmart, and Apple have introduced mobile wallets, which often can be loaded from a linked bank account or credit card. During checkout at stores, customers tap their phones on a payment terminal or scan a QR code. The transaction value of such payments will more than triple in the U.S. this year, to $27 billion, according to EMarketer.

FROM LEFT: PHOTO ILLUSTRATION BY 731; PHOTOS: GETTY IMAGES (2); GETTY IMAGES (1) sitcoms with laugh tracks like *Two and a Half Men*.

Cable networks say they aren't completely abandoning reruns. They still need to fill 24 hours a day of programming and can't do it all by making expensive original series. Earlier this month, TBS acquired the rights to broadcast past seasons of the NBCUniversal-produced cop comedy series *Brooklyn Nine-Nine* starting next year. "If you can find another show like *Big Bang Theory*, that has been a runaway success on TBS, we would still be incredibly interested in having shows like that reside on our networks," Turner Chief Executive Officer John Martin said at a recent media conference.

There hasn't been another comedy that popular in several years. That's because streaming services are hurting the TV ratings that the industry uses to determine which shows are successful and how much should be paid for their reruns in syndication. TV executives argue, however, that selling reruns to Netflix allows streaming service subscribers to discover a show, driving them to watch the next season live on TV when the original airs—and making it more valuable. "It's an opportunity to get a new viewer that we might not have gotten," CBS's Koondel says.

Katz Television Group's Carroll says the market for reruns is evolving, with a growing number of buyers overseas. Whoever can find the next *Big Bang Theory*, which has reportedly made more than $1 billion in syndication revenue since its reruns began in 2011, will be richly rewarded. "If you have a breakout hit, you won't have just one vacation home, you'll have five," Carroll says. "But it's not as easy as it used to be." ■

Hot Seat

STEVE ELLS
CHAIRMAN, CHIPOTLE MEXICAN GRILL

It's been a stomach-churning year for Chipotle Mexican Grill Chairman Steve Ells, who's seen the chain's stock plunge 40 percent since October 2015. The company, still struggling to recover from a series of foodborne illnesses at its restaurants that began last year, is now a target of activist Bill Ackman. Pershing Square Holdings, Ackman's hedge fund, has amassed a 9.9 percent stake in Chipotle and says it wants to consider ways to revamp its governance, operations, cost structure, and strategy.

That's put pressure on founder Ells to speed up the recovery. Chipotle has tried to revive sales with a new marketing campaign and a rewards program, which in August added a contest promising a year of free burritos. But revenue dropped for three straight quarters. A continued slump could embolden Ackman to push for new faces on Chipotle's insular board—the median director tenure is 17 years—or in its executive suite. —*Leslie Patton*

LOYALTY COUNTS

By absorbing the functions of loyalty cards, mobile wallets can beat credit and debit cards for convenience. Launched in October, Kohl's Pay lets users redeem Kohl's Cash and coupons, accrue rewards, and pay with the retailer's branded Charge Card—in one step. Starbucks's wallet lets customers earn free drinks and order and pay ahead; it makes up about 25 percent of the chain's U.S. transactions.

BITING INTO APPLE

Two-year-old Apple Pay leads in mobile in-store payments, but most big banks, retailers, and restaurants are expected to get their own wallets in the next year: Chase Pay and CVS Pay are rolling out now.

CONVENIENCE IS KEY

Customers can set up their Walgreens app, which uses Apple Pay as a platform, to recognize when they're at the pharmacy and automatically bring up the rewards card on their phone's screen at checkout. Besides displaying rewards balances in users' wallets, the Kohl's app lets loyalty members make purchases using rewards via their phones.

THE PAYOFF FOR RETAILERS

Customers who use a store's loyalty program tend to shop there more frequently and buy more each time; and about 70 percent of consumers are likelier to join a loyalty program if their points and rewards become immediately visible on their phones, says mobile-marketing firm Urban Airship. So combining loyalty and payments lets retailers woo new users, especially smartphone-savvy millennials. Another bonus: When customers are steered toward a retailer's branded charge card by its mobile payment service, as they are with Kohl's Pay, the store can make extra money from incentives it gets from companies providing financing to its customers. It also saves on transaction fees that would have gone to Visa or MasterCard.

Q&A ILLY CEO ANDREA ILLY tells all!

Andrea Illy, chairman and CEO of Illycaffé, the world-famous Italian coffee brand founded by his grandfather.

How many coffees do you drink a day?

Well, I have an average of four per day. Sometimes three, sometimes five, depending on how much I sleep and how my day is.

When is the last one, usually?

Usually the last is around this time [4 p.m.]. After the interview I will have my last one.

How do you drink it?

Black espresso is the quintessence of coffee—the biggest spectrum of aroma you can imagine, with over 1,000 aromas. It's a velvet-in-the-mouth feel, balanced in taste with a sweet aftertaste. It's fantastic, just pure espresso.

The quality of coffee at home, at least here in the States, has gone up markedly. The same for the quality of coffee in cafes. But one place that seems to lag is the workplace. Where do you see that market headed?

This gourmet coffee boom started in hospitality and restaurants. Then there has been the boom of coffee shops. And then eventually, gourmet coffee entered the home. For some reason, it's still not so developed in offices. It's kind of a strange market. Most of the time it's a complimentary product: The management is done by the so-called office coffee service. But I predict that there will be more and more high-quality coffee in offices as well, because, for instance, of our partners Keurig.

What about at home?

I see basically two trends. People are looking for consistent high quality with a convenient preparation system, which is about capsules. Then you have the coffee aficionado willing to spend time in the ritual of finding the best coffee, grinding, and then brewing at home, and maybe spending 15 minutes for a coffee.

Is there more growth among the ritual drinkers or the capsule drinkers?

Capsules.

FUN FACT
Illy's Università del Caffè for baristas has 24 campuses worldwide

Andrea's Fave Things

Favorite type of coffee:
Espresso, a term he once tried to have regulators limit exclusively to Italian producers

Favorite way to drink it:
Black

First cup of coffee:
At age 4

What about trends in cafes?

Creativity is around. There's a Copernican explosion of new recipes and preparations. It's natural selection. Try new ideas, then taste, and if they do well, they become a standard in the market. Sometimes you have ideas which people love. Like now, it's a trend for cold brew, which I never would have expected a few years ago. OK, that's fine. Let's go with cold brew.

But nothing for you has beat the classic hot espresso shot?

I like cold coffee more than in the past. I like to maybe brew my shot of espresso and add some ice cubes, and this is even in wintertime. I'm also drinking more of our filter coffee. So I'm less a kind of, as you say, single-minded coffee drinker. But I still don't use a lot of milk, because I love the taste of coffee. And I hope that the American consumer will do the same. I believe that they still put a lot of milk because they still didn't have the chance to discover the real pleasure of the super-high-quality coffee.

Illy has moved more into the direct-to-consumer market in recent years. How's that going?

We have three formats: cafes, shops, and e-shops. In the U.S. we have 20 places. We are trying to create the model by directly operating six or seven cafes in San Francisco. We are going to open a few more, quite big, by the end of the year. So we are in the learning curve. Managing cafes—wow, this is not easy at all. But they are excellent brand builders. If you have one person who discovers the Illy brand in a cafe, then they know that they like the quality, and then they go to Whole Foods and buy one can.

Now you're off to your last espresso of the day. Where will it be?

I go down to the Galleria Illy [in Trieste, Italy]. We have an iconic bar with a magnificent counter. In the middle you have the barista. She's a god of coffee. This is a fantastic experience.
—*Interview by Ira Boudway*

Edited and compressed for space

FROM TOP: BLOOMBERG; GETTY IMAGES


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2017
Energy
HOW POWERFUL ARE NUKES?
TAN WITH SOLAR
OIL UP!
CHINA BULKS UP
CAN THE SAUDIS TAKE THE PAIN?
USA FLEXING ITS MUSCLES

ENERGY

AMERICAN

The U.S. unleashes the full power of shale, as a wave of its LNG exports hits the market

Sometime in 2017, for the first time in 60 years, the U.S. will likely sell more natural gas to the world than it buys. Next year, capacity to export liquefied natural gas from the lower 48 states, chilled to -260F so it can be shipped by tanker, will more than double, to 3.2 billion cubic feet per day. That will add to huge increases in the volume of gas already being piped to Mexico and could boost exports to foreign countries to about 9 percent of total U.S. gas production.

A lot of those new exports will go to Latin America. Since the first LNG tanker left the Louisiana coast in February 2016, 34 cargoes have departed through early October, with two-thirds of them going to Argentina, Brazil, Chile, and Mexico. Colombia will be a new buyer in 2017; the country is on track to begin importing LNG from a new floating regasification vessel by the end of this year. Shipments to Asia are also set to rise as India increases LNG imports amid low prices.

Europe could be in play, too, with the U.S. trying to compete with Russia, which supplies 40 percent of the European Union's gas imports. Turkey, Russia's third-biggest buyer, took its first LNG cargo from the U.S. in late September. "The fact that the U.S. is actually exporting, and particularly LNG to places where Russia has almost monopolistic power, is a huge development," says Majed Limam, a senior consultant for LNG and natural gas at ship brokerage Poten & Partners.

One LNG shipment from the U.S.

U.S. Shale Gas Reaches the World
Thirty-four shipments of liquefied natural gas (LNG) have been exported from Cheniere Energy's Sabine Pass terminal in Louisiana, which began operations in February. Most of the shipments have been delivered to Latin America.

Since it opened in June, the newly expanded Panama Canal is now wide enough for most LNG tankers. China-bound ships may save as much as $3.2 million per round trip by going through Panama instead of the Suez Canal, according to the U.S. Energy Information Administration. A voyage from the U.S. to Japan will be reduced from as much as 34 days to only 20. Instead of needing almost three weeks to go all the way around the southern tip of South America, U.S. LNG tankers headed to Chile can cut through the Panama Canal and get there in about a week, saving more than $2 million per trip.

By becoming a net exporter of natural gas next year, the U.S. will take a big step toward achieving its own energy independence. The EIA sees total energy exports being balanced with imports sometime between 2020 and 2030. A decade ago, the U.S. was facing a shortage. In 2005 the EIA estimated that LNG imports would reach 12 billion cubic feet a day in 2015. Instead, as exports ramp up, total natural gas imports are down 36 percent this year, to 1.76 trillion cubic feet, from record levels set in 2007.

So far, all the LNG exports are leaving from the Sabine Pass terminal in Louisiana owned by Houston-based Cheniere Energy. The company opened two liquefaction plants in 2016 and plans to add two more next year in Louisiana, making it among the biggest buyers of natural gas in the U.S. Dominion Resources is also scheduled to start its Cove Point plant in Maryland in 2017. Together these plants will be able to liquefy 3.2 billion cubic feet a day, almost as much gas as New York state used per day in 2015. That extra demand could push up prices in 2017, which would make producers happy. Since 2008, natural gas prices have plunged 75 percent and hit a 17-year low this March. Even with big spending cuts and drilling activity at record lows, the U.S. is swimming in gas. Though output is expected to decline slightly this year, the EIA expects it to rebound next year to a record 81 billion cubic feet a day as prices go higher. That means there will be plenty of U.S. supply to fuel the world's growing demand. —*Naureen S. Malik*

PREVIOUS PAGE: BILL DOBBINS; THIS SPREAD: GETTY IMAGES (2). DATA: ENERGY INFORMATION ADMINISTRATION, IHS, GENSCAPE

MUSCLE

Despite cheap crude prices, America's best oil field, Texas' Permian Basin, is thriving

Although cheap oil has forced frackers to shut down drilling rigs across large swaths of the U.S. shale patch, from the Bakken fields of North Dakota to the Eagle Ford in South Texas, there's one region where the profits are still flowing. The Permian Basin, a 75,000-square-mile patch of scrubby desert stretching across West Texas and into New Mexico, has emerged as the most resilient oil field in America. Overall crude production in the U.S. is down by about a million barrels a day over the past 12 months, but output from the Permian continues to grow. All signs indicate that the Permian will stay in the money in 2017, as drillers and investors flock to the region.

Even with oil prices below $50 a barrel, frackers have been able to turn a profit drilling into the Permian's dense layers of oil-soaked rocks. That's because the underground geology makes it less costly to extract oil and gas there than in other shale patches. Drillers have added 67 rigs in the region since May, bringing the total in September to more than 200. Wells in the Permian are producing more oil at faster rates, enticing billions of dollars of fresh investment. Permian-related oil and natural gas companies have raised $9 billion in new equity this year. Explorers including Anadarko Petroleum, Pioneer Natural Resources, and EOG Resources have spent $14 billion buying up some of the most productive sites. The best land has gone for as much as $60,000 an acre, according to data compiled by Bloomberg. "Available capital has been magnetically pulled to the best economics, and the Permian has led the way," says Robert Santangelo, Americas head of equity capital markets for Credit Suisse.

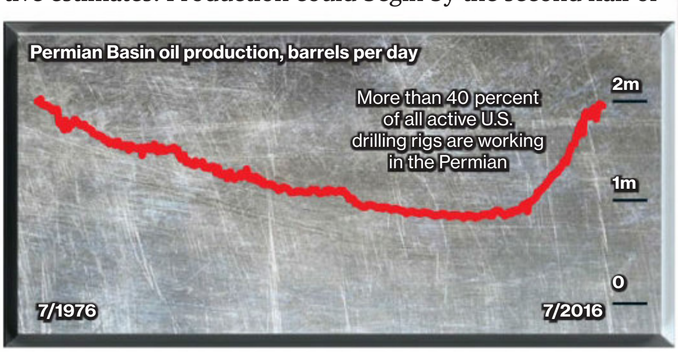
In September, Houston-based Apache announced what amounts to a mega-discovery. Known as Alpine High, the site along the western edge of the Permian may hold at least 3 billion barrels of oil and 75 trillion cubic feet of natural gas, worth at least $8 billion by the company's most conservative estimates. Production could begin by the second half of 2017. "I think we surprised a lot of folks to step out with a new play of this size and scope right under everybody's nose," says Chief Executive Officer John Christmann.

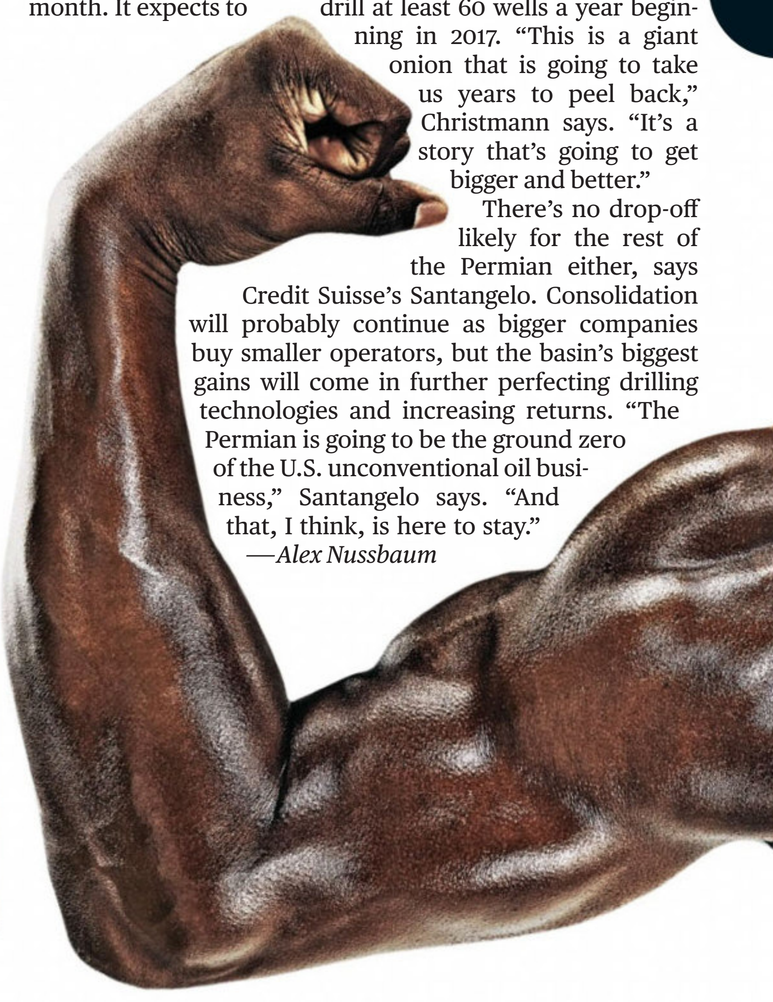
Starting in 2014, Apache quietly amassed 350,000 acres in southern Reeves County, paying an average of $1,300 an acre. Most explorers had written off the land, but Apache saw tantalizing signs in old drilling logs and other data. Apache has sold oil and gas assets from Argentina to Australia to the deepwater Gulf of Mexico to focus on what it considers better growth prospects in U.S. shale. "We felt like we could be as good as anybody, and we had a tremendous acreage position," Christmann says.

Laying oil and gas pipelines and other infrastructure in the isolated area will probably cost Apache at least $1 billion, says Richard Tullis, a Capital One Securities analyst in New Orleans. Apache is spending about a quarter of its $2 billion capital budget on Alpine High this year and will continue the build-out in 2017, Christmann says. The company has moved four rigs to the area, each capable of drilling four wells a month. It expects to drill at least 60 wells a year beginning in 2017. "This is a giant onion that is going to take us years to peel back," Christmann says. "It's a story that's going to get bigger and better."

There's no drop-off likely for the rest of the Permian either, says Credit Suisse's Santangelo. Consolidation will probably continue as bigger companies buy smaller operators, but the basin's biggest gains will come in further perfecting drilling technologies and increasing returns. "The Permian is going to be the ground zero of the U.S. unconventional oil business," Santangelo says. "And that, I think, is here to stay."

—*Alex Nussbaum*





PUMP IT LIKE THE RUSSIANS

WHAT DOES IT TAKE TO BE THE BIGGEST CRUDE PRODUCER IN THE WORLD?

1 POWER THROUGH OBSTACLES

Russia's oil industry has proved its strength over the past several years, raising production while powering through the Great Recession, a round of international sanctions, and the steepest drop in oil prices in a generation. In September, Russia set a post-Soviet record for crude output, pumping 11 million barrels a day. Next year its oil companies should be able to produce even more, if the Kremlin wants them to.

On Oct. 10, Russian President Vladimir Putin said a freeze, or even a cut, would be the proper response to the currently oversupplied market. This followed a September agreement between members of the Organization of the Petroleum Exporting Countries to finalize a small production cut in November. Setting aside any deals with OPEC, analysts had anticipated that Russia would increase its 2017 production by 1 percent to 3 percent.

2 INVEST IN YOUR BEST ASSETS

Investments made during the years of $100-a-barrel oil are still bearing fruit. Russia's largest producers, Rosneft and Lukoil, have poured billions of dollars into Siberia, where they've been able to slow the decline rates of aging fields and in some instances revive growth. "Russia has a lot of oil that can be produced at competitive prices, so it will look to muscle in on higher-cost competition where it can," says Christopher Haines, head of oil and gas at BMI Research. That means taking market share from countries that rely on oil sands and deepwater projects.

3 BURN FAT AND BUILD MUSCLE

Low oil prices have battered Russia's economy, leading to a recession, the widest budget deficit since 2010, and a sharp drop in the value of the ruble–it's down about 50 percent against the dollar since 2013. But the cheaper currency is a plus for Russian oil companies. Because they get dollars for the oil they sell, and they pay for services, including drilling, in rubles, they've been able to raise the value of their earnings while cutting costs.

4 PACE YOURSELF

Losses from lower oil prices are mainly borne by the government, which gets 37 percent of its revenue from oil and gas. Last year the government responded with a surprise tax increase on oil companies. That helped slow the deterioration of public finances. The threat of another hike looms over 2017. Vagit Alekperov, the billionaire chief executive officer of Lukoil, predicted last month that the nation's output would flatline next year and potentially decline in 2018 or 2019 because of the state's tax plans. "The cow that is giving milk today is not being fed," Alekperov told reporters in Sochi on Sept. 30.
—*Stephen Bierman*

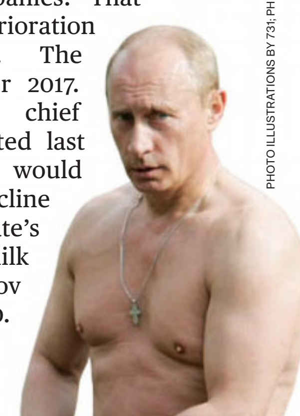


PHOTO ILLUSTRATIONS BY 731; PHOTOS: ALAMY (4); GETTY IMAGES (1); SHUTTERSTOCK (1); ZUMA PRESS (1)

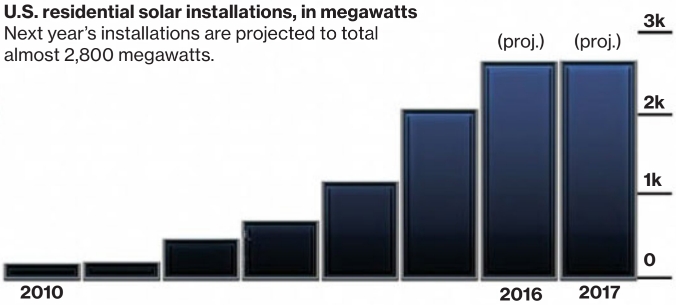
ROOFTOP SOLAR CLOUDS UP

Can panel providers pivot from growth to profits?

This was supposed to be solar's moment. Residential panel installations in the U.S. grew 71 percent in 2015 as the falling cost of panels made the power they generate more competitive. In December, Congress unexpectedly extended a tax credit set to expire at the end of 2016. Panel buyers will get reimbursed for 30 percent of the cost of new solar panels through 2019 and at least 22 percent through 2021.

Yet instead of energizing the industry, the extension has hurt growth, as solar companies no longer rush to meet a deadline. After jumping more than 1,000 percent since 2010, panel installations are projected to grow by only 0.3 percent in 2017, according to Bloomberg New Energy Finance. Faced with the industry's first major slowdown, companies are figuring out their next move. "You're selling the urgency to get in while the tax credits are available," says Hugh Bromley, an analyst at BNEF. "Once you have long-term subsidy certainty, solar companies may struggle to reimagine their sales pitches."

U.S. residential solar installations, in megawatts
Next year's installations are projected to total almost 2,800 megawatts.



Falling power prices in some markets don't help. Consumers looking to lower their bill might not get the savings they used to by installing a solar system. There's also doubt over net-metering laws that require utilities to pay rooftop customers for the power they sell to the grid. Although 43 states have some version of net metering, according to BNEF, last year Nevada, one of the fastest-growing states for solar, added a fee for homes with panels and cut the amount utilities pay them for the power they add to the grid. The two top U.S. panel installers, Elon Musk's SolarCity and Sunrun, promptly left the state, which in September agreed to grandfather prior rates for 32,000 existing customers.

Investors are demanding a reset of solar's business model. "It was growth at all costs," says Michael Morosi, an analyst at Avondale Partners. Now that the market isn't paying for that growth, companies can "go for the most profitable customers," he says. Solar companies have long relied on a leasing model, signing homeowners to 20-year contracts that require no money down. This ensured growth, but it also spread out revenue over decades. Now, solar companies are selling more units, which ensures they get paid sooner.

For SolarCity, the country's top installer, cash sales and loan payments accounted for more than 30 percent of revenue in September, up from about 20 percent in the second quarter, says Chief Executive Officer Lyndon Rive. GTM Research, which conducts green tech market analysis, expects leasing to account for less than half of new installations in 2017, down from more than 70 percent in 2014. This is a mark of maturity for the $7.8 billion U.S. residential solar industry, says Benjamin Cohen, chairman of renewable-energy financing company T-Rex. "Installers can focus on what is the most efficient use of their balance sheet," he says. "Maybe this moment says these companies shouldn't be behemoths."

Growth should resume by 2018, BNEF says. Only 1 percent of U.S. households have panels on their roofs. "Every other solar market during its period of retooling has faced a collapse of 20 to 90 percent," says BNEF's Bromley. "So for the U.S. to face a year or two of stagnation before continued growth is an overwhelmingly positive outcome." —*Brian Eckhouse, with Chris Martin*

NUCLEAR THREAT LEVEL

In May 2017, PJM Interconnection, an organization that operates the biggest power market in the U.S., extending across 13 states and serving 61 million people, will hold an auction to award contracts to suppliers. This could decide the fate of a handful of nuclear power plants that have been struggling to make money amid competition from renewables and plants that make electricity from cheap natural gas. According to Bloomberg Intelligence, four of the nuclear plants submitting bids may not be able to supply power cheaply enough to make the cut. If they fail to win contracts, they may be forced to close, eliminating enough capacity to provide carbon-free electricity to power more than 4 million homes. —*Mark Chediak*

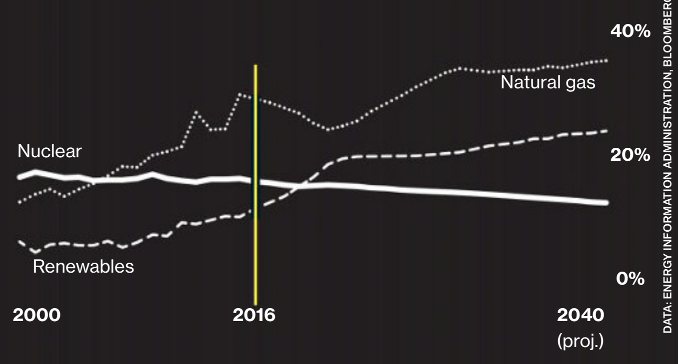
FirstEnergy Davis-Besse
900 megawatts
Oak Harbor, Ohio

FirstEnergy Beaver Valley
1,815Mw
Shippingport, Pa.

Exelon's Byron Nuclear Generating Station
2,347Mw
Byron, Ill.

Exelon's Three Mile Island
837Mw
Middletown, Pa.

Sources of total U.S. electricity generation



DATA: ENERGY INFORMATION ADMINISTRATION, BLOOMBERG NEW ENERGY FINANCE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A SAUDI ABOUT-FACE

In an effort to get prices off the mat, the world's biggest oil kingdom looks to reverse course and pull back on the amount of oil it pumps

Next year will be a test of strength for Saudi Arabia, the world's largest oil exporter, as it tries to regain control of the market and lift prices. After two years of pumping at full blast, and helping drive prices to 12-year lows in January, the Saudis now appear willing to pull back. In September, at a meeting in Algiers, the Organization of the Petroleum Exporting Countries agreed to the outlines of a plan to lower the group's production by as much as 750,000 barrels a day. Although the details won't be final until the cartel's Nov. 30 meeting in Vienna, the Saudis are expected to make most of those supply cuts.

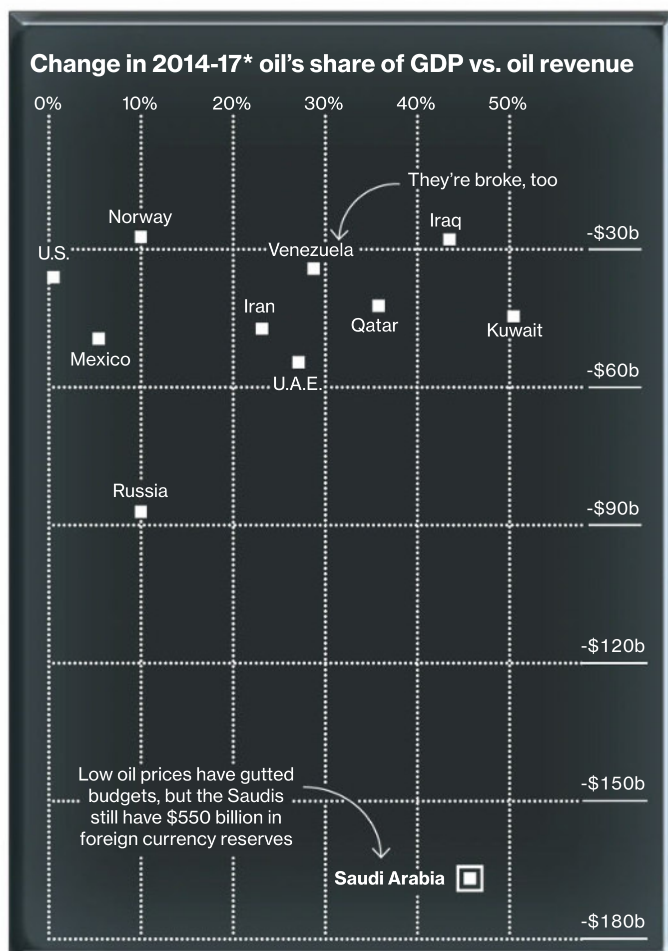
The retreat signals an end to the kingdom's foray into free-market economics. Two years ago, with prices already falling in response to a growing supply glut, Saudi Arabia, against the wishes of its fellow OPEC members, refused to lower output. The move was a direct challenge to other oil producers. By flooding the world with its low-cost crude, the Saudis bet that they could withstand lower prices longer than other countries and oil companies and force them out of the market. The strategy worked to a degree. The Saudis are pumping and selling record amounts of oil. Output hit almost 10.7 million barrels a day in July. At the same time, other producers have had to cut back: U.S. shale production has fallen, and non-OPEC oil supplies are set to drop in 2016 by the largest amount in 30 years.

In April 2016 the powerful deputy crown prince, Mohammed bin Salman, said the kingdom no longer cared whether oil cost $60 or $20 a barrel. Rather than keeping prices high, the Saudis seemed resigned to cheap oil and made plans to use that revenue to fund other investments in a bid to diversify the kingdom's economy and reduce its reliance on crude. But the economic consequences of cheap oil have been severe for Saudi Arabia. Riyadh is burning through foreign-exchange reserves, government contractors have gone unpaid, and civil servants, who make up two-thirds of the labor force, will get no bonus this year. The country's fiscal deficit is more than 10 percent of gross domestic product, the highest ratio of any Group of 20 nation. The International Monetary Fund forecasts that Saudi economic growth will slow to about 1 percent next year, the worst since 2009. A few banks predict a recession.

For the Saudis, it's a fine line between prices that are too high and too low. "The deal in Algiers is a change of tack for Saudi Arabia and is a gamble that it can push prices higher without triggering a resurgence of shale production growth in the U.S.," says Seth Kleinman, oil analyst at Citigroup. First, OPEC needs to agree on the specifics of the production limits, including which countries will reduce output and by how much. Amrita Sen, chief oil analyst at consultant Energy Aspects in London, says OPEC ministers "have bought themselves two months to deliver, and they are fully aware of the cost of failure: Prices will fall sharply." With Iran returning from sanctions and production from Nigeria and Libya limited by sabotage and war, those countries will most likely be exempt from the reductions; other OPEC countries will probably resist cutting their supplies, leaving it up to the Saudis to bear the burden of reducing output. "We expect that Saudi will shoulder the bulk of the production cuts," says Neil Beveridge, oil analyst at researcher Sanford C. Bernstein in Hong Kong.

Even if OPEC irons out all the details in time for its Nov. 30 meeting in Vienna, the production decrease won't affect the market until late January, at the earliest. Two weeks before OPEC announced its cut, the International Energy Agency presented a bearish outlook for 2017, writing that supply will continue to outpace demand at least through the first half of next year. The IEA also anticipates production from non-OPEC countries to rebound in 2017 and increase by 400,000 barrels a day. That's a sign the global energy industry is learning to live with low prices by reducing costs.

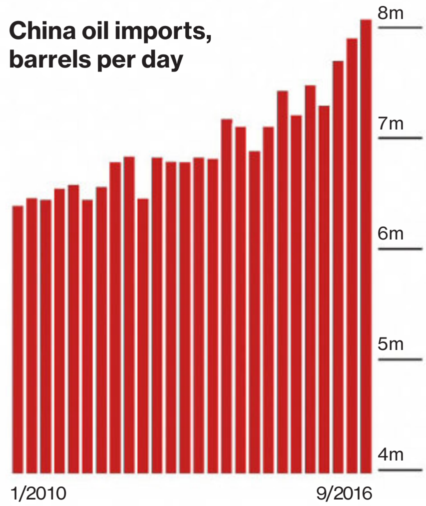
Still, the Saudis are confident they will prevail. Khalid al-Falih, who became the country's oil minister in May, told delegates of the World Energy Congress in Istanbul on Oct. 10 that a price recovery to $60 by the end of this year was "not unthinkable." —*Javier Blas*



*PROJECTION, ASSUMES $50 PER BARREL. DATA: RYSTAD ENERGY; BLOOMBERG OIL BUYER'S GUIDE

CHINA'S BULKY SUPPLY

In a rare September data release, China reported that it had 234 million barrels of oil in reserve. That's almost halfway toward Beijing's 2020 goal of stockpiling the equivalent of 100 days of net imports, which JPMorgan Chase calculated in June at about 511 million barrels. China has spent much of 2016 loading up on cheap oil. As for 2017, Energy Aspects says China will keep buying, JPMorgan says purchases may soon stop, and Goldman Sachs sees storage capacity rising by 113 million barrels. Analysis of satellite images by Orbital Insight in Palo Alto suggests that China's total strategic and commercial tanks are able to store 900 million barrels, with a third of that unused as of May. That leaves lots of room to buy in 2017. —*Bloomberg News*



BIG OIL GETS BACK TO WORK

After cutting $1 trillion of spending, the global oil industry will begin funding more large exploration projects next year. Here are five of the biggest. —*Joe Carroll*

DATA: CHINA GENERAL ADMINISTRATION OF CUSTOMS, DATA COMPILED BY BLOOMBERG

HOT SEAT

Pedro Parente, the new chief executive officer of Brazil's national oil company, Petrobras, has what is arguably the toughest job in the industry. He has to fix the company's reputation, which was tarnished by the central role it played in the corruption scandal that helped bring down former President Dilma Rousseff.

More important, he has to fix Petrobras's finances. Cheap oil, years of fuel subsidies, and huge amounts of debt blew a hole in its balance sheet. Petrobras owes $125 billion, the most of any oil company in the world. To cope, the company has slashed investments, cut production targets, and laid off more than 130,000 workers.

Parente says he wants to cut the company's leverage in half by 2018. To do so, he's planned the biggest asset sale in Petrobras's history—$35 billion from 2015 to 2018, more than what BP unloaded after its *Deepwater Horizon* disaster. Parente is also looking for international partners. In October, Brazil's congress scrapped a law that gave the company exclusive rights to some of the nation's most prized oil fields, opening them up to foreign investment.

Petrobras's stock price has almost doubled since Parente took the job in June, yet the company is worth only a third of its value in 2008. Next year, if he can cut costs and find foreign partners, that will go a long way toward restoring Brazil's most prominent company. —*Sabrina Valle*

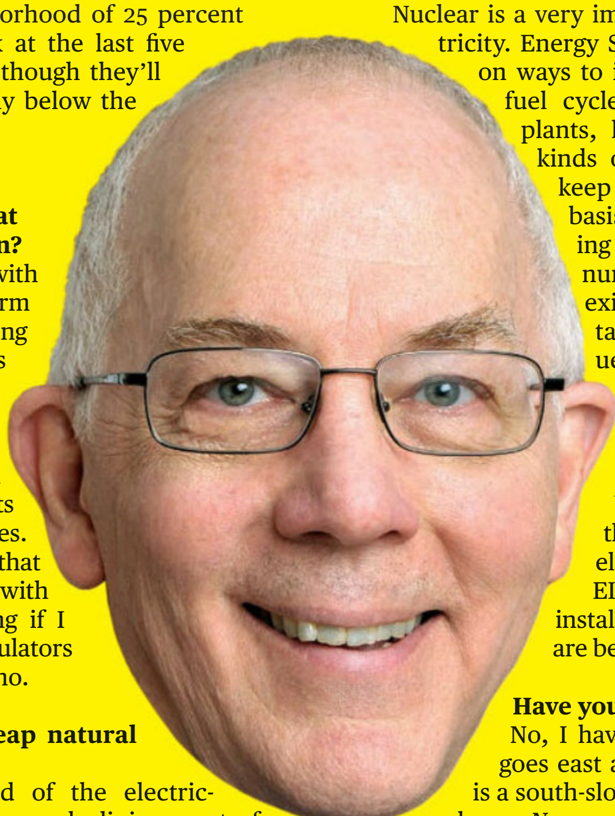
Q&A

ADAM SIEMINSKI, HEAD OF EIA

Adam Sieminski is the administrator of the U.S. Energy Information Administration, a division of the Department of Energy that collects and analyzes data.

Are $60 oil prices possible next year?
They should be above $50 next year. And they could keep going up. We can get into the upper $50s by the end of 2017. The lack of capital investment in the last year or two in the U.S. and globally in oil and gas could be a problem five years from now. That could lead to a period where supplies are constrained, and that could push prices up.

How do you see weather affecting energy bills this winter?
Weather is harder to predict than oil and gas prices, but for the U.S. it will probably be colder than last year. And oil prices are going to be somewhat higher than where they were last year. That combination could lead to a substantial increase in bills, in the neighborhood of 25 percent to 30 percent. But if you look at the last five years, the bills this year, even though they'll be higher, would still be slightly below the average of the last five years.



There's a lot of anti-pipeline activism. What impact will that have on oil and gas production?
There have been problems with pipelines. But the longer-term record associated with moving energy by pipeline is that it's pretty safe. We are seeing a lot more activism on the part of groups that want to leave the oil in the ground and have found that opposing pipeline projects is a good way to curtail activities. If you can't move the material, that makes it harder to go forward with production. But if you're asking if I can predict what courts or regulators are going to do about pipelines, no.

What's killing coal? Is it cheap natural gas or is it policy?
Coal is still supplying a third of the electricity in the U.S. That share has been declining, part of which is competition with natural gas and part of which is competition with renewables that are being promoted from a policy perspective. There are also a number of coal plants at the end of their useful lives that would require a significant capital investment to bring them up to clean-air standards. But even in 2040, under current law and regulation, a substantial part of electricity generation in the States would be coming from coal.

What about coal demand around the world?
Globally, China is the world's largest producer and consumer of coal. There's going to be a lot of electricity demand and growth in India over the next 25 years, and a significant part of that's likely to be fueled by coal. On a global basis we have coal plateauing, as oil, natural gas, renewables, and nuclear grow.

Nuclear plants are having trouble in parts of the U.S. Is there a future for nuclear?
Nuclear is a very important source of carbon-free electricity. Energy Secretary [Ernest] Moniz is working on ways to innovate, looking at changes in the fuel cycle, changes in the size of nuclear plants, having small modular reactors—all kinds of shifts in technology that would keep nuclear competitive. On a global basis, I think China will be building over the next 25 years the same number of nuclear plants that already exist in the U.S. So it's very important that nuclear technology continues to evolve, so that nuclear power remains affordable.

What's the growth outlook for renewables?
We have renewables climbing, and they will exceed coal as a source of electricity sometime around 2030. The EIA is now tracking residential solar installations more frequently. Renewables are becoming very important.

Have you added solar panels to your roof?
No, I haven't. The slope on my roof mostly goes east and west, and what you really need is a south-sloping roof to really take advantage of solar. —*Naureen S. Malik*

Edited and compressed for space

EIA (1), GETTY IMAGES (3)

Benefiting Customers, Building Communities

Many companies are working to make a positive impact by making sensible decisions when it comes to environmental and societal issues

Any company can grow. It is the ability to grow responsibly—taking into account what is in the best interests of both the customer and the business—that sets great companies apart.

It's for this reason that Bank of America consistently addresses its own environmental, social and governance (ESG) performance throughout every aspect of its business. "We've got to be sensitive to our risk appetite, and our growth has to be sustainable," says Andrew D. Plepler, Bank of America's ESG Executive, who frequently engages with a broad range of consumer and community stakeholders to help shape the bank's strategies, policies and programs. "When our CEO talks about the sustainable part of our business, we really see the elements of ESG and how we think about our role in society."

It's not enough to just provide reliable services for customers and shareholders. Bank of America is transparent about their efforts through an annual ESG Report, which details the company's culture, its approach to risk management and how the company is delivering responsible, sustainable growth. Together, these efforts make the business more efficient, help employees realize their potential and help

PHOTOGRAPH BY EZRA BAILEY | GETTY


Responsible growth:
Our commitment to shared success

communities around the world address their biggest challenges.

One not-so-small example highlighted in the recent ESG Report: the financial institution's commitment to increase its environmental business initiative from $50 billion to $125 billion by 2025. Last year alone, the company provided $14.5 billion in financing for renewable energy, energy efficiency and other sustainability projects.

Bank of America is also tackling other relevant issues with the environment in their own operations, such as finding ways to use less energy in its data centers to being active in getting their customers to convert to paperless business processes.

Bank of America has committed to increase its environmental business initiative from $50 billion to $125 billion by 2025.

This green focus also resonates with the company's employees. "Various initiatives focused around being an environmental ambassador—like the company's My Environment program or its wasteless lunches—have been among the most active set of volunteer activities in the company," Plepler notes.

On the social front, the company continues to strengthen diversity in its workforce; 52 percent of employees globally are women and 44 percent in the U.S. are from diverse ethnic backgrounds. Employee development is supported through its 12 Employee Networks and Diversity and Inclusion Business Councils. These efforts also extend to customers: Bank of America recently extended nearly $10.7 billion in new credit to small-business owners, and has poured resources into its Better Money Habits program to help educate all consumers—not just the bank's own customers—on personal-finance topics, to enable them to live better financial lives.

All these efforts, however, are lost if there's no oversight, which is why Bank of America weighs the governance aspect of ESG with equal consideration. Two years ago the company formed an ESG Committee, which helps shape the company's agenda and identify new opportunities. "The participants are made up of leaders from every business in the company," Plepler explains. "We meet quarterly, and we challenge ourselves to think about what the important issues are around ESG performance to get the businesses engaged in thinking about what's the next phase of our journey."

Holding Companies Accountable

CECP, a CEO-led coalition that believes that a company's social strategy—how it engages with key stakeholders including employees, communities and customers—is a key factor in determining company success, also places an emphasis on corporate responsibility. "The organization is coming up on 20 years of existence, and things have really changed in that timeframe," says Carmen Perez, Director of CECP's Data Insights. "There is a much deeper integration of how companies think about engaging with society."

As part of CECP's annual "Giving in Numbers" survey, more than half of the reporting companies said they have been called upon to provide ESG metrics, either for investor relations or some other purpose. "From an investor point of view, it's a nice proxy to figure out whether or not a company is thinking strategically for the long term," says Perez.

CECP has also heard from business executives that thinking about long-term value creation—as opposed to short-term profits—is a critical part of corporate responsibility. At the organization's annual Board of Boards event in 2016, 86 percent of CEOs said they were frustrated with the overemphasis on the short term. As

“Our goal is to play the role of ensuring that companies are being thoughtful about their best practices and using them to drive effectiveness.”

— Carmen Perez, Director of Data Insights, CECP

a result of these concerns, CECP launched the Strategic Investor Initiative (SII), a platform to provide tools and resources designed to introduce and support market behaviors that ultimately deliver sustained long-term value for all stakeholders.

“SII hopes to spark the movement of trillions of dollars of capital to companies demonstrating performance excellence over the long-term, and will help build trust in capitalism as an engine of global prosperity,” says Mark Tulay, Director of the Strategic Investor Initiative.

For hardline publicly traded companies, it will take more than a promise of goodwill to focus less on quarterly earnings calls—but there’s research to support the shift. A 2011 Harvard Business School study showed that companies that prioritize environmental and social performance financially outperform those that do not. CECP’s own research corroborates that finding: “Giving in Numbers” reports that companies that increased total giving by at least 10 percent between 2013 and 2015 saw increases in median giving as a percentage of revenue and pre-tax profit.

Showcasing Responsibility

Responsibility is obviously a key component for conducting any business, and when it comes to the financial services industry, that approach has even more impact when it also does good things for society. For that reason, MetLife Foundation, the charitable arm of MetLife Inc., pivoted to a focus on financial inclusion in 2013. Part of its plan is to distill studies focused on financial behavior into actionable information that real people can use.

“Truthfully, there’s a lot of research out there that nobody ever reads,” says Evelyn Stark, financial inclusion lead at MetLife Foundation. “One of the things that we do is to make sure that research is put into plain English, and that people understand the power of it.”

With that in mind, the foundation has pledged $200 million in grants for organizations dedicated to increasing financial health around the globe, including here in the U.S. Recently, that support came in the form of a three-year, $2.5 million commitment to the Center for Financial Services Innovation (CFSI), which was founded in 2004 to help the traditional banking system meet the needs of low- and moderate-income individuals.

CFSI encourages those companies in its network to ponder the question: How can we measure, track and improve the financial health of our customers? Its most recent success is an executive summary titled “Eight Ways to Measure Financial Health” (see sidebar), which marks the first time that a cohort of financial services companies has measured the financial health of its customers.

“We are working with very low- and moderate-income people—often those who are getting a first savings account,” Stark explains. “Obviously, if we believe financial services help people like us, then why wouldn’t we want that for low-income consumers, as well?” ■

The Eight Ways to Measure Financial Health

“We were willing to make a multi million-dollar commitment to CFSI because we don’t only want low- and moderate-income consumers to be ‘financially educated,’” says Evelyn Stark, financial inclusion lead at MetLife Foundation. “We want them to be doing the right thing.” CFSI took a step toward that goal with its release of the top indicators of financial health, which aims to establish a framework for consumers to follow.

MetLife Foundation

Spend

- *Spend less than income*
- *Pay bills on time and in full*

“If you think about it, the financial transaction we probably do every day is spend money,” says Stark. MetLife Foundation sees technology as a solution, such as automatic bill pay or smart budgeting applications.

Save

- *Have sufficient living expenses in liquid savings*
- *Have sufficient long-term savings or assets*

“If you’re a young person who has been signed up by your employer into a 401(k), you may be getting a head start on savings,” says Stark. “If you do start tracking your money, you’ll probably start thinking, *Wow, I should be saving for an emergency instead of buying all those expensive lattes.*”

Borrow

- *Have a sustainable debt load*
- *Have a prime credit score*

“The cost between having a ‘fair’ and ‘excellent’ credit score is going to save you thousands of dollars on a house, for example,” says Stark. As such, the MetLife Foundation has partnered with LISC, The Financial Clinic, Credit Builders Alliance and many others to help some build or improve credit scores.

Plan

- *Have appropriate insurance*
- *Plan ahead for expenses*

“Health insurance is something that people prioritize, but renter’s insurance shouldn’t be ignored,” says Stark. “On a more positive note, we all have dreams that we want to achieve—whether it’s to buy Christmas gifts for the family or to pay for your child’s college education—and planning is a key component for success.”

EXCLUSIVE REPORT

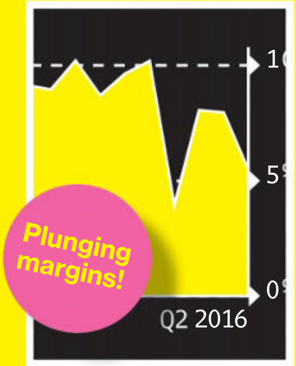
Figures

Projections!
Analysis!
Mergers!

50 COMPANIES TO WATCH

The hottest industries, products, and stocks you NEED to know about in 2017!

SIZZLING STATS THAT ALL ADD UP



PLUS! 9 OF THE MOST EXCITING NUMBERS SINCE THE LAST ISSUE OF BUSINESSWEEK

The analysts at Bloomberg Intelligence, who track 4,000 stocks, identified companies that face unusual challenges in the coming year or are poised to release products or services with blockbuster potential. The analysts considered revenue growth, margins, market share, debt, and other factors, and came up with a list of 50 worth watching.

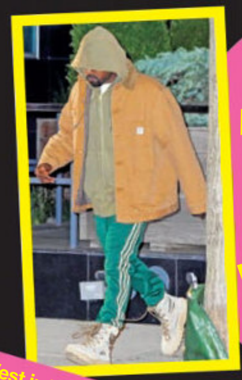
FIGURES COMPILED OR ESTIMATED BY BLOOMBERG'S GLOBAL DATA DIVISION, UNLESS OTHERWISE NOTED; ESTIMATED SALES GROWTH: THE PERCENTAGE CHANGE BETWEEN ESTIMATED SALES FOR THE CURRENT FISCAL YEAR AND THE PRIOR FISCAL YEAR'S SALES. THE CURRENT YEAR'S ESTIMATE IS BASED ON BLOOMBERG'S SURVEYS OF ANALYSTS. N/M (NOT MEANINGFUL) IF: 1) A MERGER, ACQUISITION, OR DIVESTITURE OCCURRED; OR 2) THE ESTIMATE IS NOT RELIABLE DUE TO ACCOUNTING DIFFERENCES. ESTIMATED EPS GROWTH: THE PERCENTAGE CHANGE BETWEEN ESTIMATED EARNINGS PER SHARE FOR THE CURRENT FISCAL YEAR AND THE PRIOR YEAR'S FIGURE. N/M IF: 1) THE ESTIMATE OR THE COMPARABLE IS NEGATIVE; OR 2) A MERGER, ACQUISITION, OR DIVESTITURE OCCURRED IN THE CURRENT FISCAL YEAR; OR 3) CERTAIN CAPITAL CHANGES OCCURRED IN THE CURRENT FISCAL YEAR. TOTAL ASSETS ARE FROM THE MOST RECENT COMPANY FILINGS AS OF SEPT. 15; SALES FIGURES ARE DRAWN FROM THE MOST RECENT COMPANY REPORTS AS OF SEPT. 15; ONE-YEAR TOTAL STOCK MARKET RETURN IS ALSO THROUGH SEPT. 15.

1) ADIDAS

APPAREL

Estimated sales growth in current fiscal year	13.6%
Estimated EPS growth in current fiscal year	49.9%
Total assets	$15.53b
12-month sales	$20.11b
1-year total return	127%

After losing ground to market leader Nike and upstart Under Armour, the global sportswear brand has rallied. Adidas has increased marketing spending, and the Stan Smith lifestyle shoe has enjoyed a comeback.



Kanye West in his Yeezys

Adidas spent **22%** more on marketing in 2015 than in the prior year

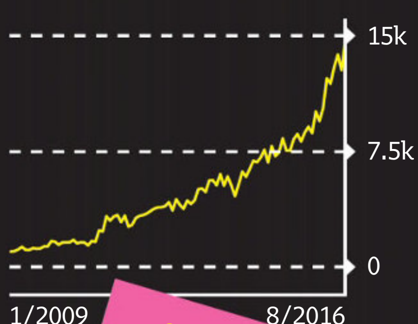
2) ALKERMES

PHARMACEUTICALS

Estimated sales growth	19.8%
Estimated EPS growth	58.3%
Total assets	$1.79b
12-month sales	$668m
1-year total return	-32%

The drugmaker has seen demand for Vivitrol, its opioid-blocking drug, soar in response to the painkiller and heroin epidemic. Aristada, the company's recently introduced drug for schizophrenia, is expected to become a major growth engine.

Vivitrol prescriptions



Criminal justice programs in several states are offering Alkermes's Vivitrol as part of addiction-treatment programs, and more are expected to do so

3) ALTICE

CABLE

Estimated sales growth	N/M
Estimated EPS growth	N/M
Total assets	$87.99b
12-month sales	$18.37b
1-year total return	-38.7%

The Dutch telecommunications company has been on a buying spree, snapping up Suddenlink and Cablevision in 2015 to become the fourth-largest cable provider in the U.S. After borrowing heavily to make the purchases, it's now under pressure to cut costs and increase revenue.

Net debt has doubled, to $50b, since 2014!

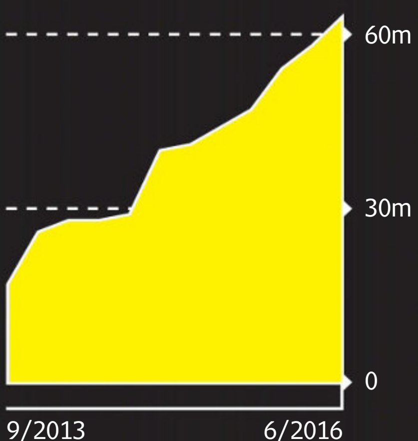
4) AMAZON.COM

E-COMMERCE

Estimated sales growth	27.9%
Estimated EPS growth	364.4%
Total assets	$65.08b
12-month sales	$120.64b
1-year total return	45.9%

Continued gains in Amazon Prime memberships and in the web-services business have allowed the retailer to stabilize profits even as it invests heavily in new projects.

Prime members



DATA: CIRP

6) ANTA SPORTS PRODUCTS

APPAREL

Estimated sales growth	18.9%
Estimated EPS growth	15.3%
Total assets	$1.95b
12-month sales	$1.89b
1-year total return	9.9%

China's largest homegrown sportswear company is beginning to move upscale as the nation's burgeoning middle class embraces exercise routines and "athleisure" attire.

Number of people who exercise in China

2007	2014	2020 (estimate)
340m	410m	700m

DATA: GENERAL ADMINISTRATION OF SPORTS OF CHINA

7) ARIAD PHARMACEUTICALS

Steady growth!

Estimated sales growth	56.7%
Estimated EPS growth	91.9%
Total assets	$624m
12-month sales	$169m
1-year total return	46.8%

Ariad's blood cancer treatment Iclusig has shown steady growth since its relaunch in 2014, thanks partly to price increases that have made it among the most expensive drugs in its category. The company has filed for U.S. Food and Drug Administration approval for its lung cancer drug brigatinib and expects a decision in the second quarter of 2017.

5) AMERICAN EAGLE OUTFITTERS

Six consecutive quarters of same-store sales gains!!

APPAREL

Estimated sales growth	3.9%
Estimated EPS growth	19.8%
Total assets	$1.69b
12-month sales	$3.6b
1-year total return	23.3%

The teen-oriented retailer has avoided the fate of rivals such as PacSun, American Apparel, and Wet Seal, which have all filed for bankruptcy. AE's six consecutive quarters of same-store sales gains highlight the importance of having the right product assortment and using data to manage inventory and minimize discounting.

Kate Bosworth in American Eagle

8) BANCO DO BRASIL

Interest rates on new loans average 30%!!

BANKING

Estimated sales growth	N/M
Estimated EPS growth	-34%
Total assets	$453.74b
12-month sales	$58.55b
1-year total return	49.9%

The recession has taken a toll on the profitability of Brazil's No. 4 bank by assets. Banco do Brasil's reliance on a narrow base of domestic corporate borrowers is a source of concern, as bankruptcies have been on the rise.

9) BARRICK GOLD

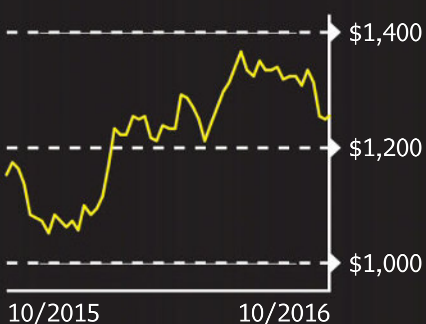
MINING

Estimated sales growth	-5.7%
Estimated EPS growth	129.7%
Total assets	$25.6b
12-month sales	$8.5b
1-year total return	165.4%

Gold bugs returned in force in 2016, especially after Brexit sent investors scurrying for a safe haven

The world's largest gold miner is taking advantage of the surge in prices to reduce its debt.

Price of gold per ounce



11) CBS

ENTERTAINMENT

Estimated sales growth	4.8%
Estimated EPS growth	23.6%
Total assets	$23.14b
12-month sales	$14.3b
1-year total return	21.3%

The divergent fortunes of CBS and Viacom raise questions about the advantage of a recombination after a decade apart. On the plus side, a deal would bolster CBS's portfolio of networks. CBS CEO Les Moonves would finally fulfill his ambition to run a major movie studio, but could he pull Paramount out of its funk?

$115m

Viacom's writedown on yet-to-be-released *Monster Trucks!*

10) CATERPILLAR

CONSTRUCTION & MINING MACHINERY

Estimated sales growth	-14.5%
Estimated EPS growth	-24%
Total assets	$78.3b
12-month sales	$41.8b
1-year total return	13.2%

The heavy-equipment maker is staring at a fourth year of operating losses in 2016. A cut in the company's debt rating is a real threat and could hurt its financing unit.

Operating loss

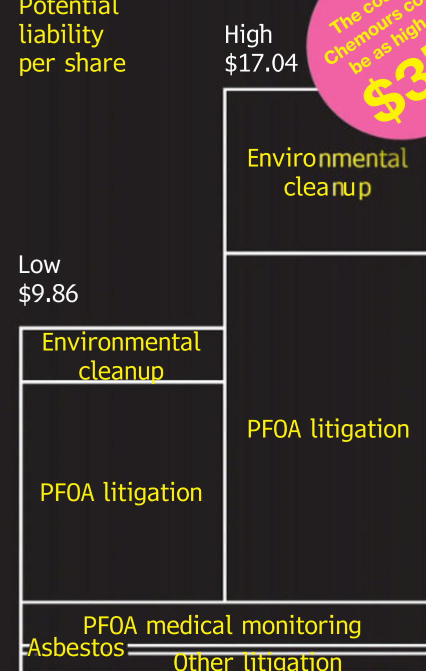
12) CHEMOURS

CHEMICALS

Estimated sales growth	-5.6%
Estimated EPS growth	15.9%
Total assets	$6.22b
12-month sales	$5.53b
1-year total return	44.7%

Spun off from DuPont in 2015, Chemours inherited the liability of 3,500 lawsuits over a toxic Teflon chemical (PFOA) found in Ohio's and West Virginia's waters.

Potential liability per share



The cost to Chemours could be as high as **$3b!**

13) CHIPOTLE MEXICAN GRILL

RESTAURANTS

Estimated sales growth	-10.1%
Estimated EPS growth	-75.6%
Total assets	$2.1b
12-month sales	$4.05b
1-year total return	-43.3%

Britney Spears eats!

The burrito chain has managed to slow the sales decline that followed multiple incidents of foodborne illness in 2015, with increased marketing, giveaways, and a new loyalty program. The challenge now is to keep customers coming back.

Comparable-store sales

SPLASH NEWS (1); WIREIMAGE.COM (1)

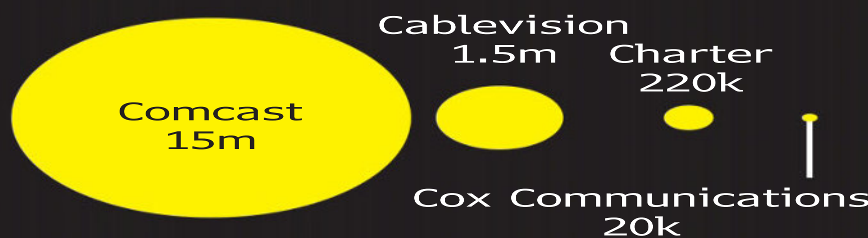
14) COMCAST

CABLE

Estimated sales growth	7.1%
Estimated EPS growth	8.2%
Total assets	$171.99b
12-month sales	$75.97b
1-year total return	16.7%

The pay-TV operator plans to begin offering wireless service in 2017, using a combination of its 15 million public Wi-Fi hotspots in customers' homes with Verizon's network. This would put the company in the rare position of being able to provide a "quadruple play" package of TV, internet, landline, and mobile.

Approximate number of Wi-Fi hotspots



DATA: COMPANY FILINGS, HEAVY READING

15) DELTA LLOYD

LIFE INSURANCE

Estimated sales growth	4%
Estimated EPS growth	N/M
Total assets	$88.91b
12-month sales	$12.34b
1-year total return	-41%

The European Union's new rules on risk–known as Solvency II–went into effect in 2016, requiring insurers to be 99.5 percent confident they have the money on hand to cope with the worst-case scenario for any given year. The change has forced Dutch insurer Delta Lloyd to raise capital while its core business suffers from low interest rates.

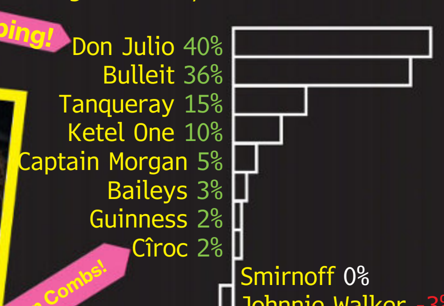
16) DIAGEO

BEVERAGES

Estimated sales growth	11.7%
Estimated EPS growth	15.8%
Total assets	$37.8b
12-month sales	$15.56b
1-year total return	4.7%

The world's largest distiller is counting on an incoming chairman, Javier Ferrán, to get ahead of trends in the new "cocktail culture" and revive heritage brands such as J&B Scotch.

Change in sales, fiscal 2015-16



Tequila for sipping!

Brand ambassador Sean Combs!

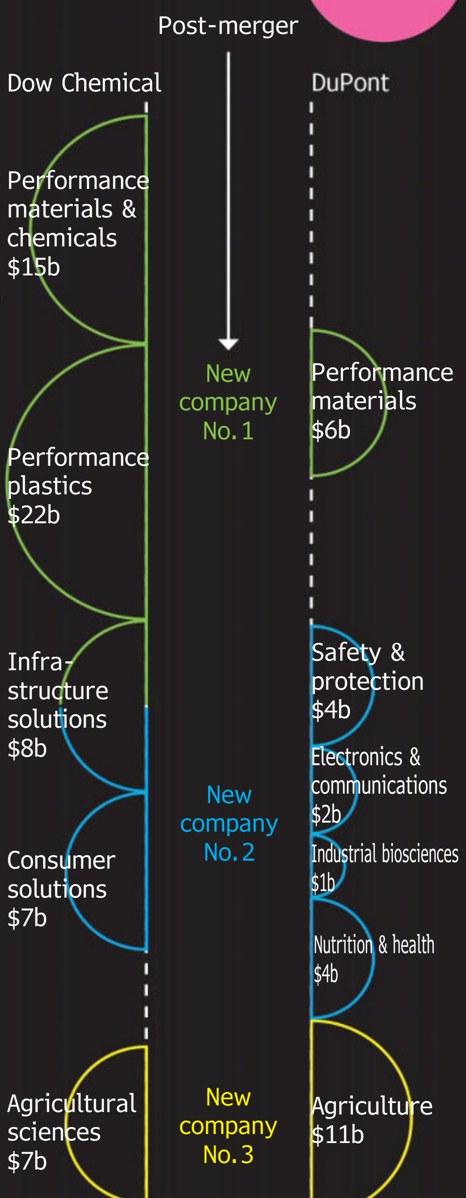
17) DOW CHEMICAL

CHEMICALS

Estimated sales growth	-4.4%
Estimated EPS growth	1.5%
Total assets	$81.52b
12-month sales	$46.15b
1-year total return	22%

At the end of 2015, Dow announced a plan to merge with DuPont in a $130 billion deal that would be the largest in the chemical industry. In 2017 that merger either comes together or falls apart at the hands of regulators. The plan is to split the newly formed company into three businesses, unlocking $3 billion in cost savings.

Corporate triplets!



18) ELI LILLY

PHARMACEUTICALS

Estimated sales growth	6.2%
Estimated EPS growth	4.7%
Total assets	$36.48b
12-month sales	$20.61b
1-year total return	-4.2%

Eli Lilly is the smallest of its U.S. peers by market value, but its new-drug portfolio is more diverse than most.

Analysts expect annual sales growth of 5.7 percent from 2015 to 2020, or 4.6 percent, if solanezumab, a pipeline drug for Alzheimer's, fails in trials

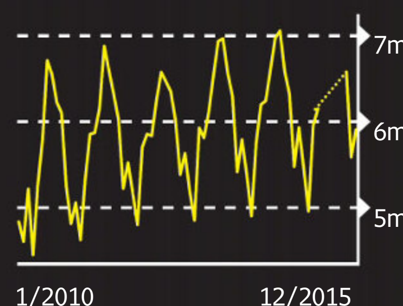
19) FERROVIAL

INFRASTRUCTURE

Estimated sales growth	4.1%
Estimated EPS growth	-41.9%
Total assets	$26.34b
12-month sales	$10.72b
1-year total return	-14.5%

The Spanish infrastructure company stands to gain from surging travel throughout Europe. It builds highways and railways, manages parking garages and toll roads, and owns airports, including a 25 percent stake in London's Heathrow.

Passenger volume at Heathrow



20) FORD

AUTOMOBILES

Estimated sales growth	0.7%
Estimated EPS growth	-5.7%
Total assets	$239.68b
12-month sales	$155.6b
1-year total return	-11.7%

Ford's dependence on the U.S. market is a source of concern, as demand for new cars is expected to soften after a record-setting 2015. Poor economic conditions in Latin America and Russia are also draining profitability.

Americans bought a record 17.5m vehicles in 2015!


Lily Allen at the wheel!

SPLASH NEWS

21) GEELY

AUTOMOBILES

Estimated sales growth	46.7%
Estimated EPS growth	69.3%
Total assets	$6.76b
12-month sales	$5.35b
1-year total return	98.9%

The Chinese carmaker, whose parent bought Volvo Car in 2010, is working with its Swedish affiliate to improve its vehicles so it can compete with global rivals. Production of Geely's more profitable models is set to double with the opening of a Chinese plant this fall.

22) GOPRO

CONSUMER ELECTRONICS

Estimated sales growth	-14.4%
Estimated EPS growth	N/M
Total assets	$864m
12-month sales	$1.24b
1-year total return	-60.4%

As demand for its wearables begins to slow, the market leader in action cameras is moving into the drone business. Its $800 Karma flyers, built to carry its Hero cameras, are scheduled to go on sale in fall 2016.

Wearables?!?

23) HANNOVER RUECK

REINSURANCE

Estimated sales growth	0.7%
Estimated EPS growth	-12%
Total assets	$69b
12-month sales	$18.72b
1-year total return	3.8%

Losses from catastrophes have risen for the reinsurer. Much of the damage was weather-related, suggesting that climate change could continue to cause increased losses.

So far, 2016 is the HOTTEST year on record!

2016 YTD global economic losses from catastrophes

● = $1b

DATA: AON BENFIELD

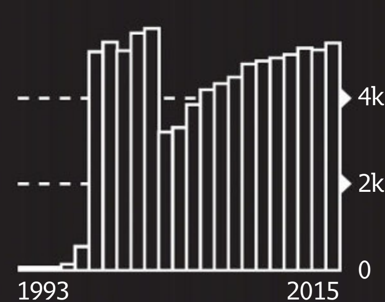
24) HUDSON'S BAY

DEPARTMENT STORES

Estimated sales growth	32.8%
Estimated EPS growth	N/M
Total assets	$9.51b
12-month sales	$10.25b
1-year total return	-22.1%

The owner of Lord & Taylor, Saks Fifth Avenue, and Saks Off 5th has hit on a unique strategy to fund expansion. It created two joint ventures last year with publicly traded REITs. Hudson's Bay contributed real estate; its partners committed capital to be used for acquisitions. With department stores trading at depressed valuations, it's a buyer's market.

Stores owned by Hudson's Bay



25) INDUSTRIAL & COMMERCIAL BANK OF CHINA

BANKING

Estimated sales growth	0.9%
Estimated EPS growth	-1.3%
Total assets	$3,535b
12-month sales	$162.1b
1-year total return	5.9%

ICBC and other large publicly traded Chinese banks have contained growth in nonperforming loans by writing them off, securitizing them, and selling them to distressed-asset investors. In 2017 investors will be looking for ICBC to improve the quality of its loan portfolio and increase fee income from sales of insurance and investment products.

Bye-bye, bad loans!!!

26) J.C. PENNEY

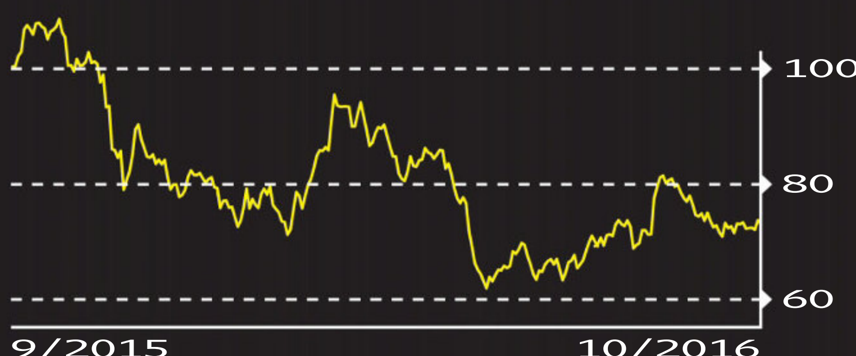
DEPARTMENT STORES

Estimated sales growth	1.8%
Estimated EPS growth	N/M
Total assets	$9.17b
12-month sales	$12.62b
1-year total return	1.9%

Will Penney's be able to maintain its turnaround momentum??

Odds are stacked against the retailer. American consumers are spending more on home and travel while shunning apparel, a trend that's punished department store stocks.

North American department-store index



27) KITE PHARMA

BIOTECH

Estimated sales growth	15%
Estimated EPS growth	-198.5%
Total assets	$636m
12-month sales	$19.9m
1-year total return	-12.5%

The biotech's 2015 collaboration agreement with Amgen has eased the burden of bringing new products to market. Kite is racing Juno and Novartis to win FDA approval for a new autoimmune drug to treat a prevalent type of blood cancer.

28) KONINKLIJKE AHOLD DELHAIZE

FOOD & DRUG

Estimated sales growth	N/M
Estimated EPS growth	N/M
Total assets	$17.1b
12-month sales	$43.25b
1-year total return	19.9%

A key 2017 battleground for the newly merged Ahold and Delhaize will be the U.S., where supermarket margins are under pressure from cut-rate grocers such as Aldi, Lidl, and Save-a-Lot. To combat the trend, Ahold's Kroger is testing a deep-discount limited-assortment format and a store focused on affordable natural and organic items.

29) LAFARGEHOLCIM

CEMENT & AGGREGATES

Estimated sales growth	-3.7%
Estimated EPS growth	111.7%
Total assets	$73.32b
12-month sales	$28.82b
1-year total return	-11.2%

Created from the $50 billion merger of Lafarge and Holcim in 2015, the Swiss construction supplier has a long way to go to reach its target of $1.5 billion in cost savings by the end of 2017.

30) METLIFE

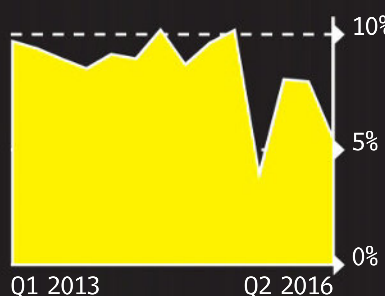
LIFE INSURANCE

Estimated sales growth	-2.3%
Estimated EPS growth	-4.4%
Total assets	$942.57b
12-month sales	$68.75b
1-year total return	-7%

The largest U.S. life insurer won a victory in 2016 when a federal court overturned its designation as a systemically important financial institution (SIFI) subject to tighter financing standards. It's likely that in 2017 courts will decide whether to grant the government's appeal and reverse the decision.

The company will spin off its U.S. retail division, to be called Brighthouse Financial, in an effort to improve sagging profits

Operating margin



32) NESTLE

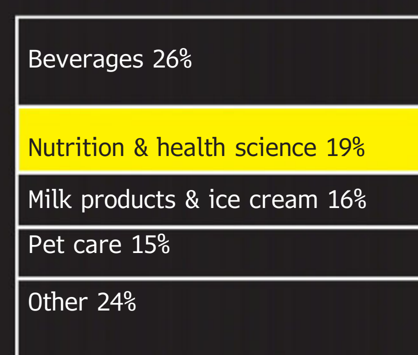
PACKAGED FOOD

Estimated sales growth	1.8%
Estimated EPS growth	3.4%
Total assets	$124.03b
12-month sales	$91.12b
1-year total return	8.4%

Lindsey Lohan sips a Poland Spring!

For the first time since 1922, the world's largest food company has named a CEO from outside. Ulf Mark Schneider, due to start in January, has a background in health care, which signals that Nestlé may quicken the pace of its transformation into a health and wellness company.

Sources of operating profit, 2015



99

31) MICRON

SEMICONDUCTORS

Estimated sales growth	-23.7%
Estimated EPS growth	-98.6%
Total assets	$27.54b
12-month sales	$12.4b
1-year total return	4.6%

Flash drive sales down!!

The PC sales slump has hurt Micron more than other makers of memory chips, because the company is more reliant on that market than better-diversified rivals. The company is well-positioned to benefit if PC sales rebound.

GETTY IMAGES (2)

33) NETFLIX

ENTERTAINMENT

Estimated sales growth	28.8%
Estimated EPS growth	8.4%
Total assets	$11.59b
12-month sales	$7.62b
1-year total return	-6.5%

The streaming video service expanded to 130 new countries in 2016, bringing its total to more than 190. The major exception is China, which the company is struggling to enter. Plans for launching there are on hold.

Now with 39 million international subscribers!

34) NOVATEK

EXPLORATION & PRODUCTION

Estimated sales growth	12.9%
Estimated EPS growth	45.3%
Total assets	$14.2b
12-month sales	$7.71b
1-year total return	8.1%

Russia's second-largest gas producer, after Gazprom, is investing $27 billion in a liquid natural gas terminal in the Russian Arctic. It's expected to begin producing at the end of next year. Climate change should make it easier to export to Asia along the newly opened Northern Sea Route.

Transportation routes from the Yamal Peninsula to India, China, and Japan

Winter route
Summer route

35) PHILIP MORRIS INTERNATIONAL

TOBACCO

Estimated sales growth	-0.4%
Estimated EPS growth	1.5%
Total assets	$34.8b
12-month sales	$26.05b
1-year total return	27.1%

The tobacco giant is getting into the e-cigarette business to help offset declining revenue from the global drop in smoking rates. Its "reduced-risk products" are catching on fast in test markets (including Japan, Italy, and Switzerland), but it will need to convince regulators and consumers the devices are truly less dangerous.

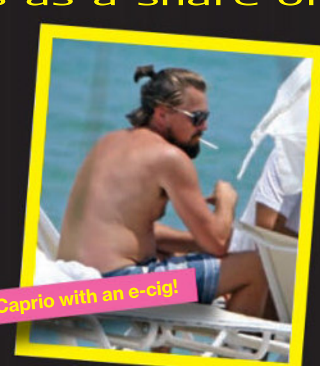
Estimated global tobacco sales growth, 2015-17

Cigarettes	3%
Smoking tobacco	6%
Smokeless tobacco	6%
Cigars	8%
Vaping devices	39%

Vaping products as a share of tobacco market

Japan	0.04%
China	0.3%
South Korea	0.9%
Russia	1.2%
Germany	2.1%
Italy	3.1%
U.S.	4.2%

DATA: EUROMONITOR PASSPORT



Leo DiCaprio with an e-cig!

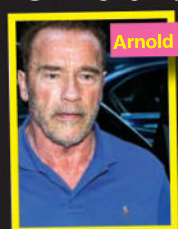
36) PROCTER & GAMBLE

HOUSEHOLD PRODUCTS

Estimated sales growth	1.1%
Estimated EPS growth	5.9%
Total assets	$127.14b
12-month sales	$65.3b
1-year total return	29.9%

The consumer-products giant is in the midst of a broad restructuring, with the goal of reducing its portfolio to 65 of the fastest-growing and most profitable brands by mid-2017, from almost 170 three years ago. Proceeds from the sale of 41 beauty brands to Coty in a $12.5 billion deal finalized in July could fund acquisitions outside the U.S., where P&G trails rivals.

37) RALPH LAUREN



Arnold Schwarzenegger in Polo!

APPAREL

Estimated sales growth	-10.3%
Estimated EPS growth	-14.7%
Total assets	$6.12b
12-month sales	$7.34b
1-year total return	-10.9%

New CEO Stefan Larsson is trying to revive the preppy clothing brand in an apparel industry now driven by athletic wear and "fast-fashion" retailers. Step one is to begin cutting off supply to discount retailers and closing 50 of its own underperforming stores.

New CEO!

38) ROYAL BANK OF SCOTLAND

BANKING

Estimated sales growth	-11.6%
Estimated EPS growth	-33.5%
Total assets	$1,196b
12-month sales	$22.79b
1-year total return	-49.4%

RBS is battling a tough business environment and a shrinking capital base. Investors worry potential fines from U.S. mortgage-backed securities litigation may exceed the $5.6 billion the bank has set aside to cover such costs.

Will Brexit bruise RBS?

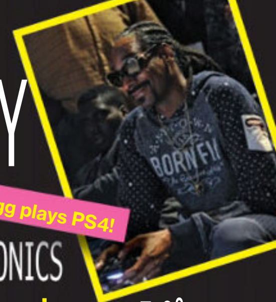
39) SEAGATE TECHNOLOGY

HARDWARE & STORAGE

Estimated sales growth	-5.4%
Estimated EPS growth	33.2%
Total assets	$8.25b
12-month sales	$11.16b
1-year total return	-20.6%

Despite a recent sales bounce, the future of Seagate's core product, hard-disk drives, is in jeopardy with the continued adoption of cloud services.

40) SONY



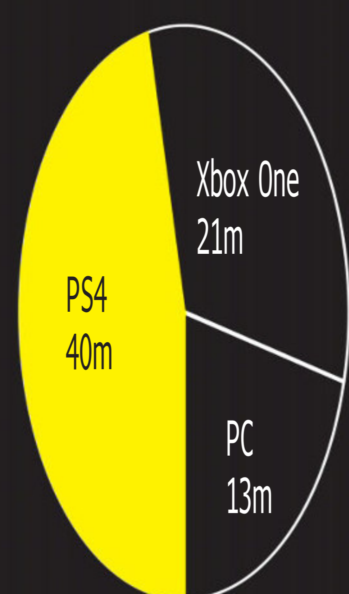
Snoop Dogg plays PS4!

CONSUMER ELECTRONICS

Estimated sales growth	-5.9%
Estimated EPS growth	-37.2%
Total assets	$158.75b
12-month sales	$67.96b
1-year total return	25.8%

PlayStation gaming consoles helped the company stay relevant as sales of TVs declined and Apple and Samsung took over the mobile market. Sony is now counting on its gamers to give it a leg up in the race to capture the virtual-reality headset market.

VR-ready units installed



DATA: IDC, COMPANY ANNOUNCEMENTS

41) STEINHOFF INTERNATIONAL

HOME PRODUCTS

Estimated sales growth	N/M
Estimated EPS growth	N/M
Total assets	$27.4b
12-month sales	$14.5b
1-year total return	-4.9%

The South African-based retailer of furniture and other home goods has been expanding in the U.K. and in the U.S. through acquisitions. The deals have increased debt, so the company is under pressure to realize cost savings and revenue gains from its new properties.

Steinhoff's share of the U.S. mattress market is 25%!

42) STRYKER

MEDICAL DEVICES

Estimated sales growth	13.2%
Estimated EPS growth	12.5%
Total assets	$20.52b
12-month sales	$10.47b
1-year total return	14.5%

The medical devices company is planning to introduce a new artificial knee in 2017 as it looks to gain ground in the $4.2 billion U.S. market for total knee implants.

The Triathlon knee system and Mako robotic-arm

102

43) SUEDZUCKER

AGRICULTURAL

Estimated sales growth	2.3%
Estimated EPS growth	67.6%
Total assets	$8.66b
12-month sales	$6.96b
1-year total return	69.4%

Europe will do away with sugar quotas and the minimum beet price paid to farmers next year, moves expected to stoke volatility in world sugar markets. In preparation, Suedzucker has been working to cement its position as Europe's No. 1 producer by making acquisitions and expanding its distribution reach.

44) SUNCOR ENERGY

INTEGRATED OIL

Estimated sales growth	-6.4%
Estimated EPS growth	N/M
Total assets	$68.41b
12-month sales	$19.28b
1-year total return	2.4%

Canada's largest oil sands producer has been hit by both falling prices and the Alberta wildfire, which cut 2016 production for the year by about 7 percent. It's used large cash reserves to make acquisitions and ride out the slump.

45) SWIRE PROPERTIES

REAL ESTATE

Estimated sales growth	1.5%
Estimated EPS growth	2.9%
Total assets	$35.37b
12-month sales	$1.93b
1-year total return	6.4%

Hong Kong's largest office landlord is getting into the U.S. apartment market as part of a strategy to diversify.

Swire's Reach and Rise high rises, with a combined 5.4m square feet, opened in Miami in 2016

46) VOLKSWAGEN

AUTOMOBILES

Estimated sales growth	-1.2%
Estimated EPS growth	-18.4%
Total assets	$444.5b
12-month sales	$235.82b
1-year total return	-22.9%

Almost a year has passed since Volkswagen admitted to cheating on diesel emissions tests, but every quarter of weak sales makes it more evident that sweeping changes to the product portfolio will be necessary to revive the image of the VW brand. Audi and Porsche, meanwhile, may feel the pain of plateauing U.S. auto sales in 2017.

Liabilities galore!

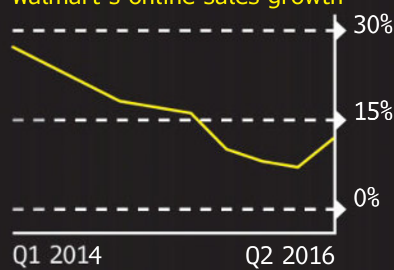
47) WALMART STORES

MASS MERCHANTS

Estimated sales growth	0.9%
Estimated EPS growth	-5.6%
Total assets	$197.89b
12-month sales	$483.83b
1-year total return	15.3%

The world's largest retailer paid $3.3 billion for e-commerce startup Jet.com, hoping to increase stagnant online sales and counter a growing challenge from Amazon.

Walmart's online sales growth



48) WHOLE FOODS

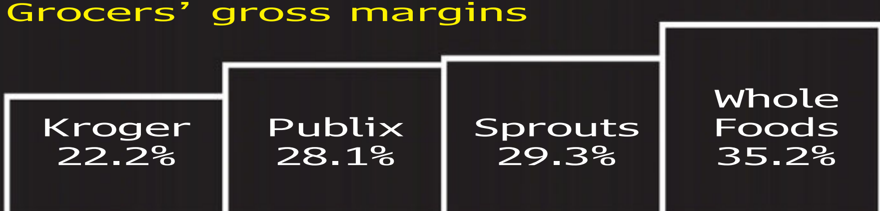
Lower prices!

FOOD & DRUG

Estimated sales growth	2.3%
Estimated EPS growth	2.2%
Total assets	$6.28b
12-month sales	$15.67b
1-year total return	-12.6%

The top U.S. seller of organic food faces competition from a variety of retailers. A loyalty program is in the works, and the company has taken an equity stake in delivery service Instacart. It's also lowering prices on produce and shelf-stable items and pushing digital coupons. Even with those moves, its gross margin remains well above those of competitors.

Grocers' gross margins



FAMEFLYNET (1); GETTY IMAGES (1); STRYKER (2)

49) WORKDAY

SOFTWARE

Estimated sales growth	34%
Estimated EPS growth	-310%
Total assets	$2.83b
12-month sales	$1.35b
1-year total return	23%

Increased adoption of cloud applications is driving Workday's growth.

Sales have slowed in recent years as demand for its core human-resources software weakens and competition from Oracle and SAP increase

Sales growth

Fiscal 2015 48%
Fiscal 2017 34%*
Fiscal 2018 31%*
*Consensus analyst forecasts

50) YELP

INTERNET MEDIA

Estimated sales growth	28.7%
Estimated EPS growth	-11.6%
Total assets	$800m
12-month sales	$629m
1-year total return	50.8%

Sales growth at the online reviews site has been slowing for several years in the face of competition from Facebook and Google. Its strategy–to bolster its sales force and improve ad and mobile technology–appears to be getting some traction, as evidenced by a 41 percent jump in local advertising revenue in the second quarter.

Solution to crossword on page 56

D	A	M	S		R	U	T	H		S	O	S	A	D
A	R	I	A		E	S	A	I		E	R	I	C	A
W	E	L	L	S	F	A	R	G	O	W	A	G	O	N
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			D	E	U	T	S	C	H	E	B	A	N	K
F	T	W		D	N	A			S	L	Y			
A	R	I	D		U	R	A	L		E	R	A	S	E
M	O	N	E	Y	M	O	N	E	Y	M	O	N	E	Y
E	N	O	L	A		T	I	N	A		N	A	M	E
			T	W	A			S	R	S		T	I	S
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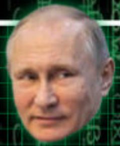
A	H	N			D	U	I			E	A	T	I	T
C	A	P	I	T	A	L	C	O	N	T	R	O	L	S
I	L	O	S	E		I	C	K	Y		D	R	I	P
T	E	P	I	D		P	A	S	T		S	E	E	S

THE PREDICTION MATRIX

A look at what we got right and wrong last year
—Josh Eidelson and Mark Glassman

ORACLE

DUH / ORACLE



Russia has exposed awkward divisions within the GOP, as we said in "**Putin's October Surprise**" in last year's The Year Ahead issue. Asked at the Oct. 9 presidential debate about his running mate's more hawkish stance toward Russia, Donald Trump answered, "He and I haven't spoken, and I disagree."

Weak global demand kept interest rates and prices for oil and other **commodities** low in 2016.

Unlike his recent predecessors, **President Obama** is playing a major role on the campaign trail as his party seeks to retain the White House.

Kung Fu Panda 3 has raked in $154 million at the **Chinese box office**, becoming the country's seventh-highest-grossing movie so far this year.

Donald Trump became the GOP presidential candidate, bringing the massive **President Trump** statue in last year's dystopian cartoon a step closer to reality.

For the first time, a U.S. **liquefied natural gas** project began exporting.

ORACLE / WHOA

India Prime Minister Narendra Modi's plan to replace state sales taxes with a **nationwide tax** overcame stiff resistance and passed.

The U.S. is on pace to exceed the "at least 11" gigawatts of **new solar capacity** we projected would come online in 2016.

In the first nine months of 2016, U.S. **crude oil** production averaged 8.8 million barrels a day, a hair less than we predicted.

China's slowdown hasn't stopped Apple's **ambitious expansion plans**. After reporting reduced quarterly sales in China, CEO Tim Cook told investors in July, "We remain very optimistic about the long-term opportunities in greater China, and we continue to invest there."

Forrester projects that the value of **mobile commerce** will grow a little less this year than the 23 percent increase it forecast a year ago.

DUH

WHOA

DUH / ONLY HUMAN

Economists surveyed by Bloomberg expected the **consumer price index** to be up 1.9 percent at the end of this year—now it looks more like 1.2 percent.

Cable companies have shown unexpected resilience, siphoning customers from telecoms and Dish.

In October, Illumina reported a decline in sales of its **gene-sequencing equipment**. It had expected sales to rise 20 percent or more in 2016.

"THEY FINALLY FIXED SIRI"

Apple's Siri is improving, so our cartoon set in 2116 suggesting it had taken till then to perfect may have been too pessimistic. **Maybe**.

With **Marco Rubio** reversing course and deciding to run for reelection, Florida will not be the pivotal state in the Democratic bid to regain control of the Senate.

Instead of letting it lapse, Congress extended the most significant **tax credit** for solar power by five years.

WHOA / ONLY HUMAN

The Fed hasn't followed its December 2015 **interest rate increase** with another hike, and members of its Open Market Committee say a yearend rate of 0.5 percent to 0.75 percent would be appropriate.

Through August, the U.S. **trade deficit** had shrunk a bit, not risen.

Rather than soaring on improved advertising sales, the stock of British broadcaster **ITV** fell after the Brexit vote clouded the economic outlook.

We predicted increased earnings for **Royal Dutch Shell**. In July the company reported earnings had fallen to their worst levels in 11 years, missing estimates by more than $1 billion.

U.S. corporations haven't picked up the pace of spending on **capital investments**.

Antonin Scalia, who died in February, didn't cast the swing vote in a pivotal Supreme Court case about union fees.

ONLY HUMAN

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