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**THE YEAR AHEAD**

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# 2017: A Year for Political and Technology Change

This is shaping up as a year of extraordinary change.

It's not just in the U.S., where newly elected President Donald Trump is pledging to ease regulations, overturn Obamacare, rework trade agreements, rebuild infrastructure and rewrite tax law. Europe faces the challenges of Brexit and other nations possibly following the U.K.'s lead. In Asia, President Xi Jinping is attempting to consolidate his already considerable influence in China and abroad.

Across the globe, plans to deregulate industries and stimulate economies risk a battle with rising nationalism and disruption to the global trade integral to today's economy. U.S. and global economic growth will pivot on Trump's policies, but trade wars and isolationism present real risks. Europe faces a similar threat, yet without the promise of fiscal stimulus.

All the while, the exponential impact of cloud computing, artificial intelligence and other innovations will be felt across businesses. Industrial firms are embracing the Internet of Things at the same time retailers are faced with a use-or-die choice with mobile and e-commerce. As new tech careers are born with bots and drones, other jobs will be lost in financial and other services as industries transform. And as the connected world offers benefits, cybersecurity threats will grow with costs to governments, companies and individuals.

If 2016 was a year of political and technology surprise, 2017 may be a year where economic and corporate activity surprise. Our Bloomberg Intelligence research explores all this and more in this Year Ahead Outlook. We bring together key themes across regions and sectors with a collaborative effort spanning our team of more than 250 professionals around the globe.

Also remember, this report only scratches the surface of the insight our economists and analysts across industries, credit, government and legal fields have published on our research platform at BI <GO> on the Bloomberg Professional<sup>®</sup> service.

Best regards for a prosperous 2017,

Bloomberg Intelligence Team

## U.S. ECONOMICS

# As Trumponomics Looms, Consumers Shoulder Growth

U.S. Economics  
Team

It is hardly unprecedented in politics for the promises of the campaign trail to dramatically change by the time policies are actually implemented. This will almost certainly prove true as Donald Trump becomes the 45th U.S. president. Nonetheless, the Trump campaign set the tone for the direction of the incoming administration's fiscal and economic priorities.

The Trump administration and Republican-controlled House and Senate are likely to focus on significant fiscal stimulus in the form of tax cuts (for businesses and households) and increased spending on infrastructure and on the military. Several other priorities should have meaningful economic consequences, including corporate and income tax reform, trade policy, deregulation and immigration.

While financial markets reacted sharply to the election results, the economic-stimulus proposals of the new administration may be more consequential for 2018 and beyond than 2017. It will be a challenge to pass legislation quickly enough that would affect the first quarter or even first half of the year. Nor should it be a priority, given the sustained, albeit moderate, reacceleration in GDP growth and the current level of unemployment, which is back to pre-financial crisis levels. Amid this backdrop, politicians will have the luxury of moving more deliberately, affording them time to fine-tune legislation, as opposed to rushing through emergency economic measures. As a result, policy makers may be willing to tolerate a somewhat protracted implementation.

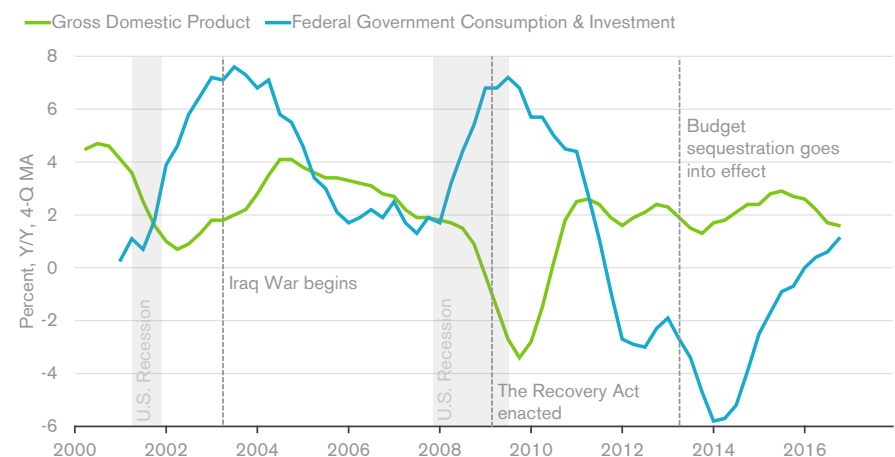
Tax law changes may not take effect until 2018, and deficit-financed spending — if fiscal conservatives are willing to go along with it — will likely not occur until the fiscal year beginning Oct. 1, 2017. Infrastructure projects in particular can be notoriously slow to commence, and could be delayed if the Trump administration seeks to establish an infrastructure bank funded through a public-private partnership. As such, for a myriad of reasons, the direct impact of fiscal-policy proposals could remain largely elusive in 2017. Even so, there could still be a substantial, indirect effect through bolstered economic confidence, as businesses and households anticipate more expansionary fiscal policy and — in particular — tax cuts.

Until the fiscal policy of the Trump administration is enacted, the heavy lifting for continued economic expansion will largely depend on the

ongoing, outsized contributions from consumer spending. Over the past four quarters — a period in which GDP growth has totaled just 1.6% — consumer spending advanced at a 2.7% pace, resulting in a contribution of 185 basis points. Put another way, if consumer spending is excluded, the remaining portion of the economy actually contracted over this period.

BI Economics is optimistic that, regardless of fiscal stimulus, consumer spending is due for a sustained acceleration as emerging wage pressures bolster household income in an increasingly tight labor market. However, it is not evident that this will occur imminently. The wage and salary income trend has been relatively steady for most of 2016, at just shy of 4%. After adjusting for inflation, wage and salary income growth is roughly 2.6% — more or less matching the pace of consumer spending. Until income growth

## Will Trumponomics Yield Fiscal Tailwinds?



Source: Bureau of Economic Analysis, Bloomberg

accelerates, personal spending will witness fits and starts, but continue to be plagued by an underlying sluggishness. As shown in the chart below, at the time of the November jobs report, there was scarce evidence of a pickup in income growth.

The economy can continue to add jobs at close to the current pace for a while longer without conditions becoming excessively lean, but the reserve of potential workers will begin to face intensifying scarcity in the year ahead. The ranks of the unemployed have largely been drawn down by job gains since the Great Recession. Unemployment totaled almost 15 million in 2010 and stands at less than 8 million at present. It managed to dip just below 7 million at the low point of the previous economic cycle, which would imply a remaining reserve of approximately 1 million potential workers. An individual must be actively seeking employment to be counted as unemployed.

As labor scarcity becomes more acute, employers increasingly have to look outside of the current labor force for headcount. There are presently 5.6 million people in the U.S. who want a job but are not counted among the unemployed because they are not actively looking for work for various reasons. This exceeds pre-recession levels by slightly more than 1 million.

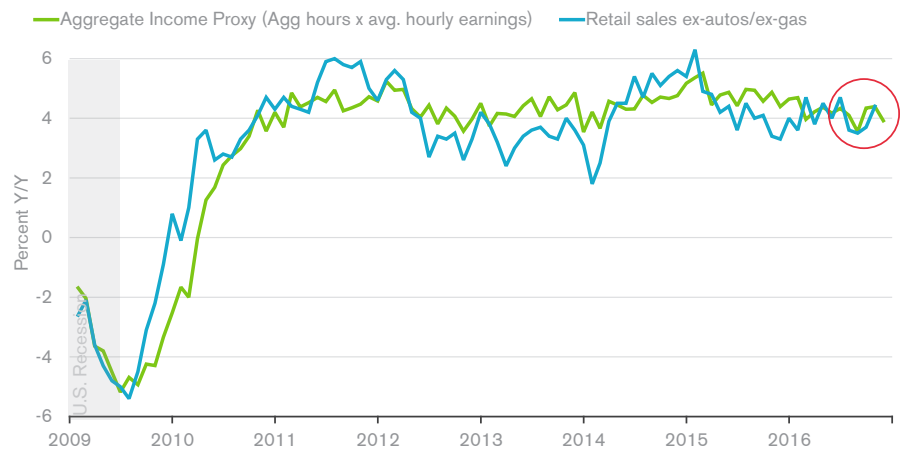
In short, BI Economics estimates that there is a reserve of approximately 2 million potential workers — nearly equally distributed between the ranks of the unemployed and those willing to work but not actively looking — before labor conditions are as lean as they were in the late stages of the previous economic cycle. The economy has been adding jobs at a rate of roughly 2.4 million a year, and the natural expansion of the labor force (mostly due to population growth) has been averaging closer to 1 million a year since 2000. As a result, the remaining workers will need to be drawn from the aforementioned reserve, which looks

adequate — but by a very thin margin. A worker shortage is not imminent, but it will become increasingly prevalent over the coming year.

An improving underlying pace of economic activity — led by consumers and eventually fortified by fiscal stimulus — could ultimately lead monetary policy makers to move more rapidly to normalize the calibration of interest rates. However, BI Economics estimates the risks toward faster rate increases will be tilted toward 2018, or at least until wage pressures have more convincingly intensified. As such,

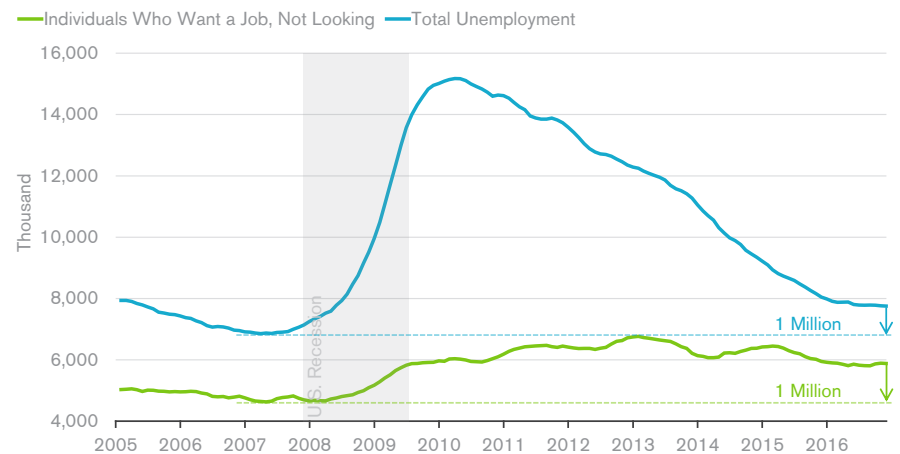
BI Economics estimates that the hurdle is high for the Fed to shift from two to three rate hikes in 2017. While most policy makers believe the economy is either at or close to achieving full employment, given the low level of inflation and moderate pace of growth to date, they appear willing to proceed quite gradually toward a less-accommodative interest-rate stance — at least so long as the labor market does not appear to be overheating.

### Spending Remains Constrained by Flat Incomes



Source: Bureau of Labor Statistics, Census Bureau

### Labor Reserves Running Low



Source: Bureau of Labor Statistics, Bloomberg

## U.S. INDUSTRY OVERVIEW

# Cybersecurity Emerging as the Biggest Threat to Economy

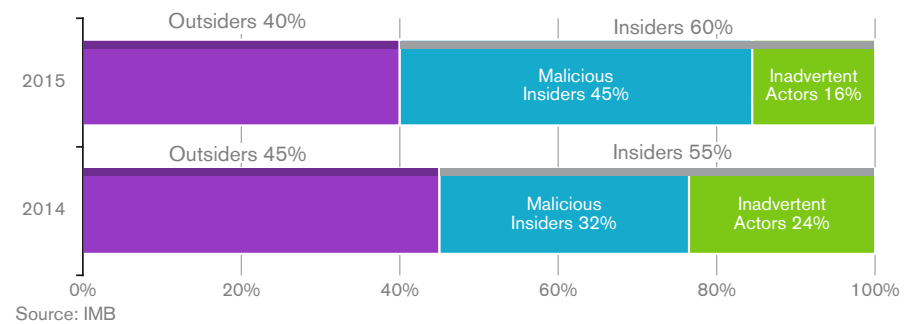
U.S. Research Team

Cyberattacks continue to rise and have become a matter of national security, causing billions of dollars in damages annually to the global economy. The increasing number of devices connected to the Internet of Things and greater mobile adoption, along with new data protection regulation in Europe, will likely drive greater cybersecurity spending in 2017.

### Cybersecurity Risk Everywhere

Cybersecurity is one of the top risks faced by companies across all industries and has the potential to paralyze the global economy. It can take several hundred days to detect an attack. Shortening this window is key to buffering the damage to profit. Economists and insurance companies estimate theft and economic losses arising from cyberattacks to be in the hundreds of billions of dollars annually. The impact of these attacks can be felt across all industries, though the risk is highest for financial services, retail, health care, utilities and transportation.

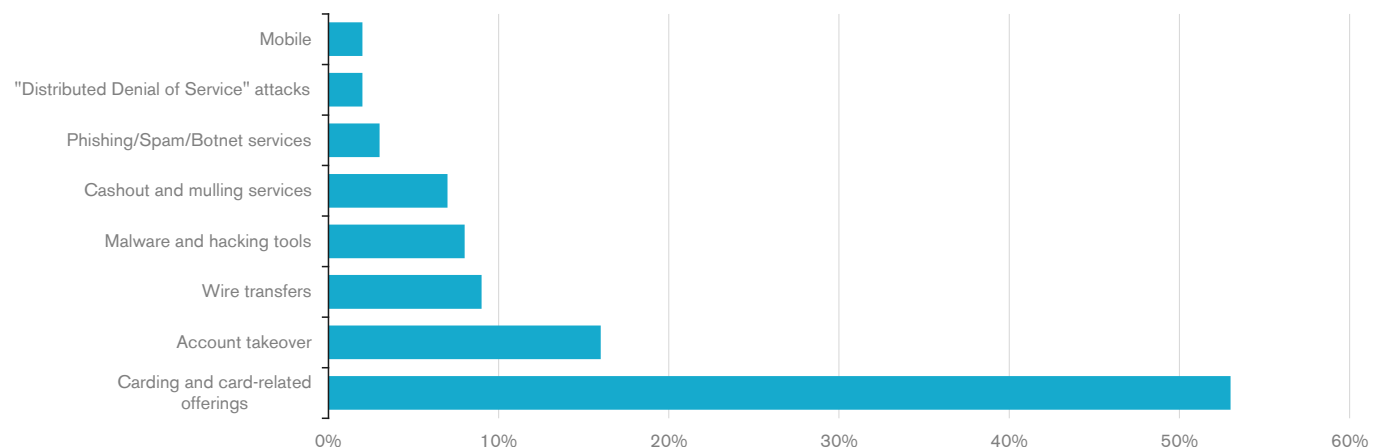
### Sources of Cyberattacks



The financial services and retail sectors are easy targets because they store sensitive personal and financial data on millions of clients. In addition to poaching credit card

information, hackers are increasingly using ransomware to extort money. These methods include locking computer screens or encrypting critical files and then demanding

### Fraudulent Activity



money to fix the problem. In the auto industry, remote takeovers of car controls is becoming a major risk.

The cybersecurity threat is even greater for regulated industries such as health care, which has life-preserving connected medical devices and patient medical information. Hackers are also targeting information on clinical trials and drug formulas, threatening the intellectual property rights of the industry.

Sectors that provide critical infrastructure such as transportation, airlines and utilities are also among the most exposed to risk of being hacked. Rising attacks have increased the costs of cybersecurity insurance. Leading technology companies are partnering with insurers to better understand this emerging risk.

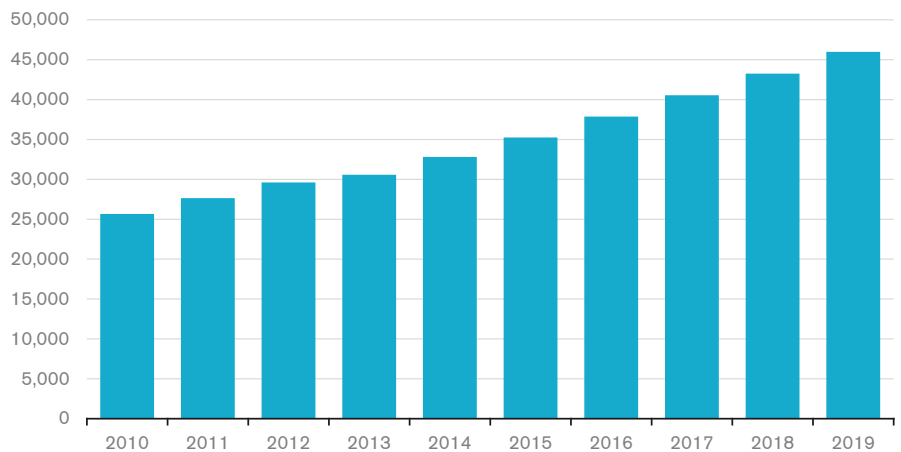
### New Rules Drive Spending

The Global Data Protection Regulation adopted by the European Commission will likely lead to increased spending in cybersecurity and data protection spending across the world over the next couple of years. While the regulation is European-focused, it impacts all global companies that operate in the region.

Growth in mobile usage is also exposing networks to new risks as employees and customers demand access to more information on their personal devices. Gartner predicts that by 2018, 25% of enterprise data will go straight to the cloud from mobile devices without the knowledge of company information technology departments.

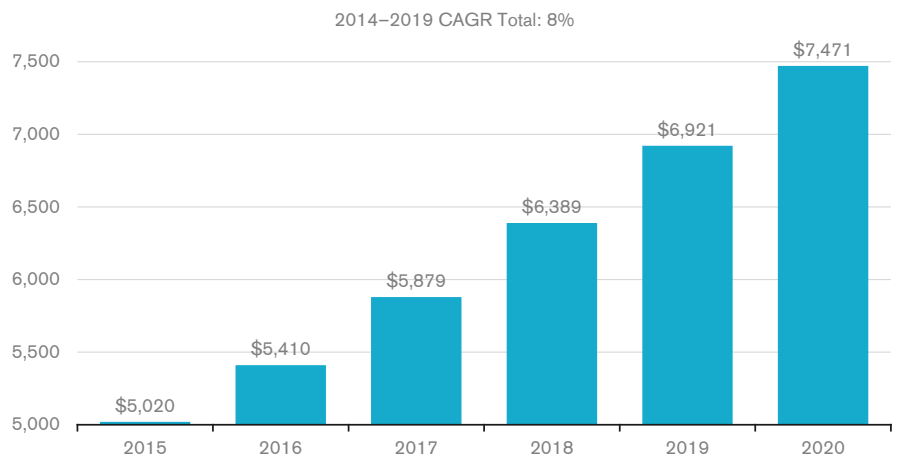
Increased adoption of the Internet of Things is creating millions of network endpoints that have been historically limited to a handful of devices, therefore creating fresh risks. The October Dyn cyberattack used weaknesses in various connected devices and was one of the largest-ever denial-of-service attacks. Sales of Internet of Things security products are expected to grow annually at 16.5% to \$20 billion

### Internet of Things Security Product Revenue (Millions \$)



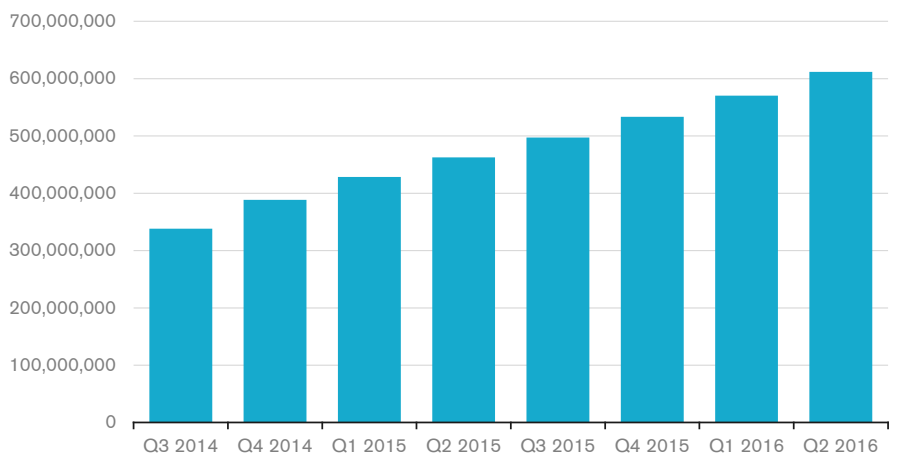
Source: IDC

### Identity and Access Revenue (Millions \$)



Source: IDC

### Total Number of Malware in McAfee's Data Base



Source: McAfee Labs, 2016

by 2020, according to IDC. Improper patching of software is also a major driver of cyberattacks and enables malware to enter IT networks. Cisco estimates as many as 23% of users to have software weaknesses going back to 2011.

### Insiders a Bigger Threat

The number of unique malware discovered in 2015 rose 36% over the prior year and instances of stolen identities increased 23%, according to Symantec.

McAfee, which is one of the largest security software companies, now tracks over 600 million varieties of malware. The sheer volume of malware created each day is putting significant pressure on internal security departments and government agencies, creating a labor shortage in the industry.

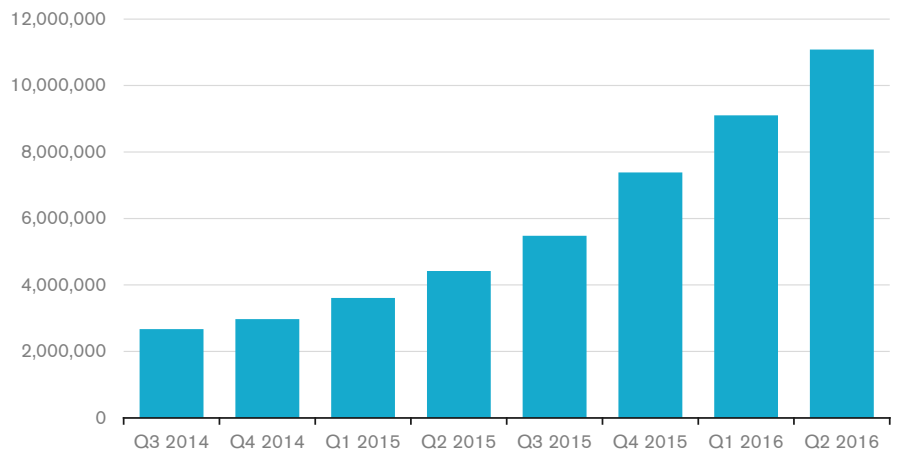
Employees are gradually becoming a much bigger security threat than state-sponsored cyberattacks. In 2015, 60% of all attacks were caused by insiders, according to IBM. Employees, either intentionally or unknowingly, expose the network to external threats by accessing unauthorized third-party applications, downloading files from personal e-mails and connecting to untrusted networks.

Insiders are also utilizing various cloud storage and other applications without the knowledge of the central IT department. These “shadow IT” systems make it harder for chief information officers to manage their proprietary data and networks, potentially exposing the network to hackers.

### Cybersecurity Benefits Cloud

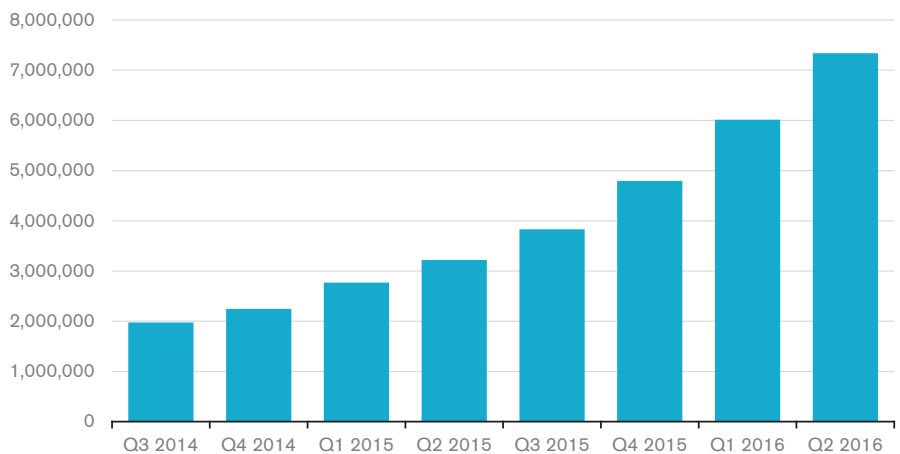
Rising cybersecurity risks may prompt greater adoption of cloud because of the increased security provided by these large homogenous computing platforms. Hyperscale public cloud companies can outspend most IT departments as well as pure-play security companies to better protect their infrastructure against cyberattacks.

### Total Number of Mobile Malware in McAfee's Data Base



Source: McAfee Labs, 2016

### Total Number of Ransomware in McAfee's Data Base



Source: McAfee Labs, 2016

### Microsoft and Amazon Cloud Partners

Microsoft		Amazon	
Barracuda	Checkpoint	Alert Logic	Observable
Cisco	CloudFare	Palerra	Splunk
F5	Fortinet	Sumo Logic	Trend Micro
Imperva	Incapsula	Imperva	
Trend Micro			

Source: Company websites, Bloomberg Intelligence

Microsoft, for example, spends more than \$1 billion in security research and development each year, compared with leading security companies such as Check Point (below \$150 million) and Palo Alto Networks

(under \$200 million). Public cloud companies are also partnering with security software companies to provide greater protection.

## EUROPE ECONOMICS

# 2017 Will Be Another Year on the Edge

Europe Economics Team

It seems Europe is never more than one step from the brink. The past few years have demonstrated not just that the system is fragile but that its leaders eventually do what's needed. The biggest risk in 2017 is that a new breed of politician takes Europe in a different direction — there will be several chances for electorates to vent frustration in the coming year. Slow progress on living standards is threatening to shake up the political landscape, but should the European project survive this electoral cycle, the outlook is not so bleak.

Each of Europe's recent dramas could have been handled better, but none has caused the system to disintegrate. The sovereign debt crisis was brought to an end by European Central Bank President Mario Draghi's declaration that he'd do "whatever it takes," which facilitated a tacit compromise between creditors and debtors.

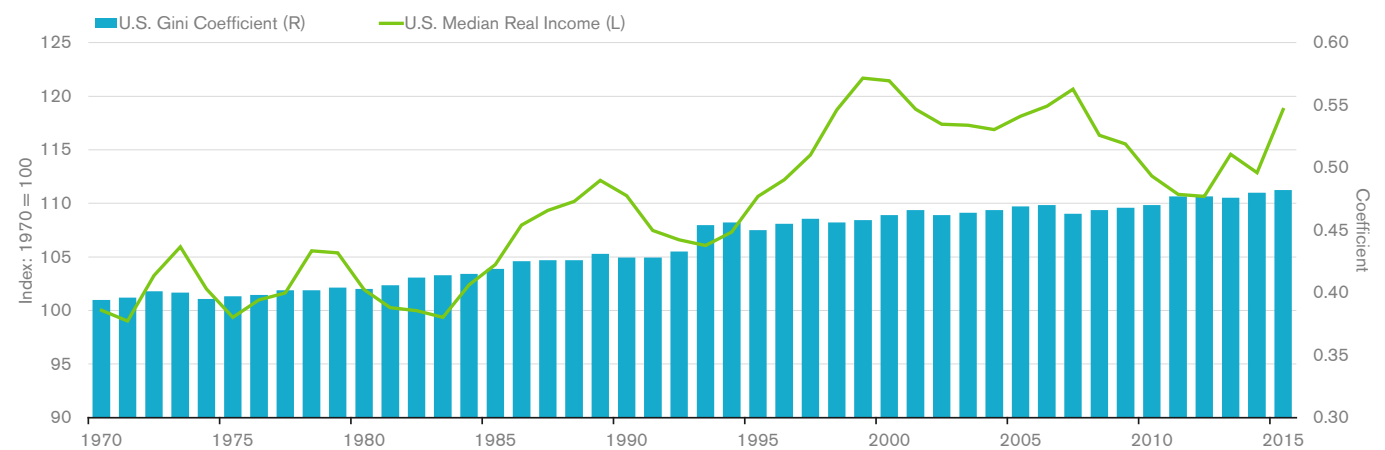
The debacle with Greece saw Europe's leaders eventually agree to provide more money, though the position remains precarious. And neither Britain's decision to leave the EU nor Italy's referendum has escalated into a crisis.

Yet pragmatism may now be facing a more powerful force — populism, often accompanied by euroskeptic rhetoric. Some see the political establishment being swept away, as in the U.S., by a rising tide of popular discontent. A fragmented Europe led by the likes of France's Marine Le Pen and the Netherlands' Geert Wilders would be catastrophic. The single currency could be cast aside, sending the whole project of European integration into reverse. Whether that's likely could depend on how Donald Trump's message sounds in other languages.

In the U.S., the shock election result was likely driven by stagnant wages and a sense of unfairness. Some groups were left behind as others advanced, and a big enough chunk of the electorate was willing to take a punt that what Trump offered might improve their situation. The inequality can clearly be seen in the statistics. The Gini coefficient for the U.S. has been on an upward trajectory for decades and the purchasing power of those in the middle of the income distribution was no higher in 2015 than 15 years ago.

Populism may also have been a factor in determining the outcome of Britain's recent referendum, but the story is a bit different from the U.S. Income inequality has been broadly stable since the 1990s, as has wealth inequality. Yet, the country was badly affected by the global financial crisis

## U.S. Inequality Up, Median Incomes Down



Source: U.S. Census Bureau

— both median and mean real incomes took a hit. That may help explain the outcome of the Brexit vote, but it's likely to be only part of the story.

The same trends are present in continental Europe, but the experience varies a lot by country. Italy and Spain have both seen real median incomes fall in recent years. It's therefore quite understandable why a public backlash is strong in those countries. Unemployment remains tragically high, widening the gap between the haves and have-nots.

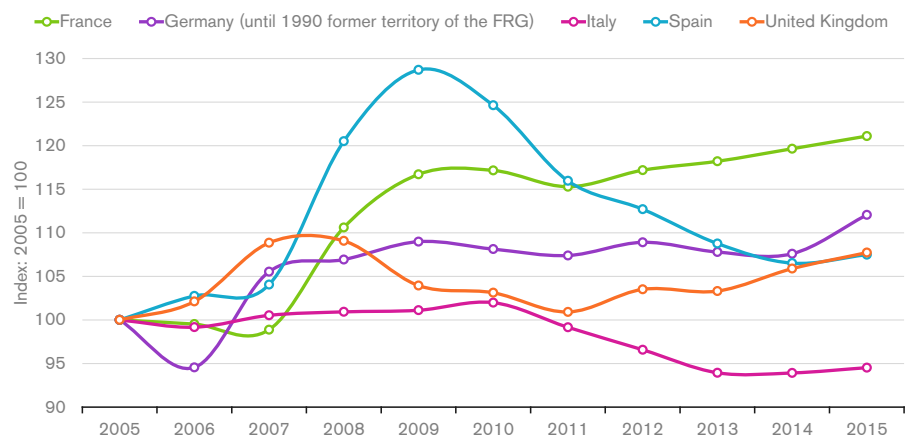
Median incomes in France and Germany have not experienced the same damage as has been felt in the U.K., U.S., Spain or Italy. That may help explain why populist movements have not captured the imagination of voters to the same extent, at least in Germany. Of course, it's not just incomes that matter. Europe's migrant crisis presents the biggest humanitarian challenge since WWII and will doubtless influence voting behavior. In 2017 voters will go to the ballot box in many of the European Union's pioneering countries, with general elections in the Netherlands, France, Germany and probably also Italy. The region's future depends on the European project surviving this election cycle, but Bloomberg Intelligence Economics expects that it will.

And what about the short-term outlook? Though unemployment is high, it is falling in some of the countries that are most at risk of labor-market scarring — such as Spain. There, monetary policy is stimulating an economy which has recently undergone significant structural reforms, and austerity is no longer slowing the recovery. In Germany there's little evidence of any slack in the labor market, and that should eventually translate into faster pay growth. Despite reforms, France and Italy are still having trouble returning the jobless to work and that is one reason monetary easing is set to continue through 2017.

Headline inflation is likely to rise in early 2017 as the influence of lower commodity costs falls out of the annual comparison. Thereafter, it will be stronger underlying cost pressure that prompts a gradual drift upward in inflation rates. Evidence of that should put the ECB in a position to begin tapering its asset purchase program toward the end of the year. The euro-area economy is likely to continue taking up slack in 2017, though the annual pace of expansion is likely to be slightly slower than in 2016. Political uncertainty could act as a drag on activity, and slower growth in Britain may trim demand for euro-area exports.

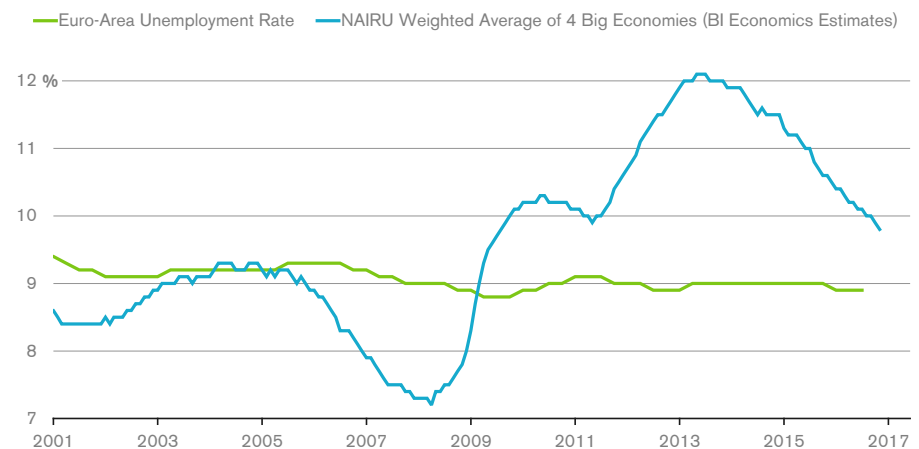
The U.K. economy has held up better than most analysts expected since the referendum. Still, Britain is not yet out of the woods. Growth is still likely to slow as companies delay investment projects and the weaker pound crimps consumer spending power. This is likely to be partly offset by net trade as import demand wanes, though uncertainty may prevent exporters from taking full advantage of the depreciation. And when Britain finally fires the starting gun on its exit negotiations, a turbulent couple of years are likely to follow. The Bank of England looks right both to have eased and to have adopted a neutral position on the direction of policy.

### Mixed Fortunes: Median Incomes in Europe



Source: Bloomberg Intelligence, Eurostat

### Labor Market Recovery Began in 2014



Source: Bloomberg

## EUROPE INDUSTRY OVERVIEW

# Technology, Demographics Are Biggest Drivers of Employment Change

Europe Research  
Team

The job market of the future will bear little resemblance to that of today across Europe, with an estimated two-thirds of children now entering school expected to work in roles that don't yet exist (World Economic Forum estimates). Mobile internet, cloud technology, increased computing power and Big Data are driving this change.

Socioeconomic drivers, including emerging-market demographics and urbanization, set a stage for jobs and employment growth. As Europe tries to recover from years of austerity, technology's threat to unemployment remains very much an unknown but the jobless rate among youth (under 25 years old) is widespread, notably in Spain (43%) and Italy (37%).

## Law, Digital Policy Impact

Workplace and skill changes brought on by technological enhancement will shape reform across EU labor markets. Structural unemployment rates depend on many domestic factors (regulation, taxation, skills).

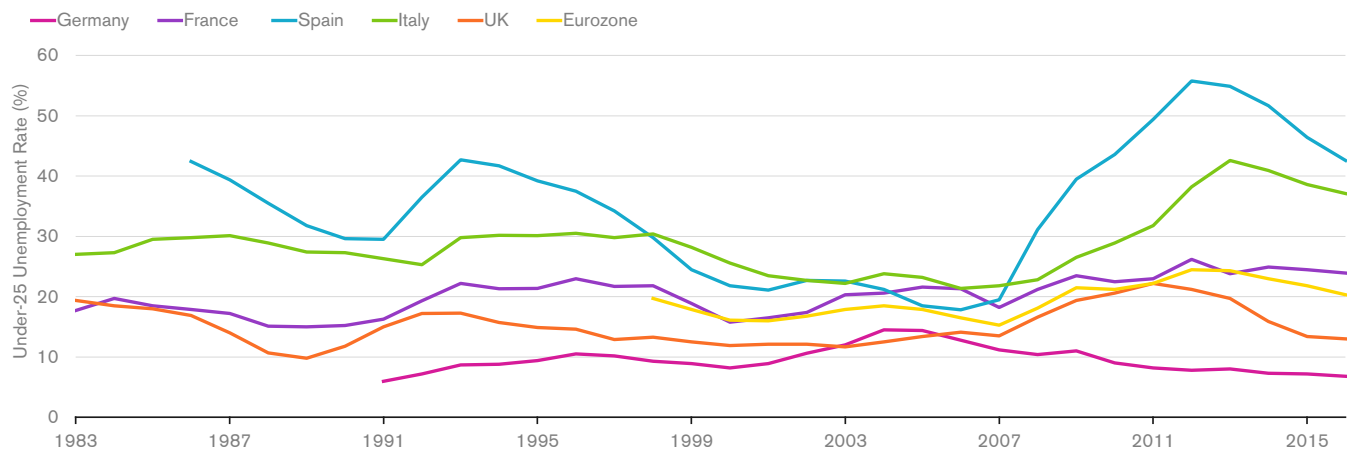
Governments will attempt to spur job creation by implementing reform (Italy's Jobs Act, France's Rebsamen, Macron laws in 2015), simplifying union representation and liberalizing employment laws. French Presidential hopeful Francois Fillon's pro-entrepreneurial bias, and plans to slash public sector jobs, is indicative of the changes 2017 may bring to free up business to create jobs and spur innovation.

Amid these changes, office and administrative jobs, together with manufacturing, production, some design and media roles, are forecast by the World Economic Forum to be most at risk. It names engineering,

architecture and information technology as likely winners.

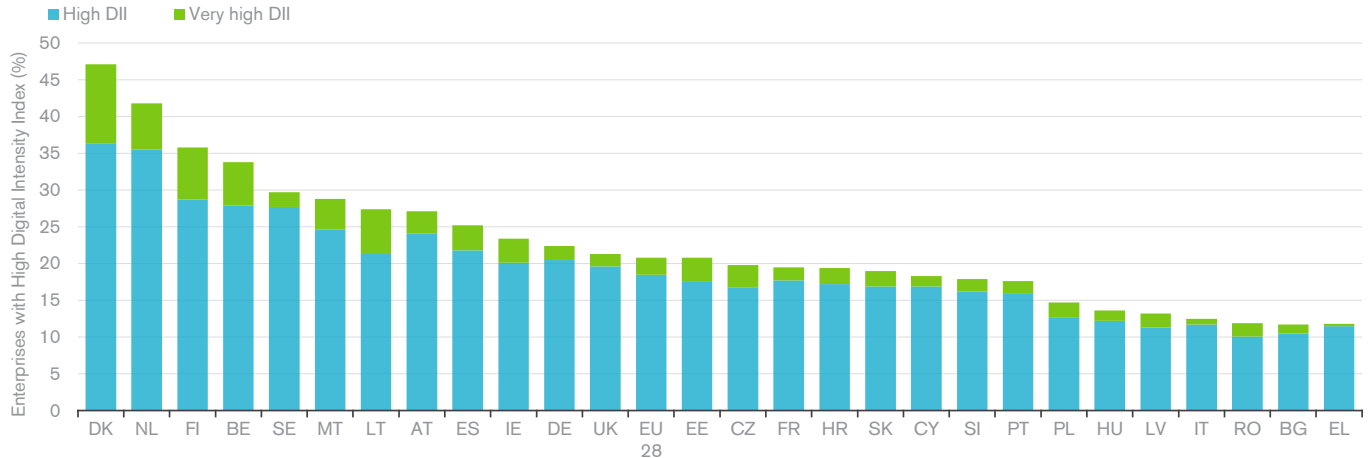
The EU aims to create a single digital market with enhanced connectivity and a consistent regulatory framework. This should help even out differences in digital technology adoption and spur a more widespread shift to digital business models. High-speed broadband availability and e-commerce utilization vary significantly in the EU, with northern European countries leading in digital intensity while eastern European countries typically lag. These factors are all crucial to next-generation employment.

## Unemployment Rates Recover, Youth Fared Worst



Source: Eurostat, Bloomberg

## Percent of Enterprises with High Digital Intensity Index



Source: Eurostat

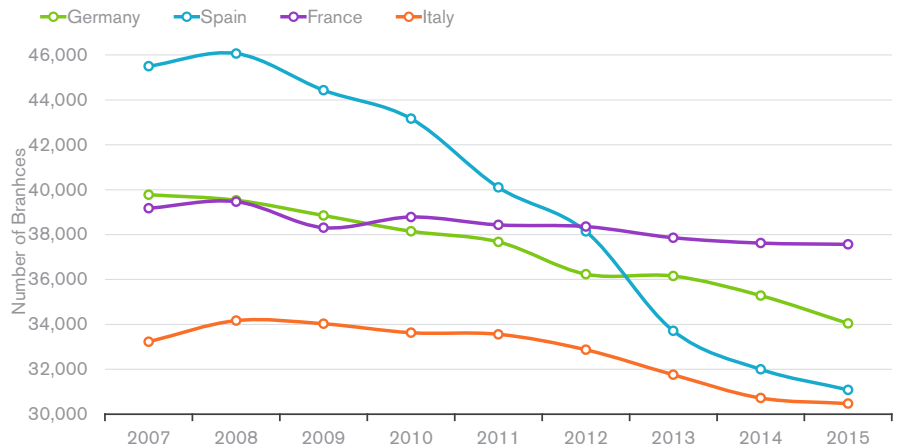
## Tech's Double-Edge Across Sectors

Banks represent a challenge for employment. Domestic lenders had more than 200,000 branches across the EU at year-end 2014, with France, Germany, Spain and Italy all above 30,000 branches each. While almost 80% of all branches are located in the euro area, the share of total EU bank assets was only 50%. This explains the relative inefficiency of euro-area banks, underscoring the need for more branch rationalization, especially as technology adoption expands.

For insurance, McKinsey forecasts that automation could drive the loss of up to 25% of employees at western European insurers in the next 10 years. The bulk of job losses will likely be in operations and administrative support functions, though this will be somewhat offset by the advent of new digital roles in product development, sales and marketing.

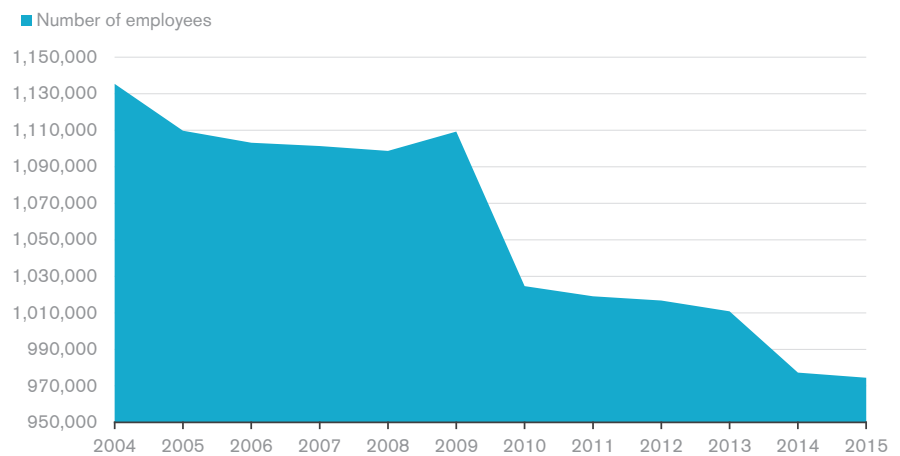
As an example, robotics are being used for both underwriting and claims management. In the U.K., Zurich Insurance is using artificial intelligence to process medical reports which can be up to 100 pages long. This can cut the time spent on each report to five seconds from 58 minutes, operates 24 hours a day and reduces errors through standardized decision making.

## Number of Branches of Domestic Credit Institutions



Source: ECB, Bloomberg

## European Insurance Industry Jobs



Source: Insurance Europe, Bloomberg Intelligence

All is not lost to innovation for EU employment though. A surge in global auto demand, led by China, has rapidly boosted automakers' workforces as they tackle fresh challenges of connectivity, digitalization, autonomous driving and tougher emission targets. BMW's workforce has grown 33% since 2010. It added 10,000 jobs alone in the past 21 months as it rapidly expands its technology divisions. Others globally are recruiting thousands of software engineers to expand R&D and meet new tech challenges.

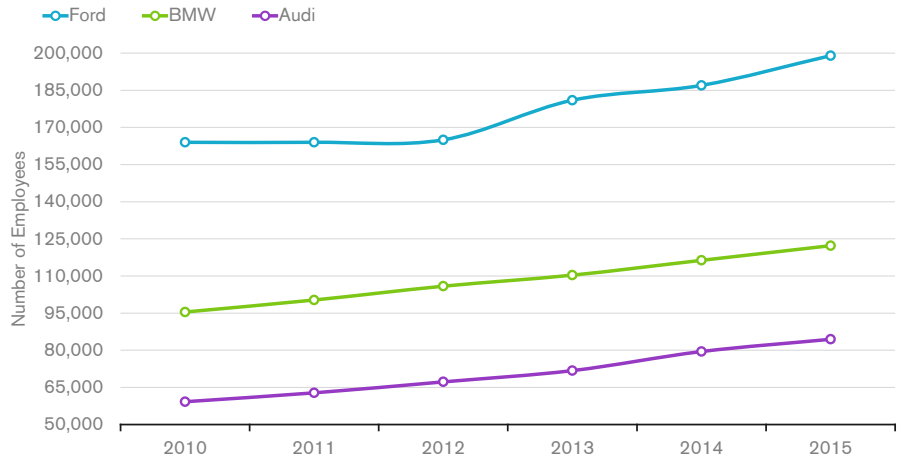
**Creative Industries Drive Growth**

Growth of 42% in professional, scientific and tech sector jobs and 29% in IT occupations in London over the last 10 years have been major drivers for office-space demand and significant structural change. Creative industries represent about a third of an estimated 8.3 million square feet of active demand, according to CBRE data. Whether Brexit ultimately threatens London's pre-eminence in tech won't halt the sea change in office design and requirements.

Near term, IT and computer specialists will be required to future-proof businesses. Where Facebook, Google and Amazon blaze a trail with new employment and working practices, a seismic shift in job descriptions, flexibility and needs will follow. Policy and demographic change will, together with technology, shape the job market of tomorrow. Google's latest plans to add 500 staff at its new London HQ is just the beginning.

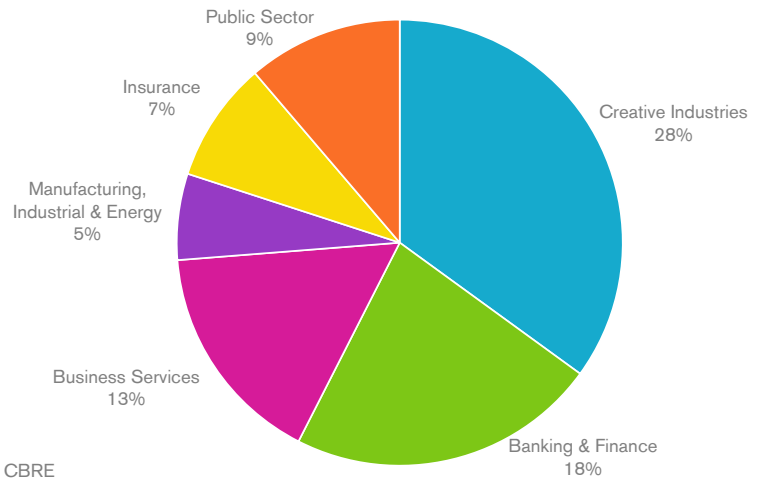
As technology adoption becomes more pervasive in today's connected world, cyber risk and cybersecurity will grow in kind. Personal data, privacy and financial information will be a key technology battleground for many years to come as companies vie for share of customer wallet. Addressing this critical threat will require new skills, reinvention and the creation of thousands of new roles across all industries in coming years as progress begets risks which require solutions.

**Automakers' Headcount Increasing**



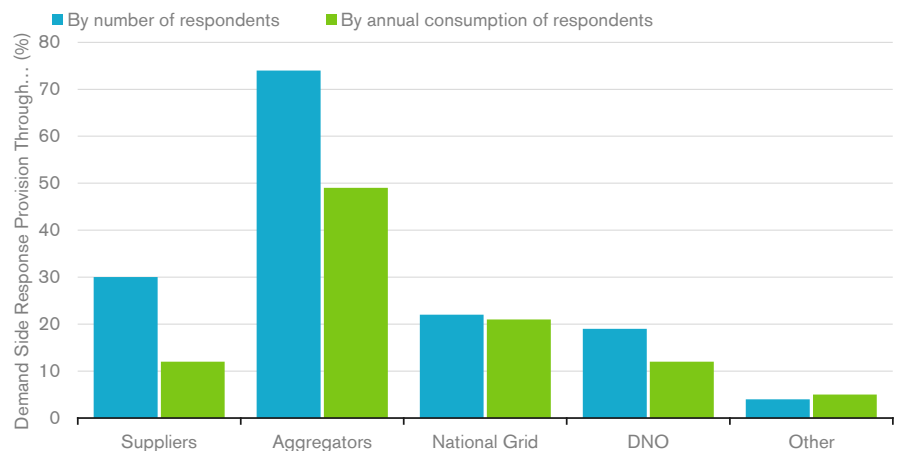
Source: Company reports, Bloomberg

**Creative & Tech Drive London Space Demand**



Source: CBRE

**Customers Favor Aggregators for Deals to Avoid Peak Energy Demand**



Source: Ofgem

## ASIA ECONOMICS

# How Risks Stack Up as Trump Tariffs, Strong Dollar Loom

Asia Economics  
Team

The incoming U.S. administration presents both opportunities and risks to Asia. It's too early to say which will dominate. The promise of deficit spending could add impetus to U.S. growth, and give a boost to global demand. The threat of tariffs on Chinese goods could deal a blow to Asia's integrated manufacturing sector. A reduction of regional security commitments by the U.S., if Donald Trump follows through on a more isolationist foreign policy, could shift alignments, risking heightened tensions from North Korea to the South China Sea.

The promise of rising U.S. growth has triggered expectations of an accelerated Federal Reserve tightening cycle. The Fed already hiked rates at its December meeting, and charted a course to three more increases in 2017. That adds a strong dollar to the list of factors shaping the Asia outlook. Reduced risk appetite and capital outflows could expose vulnerabilities in emerging Asia's bubbly asset prices.

Against a backdrop of risks from trade barriers and capital outflows, which countries look relatively robust? BI Economics ranked major economies on growth momentum, exports as a share of GDP, vulnerability to capital flight, and policy space. Based on those criteria, the Philippines and Indonesia look most robust. Hong Kong, Singapore, Vietnam and Malaysia look more fragile.

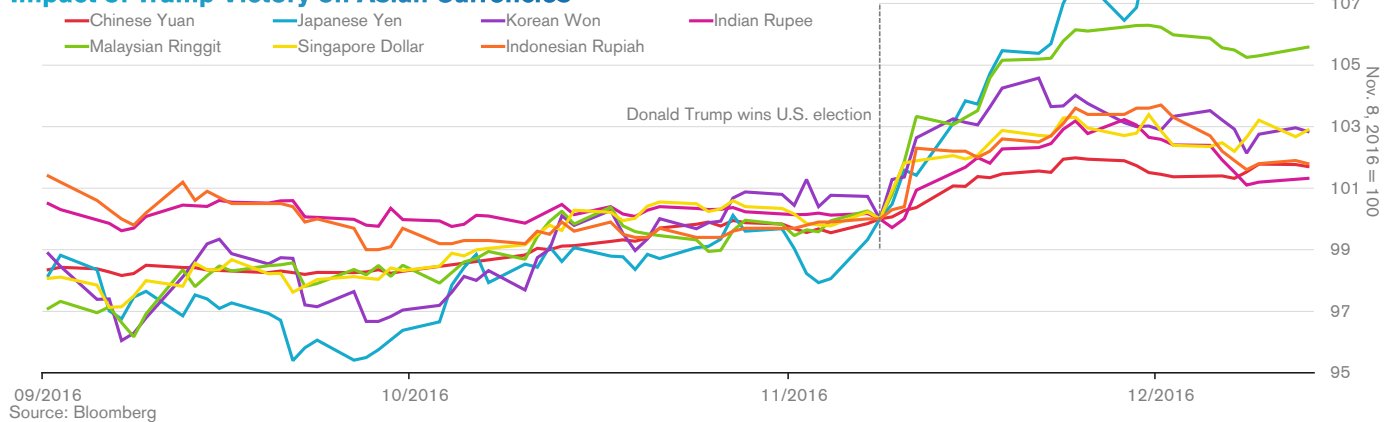
Closer to home, political uncertainty is rising. In China, five of the seven-member Politburo Standing Committee are hitting or have hit retirement age. Chinese elite politics remains a black box, but the transition should strengthen President Xi Jinping's hand. Other leaders across the region are not so lucky. South Korea's Park Geun-Hye is on the way out and Malaysia's Najib Razak is engulfed in a corruption scandal. Thailand faces greater uncertainty following the death of its revered king. In the Philippines, the

roughshod populism of President Rodrigo Duterte is raising cheers at home but eyebrows overseas.

Looking at major economies in the region, China heads into 2017 with GDP on target and policy shifting to control credit and property risks. The base case for the year ahead is that growth slows slightly, as moves toward deleveraging and a downturn in the real estate cycle weigh on investment and exports continue to underperform. BI Economics is forecasting a 6.3% expansion in GDP, down from 6.7% in 2016. Monetary policy is expected to stay on hold and fiscal policy — on and off balance sheet — will do the leg work on supporting growth.

If downside risks from trade or real estate show signs of crystallizing, Beijing will likely turn once again to credit-fueled infrastructure spending to keep GDP above 6%. The emphasis on stable growth will be especially marked

## Impact of Trump Victory on Asian Currencies



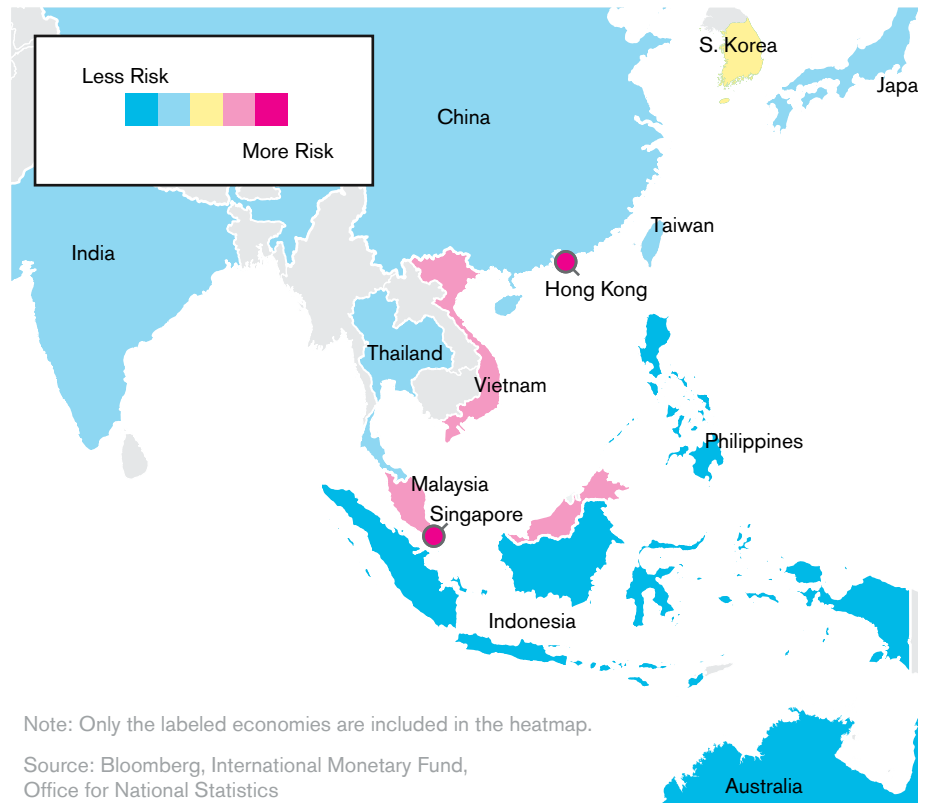
ahead of the leadership transition. Signs of financial stress will continue to grow, but with the funding base for the banks secure a blow up in the year ahead is unlikely. Policy intervention has temporarily stabilized the yuan, but the path in the year ahead will be downward as U.S. — China rate differentials narrow.

Japan is set to eke out a modest expansion, aided by supportive fiscal policy, ultra-low interest rates and a weaker yen. BI Economics is forecasting 0.7% GDP growth, unchanged from 2016. The Bank of Japan has shifted its focus from shock-and-awe stimulus to a long haul toward 2% inflation. Inflation should turn positive in early 2017, assuming stable oil prices. That, combined with limits to the BOJ's ability to buy more bonds, should encourage Governor Haruhiko Kuroda to stay on hold. The yen will be a swing factor: a widening yield gap with the U.S. points to weakness, but safe-haven status could mean appreciation as U.S. and European political risks loom.

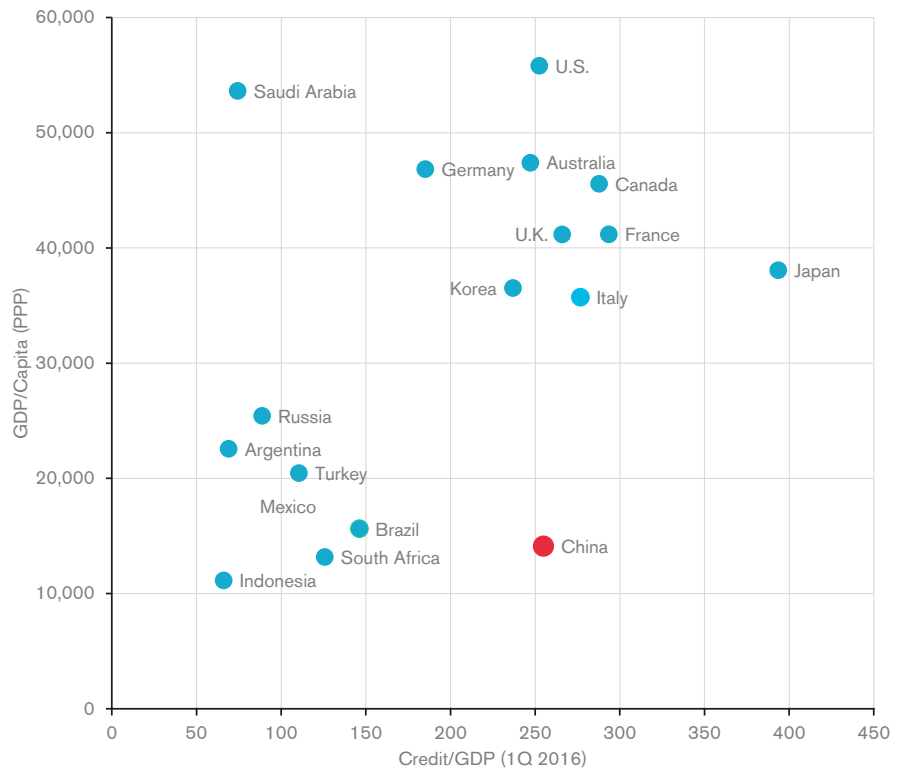
India's growth should remain robust, as fiscal and monetary policy buoy demand. BI Economics expects GDP growth around 8% in fiscal 2018, up from an estimated 7.5% in fiscal 2017. The shock from the removal of big bills from circulation — part of a crackdown on the black economy — will be smaller than most expect. New fiscal rules will likely open space for larger deficit spending. The Reserve Bank of India may cut by another 75 basis points by mid-2017, including a 25 bp cut on Dec. 7. Loan rates should fall even further, as the removal of big bills leaves banks flush with deposits.

In Asean, the outlook for growth and inflation is soft enough to warrant further easing. But room for monetary policy maneuver is limited by currency volatility, which makes the restoration of FX stability a priority. Until risk appetite is restored and capital flows stabilize, rate cuts are off the table. The exception is the Philippines, where expansion is robust and domestic demand the main engine. Australia appears vulnerable to foreign challenges, as a hiring slowdown puts household consumption at risk.

### Asia Risk Map



### Credit as % GDP for G20 Economies



Sources: Bank for International Settlements, International Monetary Fund

## ASIA INDUSTRY OVERVIEW

# Asia's Cross-Border M&A Will Accelerate

Asia Research Team

Asian companies' prominence in cross-border M&A and direct investment is likely to heighten in 2017. Beyond Asia's growing share of the global economy, the expanding number and size of deals is driven by a desire to diversify earnings and secure know-how as well as supportive national policies and ample funding. Rising interest rates, currency fluctuations and capital controls aren't likely to significantly alter the trend.

The total amount of cross-border investments by Asian corporations reached a record in the first 11 months of 2016: about \$526 billion, 8% more than for all of 2015. The average deal size climbed 13% to \$116 million.

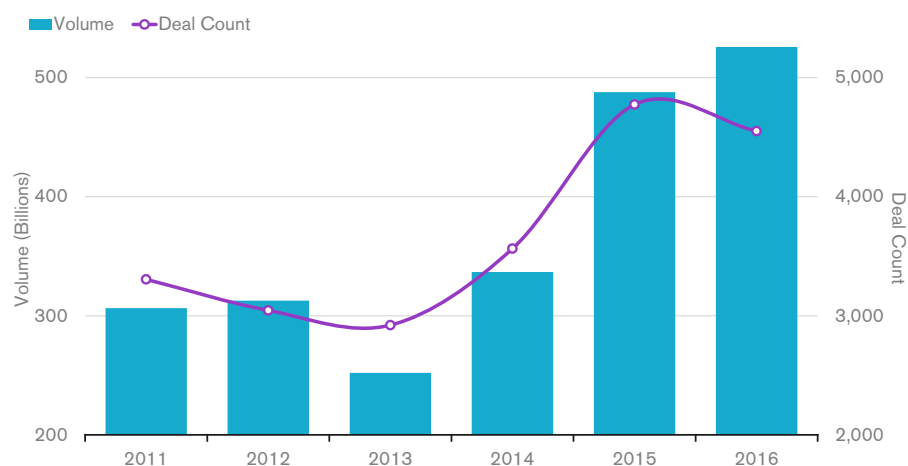
The outlays should rise, given GDP growth in the Asia-Pacific region should increase 4.5–4.7% a year or more in 2016–2018, based on consensus, compared with 1.4–1.7% for western Europe and 1.6–2.2% for the U.S. The economic growth trends should naturally lead to an increase in the Asia-Pacific share of deals. The region's economy is about a third of the world's total.

## Motivations Abound

Corporate motivations vary greatly across countries and sectors. For instance, Chinese and Japanese metal makers are stepping up acquisitions of overseas resources to lock up ore supplies and access new markets. Peru and Guinea are among countries that will play vital roles in filling demand for copper and bauxite.

Amid falling profits and shrinking margins, Chinese materials companies may also get financial support from state-owned parents for overseas deals. Japanese conglomerates may compensate for the loss of metal-business revenue by continuing a mine-buying spree.

## Cross-Border M&A by Asian Companies



Source: Bloomberg

## Asia-Pacific Region GDP Growth Estimates

Indicator	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Economic Activity</b>										
Real GDP (YoY%)	2.2	7.5	5	5	4.9	4.8	4.9	4.5	4.7	4.6
CPI (YoY%)	1.1	3.0	3.9	2.6	3.0	2.8	1.8	1.5	2.2	2.4
Unemployment (%)	4.8	4.6	4.2	4.1	4.0	4.0	3.9	3.9	3.9	3.9
<b>External Balance</b>										
Curr. Acct. (% of GDP)	3.2	2.8	1.5	1.1	1.2	2.0	2.8	3.0	2.5	2.3
<b>Fiscal Balance</b>										
Budget (% of GDP)	-4.7	-3.9	-4.0	-3.8	-3.3	-2.9	-3.5	-3.3	-3.4	-3.6
<b>Interest Rates</b>										
Central Bank Rate (%)	3.11	3.67	4.26	3.94	4.21	5.19	4.24	3.22	3.05	
3-Month Rate (%)	1.81	2.82	2.88	2.63	3.39	3.21	2.51			
2-Year Note (%)								2.08	1.52	
10-Year Note (%)								2.64	2.62	

Source: Bloomberg

China Zhongwang Holdings' announced acquisition of Aleris may give it new aluminum-rolled products and inroads into U.S. and European overseas markets. The \$1.1 billion cash deal is expected to close in the first quarter of 2017. Zhongwang is already Asia's largest maker of fabricated aluminum products.

Tourism offers another example. Chinese investors seek overseas hotel investment to diversify as well as tap burgeoning outbound travel. This should persist on sustained growth in U.S. hotel revenue per available room as well as fee income, and as landmark assets attract Chinese companies. The yuan's depreciation and a slowing domestic economy are also prompting the Chinese to explore opportunities abroad. In the latest deal, HNA agreed to buy 25% of Hilton for \$6.5 billion, following a slew of M&A transactions since 2014.

### Powerful Arguments for Deals

Chinese power firms may be accelerating M&A at home and abroad, propelled by their financial strength, poor domestic markets and Beijing's strategic goals. The developers' balance sheets are in the best shape they've been in at least five years. At the same time, China's power supply has outpaced demand, leading to sinking plant utilization rates, especially for coal-fired plants.

### China Zhongwang Revenue by Geography

In Millions of CNY except Per Share	FY 2015	FY 2014	FY 2013	FY 2012
12 Months Ending	12/31/2015	12/31/2014	12/31/2013	12/31/2012
Revenue	16,171.20	15,971.20	14,306.80	13,497.20
China	13,798.20	13,793.60	12,590.20	12,368.80
United States of America	1,781.50	1,864.20	1,688.50	1,123.20
Others	347.5	204	28.1	5.2
Germany	151.6	109.4	—	—
United Kingdom	92.4	—	—	—

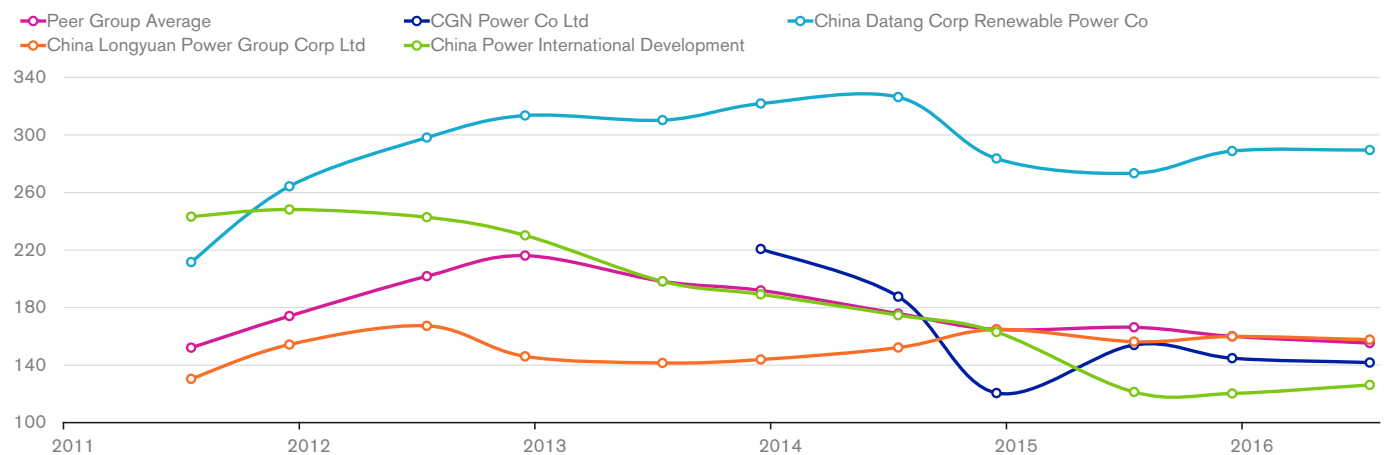
Source: Bloomberg

### Chinese Outbound Travelers by Destination

Top 12 Destinations	2016 Q3	2016 Q2	2016 Q1	2015 Q4	2015 Q3	2015 Q2	2015 Q1
<b>By Total Breakdown</b>	<b>28,166.50</b>	<b>24,707.00</b>	<b>25,302.90</b>	<b>24,433.80</b>	<b>26,949.90</b>	<b>23,516.70</b>	<b>25,262.20</b>
Australia	293.9	234.1	389.5	256	257.2	190.6	300
<b>France</b>	<b>550</b>	<b>425</b>	<b>470</b>	<b>560</b>	832	550	520
<b>Germany</b>	<b>435</b>	<b>350</b>	<b>233.5</b>	<b>307</b>	524	317	212.5
Hong Kong	11,301.20	9,987.80	10,427.90	11,091.00	11,904.90	10,563.50	12,283.10
Japan	1,930.70	1,604.60	1,472.10	1,155.70	1,659.60	1,255.20	923.5
Macau	5,425.00	4,799.50	4,942.40	5,200.80	5,425.00	4,758.80	5,026.00
Malaysia	580	500	520	383.7	446	320	361
Singapore	805	720	747.4	473.5	663.8	425	544
South Korea	2,517.60	2,146.70	1,670.10	1,623.00	1,360.10	1,574.80	1,426.30
Taiwan	763.1	974.3	1,135.60	1,068.40	1,065.60	1,039.70	1,007.40
Thailand	2,415.00	2,270.00	2,629.50	1,819.10	2,109.10	1,902.10	2,033.50
<b>USA</b>	<b>1,150.00</b>	<b>695</b>	<b>665</b>	<b>495.7</b>	702.5	620	625

Source: Bloomberg

### China Power Companies Net Debt to Equity



Source: Bloomberg

Government policy also strongly supports power companies' overseas expansion.

Some of the power companies involved are even undertaking direct "green field" investment overseas, in response to the government's "Go Abroad" policy. For example, China Shenhua Energy won two bids to construct coal-fired power plants in Indonesia, where it first invested in 2009 in a 300-megawatt project. The new facilities may amount to 2,600 MW by end-2020 and the Indonesian business could represent about 5.5% of the power giant's installed capacity by then. Huadian Power has also invested in Indonesia.

### Financials Also Bank on Deals

On the property front, many Asian companies acquired office buildings in London in a bid for stable recurring income, even as Brexit uncertainty lingers. Such properties usually have long-weighted average unexpired lease terms, some more than 10 years. As such, rental income would remain stable for a long period. China Vanke, one of the largest Chinese builders, acquired Ryder Court, its first office building in London, from Henderson Global Investors for 115 million pounds (\$143 million) in September.

The cross-border investments also include asset management and banks. ANZ may expedite the streamlining

### Shenhua Energy's Power Business in Indonesia

	Power Generation (MW)		YoY % Chg.	Installed Capacity (MW)		Power Tariff (Yuan/ mWh)
	2015	2014		2015	2020E	2015
Shenhua's Indonesia Projects	198.0	203.0	-2%	300.0	2900.0	405.0
Shenhua's Overall Average	22175.0	23438.0	-5%	52257.0	N/A	331.0
Indonesia vs. Shenhua Overall	0.89%	0.87%		0.6%	N/A	22%

Source: Company Data

### Commercial Land Sales Results

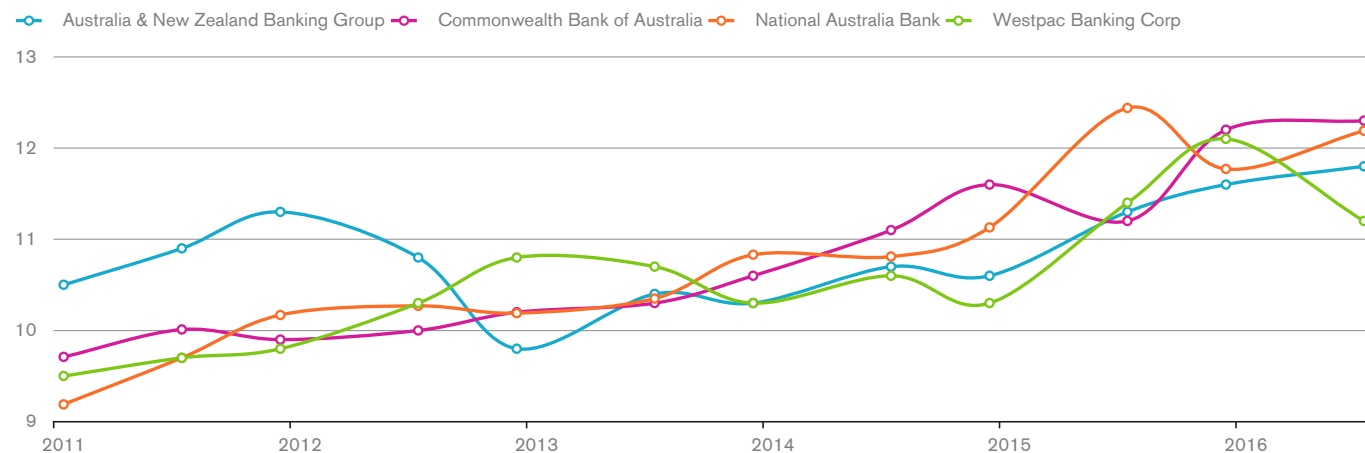
Date	Location	GFA (sq ft)	Transaction price (million pound)	Current monthly rent (million pound)	Buyer
Sept. 16	Ryder Court	70,887	115	na	China Vanke
Sept. 16	120 Holborn, Midtown	349,088	229.6	na	United Industrial Corporation (50%), UOL Group (50%)
Oct. 16	Moor Place, 1 Fore Street	236,793	271	1.15	Kingboard Chemical
Nov. 16	6-12 Fenchurch Street and 1 Philpot Lane	77,652	80	0.28	Chuang's China
Nov. 16	20 Moorgate	154,854	154	0.63	SEA Holdings

Source: Company Filings, Bloomberg Intelligence

of its Asia portfolio and bolster its asset quality with the sale of the wealth-management business to Singapore's DBS. The lender kick-started the process in 2016 by booking impairment and gains on Asian minority investments. It also pared institutional risk-weighted assets by 8%. Jettisoning its Asia wealth business may only be a start as CEO Shayne Elliott shifts its Asia focus to institutional banking.

Taiwan banks may also expand faster in Southeast Asia encouraged by the government's "Go South" policy to diversify from a stagnant domestic economy and the prolonged slowdown in mainland China. Bloomberg data show five pending transactions for Taiwan banks in Southeast Asia. The deals could boost overseas contribution to their pretax income from an already sizable base of 32% in 2015.

### Big Four Australian Banks' Tier-1 Ratios



Source: Bloomberg

## ENERGY

# OPEC Pivot, U.S. Revival Pace Energy's Dubious Recovery

Global Energy  
Team

Next year's narrative for oil will be driven by anxiety around the deal brokered by OPEC to cut oil production, persistent global imbalances of petroleum products and the sight of U.S. E&Ps drilling. Adding to the uncertainty is Donald Trump. What position will he take with Iran? And how will he shake up domestic energy policy? Oil and gas balances may tighten more acutely later in 2017, but prices will remain in a narrow range for longer.

## OPEC: Will Cuts Stick?

Ambiguity surrounding the OPEC accord to slice output by roughly 4% will aid volatility in oil prices. OPEC production, and the pace of U.S. drilling activity, will be the most significant drivers of crude oil balances and prices.

Cohesion to cut production among OPEC members, as well as key non-OPEC nations such as Russia, would stimulate transparency. Compliance among the group — usually quite opaque — would be paramount to advancing investor confidence. Higher oil output recently reported by members shows that any agreed-upon cut would be less consequential than believed, given already elevated production and more subdued global economic demand growth.

Ramp-ups by special-status members Libya, Nigeria, Iraq and Iran led to record output of 34 million barrels a day in October. The cartel's ability to execute a meaningful reduction in output will be scrutinized further given exemptions to African nations and nuanced language in the agreement needed to placate participant sensitivities.

## Global Crude Oil Demand & Supply Dynamics

Name	2017	2016	2015
<b>Supply (MMBPD)</b>			
OECD	26.51	26.35	26.82
Non-OECD	70.49	69.69	68.98
OPEC	40.06	39.20	38.31
Former Soviet Union	14.34	14.26	14.09
China	4.35	4.50	4.72
Other Non-OECD	11.75	11.72	11.85
Total World Supply	97.00	96.03	95.80
Non-OPEC Supply	56.94	56.84	57.49
<b>Consumption (MMBPD)</b>			
OECS	46.61	46.54	46.42
Non-OECD	50.07	48.80	47.62
<b>Total World Consumption</b>	<b>96.67</b>	<b>95.33</b>	<b>94.05</b>

Source: Bloomberg

## OPEC Crude Oil Production Monthly Growth

Name	Oct. 2016	Sept. 2016	Aug. 2016	July 2016
<b>Crude Oil Production</b>	<b>0.5%</b>	<b>0.8%</b>	<b>0.0%</b>	<b>1.4%</b>
Algeria	0.0%	0.0%	2.8%	0.0%
Angola	-13.3%	-2.3%	0.6%	0.6%
Ecuador	0.0%	1.8%	0.0%	0.0%
Gabon	-4.8%	0.0%	-4.5%	-
Indonesia	0.0%	0.0%	0.0%	0.0%
Iran	1.4%	0.3%	1.7%	0.8%
Iraq	1.1%	1.3%	1.6%	1.4%
Kuwait	0.7%	0.3%	2.4%	-1.4%
Libya	52.9%	30.8%	-13.3%	-6.3%
Nigeria	11.3%	7.9%	-11.5%	v1.3%
Qatar	-3.1%	-3.0%	0.0%	0.0%
Saudi Arabia	-0.2%	-0.4%	-0.2%	1.8%
UAE	0.0%	2.6%	1.0%	2.7%
Venezuela	-0.9%	0.5%	-0.5%	-2.2%

Source: Bloomberg

Also, the increase in prices driven by the OPEC cut will also invite non-cartel oil back into the market. More optimistic commentary from U.S. management teams may suggest output stabilizing with a return to growth in 2017. Even Russian oil production, which reached a new high of 11.2 million barrels a day, remains elevated and threatens the nascent global recovery. Russia's voluntary output cut of about 300,000 barrels a day may be paced slower than expected, further delaying a tightening of balances and market fundamentals.

### New Life for Shale

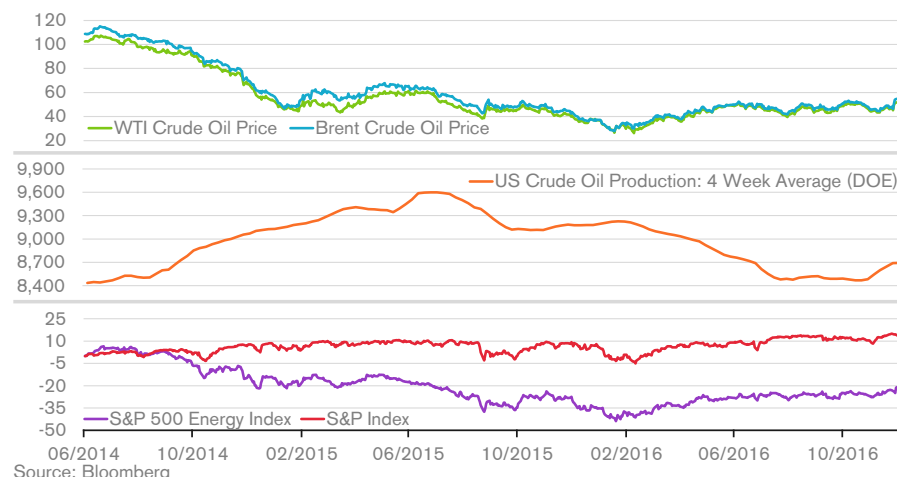
While OPEC's strategy of raising and lowering output quotas has proved effective in addressing temporary supply and demand shocks in the oil market, the cartel has no response to permanent shocks such as the advent of domestic shale oil.

U.S. output has been resilient at roughly 8.7 million barrels a day — despite OPEC's strategy initiated about two years ago to knock off higher-cost volume by maintaining elevated output and pressuring benchmark prices.

U.S. operators responded by slashing cost structures, generating drilling efficiencies and seeking service cost concessions. By "high grading," drilling on their most productive and economic acreage, operators are better able to weather the storm. Also, a backlog of over 3,500 drilled-but-uncompleted wells provides just-in-time production that can be introduced as prices recover, tempering increases and tightening the band of price shifts.

Higher initial spending estimates for U.S. E&Ps in 2017 correlates with more resilient production and a tighter range for energy prices. However, service-cost concessions have probably hit a nadir, and prices aren't likely to rise in the near term. Commodity-price gains will likely promote incremental hedging, protecting drilling programs and fostering spending. The price curve shifting more profoundly toward backwardation would limit the storage arbitrage and dilute the incentive to hedge.

## Crude Oil Prices, U.S. Oil Output & Equity Performance



## U.S. DUC Count

Play	Count	Play	Count
Bakken-ND	571	Haynesville Louisiana-Non Core	32
Niobrara	426	Ardmore Woodford	11
Eagle Ford	329	Granite Wash-Oklahoma	16
Marcellus-Pennsylvania	310	Woodford Arkoma	12
Marcellus-West Virginia	252	Barnett-Core	9
Other	258	Barnett-Non Core	8
Utica-Ohio	147	Granite Wash-Texas	7
Wolfberry	181	Haynesville East Texas	9
Bone Sprint/Avalon	112	Uinta	9
Anadarko Woodford	82	Wolffork	8
Fayetteville	68	Bakken-MT	7
Wolfcamp	97	Green River Basin	4
Strawn/Atoka	77	Utica-Pennsylvania	6
Mississippian Oil Play	21	Piceance	5
Haynesville Louisiana-Core	36	Clearfork	2
<b>U.S. Total</b>	<b>3,112</b>		

\*Totals are current abnormal horizontal O&G DUC count

\*\*Abnormal means the wells have spent >3 months in inventory

\*\*\*Only includes spuds after Aug. 1, 2014 and before Aug. 1, 2016

Source: RigData, FracFocus, Primary Vision, DrillingInfo, Bloomberg Intelligence

## Consensus U.S. E&P Capex Estimates vs. Historical (In Millions \$)

Name	2017E	2016E	2016	2015A	2014A
	Consensus CAPEX	Consensus CAPEX	Guidance CAPEX	CAPEX	CAPEX
Integrated Oils and Independent E&Ps	-257147.7	-241633.2	-173218.5	-350485.4	-492091.6
Integrated Oils	-196681.8	-204467.2	-126555.3	-247313.8	-315701.8
North American Independent E&Ps	-60465.8	-47166.1	-46661.2	-103171.6	-176389.8
Anadarko Petroleum	-4374.1	-3194.0	-2900.0	-6067.0	-9508.0
Antero Resources	-1482.1	-1832.9	-1400.0	-2347.9	-4086.6
Apache	-3126.0	-1955.9	-2000.0	-5178.0	-11378.0
Approach Resources	-51.9	-23.6	-20.0	-151.2	-393.5
Bill Barrett	-126.8	-116.0	-100.0	-325.8	-584.6
Bonanza Creek Energy	-45.6	-43.3	-26.0	-443.6	-828.9
Cabot Oil & Gas	-617.3	-377.8	-380.0	-955.6	-1479.6
California Resources	-361.7	-68.7	-50.0	-401.0	-2020.0
Carrizo Oil & Gas	-441.5	-441.5	-405.0	-677.8	-954.3
Chesapeake Energy	-2098.9	-1570.8	-1700.0	-3771.0	-6618.0

Source: Bloomberg

M&A activity, which recovered across several verticals and regions throughout the globe, rose sharply in the U.S. E&Ps arbitrated their elevated public valuations to consolidate private acreage. Over \$50 billion of U.S. upstream M&A was announced in 2016, higher than the \$30.7 billion the prior year with consolidation in key areas such as the Permian and Appalachia leading the way. The incoming Trump administration may unmoor investors and compliance anxiety surrounding the OPEC accord may cast doubt on deal activity more broadly in the near term.

### Unsteady Global Demand

Although global oil demand is healing, the pace is unsteady. Developing economies, such as those in the Asia-Pacific region, are prime drivers of consumption. The market is likely to remain oversupplied into the first half of 2017 and a price recovery may be limited by China's slowing oil-product demand growth, even with OPEC's agreement to scale back output narrowing the imbalances.

China is becoming less oil-intensive as its economy shifts away from heavy industry to services and higher-margin manufacturing. Diesel demand fell over the past year and lower consumption growth for oil products may continue as the economic transition continues. Demand growth for crude oil may converge with that of oil products as stockpiling slows.

Conversely, India's oil-demand growth may surpass China's but it remains far behind in absolute terms.

Global crude oil and products remain oversupplied and while balances may narrow in 2017, energy commodity price benchmarks look poised to continue trading in the same range.

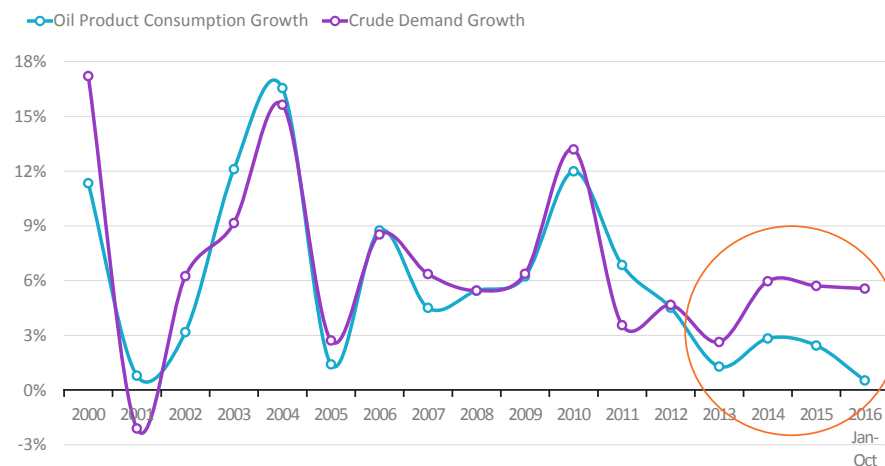
Flattening futures curves indicate rebalancing, and the worst may be over — an encouraging sign for investors. Crude oil in the \$50-a-barrel is likely to continue to cage the market, but may be too narrow for prolonged captivity. Spurts to near \$40 or \$60 are possible on the extremes, but sustaining outside of such levels is unlikely, absent stronger fundamental drivers.

## U.S. M&A Volume & Details

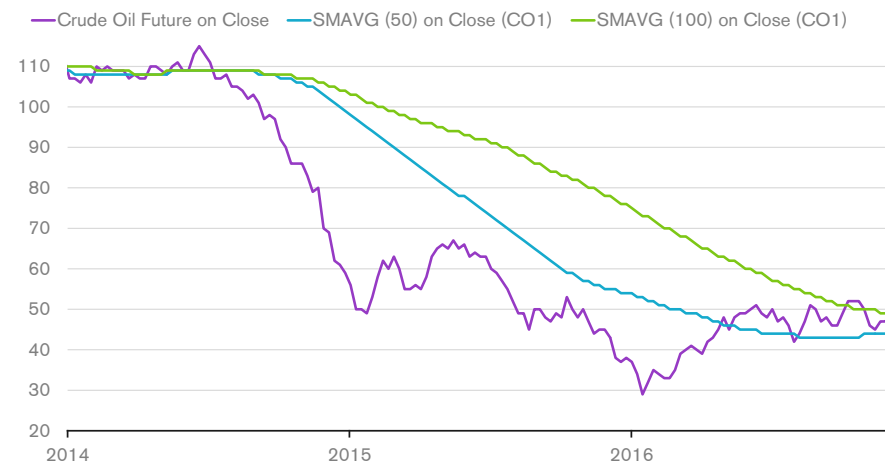
Announce Date	Buyers	Sellers	Value (\$MM)
Nov 28, 2016	Centennial Resource Development	Silverback Exploration	855
Nov 22, 2016	Salt Creek Oil and Gas	Undisclosed Seller	38.1
Nov 21, 2016	Hilcorp Energy	Swift Energy	40
Nov 19, 2016	Concho Resources	Endurance Resources	430
Nov 15, 2016	SM Energy	Undisclosed Seller	120
Nov 10, 2016	WildHorse Resources II	Undisclosed Seller	30
Nov 08, 2016	Earthstone Energy	Bold Energy III	323.92
Nov 08, 2016	Undisclosed Buyer	Abraxas	11.3
Nov 07, 2016	Franco Nevada	Felix Energy II; Sooner Trend	100
Nov 04, 2016	Ute Energy	III Exploration	52
Nov 04, 2016	XState Resources	Undisclosed Seller	13
Oct 31, 2016	Occidental Petroleum	Browning Oil Co Inc; J Cleo T	1765
Oct 26, 2016	Undisclosed Buyer	Murray Energy	63.6
Oct 25, 2016	EQT Corporation	Antero Resources	170

Source: Bloomberg

## China Crude Oil Demand vs. Oil Products Demand



## Crude Oil Likely to Remain Range-Constrained (in U.S. \$)



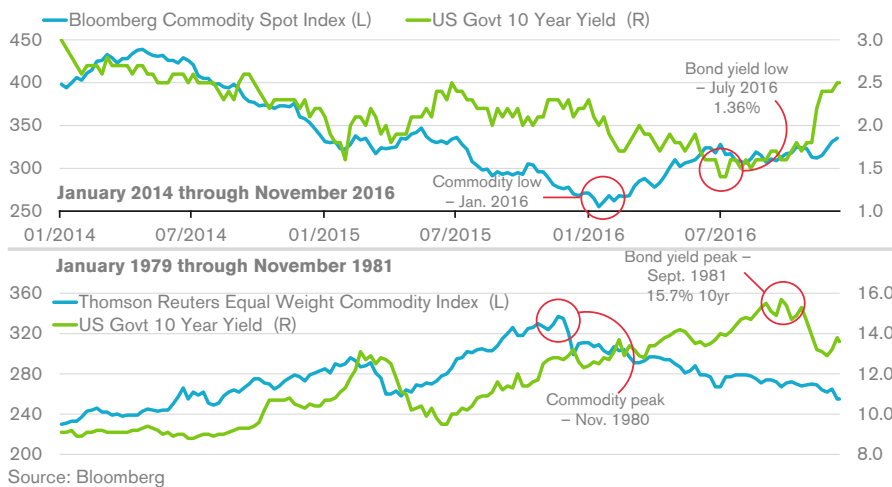
## COMMODITIES

# Commodities Mean Economic Reflation or Return to Stimulus

Global  
Commodities  
Strategy Team

The movement of commodities, up or down in 2017, could have global macroeconomic implications. If the 2016 recovery rally is sustained, it would be a signal of reflation. Say goodbye to negative rates as bond yields potentially reach bottom — perhaps the reciprocal of the peak 35 years ago. And if the rally stumbles, that would signal a trip back to the bad old days of increasingly aggressive central bank stimulus to help reignite inflation.

## Commodities May Go Opposite of 1980



## The Way Back to Normal

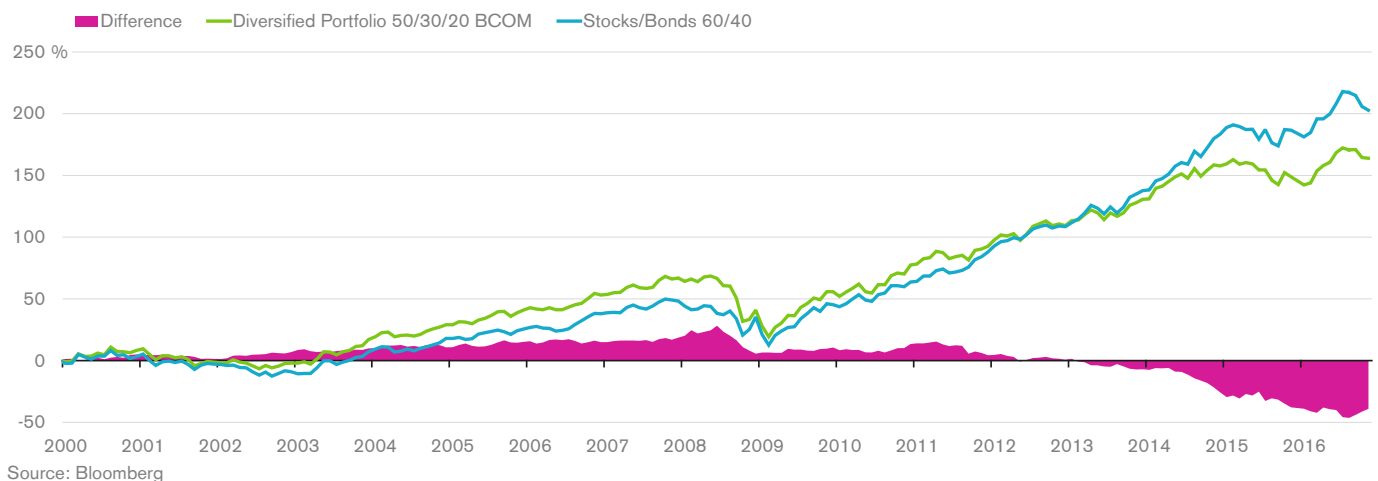
The path to normalization may be found through potential bottoms in commodities and bond yields.

Narrow-band rebalancing is likely to characterize energy. Metals may keep rising as industrials are poised to take the baton from precious. Agriculture commodities appear to be a weather event away from recovery.

## Watch What You Wish For

The traditional reasons for allocating to commodities — portfolio diversification, low-to-negative correlation to stocks and bonds, inflation hedging, event risk

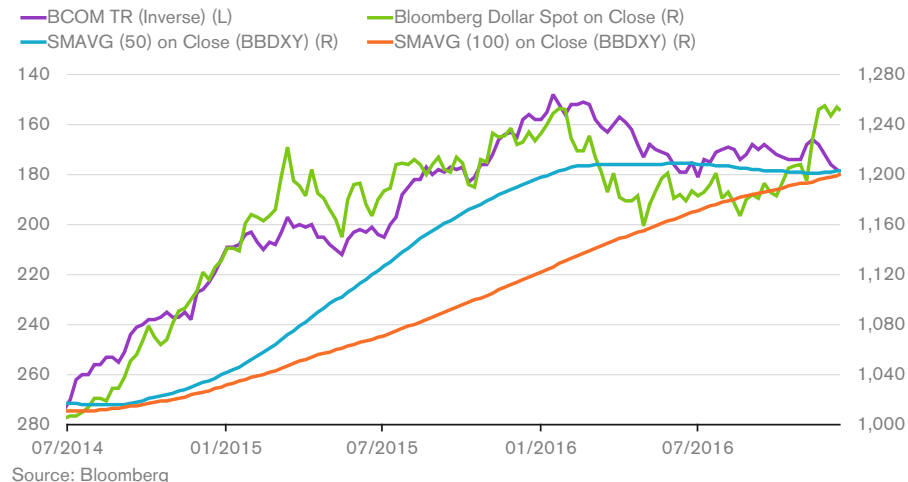
## With Commodities & Without



protection — are at risk of returning to the forefront. A recovery in commodity prices following the multiyear decline may coincide with some inflation and pullback of stock- and bond-market rallies that have been elongated by aggressive central bank stimulus. If inflation remains low, central bank stimulus is likely to stay high.

If inflation picks up, central bank stimulus is likely to reverse, negatively affecting stocks and bonds. The above chart depicts a diversified stock, bond and commodity portfolio that is underperforming in recent years a portfolio without commodities, as stock and bond returns accelerated.

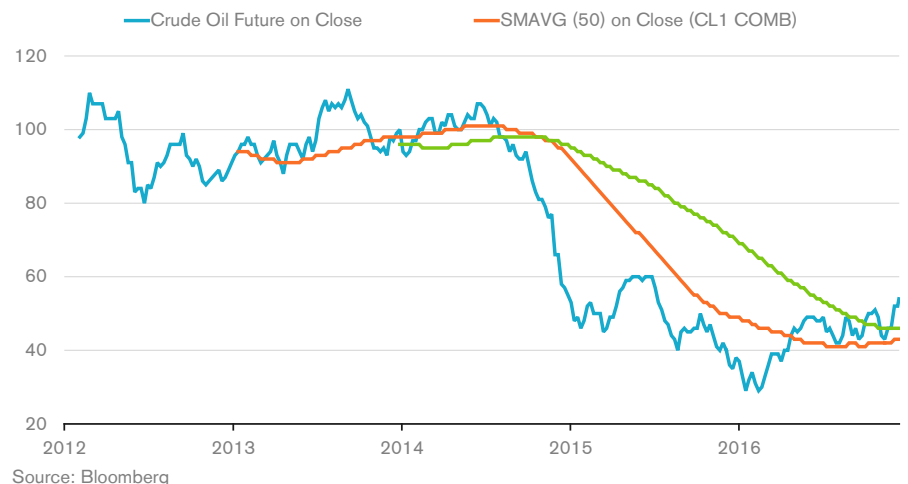
### U.S. Dollar & BCOM TR (Inverse)



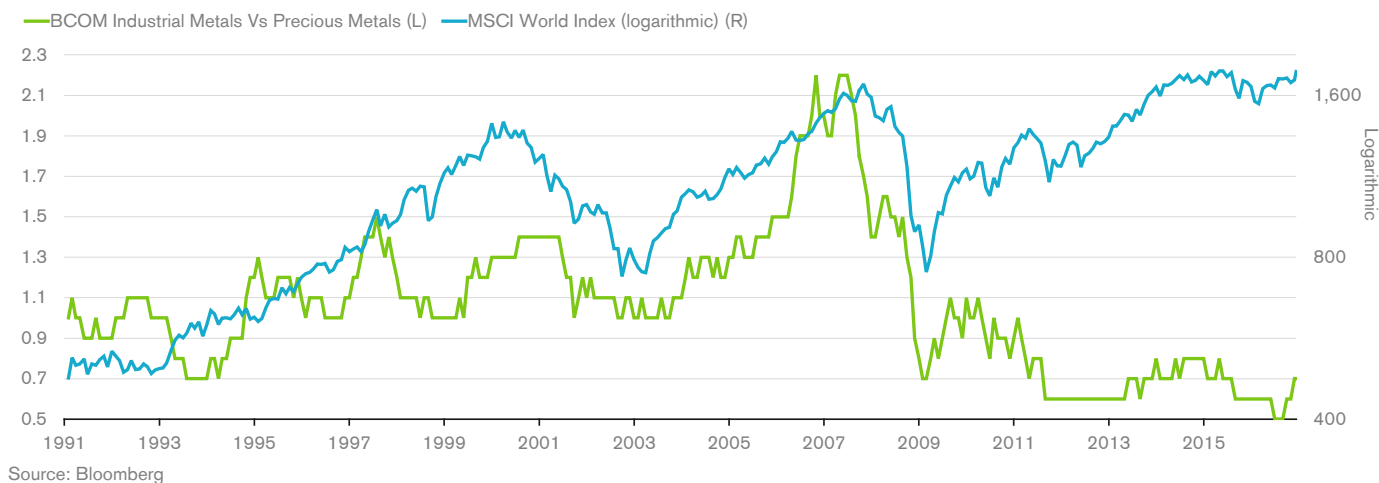
### Commodity-Dollar Tango Fatigue

A continued rally in the dollar should pressure commodities, notably if the high negative correlation since the financial crisis resumes. The year 2016 is being viewed as a potential commodity bottom, initially coincident with a weaker dollar. Indicating divergent strength, the Bloomberg Dollar Spot Index has recovered, and was down only fractionally (0.3%) as of Nov. 11, but the Bloomberg Commodity Total Return Index (BCOM), up about 5%, is on pace for the first annual gain since 2010.

### Crude May Remain Range Constrained



### Industrial Metals vs. Precious Potential Bottom



The inverse relationship between commodities and the dollar is more prominent since the global crisis, but may be shifting back to historic trends. BCOM's monthly beta relative to the U.S. Dollar Index has grown to minus 1.3 since 2008 from minus 0.3 for 1991–2008.

### Trend Is Friend in Energy

Energy futures look poised to continue the trend in 2017 — trading in a range. Flattening futures curves indicate rebalancing, and the worst may be over for high negative roll yields, an encouraging sign for investors. WTI crude oil at \$40–\$50 a barrel is likely to continue to cage the market, but may be too narrow for prolonged captivity. Spurts to near \$30 or \$60 are possible on the extremes, but sustaining outside of such levels is unlikely, absent some new, strong fundamental drivers.

The 2016 average Bloomberg Energy Subindex roll yield of minus 28%, the highest since the 2008 crisis, is on a path to improvement. The heating-oil

one-year curve flattened from a steep 24% contango at the end of 2015 to near 10% by mid-November, still attractive for rolling shorts.

### Industrial Metals Take the Gold

The metal-recovery momentum seen in 2016 is likely to continue in 2017. Recovery is a key word, as 2016 may mark multiyear lows for both precious and industrial metals, potentially in early rebound stages. Industrial metals, beaten up more than precious in the past few years, should have the most to gain, notably if the global economic recovery picks up. The election of Donald Trump as U.S. president may mark a performance pass from precious to industrial. Combined, the metals remain relatively attractive.

Both precious and industrial metals offer minimal risk of high negative roll yields that have plagued commodities the past few years. Counterintuitively, when tracked by futures, industrial metals have had a lower cost of carry than precious metals.

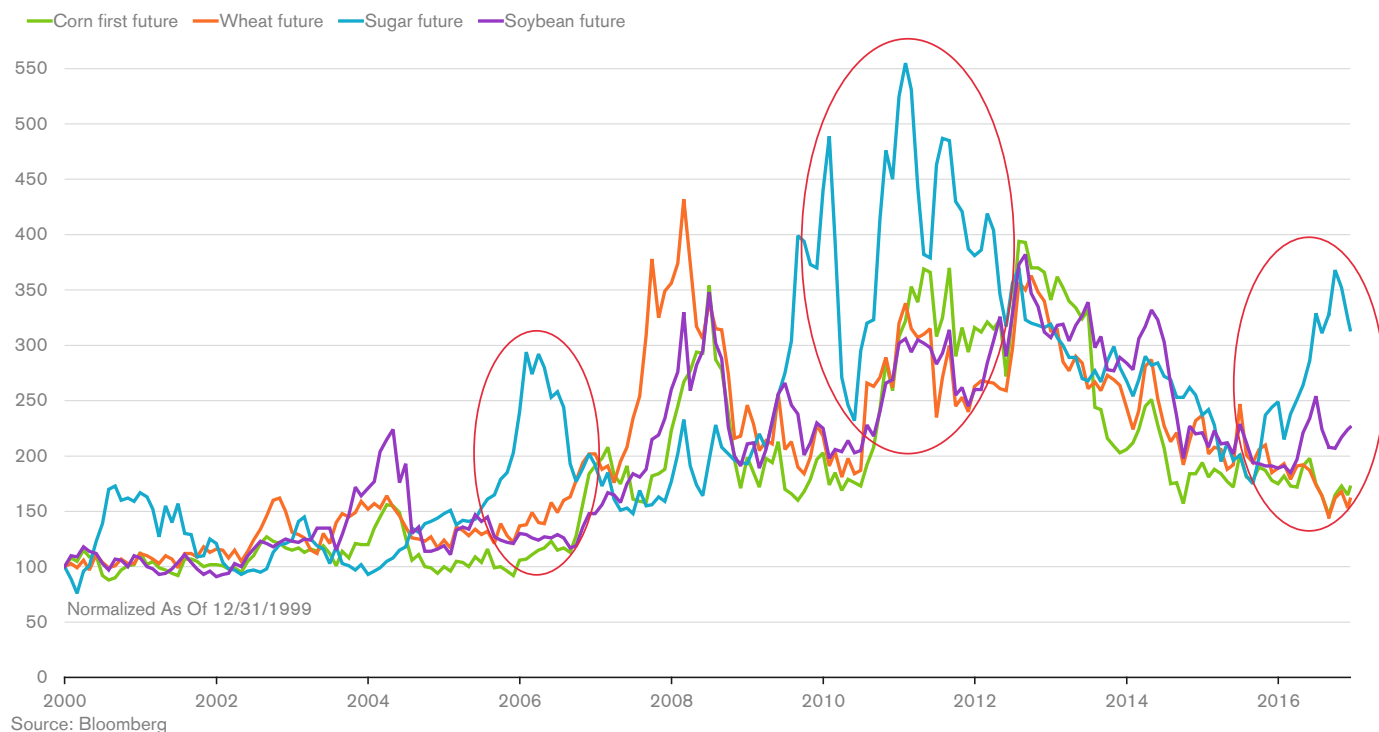
### Agriculture Ready to Ripen

After reaching 10-year lows in 2016 on the back of successive record harvests, the primary agriculture futures of corn, soybeans and wheat may be poised to follow the over-40% recovery in sugar in 2016. Low prices have spurred a surge in demand. If that's not accompanied by sustained record production, price increases may follow.

Weather will be key to 2017 performance. If sugar is any guide, markets appear ripe to rally if the favorable weather trend of recent years becomes less so.

The ratio of the increase in USDA estimated global wheat consumption vs. production growth in 2016, nearly three times, has only been exceeded in three years since 1960. The velocity of the surge in U.S. corn and soybean exports relative to the five-year average, near 30%, hasn't been exceeded since 1974.

## Futures May Follow Sugar



## INDUSTRIALS

# Industry Is Next Frontier for Software Investments

Global Industrials  
Team

Investments in industrial software and analytics – and efforts by customers to put these new tools to use – will accelerate in 2017. The growth in industrial software, estimated at 20–30% through 2020 by IDC, may bring a notable sales and earnings impact within a few years. Software M&A accelerated in 2016, with several deals larger than \$1 billion. This will likely continue as companies strive to increase their growth rates and enhance their portfolios.

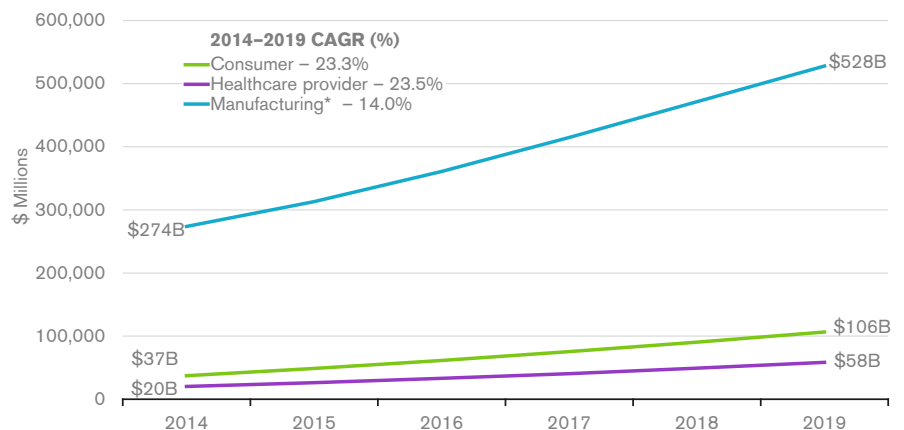
## The Next Tech Revolution

Investments in industrial software are focused on improving internal efficiency and as high-growth, high-margin opportunities for revenue. In industrials, both the manufacturing and service sectors have ample opportunity to leverage technology. IDC estimates global Internet-of-Things revenue in the manufacturing, transportation, resources and utilities segments will grow 14% annually to \$528 billion by 2019, with manufacturing — the largest vertical — reaching 23% growth.

Like Amazon.com's move into cloud computing, which disrupted the entire tech industry, industrial digitization could have wide-ranging ramifications.

General Electric, Siemens, Caterpillar and others have domain expertise, an advantage over pure software companies. GE, Siemens, Honeywell, Caterpillar and Deere have been acquiring, partnering or creating tech solutions that may compete with Microsoft, Salesforce.com, Intel and Cisco. The latter companies have cited big data and analytics as a sales growth driver. GE aims to be a top 10 software company by increasing a \$6 billion software business to \$15 billion by 2020.

## Internet of Things, Spending by Vertical



\*Manufacturing includes resource industries, transportation and utilities  
Source: IDC

## Top Software Companies by Revenue

Name	Market Cap	Revenue T12M
Microsoft	169.24B	85.39B
Oracle	163.65B	37.19B
SAP	103.06B	24.08B
Salesforce.com	53.27B	7.91B
Vmware Inc-Class A	32.98B	6.93B
Adobe Systems	52.22B	5.55B
Intuit	29.76B	4.76B
Cerner	16.82B	4.71B
CA	12.96B	4.06B
Symantec	14.81B	3.65B

Source: Bloomberg

Integrating software and analytics services should help industrial companies boost growth and expand margins. Operating margins average 31% for SAP, Oracle and IBM's software unit, more than the 13% for U.S. industrials over the past 12 months.

The earnings impact of these investments isn't yet meaningful for most industrial companies. GE's software sales of \$6 billion are 4–5% of industrial revenue, and Honeywell's are 3% of sales, yet with growth rates exceeding 20%, or four to five times that of industrials, the margin expansion could come quickly. Siemens' \$4 billion Mentor Graphics deal is only 1% of sales, but the 83% gross margin is in-line with similar software companies.

Roper has been at the forefront of this migration toward technology content as it transitioned to more of a software and software-as-a-service-based enterprise the past decade. Roper's subscription-oriented portfolio and asset-light business model has supported best-in-class operating margins of about 30%, in-line with software companies. In the past five years, Roper has spent \$6 billion on acquisitions, with about 90% of those in medical software and services as well as application software.

## Software vs. Industrial Margins

T12M (as of 3Q16)	Sales	Gross Margin %	Operating Margin %
<b>Software</b>			
IBM Cognitive Solutions*	\$18.1	82.7%	30.4%
SAP Total	\$24.1	70.1%	26.1%
Oracle Total	\$37.2	80.1%	35.2%
<b>Average</b>		<b>77.6%</b>	<b>30.6%</b>
<b>Industrials</b>			
GE Industrial	\$111.1	26.9%	15.3%
Honeywell	\$39.3	32.2%	21.4%
Caterpillar	\$37.2	22.2%	8.9%
Deere	\$24.3	23.8%	7.9%
<b>Average</b>		<b>26.2%</b>	<b>13.4%</b>

Note: North American Trailing 12-month median gross margin was 31.6%; North American Trailing 12-month median operating margin was 13.3%; \*Based on pretax income as operating income was not available

Source: Company Filings

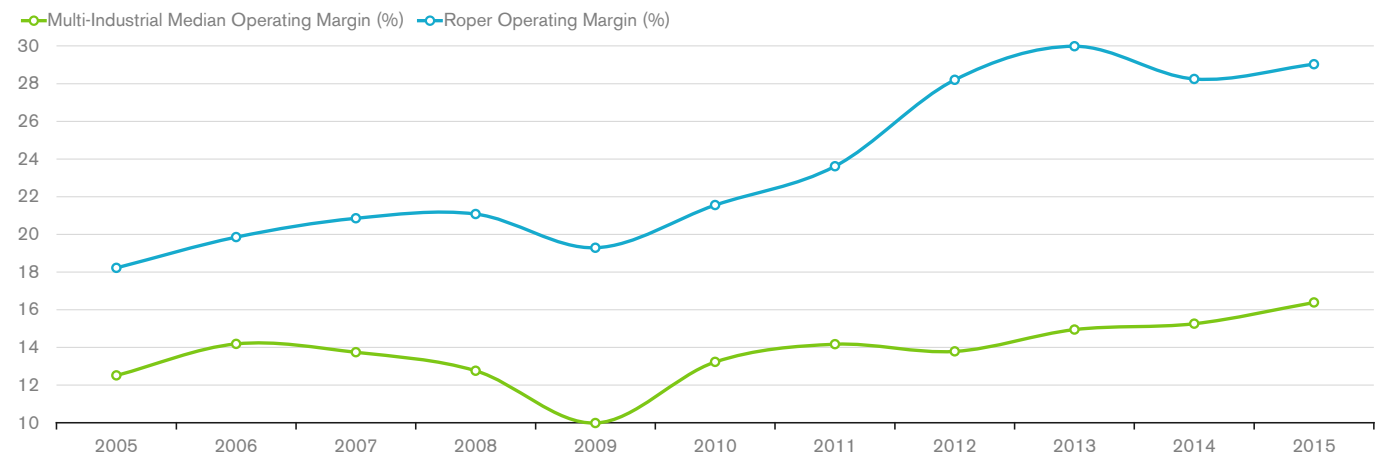
## New Landscape = New Models

A greater focus on data and analytics is producing new business models. Alternative revenue and profit models are required to compete in the stand-alone software business, including licenses, subscriptions, outcome-based income and price-per-service used. Industrial companies with operating platforms may employ revenue-sharing models, where partners receive a share of applications sold. The focus on big data and analytics may lead to greater competition for tech companies such as IBM and SAP.

Industrials have long used joint ventures to access new regions and end-markets. Success in software and analytics will require even more complex relationships. GE relies on its technology ecosystem, which includes software, hardware, IT services and telecom companies, to provide expertise, fill in technology gaps and accelerate time to market. Many business partners are also competitors.

Japanese factory automation companies may accelerate their chase for the world's leading position in robotics software

## Roper Operating Margin vs. Multi-Industrial Peers



Source: Company data

by seeking global partners to speed development of Internet-of-Things products. Lock maker Assa Abloy targets all access-control segments with its software and hardware suite, as well as supplying hardware on platforms run by companies including Google, AT&T and RWE. Smaller companies that can't afford significant investments will outsource many of the technology enhancements.

The exponential increase in data generated by connected machines will mean greater investment in software and analytics and spur industrial M&A. The decisions by GE, Siemens and Honeywell to develop industrial software profit centers may serve as a catalyst for competitors to shore up software assets. GE spent \$2 billion on technology deals in 2016, seeking organic and inorganic growth. Siemens announced the \$4 billion purchase of Mentor Graphics and Honeywell acquired Intelligrated for \$1.5 billion.

**Applications and Analytics**

Industrial uses for software and data analytics are far-reaching, with applications being developed at a rapid pace. GE's Predix system is being used in numerous applications across industrial markets — including energy, utilities, aerospace and health care — for asset-performance management, predictive analytics and optimization. Factory automation companies are digitizing and connecting machines and plants for productivity gains, quality and predictive maintenance.

Service sectors, including transportation, are using technology to optimize routes and rates, improve fuel efficiency and enhance shippers' transparency. UPS expects to save \$400 million when its ORION route optimization program is fully implemented. The regulated trucking sector is facing unintended consequences from implementation of electronic logging devices. The impact on productivity disproportionately affects smaller fleets, and may drive some operators to exit the business.

**Alliances, Partnerships Accelerate Industrial Software Expansion**

EcoStruxure is supported by a deep domain knowledge, services and integration capabilities, and an open ecosystem of partners

**EcoStruxure**  
Innovation At Every Level

- A complete and operational digital platform ✓
- An open architecture supported by a large ecosystem ✓
- A deep domain knowledge ✓
- Strong services and integration capabilities ✓
- Global reach of our partner network ✓

A leading network of strategic alliances: **accenture**, **Microsoft**, **intel**, **Dell**, **IBM**, **CISCO**, **ARM**, **ptc**

A leading network of industry consortiums: **ODVA**, **ZigBee**, **BACnet**, **Modbus**, **HREAD**, **OPC**, **COCONETWORK**, **DPEN**

A dense network of integrators: **20,000 solution engineers**, **8,000+ service engineers**, **9,000+ System Integrators**

Already significant sales: **~45 % of Revenues with IoT (2015)**

Confidential Property of Schneider Electric | Page 19

Life Is On | Schneider Electric

Source: Schneider Investor Day Presentation, Oct. 26, 2016

**Potential for Connected Objects is Immense**

Mega-trends represent growth opportunities across all end-markets

	Residential	Non-residential	Industrial
<b>Energy Transition</b>	<b>€13 trillion</b> in investments in energy efficiency from 2015 to 2030 <sup>1</sup>		
<b>Internet of Things / Connectivity</b>	<b>€1.6 trillion</b> IoT Market Size by 2020		<b>50 billion connected devices by 2020</b>
<b>Urbanization</b>	<b>€7 trillion</b> in infrastructure in NY, Beijing, Shanghai & London in next decade <sup>2</sup>		<b>80 billion m<sup>2</sup></b> of new and rebuilt buildings to be constructed in urban areas worldwide in next 2 decades

1 For full implementation of countries' submitted pledges for low-carbon development  
2 IBC IoT report  
3 PwC  
Source: IEA / World bank 2015

**REXEL**  
a world of energy

P. 11

Source: Rexel Capital Markets Day Presentation, Feb. 11, 2016

**UPS' Route Optimization Technology**

**ORION Acceleration Paying Dividends**  
On-Road Integrated Optimization & Navigation

- 4Q16: completed Phase I ahead of schedule and with 100% eligible routes deployed!
- ORION won 2016 Informs Franz Edelman award for changing the future of pkg delivery
- Expecting \$300M - \$400M of benefit at full deployment
- Optimizes a driver's route using:
  - Advanced mathematical models
  - Data from planning systems
  - Customized map data
- Accounts for business rules, customer needs, and service commitments
- Allows "what if" analysis and decision making
- Proved effective during peak season

**Big Savings from attention to detail**

- 1 Mile = \$50M
- 1 Min = \$14M-\$15M
- 1 min idling = \$500K

21

Source: UPS Investor Presentation, Nov. 1, 2016

## MATERIALS

# For Materials, It's Global Overcapacity Versus Rising Interest Rates

Global Materials Team

The basic materials industry has been beset by overcapacity. Historically low interest rates have fueled a wave of mergers. The Chinese government's plan for massive consolidation of its materials sector will continue in 2017. At some point, interest rates from the U.S. could increase on Donald Trump's plans for tax cuts and up to \$1 trillion in infrastructure spending — and derail the wave of non-Chinese mergers.

## Let's Make a Materials Deal

Mergers and acquisitions in the materials sector exceeded \$425 billion in 2016, the most since 2008. As recently as 2013, just \$177.6 billion in deals were recorded. That steadily moved up to \$425 billion in 2015. The dynamics driving the deal-making have been historically low interest rates, meager returns and a balance sheet reshuffle. For mining companies, many needed to restructure as they were caught with heavy debt loads in the aftermath of the five-year metals downturn. For chemical and paper and forestry companies, the lure of now it cammega deals was better returns funded by low-cost debt.

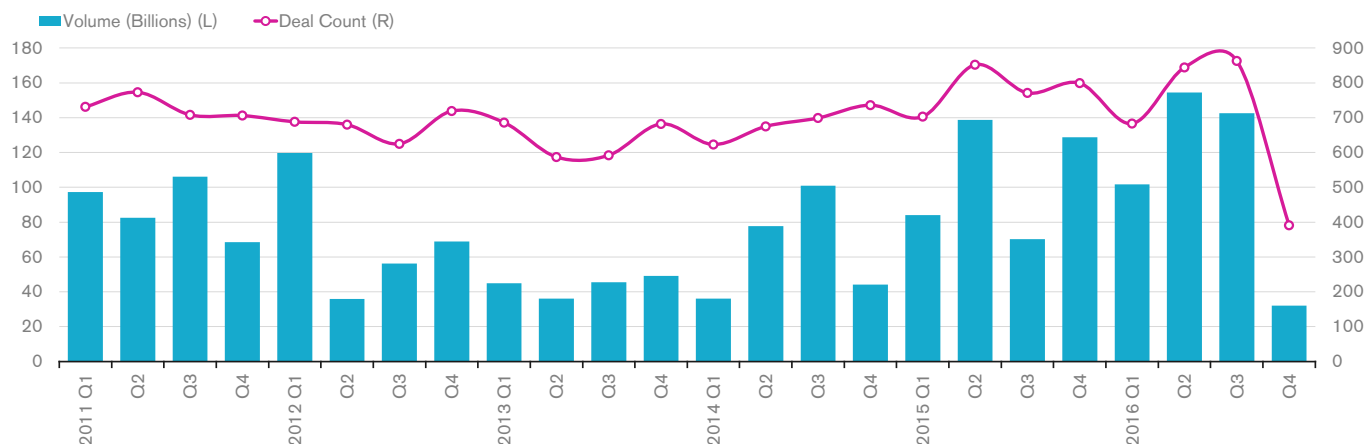
China's plan to deal with overcapacity via consolidation involves many moving parts. Since many companies in the industry are laden with debt, the better-quality ones will issue equity while also seeing some debt forgiveness. The combination might allow for inefficient capacity to be closed and larger national champions to emerge. Old and inefficient capacity will likely be closed to ensure pollution reduction goals are met.

If consolidation causes too rapid a decline in demand and prices plunge, look for a spike in loans to the construction industry to get demand quickly back into the

market and curb a freefall. China's aggregate new loan surge in January 2016 of almost 3.5 trillion yuan (\$508 billion) was a 70% increase from the year-earlier period and the highest on record. China's ability to manage the reduction in capacity will be one of the keys to watch in 2017.

As blockbuster chemicals deals surge, history suggests bolt-on acquisitions perform better. More opportunities may lie ahead, as realignment and regulators drive a second wave of smaller deals. Yet the frenzy suggests demand may slump — recessions followed two of the last three waves of M&A.

## Curbing Carbon Dioxide Emissions May Cut Cement-Production Costs



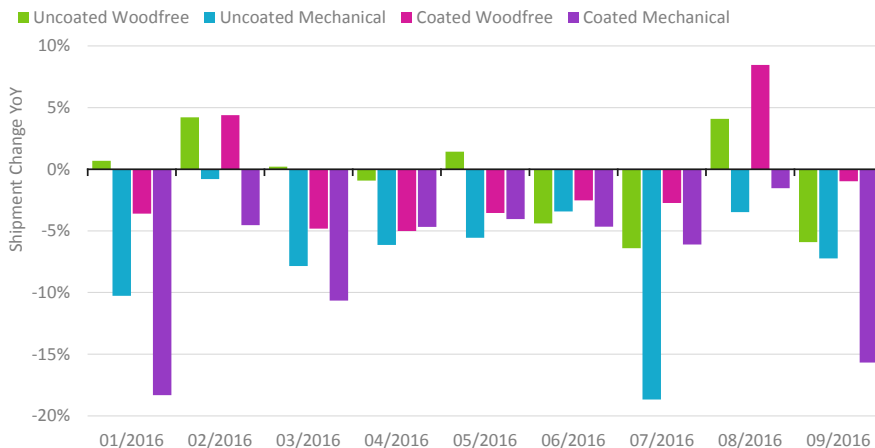
Source: Bloomberg

Bloomberg Intelligence analysis spanning 20 years of chemicals deals shows return on invested capital falls almost 2% in the three years after. Mega deals raised ROIC half as often as minor ones, urging restraint as blockbusters rumble into 2017. The averages are against chemicals M&A, if a company's return on invested capital is used to measure success. Over the past 20 years, the average deal has lowered ROIC by 194 bps, improving mainly where deals were struck in a recovery from recession. The consistent drag on returns, comparing three-year periods before and after 304 global deals, belies the promises of cost and revenue synergies typically made by management. Declining post-deal returns since 2006 highlight the risks to deals under way.

**Growth in Emerging Markets**

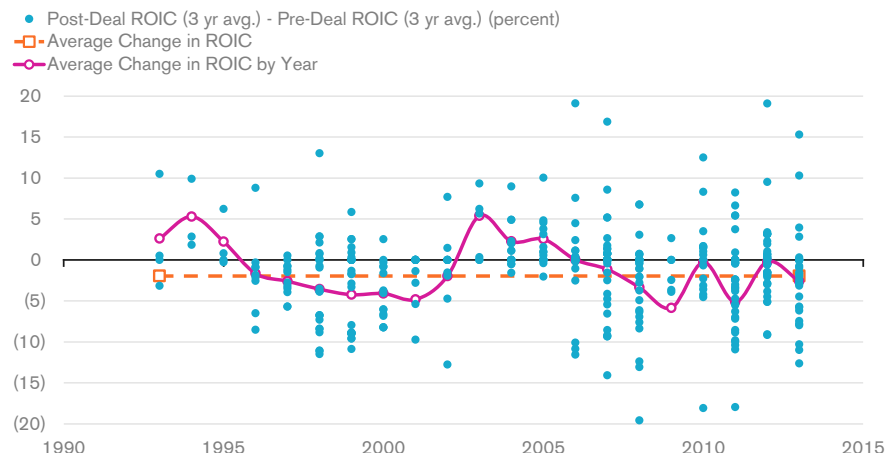
Recent sources of growth for plastic packagers, such as expansion into emerging markets via consolidation, have continued with an increased focus on flexible and health-care packaging. The Brazilian and Chinese economies are slowing, hurting pricing, but companies are still optimistic, with volume growth positive in many markets. Flexible packaging sales have risen 6.9% a year since 2000, and producers still expect growth as pouches and on-the-go products gain market share. Plastic packagers have been

**North American Paper Shipments Year-Over-Year Change**



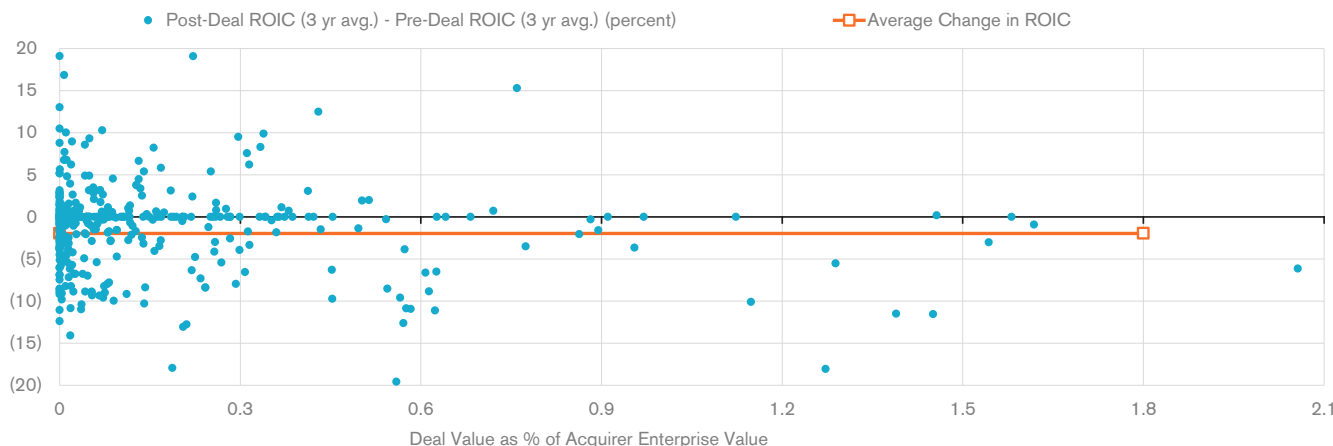
Source: PPPC

**Rise or Fall in Buyers' ROIC by Deal Year**



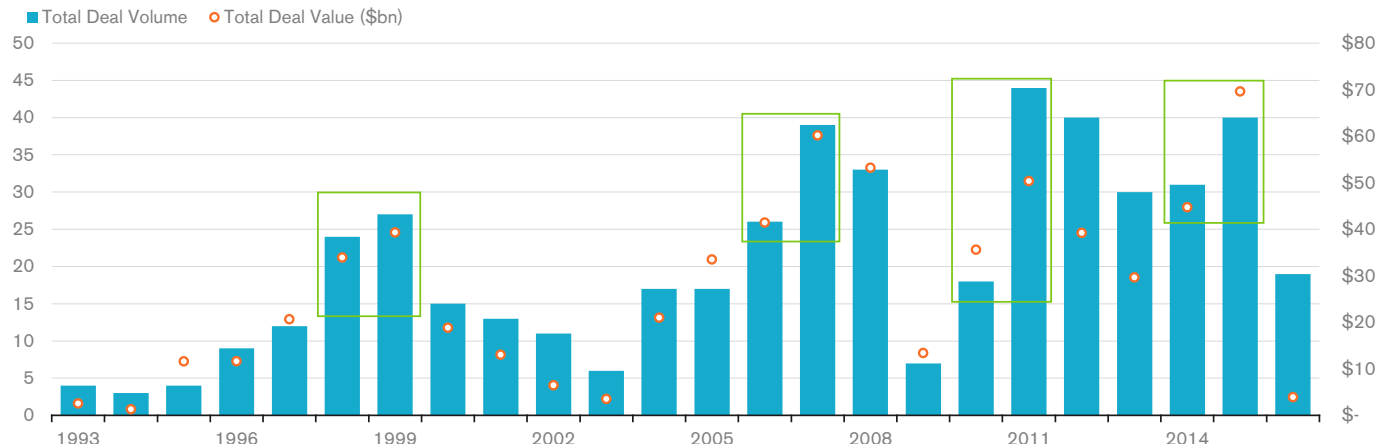
Source: Bloomberg Intelligence

**Bigger Not Better - More Small Deals Raise Returns**



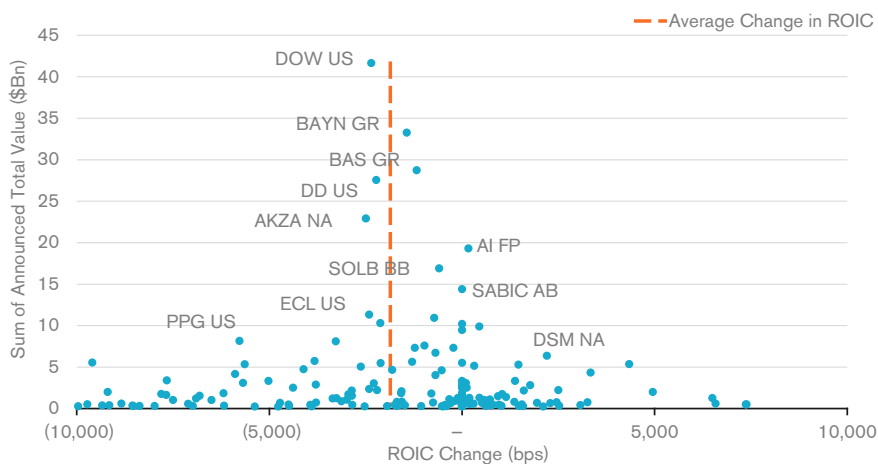
Source: Bloomberg Intelligence

### Deals Are Surging, and They're Getting Bigger



Source: Bloomberg Intelligence

### Frequent Dealmakers See Diminishing ROIC

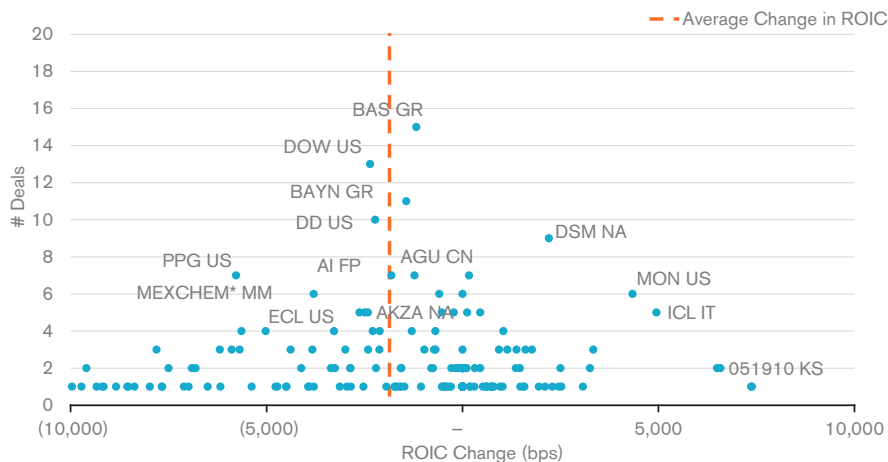


Source: Bloomberg Intelligence

using consolidation to expand and gain share, especially in emerging markets. That trend has continued even as companies are wary of the uncertain economic environment. M&A in plastic packaging has been led by small acquisitions that open up companies to specific growth markets. Amcor has closed eight deals in 2016, mainly in flexible packaging.

The building-materials' industry paradigm is changing, with the potential for improved profit. Less is being spent on new production sites, with the emphasis on capacity rationalization and asset swaps. The focus is moving to raising operating leverage and cash-flow generation and cutting capacity spending and historically high-maintenance investments.

### Big Spenders Get Less ROIC Bang for the Buck



Source: Bloomberg Intelligence

## HEALTHCARE

# Price Pressures May Ease With Trump... Or Maybe Not

Global  
Healthcare Team

Pressure on drug pricing in the U.S. may ease under a Donald Trump presidency but the scrutiny will continue in Congress as well as abroad. Drugmakers will increase rebates to offset costs to patients, which may aid wholesalers, retailers and pharmacy benefit managers. Margins at makers of medical devices may be squeezed by hospitals trying to offset costs and by payment programs for bundled products.

## Generic Prices Stabilize

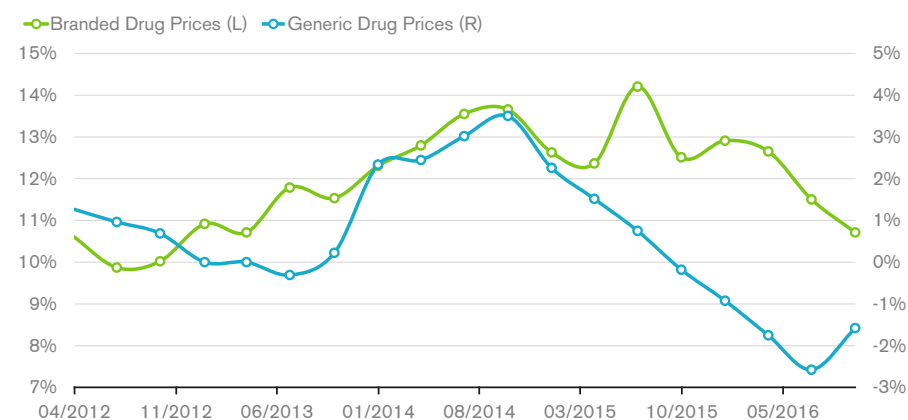
Generic-drug makers don't expect pricing to worsen in the near term, despite significant declines in the third quarter. An uptick in FDA approvals after the agency cleared its backlog of applications drove much of the pressure.

An overhang for generic-drug makers including Endo, Teva and Mylan is a U.S. Justice Department subpoena over alleged price fixing, which could carry significant monetary damages if wrongdoing is determined.

Branded drug manufacturers may continue to be more conservative due to the political and media focus and may need to take a stronger stance on pharmacy benefit manager rebates. Brand-name medication prices rose the least since the first quarter of 2013, based on Symphony Health Solutions data on the 200 top-selling drugs.

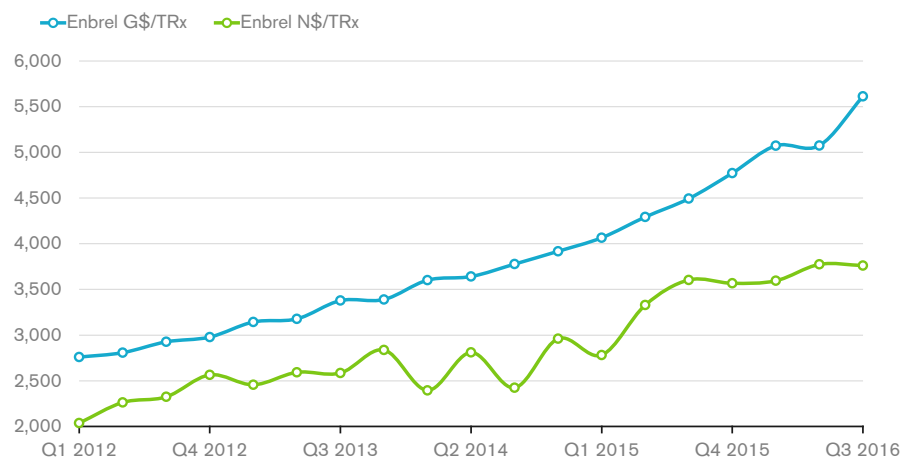
Drugmakers that increase list prices more than 25% in any given year may see political and payer backlash, based on historical actions. Of the drugs CVS removed from its formulary for hyperinflation, the average yearly increase over the past two years ranged from 25% (Concordia's Nilandron) to 670% (Novum's Alcartin A).

## Drug Price Changes (Median %)



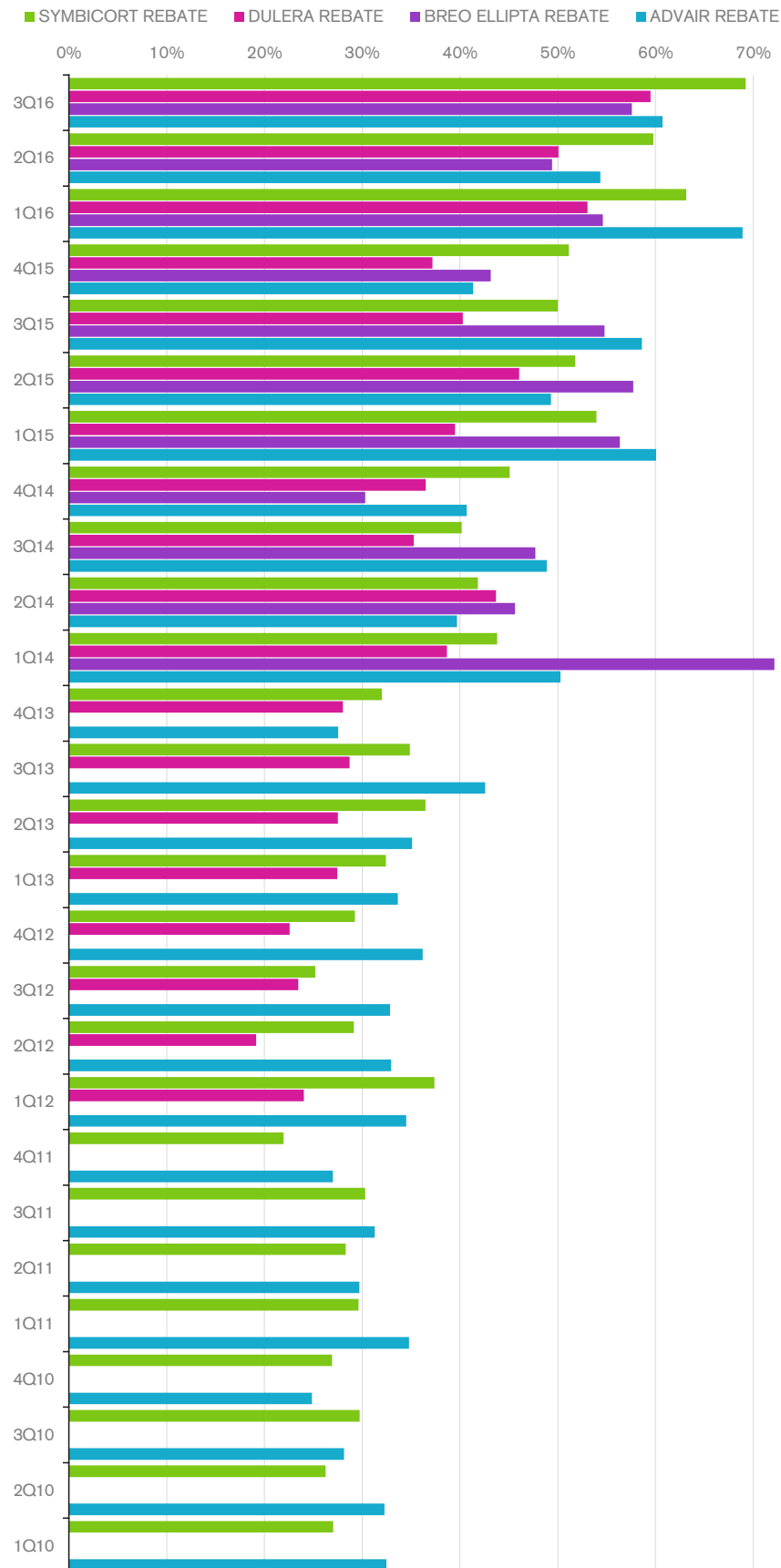
Note: Based on top 200 U.S. prescription count Generics price calculated as institutional weighted average cost / unit volume. Branded price calculated as retail dollars / retail quantity

## Makers of Top Arthritis Drugs Lose Pricing Power



Source: Bloomberg

## Imputed Drug Rebates: LABA Plus ICS Class



Sources: Symphony Health Solutions, Company

Generic and biosimilars launches will offset some drug costs and provide a significant opportunity for copycat makers. Branded drugs with more than \$14 billion in annual sales will lose patent protection in 2017. Most will occur in the fourth quarter, limiting their impact on the year.

Spending on medical devices is expected to accelerate over the next decade as the U.S. population ages. The Centers for Medicare & Medicaid Services forecasts 5.4% annual growth through 2020, peaking at 6.9% in 2021. Higher prevalence of osteoarthritis and heart failure may boost demand for orthopedic implants and defibrillators. Hospitals could seek more price concessions from peers like Zimmer Biomet and St. Jude Medical. Bundled payment programs for orthopedic implants may continue, pressuring prices.

### Rebates, Costs and Drug Adoption

Rebates and discounts will continue to offset drug costs, aiding those pharmacy benefit managers that have a price protection clause, which prevents a drug company from raising the price too high in any given year. Increases of 6–9% are usually acceptable.

Some prices get rebates of 40% or more, like those in Gilead's hepatitis C franchise. U.S. drugmakers may have given back \$25 billion in the past 12 months alone, based on an analysis of the top 10 drugs by revenue, using company-reported net sales vs. Symphony Health Solutions' suggested gross sales. Yet these drugs only brought in about \$36 billion in revenue.

Imputed rebates for GlaxoSmithKline's Advair for COPD have doubled in 2010–16 to about 60%, tracked by main rival AstraZeneca's Symbicort. Both drugs may face further discounting pressure in 2017 on the potential launch of Advair generics.

## U.S. Branded Drugs Losing Exclusivity

Date	Branded Drug	Generic or Biosimilar	Manufacturer	2016 U.S. Sales (\$M)*
1Q	Pristiq	desvenlafaxine succinate	Pfizer	600
	Tamiflu	oseltamivir	Roche	530
	Azilect	rasagiline	Teva	380
	Minestrin 24 Fe	ethinyl estradiol / norethindrone	Allergan	330
2Q	Neulasta	pegfilgrastim	Amgen	3,920
	Strattera	atomoxetine	Eli Lilly	520
	Vytorin	ezetimibe / simvastatin	Merck	460
3Q				
4Q	Truvada	emtricitabine / tenofovir	Gilead	2,410
	Viagra	sildenafil	Pfizer	1,170
	Prezista	darunavir	J&J	1,100
	Velcade	bortezomib	Takeda	1,080
	Sustiva	efavirenz	Bristol Myers	910
	Viread	tenofovir disoproxil	Gilead	530
	Reyataz	atazanavir	Bristol Myers	480
	<b>Total</b>			

Note: \* Best estimate via Symphony and public filings

Sources: Symphony Health, Company Filings, Bloomberg Intelligence

Rebates are also used to capture market share. Sanofi-Regeneron's Praluent extended its U.S. volume lead over Amgen's Repatha in the third quarter, based on Symphony data. Net sales for the PCSK9 drugs were on par, suggesting Sanofi offers a slightly higher rebate.

Cost-effectiveness data will become more important for expensive medicines. Newer classes of diabetes drugs like SGLT-2s and GLP-1s are costly, but outcome trials have linked them to cardiovascular benefits. In cancer, drugs that unleash the immune system against tumors have revolutionized therapy but cost

\$148,000 a year on average, before discounts. Merck's Keytruda and Bristol-Myers Squibb's Opdivo provide the best value per month of survival.

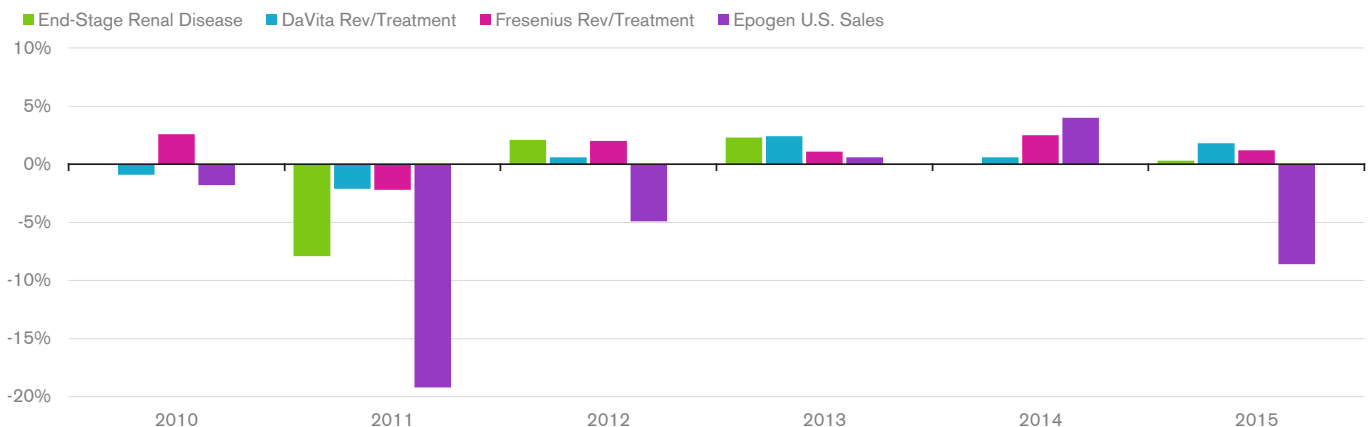
### The Real Threat

Repealing Obamacare is a top priority in Donald Trump's transition plan. While Trump likely can't overcome the Senate's 60-vote threshold to achieve full repeal, Republicans can pass a budget-reconciliation measure that rolls back mandates, taxes and the Medicaid expansion. This could disrupt hospital operators.

The plan doesn't mention curtailing drug prices, focusing instead on reforming the FDA to streamline drug development and approval. House Speaker Paul Ryan's health-care reform plan focuses on replacing Obamacare and overhauling Medicare and Medicaid.

A real and more near-term threat is that insurers and pharmacy benefit managers exploit competition and leverage rivalries among similar products to pressure prices. Drugmakers can fight back via product differentiation and niche positioning.

## Kidney Disease Reimbursement (YoY % Change)



Note: Rev/Treatment = revenue per dialysis treatment

Sources: CMS.gov, Company Filings, Bloomberg Intelligence

## CONSUMER DISCRETIONARY

# A New Retail Landscape: Phones, Online and Stores Together

Global Consumer  
Discretionary Team

Mobile shoppers are driving the rise in online sales, particularly in emerging countries where purchases via handsets are surging. Smartphone use may spur global retailers to make digital investments to boost sales, as well as capture more data on shifting buying habits. Collaborative efforts between e-commerce companies and brick-and-mortar retailers may drive both online and in-store sales to new highs.

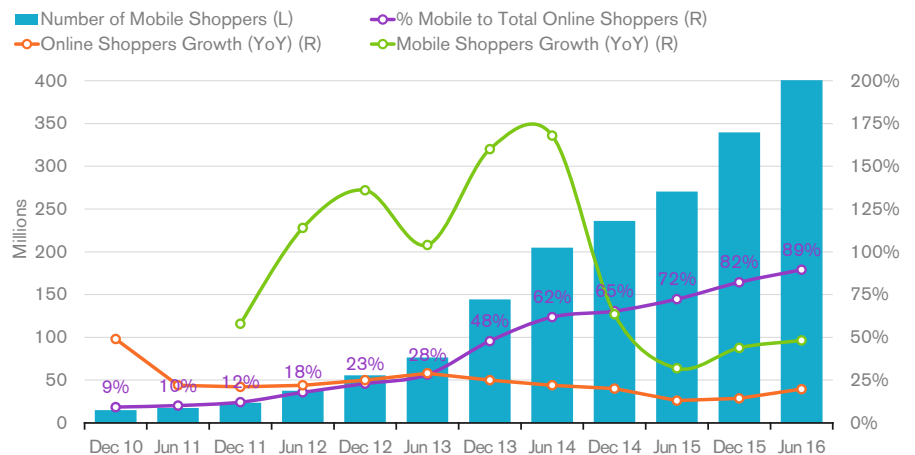
## Mobile Shoppers and Global Growth

Capturing mobile shoppers will likely gain in importance for retailers as they seek sales in emerging economies such as China and India. Mobile shoppers in China may boost annual online shopping to 7.5 trillion yuan (\$1.1 trillion) by 2018, doubling from about 3.8 trillion yuan in 2015, according to iResearch. Mobile users made up 89% of China online shoppers in the first half versus 62% two years ago. Purchases via mobile phones surged 48%, more than the 20% overall for online.

Mobile shoppers are contributing more to sales in the U.S., too, with users spending 69% of their time on shopping, according to comScore. About 61% of China's mobile users shopped with their phones in the first half. That helped Black Friday sales rise 21.6% to \$3.34 billion. Mobile purchases rose 33% to \$1.2 billion, topping \$1 billion for the first time.

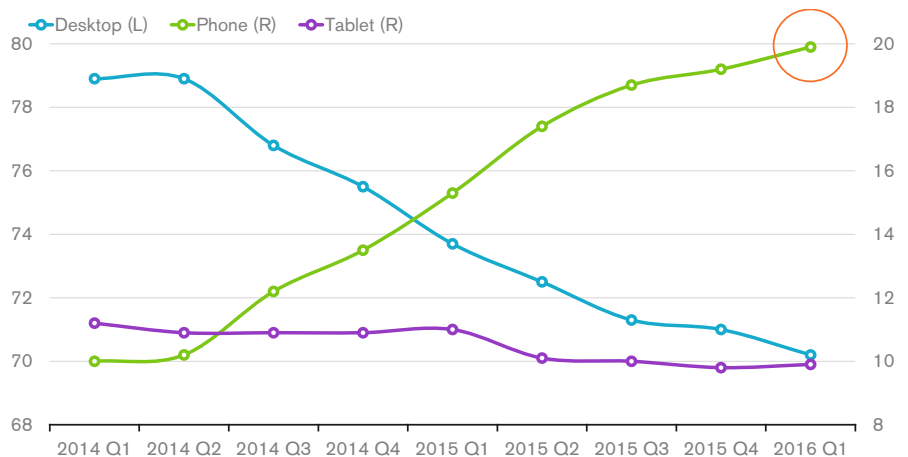
The increased use of smartphones for shopping underscores how important it is for Amazon, Target, Victoria's Secret and peers to provide a better user experience, including navigation, search, upload and refresh time. Luxury brands such as Louis Vuitton, Mulberry, Burberry, Brunello Cucinelli and Moncler have their own mobile apps. Yoox Net-a-Porter has

## Mobile Shopping Surges in China



Source: China Internet Network Information Center

## Order Shares by Desktop, Tablet, Mobile (% Total)



Source: Custora E-Commerce Data

attracted Prada, and extended deals with Tiffany, Chanel and several Kering-owned brands. Data gathered from shopping apps may reveal buying habits to help operators develop merchandise and services to lure traffic.

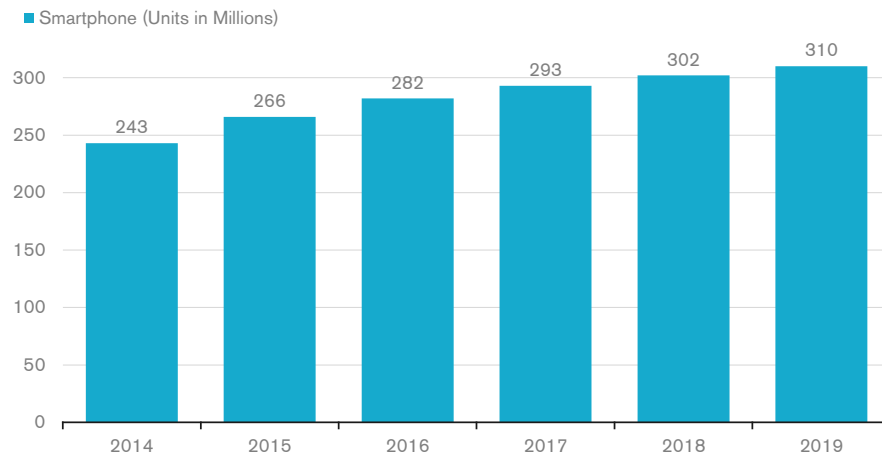
### Rise of Online Marketplaces

The shift to mobile is rewarding marketplaces where shoppers can simultaneously buy from multiple categories, such as Alibaba's Tmall, Taobao and Amazon. Retailers in China, where almost half of the world's 3 billion internet users are located, may boost their online sales under e-commerce giant Alibaba's initiatives to collaborate more with brick-and-mortar companies. Store profit, which declined over the last two years, may recover if sales increases exceed the costs of perks used to lure online shoppers, such as full refunds, best-price guarantees and shipping subsidies.

Online retail margins may gain if shoppers are willing to pay more for distinct items on sale via the mainland's e-commerce platforms. Retailers may be able to sell differentiated online items at higher prices as Alibaba and JD.com ease discounting. The reduced emphasis on discounting and greater focus on product quality by major e-commerce platforms during the 2016 Singles Day shopping festival, when sales surged 32% to a record 120.7 billion yuan (\$17.8 billion), may have lured less price-sensitive shoppers.

Wal-Mart, the world's largest brick-and-mortar retailer, is also tapping into China's online marketplaces, opening a Sam's Club on JD.com before Singles' Day with a 10-day free membership trial. Wal-Mart is increasing its focus on Sam's Club for store openings in China. JD.com's traffic surge on Nov. 11 can help Sam's Club accelerate member recruitment and expand its reach, especially to regions with no physical stores or e-commerce presence. Customer data collected through JD.com could guide future store openings.

### Installed Mobile Base in the U.S.



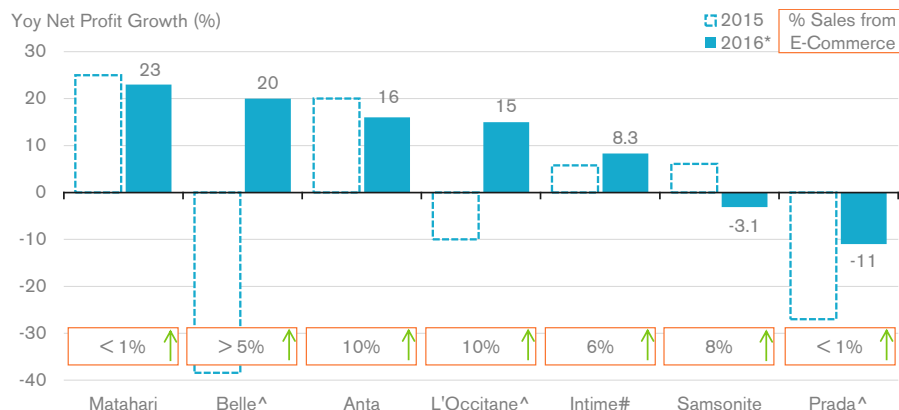
Source: IDC

### Rising China E-Commerce Tie-Ups

Date	Department Store / Shopping Mall	Stock Code	E-commerce	Stock Code	Collaboration Overview
Jun 4 14	Intime	1833 HK	Alibaba	BABA US	An 80/20 joint venture to develop an O2O business relating to shopping malls, department stores and supermarkets in China.
July 15	Beijing Wangfujing	600859 CH	JD.com	JD US	Integrated JD.com's payment platform, called jdpay.com (previously Chinabank Payments) at its stores.
July 15	Parkson	3368 HK	Dianping.com	N/A	To develop an O2O platform with Tencent-backed, Yelp-like Dianping. Dianping has linked Parkson stores to its e-commerce platform, including payments.

Source: Company Filings, Bloomberg Intelligence

### Luxury Goods China E-Commerce Profit Growth



\*Based on consensus estimates; #Exclude gains from asset disposals and fair value realization.

^For the fiscal years ending 2016 and 2017;

Source: Company Filings, Bloomberg Intelligence

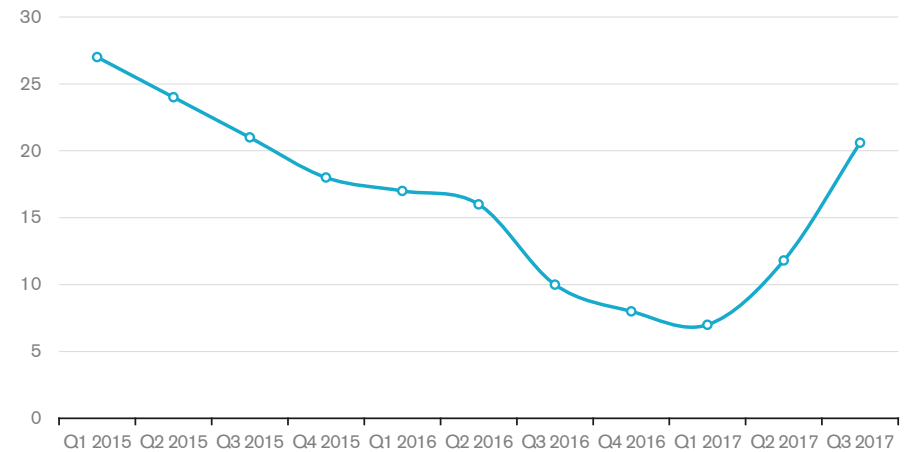
Wal-Mart is unlikely to quickly topple Amazon.com's dominance back home but may bridge the gap by doubling its large e-commerce distribution centers to 10 by year-end. Wal-Mart's online sales rose 7% in the fiscal first quarter and 12% in the second quarter, with a goal to reach a three-year compound annual growth rate of 20–30% by 2019. This level of growth is off a small base compared to its annual sales of more than \$480 billion, underscoring the need to keep in-store productivity and operations strong.

Wal-Mart's growing number of e-commerce distribution centers facilitates package consolidation and shorter travel distances, cutting shipping costs, and puts the retailer's \$50 Shipping Pass more in-line with Amazon's two-day free shipping for Prime members. The Jet.com purchase brings algorithms to Wal-Mart that can't easily be replicated by Amazon and provides customers with transparency into how they can lower costs.

### Luxury's Online Momentum

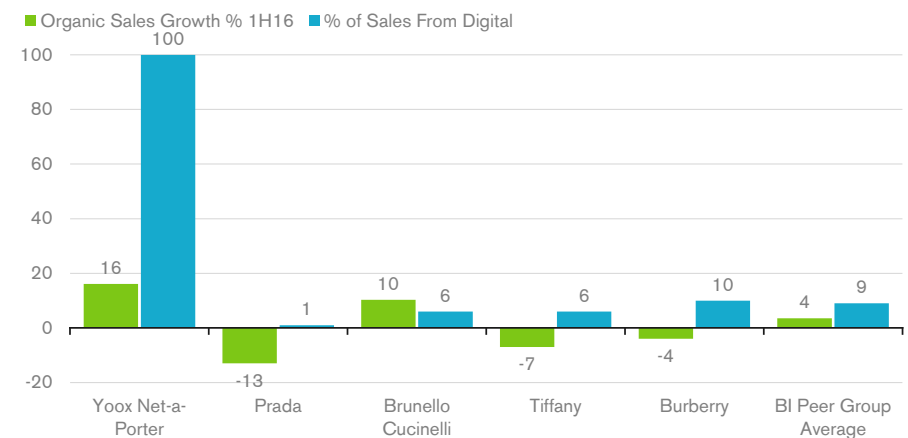
Digital luxury-goods sales have expanded at a double-digit pace in 2016 versus 3.5% growth for the overall luxury market. Online sales account for about 9%, but should continue to rise by double digits through the rest of the decade, based on industry estimates. Beauty brands are more advanced, with growth in makeup and hair care driven by millennials. Global beauty companies have adopted live-streaming platforms to reach brand-savvy, fashion-driven audiences and luxury goods could follow.

### Wal-Mart's Global Online Sales Growth (%)



Source: Company Filings

### Organic Sales Growth vs. Digital Exposure



Note: The percentage of sales from digital for the BI peer group is based on industry sources.

Source: Company Data, Bloomberg Intelligence

### Luxury Goods Makers and App Use

Brand Owner	Brand Name	Mobile Application	Shop Through Mobile App (UK)	Mobile Web Browser	Shop Through Mobile Web Browser (UK)
LVMH	Celine	No	No	Yes	No
LVMH	Louis Vuitton	Yes	Yes	Yes	Yes
Kering	Gucci	Yes	No	Yes	Yes
Kering	Bottega Veneta	No	No	Yes	Yes
Richemont	Cartier	Yes	No	Yes	Yes
Richemont	Montblanc	No	No	Yes	Yes
Swatch	Omega	Yes	No	Yes	No
Swatch	Tissot	No	No	Yes	Yes
Hermes	Hermes	Yes	No	Yes	Yes (limited offer)
Tod's	Tod's	No	No	Yes	Yes
Brunello Cucinelli	Brunello Cucinelli	No	No	Yes	Yes
Moncler	Moncler	Yes	Yes	Yes	Yes
Burberry	Burberry	Yes	Yes	Yes	Yes
Salvatore Ferragamo	Salvatore Ferragamo	No	No	Yes	Yes
Mulberry	Mulberry	Yes	Yes	Yes	Yes

Source: Bloomberg Intelligence, Brand Data

## CONSUMER STAPLES

# Inflation Return May Challenge Consumer Staple Margins

Global Consumer Staples Team

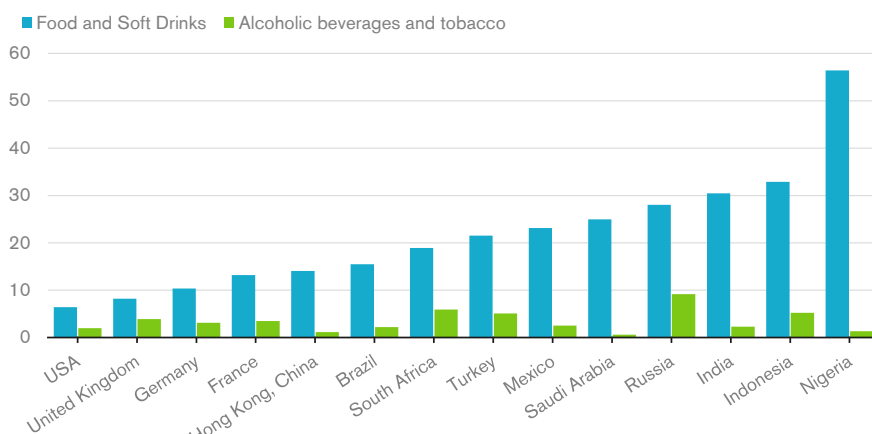
Inflation and currency volatility will test the strategies of consumer staples companies in 2017. They may need to decide whether to raise prices or maintain volume as input costs increase. Companies that have invested in their brands and offer a unique proposition will be better able to weather these challenges. Heritage and craft may continue to be the key words for top-line success, though this doesn't guarantee margin growth.

## Inflation Means Innovation

Inflation isn't bad for consumer companies as it should encourage innovation. This should allow pricing points to be raised, and volume and margins to also improve. Rapid increases of input costs, potentially exacerbated by currency-inflated costs, can dent consumer confidence and be difficult to pass through to shoppers. This is particularly relevant in emerging markets, where a high proportion of disposable income is spent on necessities. Managements may need to decide between sales or margin growth in the short term, though millennial consumers' desire for heritage and craft could help businesses such as personal care and alcoholic spirits due to their strong innovation.

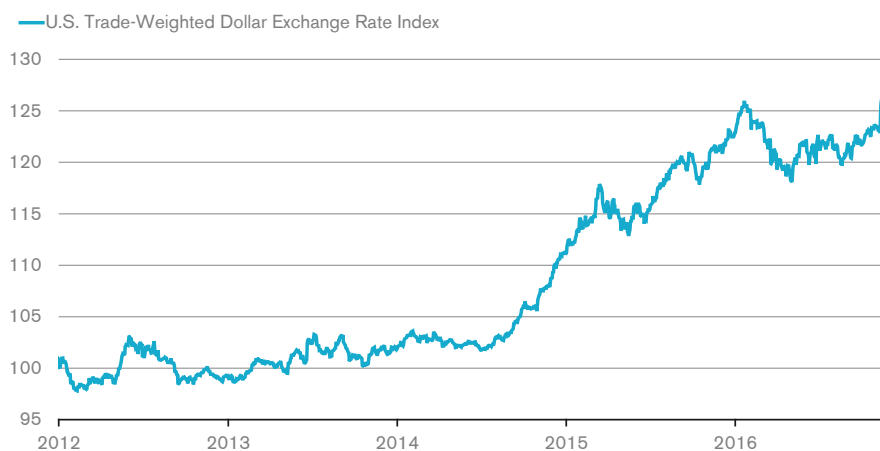
Currency volatility has influenced consumer staples growth rates ever since Ben Bernanke signaled that U.S. interest rates may start to rise. Over that three-year period, companies with emerging-market exposure have had to raise prices as input costs increased. Many companies have reformulated their offerings to adjust to the new "normal," and may be well equipped if there's further currency volatility. If rates are more stable, then companies with large emerging-market exposure may again see organic growth pick up.

## Share of Disposable Income Spent on Food and Drink



Note: Gross margin (%) for global valuation peer group per industry.  
Source: Company Filings, Bloomberg Intelligence

## U.S. Trade-Weighted Currency



Source: Bloomberg

Input costs had already started to increase, particularly oil and soft commodity costs, prior to general inflation expectations rising. This will have a bigger impact on certain categories; soft commodity price hikes for food manufacturers may have to pass through quickly, while segments such as personal care, spirits and tobacco have more pricing flexibility due to the nature of their product. High food prices, though, can subdue demand elsewhere in some emerging markets.

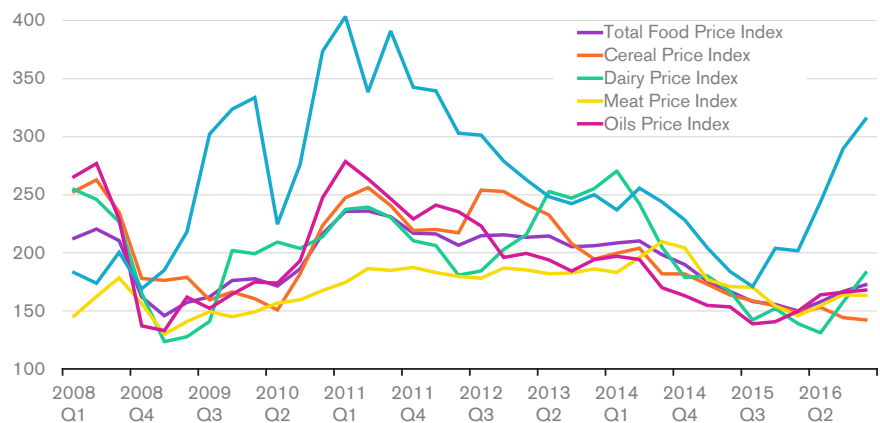
### Private Label Aids Margins

Retailer knowledge of manufacturers' cost bases will mean that categories with high private-label penetration may find raising prices difficult. If raw material prices and wage costs continue to increase, this could make life tough for food manufacturers as many of their categories, along with bottled water, have a large private-label presence. Gross margins may come under pressure.

Value doesn't have to mean low prices. Heritage and craft are words that dominate millennial consumers' wish lists. If companies can supply this, pricing becomes less relevant. Spirits makers have used the current "cocktail" culture to spur innovation, and volume and pricing have responded well. Companies with poorly constructed innovation pipelines may struggle to connect with consumers and find gross-margin development difficult.

Organic growth is likely to remain challenging as 2017 progresses. Inflation may be "jam tomorrow" for some sectors where input prices rise, though it could also be an opportunity to get back to innovation helping improve list prices. Some companies have continued to invest heavily during the tough economic times and seen consistent volume growth; they'll likely fare better than peers. Companies that have concentrated on pricing alone may again need to address their cost base to deliver bottom-line growth.

## Key Global Soft-Commodity Indexes



Note: Quarterly average calculated based on monthly Index.

Source: FAO Food Price World Index, Bloomberg Intelligence

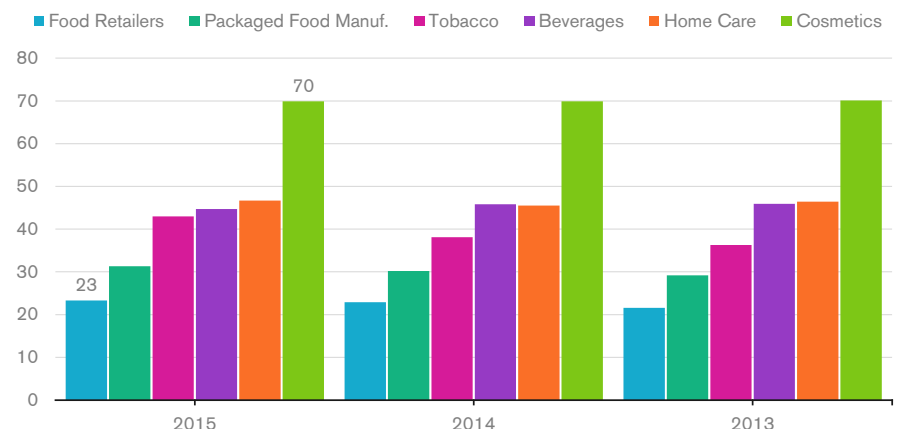
## Private Label Penetration in Consumer Staples

	West Europe	East Europe	North America	Asia
<b>Food Market (Overall)</b>	27	8.1	16	3.8
Processed Fruit and Vegetables	48	11	16	6
Processed Meat and Seafood	47	10	30	4
Ready Meals	43	5.2	12	29
Confectionery	12	4.0	2.6	0.3
Baked Goods	10	4.7	15	4.3
Baby Food	2.5	0.2	5.0	0.0
<b>Soft Drinks &amp; Tobacco</b>				
Bottled Water	24	11	38	0.6
Carbonates	18	5.7	7.3	0.1
Smoking Tobacco	6.4	–	0.9	–
<b>Beauty &amp; Personal Care</b>	7.3	2.5	4.0	0.7
<b>Home Care</b>	17	4.4	6.4	0.7

Note: Selected categories, based on Retail Value RSP data. Private label market share (%) for Food is preliminary for 2016. For the other segments, private label share is as of 2015.

Source: Euromonitor Passport, Bloomberg Intelligence

## Gross Margin, Consumer Staples Categories



Note: Gross margin (%) for global valuation peer group per industry.

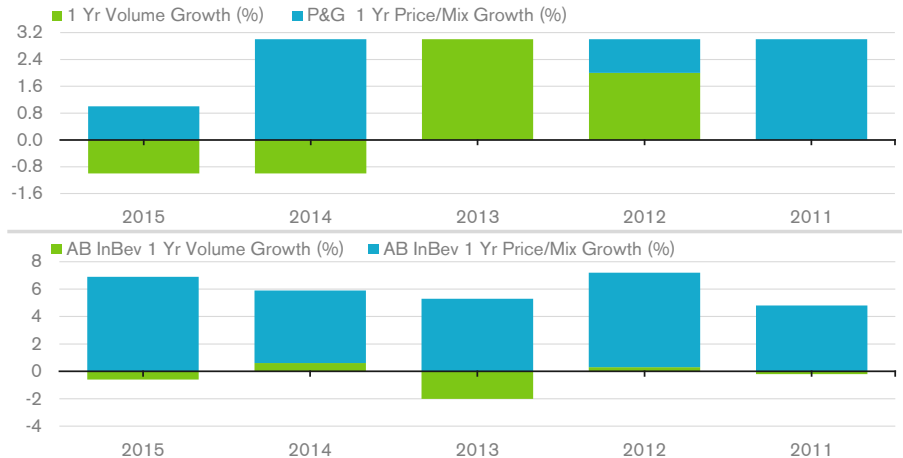
Source: Company Filings, Bloomberg Intelligence

### Zero Based Budgeting Savings

Zero-based budgeting is now normal within consumer staples. These savings can be used to either meet current earnings expectations or repay debt built up over the last few years on deals or invested in brands to spur organic growth. AB InBev and Kraft Heinz are examples of companies delivering cost savings year after year, though consistent volume declines may necessitate this. Efficiency is crucial, but possibly more of these savings should be invested into driving long-term volume growth. One cost that should not be cut is advertising spending. While this can deliver results in the short term, cuts here may lead to longer-term margin declines given the emotional attachment to brands.

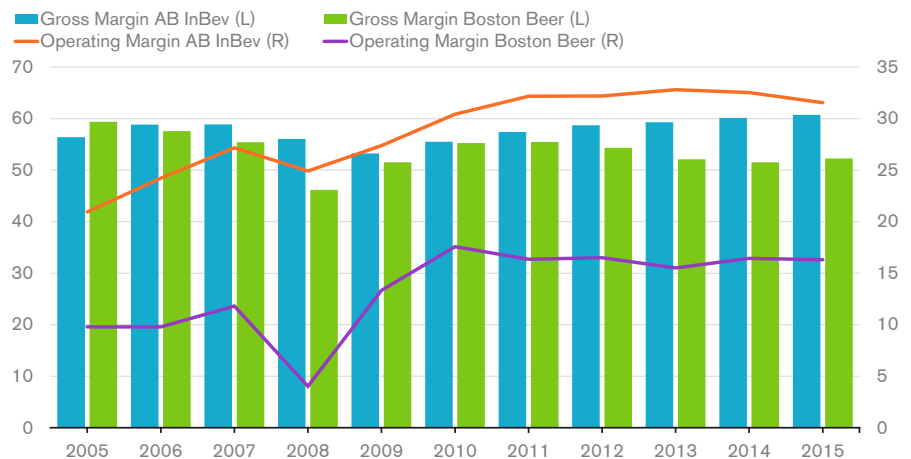
Companies that have continued to invest in their branded portfolios, such as personal-care companies, have seen positive organic sales growth. But this may not always lead to better margins. Craft beer has been the main growth driver in that category, but margins are lower than those of AB InBev's mainstream offerings. Getting the balance of growth and margins right in 2017 will be management's key challenge.

### Pricing Initiatives Affect Volume



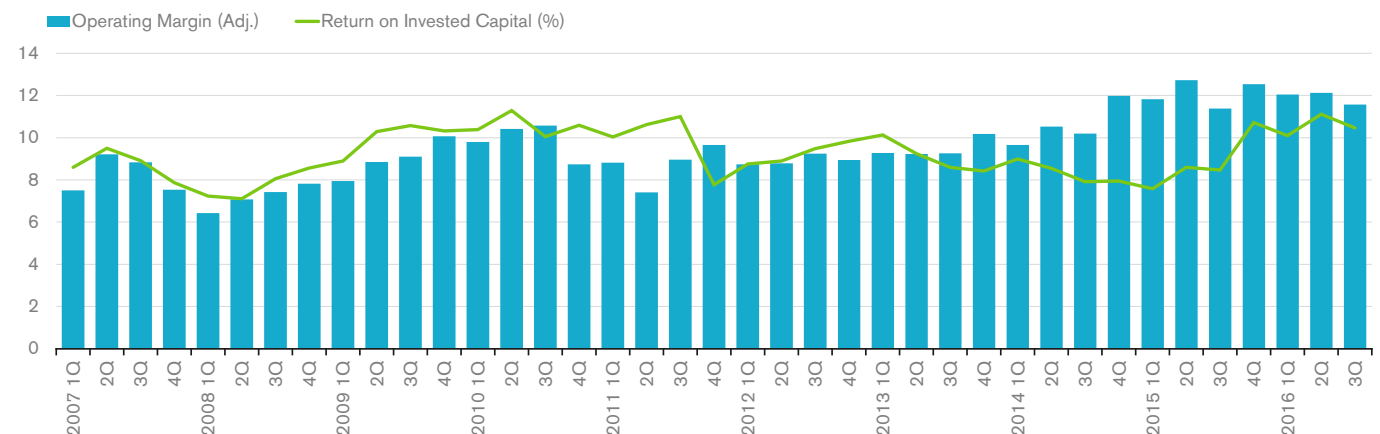
Source: Company Filings, Bloomberg Intelligence

### Difference Between Craft, Traditional Beer Margins



Source: Company Filings, Bloomberg Intelligence

### North American Packaged Food Margin, ROIC Trends



Note: Average for the BI North America packaged food peers.  
Source: Company Filings, Bloomberg Data, Bloomberg Intelligence

## FINANCIALS

# U.S. Policies, Digital Disruption May Be Key for Financials

Global Financials Team

Potential U.S. policy changes — monetary, fiscal and regulatory — may be critical to stock performance for companies in the global financial services industry, as changes may influence profitability in 2017 and beyond. Amid potential cyclical shifts, digital disruption is the broader secular change under way, and further progress is likely. Global financial stocks signaled optimism with a 6.6% jump in the week after the U.S. presidential election.

## Trump, Brexit Uncertainty

Expectations for lower taxes, less regulation and higher growth were reflected in a sharp bond sell-off after Donald Trump's U.S. presidential victory. Sustainability of the long-term interest rate move is a key question given that expectations have fallen during each year of the last decade except 2013. Hurdles to sustained higher expectations in 2017 will include the risks to economic growth from rising interest rates and Republicans' reluctance to approve much larger budget deficits. A projected breach in the debt limit in March will test oaths to further cut deficits after a drop to 3% of GDP in the third quarter from the recession-induced 10% in the fourth quarter of 2009.

Regulatory uncertainty arising from Trump's election and the U.K.'s vote to leave the EU will extend into 2017. Political instability may worsen with a wave of national elections across Europe.

EU regulators are finalizing MiFID II as its start date looms. Dodd-Frank will be scrutinized in the U.S., though full-scale changes are unlikely and odds of targeted relief much higher. The idea of higher capital requirements for less regulation may be a starting point, affecting the largest banks most. Smaller banks have greater chance

## Trump Stock Moves

### U.S. Bank, Insurer, Asset Manager Post-Trump Jump

Select Indices	8-Dec	1-Week Change	1-Month Change
US Generic Govt 10 Year Yield	2.41%	+36 bps	+55 bps
MSCI World Financials Index	108	6.6%	13.5%
MSCI ACWI Index	423	-0.2%	2.9%
BI North America Large Regional Banking Valuation Peers	137	15.5%	25.9%
BI Global Investment Banks Competitive Peers	41	14.6%	27.7%
BI North America Life Insurance Valuation Peers	198	12.8%	17.6%
BI Global Large Investment Management Valuation Peers	139	8.4%	15.5%
BI Europe Life Insurance Valuation Peers	115	4.6%	10.5%
BI Europe Banks Top Competitive Peers	217	3.5%	10.9%
BI Developed Asia Banks Valuation Peers	111	2.9%	8.7%
BI Asia Pacific Life Insurance Valuation Peers	126	0.9%	7.2%
BI China Real Estate Owners and Developers Valuation Peers	123	-2.3%	1.1%
BI Europe Regional Banking Europe CEE Competitive Peers	93	-5.0%	-2.8%
BI ASEAN Banks Valuation Peers	81	-5.3%	-2.7%
BI Latin American Large Cap Banks Valuation Peers	82	-12.5%	-9.9%

Source: Bloomberg Intelligence

of regulatory relief. Asset managers may face fewer new regulations and a weaker retirement account rule, which may also aid wealth managers and life insurers.

## Digital Transformation's Promise

While U.S. policies may be key to the global financial industry's performance in 2017, digital transformation promises longer-term structural change for banks, fintech providers and insurers.

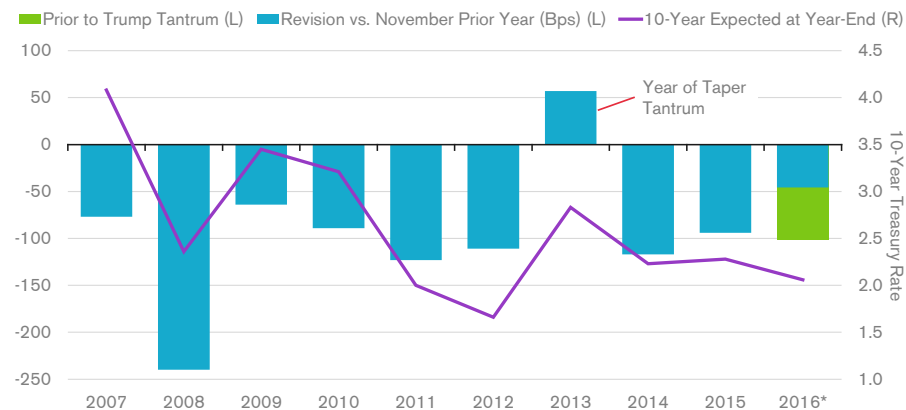
Digitization is transforming financial services, with the potential for “modularization” to redistribute \$1 trillion of \$5.7 trillion in global revenue, Oliver Wyman estimates. Unbundled transactions and greater price transparency may drive steeper competition along the value chain, as startups and incumbents invest to expand business and cut costs.

The potential savings are significant: A typical U.S. bank can improve its efficiency ratio by seven percentage points by streamlining distribution and go-to-market strategies, based on a McKinsey report. This compares with the 58-59% ratio for larger U.S. banks. Digital-banking metrics are increasingly tracked across banks globally as signs of success. In emerging markets, Brazil’s Bradesco notes that internet transactions cost less than 10%, and mobile less than 5% of similar branch transactions. Itau’s share of traditional channel transactions fell to less than 30% in early 2016 from 74% in 2008. In Poland, Zachodni’s digital-customer base has risen to as much as 50% of clients.

**Mobile Payments Expand**

A few key fintech initiatives will be closely watched in 2017, as providers and banks seek to gain traction among consumers by leveraging their brands

**Revision vs. November Prior Year**



\*2016 is year-end estimate as of Nov. 30, 2016. Source: Bloomberg Intelligence

**Brazilian Banks’ Transaction Channels**

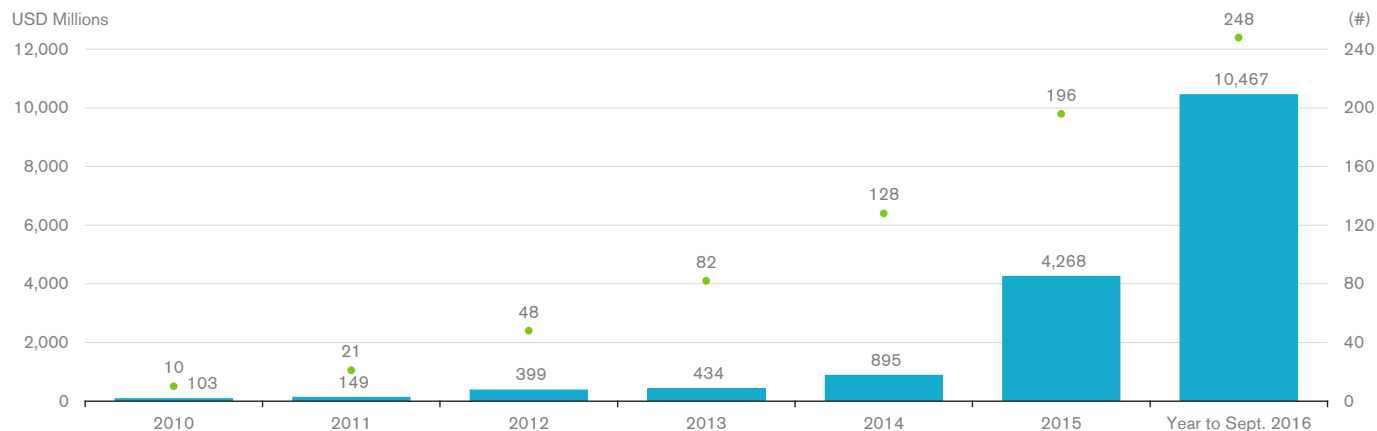
	Mobile	Internet	ATM	Branches	Others
Bradesco	38%	38%	15%	3%	6%
Banco do Brasil	37%	27%	19%	4%	14%
Itau	20%	51%	18%	8%	3%
Santander Brasil	19%	53%	14%	7%	7%

Source: Company Data

and budgets. PayPal is rolling out Venmo to online merchants in a bid to generate revenue from the popular peer-to-peer payments app. The major banks’ peer-to-peer service, renamed Zelle, has struggled.

Online lending hit turbulence in 2016, prompting downsizing across startups as banks evaluated their business models. Goldman Sachs launched Marcus, its online consumer lender, while JPMorgan

**Investment in Asia-Pacific Fintech on the Rise**



Source: Accenture Research analysis on CB Insights data

Chase teamed with small-business loan platform On Deck Capital. Mobile-device payments in U.S. stores have been slow to take off, but PayPal's agreement with Visa, MasterCard and card issuers may change this.

In China, Alipay, the world's largest mobile-payment company, should maintain its rapid growth. While PayPal relies on existing payment networks and banks, Alipay and others in China operate independently of the state-owned network and banks.

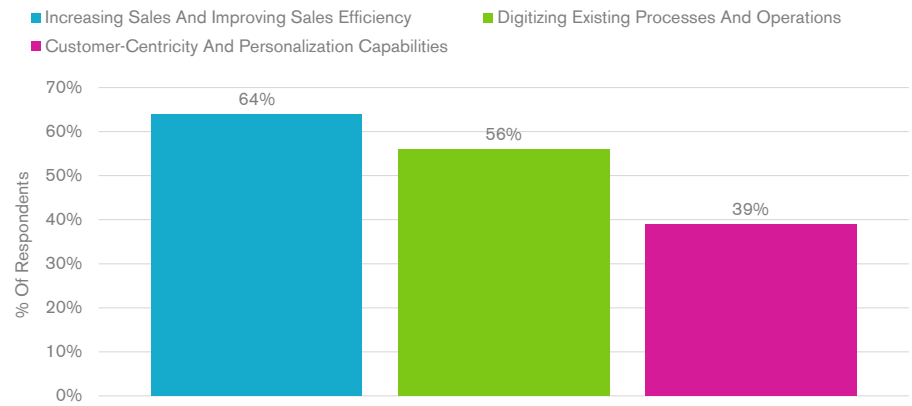
India's smaller fintech market may more than double by 2020 from \$33 billion in 2016, estimates Statista. Government support via funding and tax relief, and its clampdown on the cash economy, may quicken development of mobile payments and e-channels. Helped by PayTm, Freecharge and Mobikwik, payments and mobile wallets have led India activity, as lending expands more slowly. Southeast Asia has seen relatively lower fintech adoption, but is likely to move in that direction in the next few years.

### Insurers Chase Lower Costs

Investments in digital technology also promise to transform the way in which insurers transact business and interact with clients. As with banks, this has the potential to dramatically reduce costs. Digitization could result in savings of up to 65%, with a 90% reduction in the turnaround time of key processes, a McKinsey study found. To capitalize, insurers must invest heavily in modernizing IT systems. Average spending on digital innovation equates to only 0.2% of insurance premiums, according to a survey by Accenture, and is focused on increasing sales and improving sales efficiency rather than building a customer-centric experience.

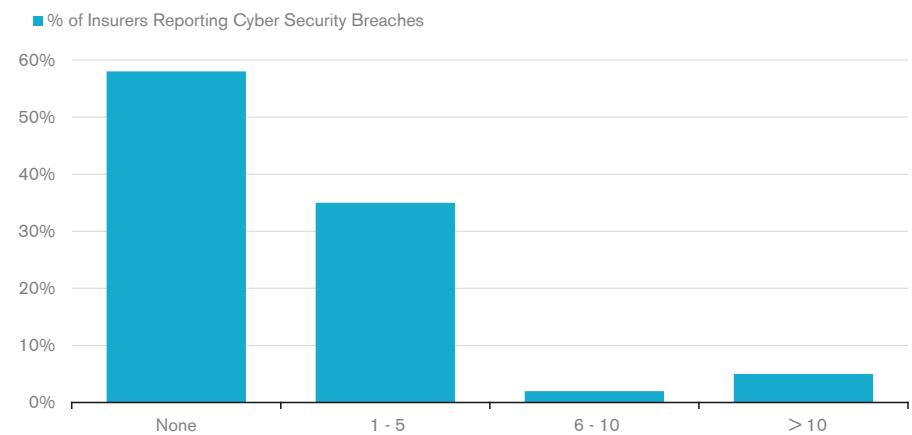
For auto insurers, digitization may enable more accurate risk pricing, with mobile apps enabling the monitoring of driving habits. More sophisticated telematics technology

### Insurers' Digital Investment Focus



Note: Survey based on 141 insurers in Europe (76%), the Americas (21%), Africa (1%), Japan (3%)  
Source: Accenture, Bloomberg Intelligence

### U.S. Cyber-Security Breaches (Past 3 Years)



Source: New York State Department, Bloomberg Intelligence

can either be installed in a car by an insurer or built in by the manufacturer. Yet the increased data collection is likely to bring insurers into conflict with planned data-privacy legislation.

Robotics is another area changing the way insurers work. In the U.K., Zurich Insurance is using cognitive automation to process medical reports. It cuts the time spent on each report to 5 seconds from 58 minutes, operates 24/7 and reduces leakage through standardized decision-making. Zurich estimates the technology will generate 39,000 hours a year of freed-up capacity.

### Cyber Crime's Silver Lining

Digitization brings opportunities as well as concerns, including shifting of risk to the end-consumer, regulatory arbitrage, misconduct and data security. An increasingly digitally connected world may raise cyber-crime risks for insurers and their clients.

The cloud does have a silver lining, though: Demand for cyber protection is giving rise to new insurance products and has become one of the fastest-growing areas of the insurance market.

## TECHNOLOGY

# Clout of Clouds, AI, Virtual Reality Rising

Global Technology Team

Adoption of the public cloud is driving change in the technology sector. Subscription cloud delivery of software and infrastructure provides lower upfront costs, shorter deployment times and greater security. Vendors can deploy new features with minimal disruption, forcing changes to the business models of software and hardware companies. Artificial intelligence and virtual reality are new disruptive products enabled through the cloud platform.

## New Products = New Models

Legacy software companies have had to change their business and product delivery models. On-premise license sales for most legacy software vendors are declining as they work to protect their share against cloud companies. Even with high margins and stable cash flow, these companies are pushing their products to the cloud, offering incentives, supporting open-source initiatives and even selling pay-per-use models.

Hardware makers continue to struggle for relevance amid changing customer segments, technology and subscription models. Server and storage architectures are being upended, affecting pricing and margins. Growing public cloud companies are expanding their low-priced, non-branded, specialized system and component purchases. IT budgets geared toward traditional self-managed and outsourced systems will shrink rapidly as clouds of every variety — self-managed or hosted, public or private — expand. Cloud IT infrastructure spending is growing 14% annually and will reach \$56.7 billion, or 45% of total infrastructure spending, by 2019, according to IDC.

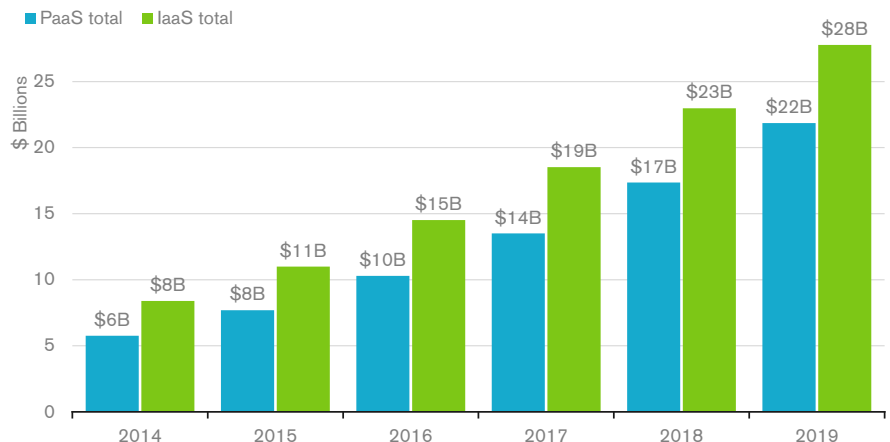
## Public vs. Private Cloud



- Publicly shared resources used by multiple customers
- Shared infrastructure via host
- Customers generally pay per usage
- Easily scalable
- Limited control, not responsible for management

- Dedicated resources to a single customer
- Can control/customize based on unique needs
- Customers pay for infrastructure
- Potentially more secure due to non-shared resources

## Platform, Infrastructure-as-a-Service Revenue



Source: IDC

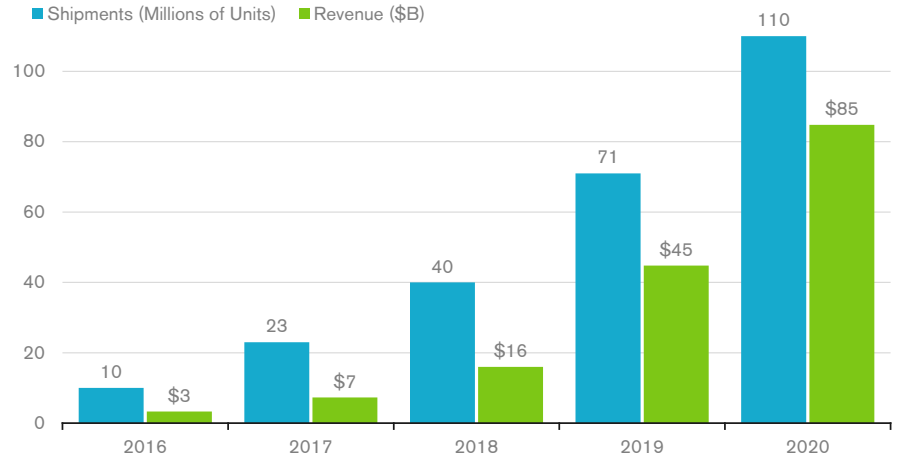
## Cloud Gaining Dollars

Returns on investment of cloud models, security, hardware and software cost savings remain primary metrics of cloud adoption. Traditional IT companies such as Hewlett Packard Enterprise, Dell, EMC and IBM have seen their share of corporate information technology budgets shrink, diverting dollars to vendors such as Amazon, Google and Microsoft. Spending on non-cloud infrastructure may decline almost 2% annually through 2019. IT services aid the transition, which may favor hybrid clouds at first.

Amazon remains a disruptor to the legacy IT food chain with its on-demand, pay-per-use IT infrastructure services. Its basic compute and storage services have expanded to include analytics and databases. Microsoft's "hybrid" cloud appeals to larger transitioning corporate clients. Google is also selling cloud services to diversify away from ad revenue, having built scalable systems for its search business.

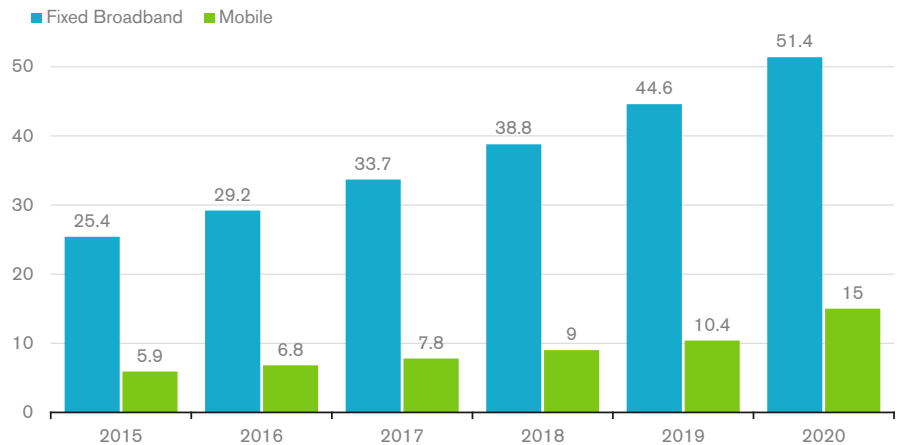
Public-cloud companies likely spend more on R&D or acquisitions to enhance the security features of their products and services than do pure-play security software companies and most internal IT departments of global corporations.

## VR/AR Revenue and Hardware Shipments Forecast



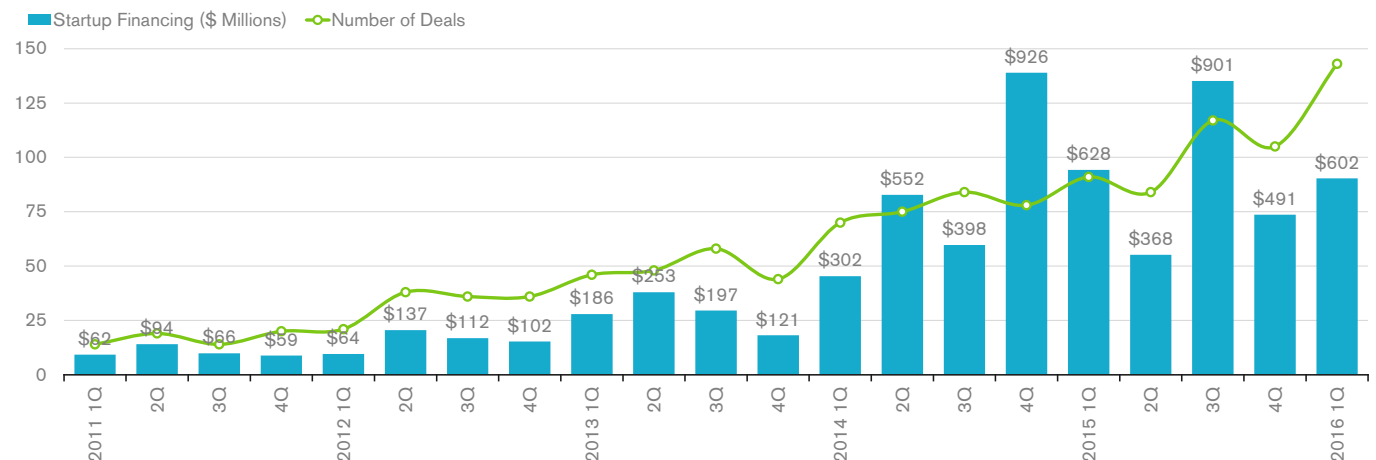
Source: IDC

## North American Bandwidth Speeds



Source: Cisco VNI Report

## Artificial Intelligence Startup Funding



Source: C.B. Insights

### Virtual Reality: Next Big Thing

Computing's next big thing, virtual and augmented reality, may take four to five years to mature, with a system's \$1,500 price tag being only one factor determining its inflection. The ecosystem around virtual content and services needs to evolve for its creation and distribution to work seamlessly. Internet speeds, headset designs, graphics power and the next console cycle will be key catalysts. The convergence of virtual and augmented reality devices could however push this nascent market to eventually replicate PC, smartphone or tablet volumes. Sony's PlayStation Virtual Reality may be 2016's hottest gift, and gaming console lifecycles may shorten to include the new features.

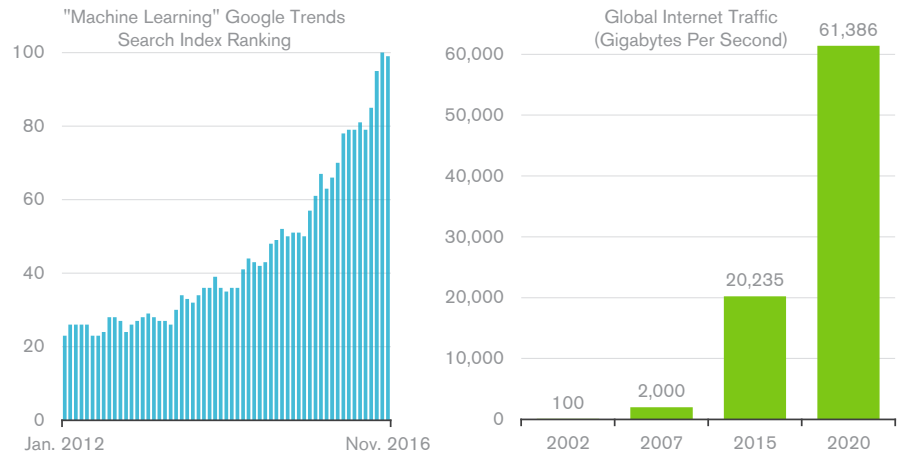
### Artificial Intelligence Disruption

Artificial intelligence software solutions will likely be the top disruptor in technology in the next decade, similar to smartphones and the cloud. Software's ability to self-learn by processing data may spur consumer and enterprise applications. Companies embracing AI may get a competitive edge; ones that don't run the risk of being phased out. The technology is nascent, but the pace of innovation and disruptive potential of startups will accelerate as computing costs shrink and machine-learning algorithms advance.

Cloud computing and machine-learning algorithms have fueled the jump in AI solutions. These technologies help interpret exponentially rising volumes of data. Interest in the technology has accelerated since last year, along with investments. Amazon, Google and Facebook's use of AI shows its potential competitive edge, but advancements are behind the scenes and make it difficult to gauge the pace and urgency of innovation. Clouds can also help deliver AI tools to clients and drive monetization.

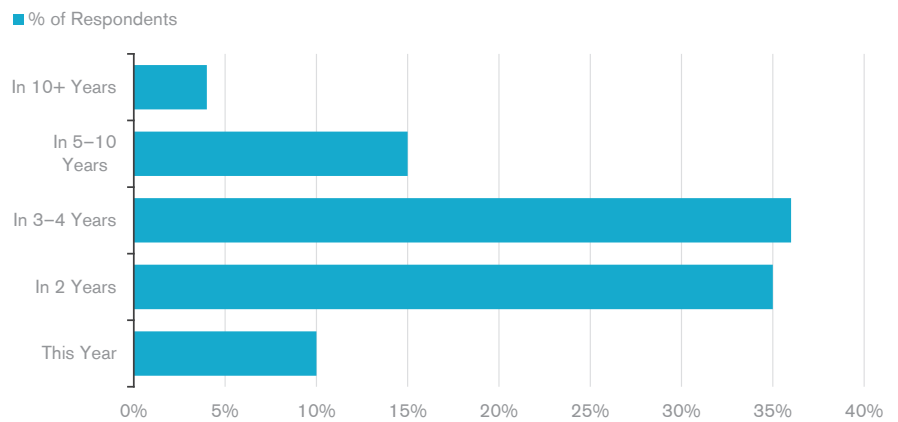
Finance, insurance and internet services may be among the first industries to be disrupted by AI. Machine learning and deep reinforcement learn to identify patterns and are easily applied in data-rich verticals.

### Machine Learning Google Trends Search Index Ranking



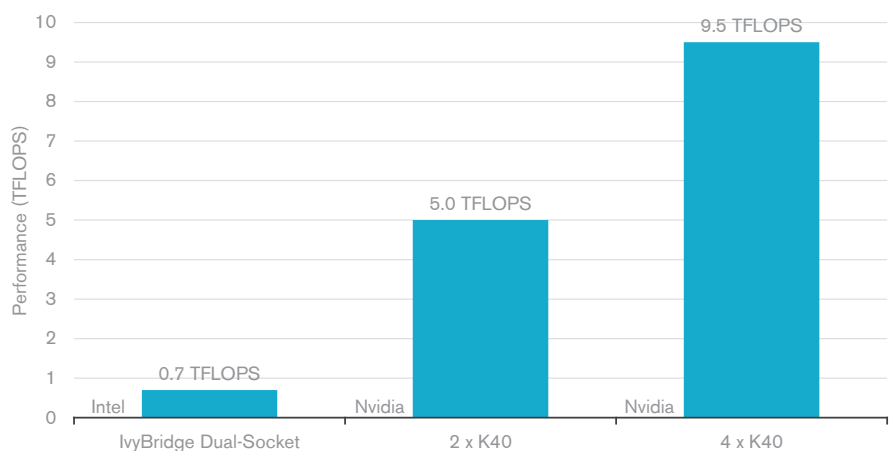
Source: Google, Cisco

### When AI Will Significantly Impact Businesses



\*Survey of 74 European Executives

### Performance Benchmark for Machine Learning



Source: Nvidia

## GOVERNMENT

# Trump, Brexit Mean 2017 Will Ring in Policy Shifts

Global Government  
Team

Major global policy shifts are likely. In the U.S., Republicans will enter the year with control of the presidency and Congress. Donald Trump is taking aim at the nation's trade, energy and immigration policies. Congressional Republicans will look to roll back Obamacare and Dodd-Frank, while updating U.S. telecom statutes. In Europe, Brexit negotiations and a number of elections are driving uncertainty about financial regulations.

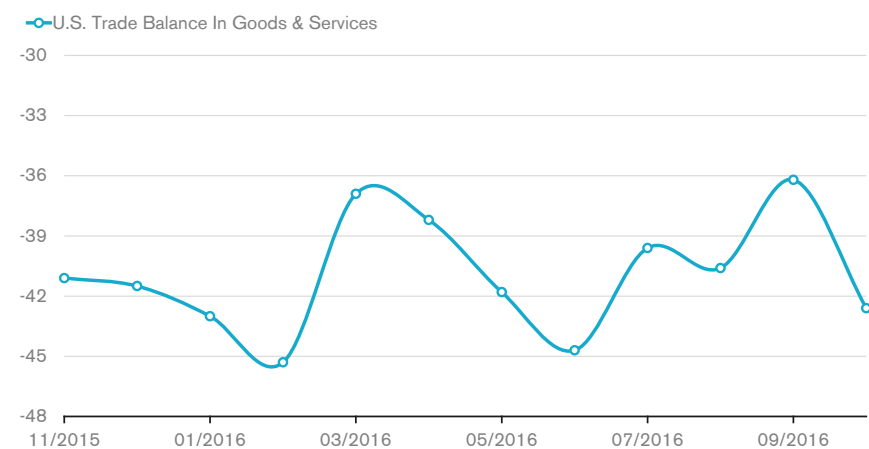
## Trade, Immigration Squeeze

Multinational companies can expect Trump to stoke trade disputes and retreat from global trade deals, reversing decades of U.S. policy dominated by liberalization. Tariffs and other import barriers are likely to rise, particularly those aimed at China or seen to prop up struggling U.S. manufacturing sectors. The Trans-Pacific Partnership is probably doomed and new trade deals are unlikely, although it's unclear whether Trump can fulfill a promise to change or exit Nafta.

U.S. Steel, AK Steel and Nucor are among companies that have sought to stem Chinese steel imports. Ford and General Motors could be exposed to a disruption of Nafta supply chains. Total is among European companies that have invested in Iran after sanctions.

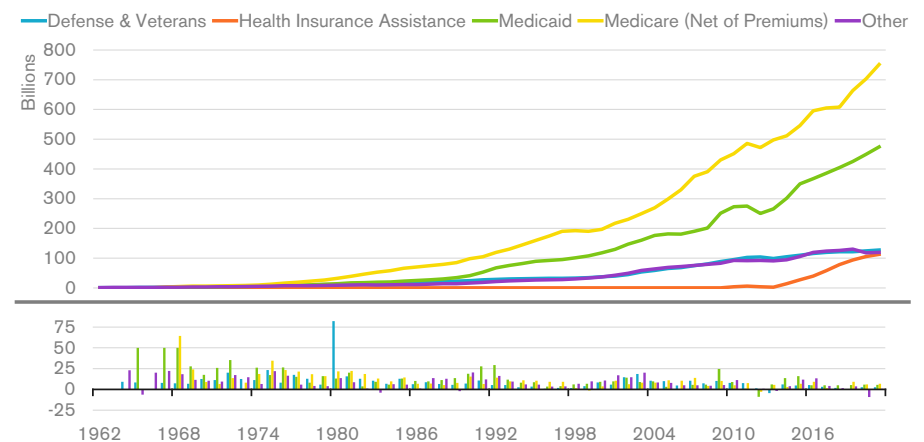
Trump will have broad authority over immigration, a campaign focal point and, like trade policy, an area where he wouldn't need Congress to make good on his promises. The impact of his policies on companies that rely on foreign-born workers will depend on whether he hews to restrictive campaign pledges, or more moderate post-election ones. Trump's pick of Jeff Sessions for Attorney General may presage a stricter stance.

## U.S. Total Trade Deficit (in Billions \$)



Source: Bloomberg

## Republican Eye Medicare, Medicaid Spending Trends



Source: Bloomberg

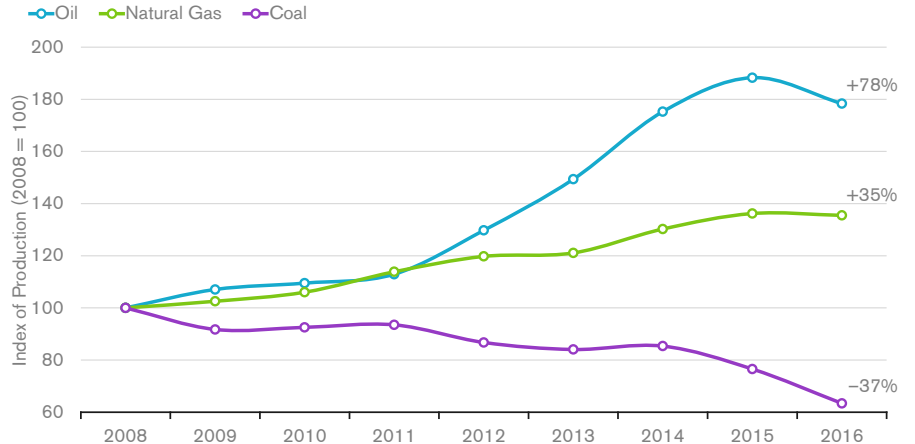
Cognizant, Tata Consultancy Services and Infosys are among the largest offshore-information technology services companies that largely rely on visas for their U.S. workforce. Reduced immigration could exacerbate labor shortages affecting homebuilders including D.R. Horton, Lennar and Toll Brothers.

**Health-Care Overhaul**

Hospital operators and health insurers could see near-term disruptions if Republicans are successful in their efforts to repeal the Affordable Care Act’s mandates and Medicaid expansion in 2017, thus transitioning the individual insurance market to their preferred plans.

Republicans may also push for major entitlement reforms, including converting Medicaid into block grants for the states and transitioning Medicare into a premium-support program. While the debate over drug pricing won’t go away, Hillary Clinton’s loss and Democrats’ inability to win Senate control may move that issue to the backburner.

**Oil, Natural Gas and Coal Production Under Obama**



Source: Bloomberg Intelligence, U.S. Energy Information Administration

Makers of drugs and devices will focus on Congress’ efforts to pass a 2017 bill reauthorizing the FDA’s user-fee programs for another five years.

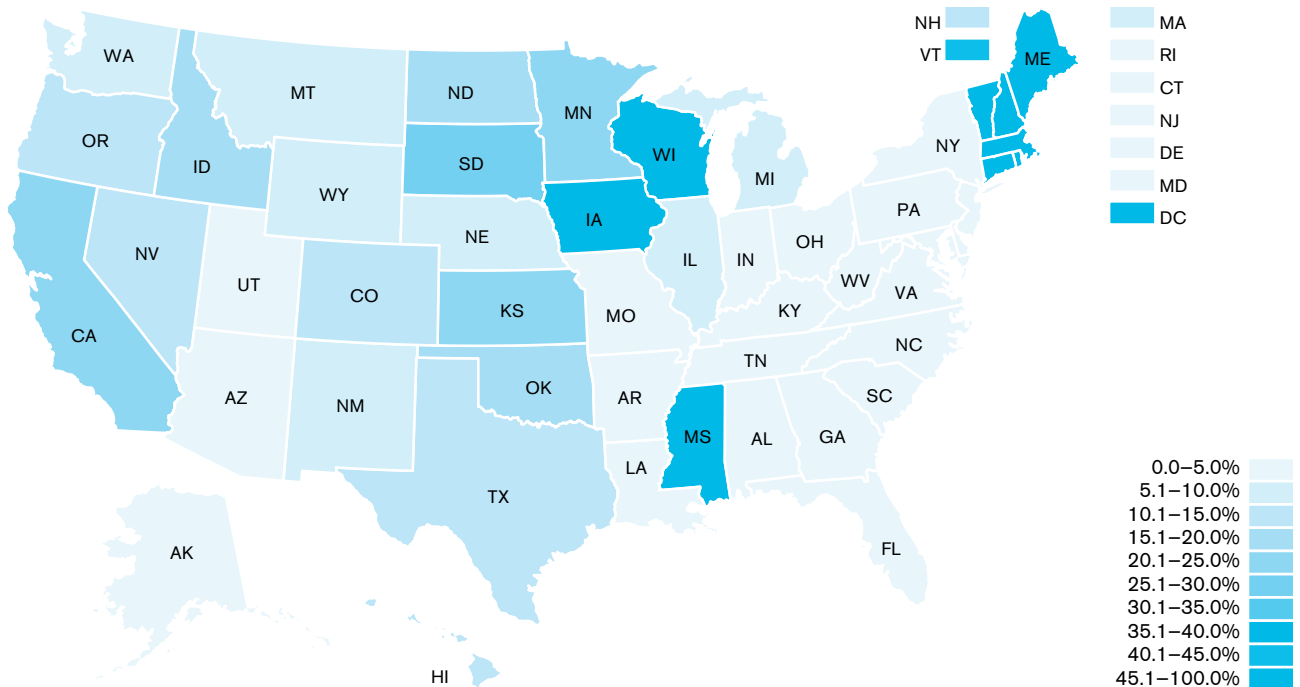
**Backing U.S.-Made Energy**

Trump wants to boost U.S. oil, gas and coal production by rolling back many of President Barack Obama’s environmental regulations. Yet a full

reversal of Obama’s policies isn’t likely because it would require Congress to rewrite the Clean Air Act — which would probably be blocked by Senate Democrats using a filibuster.

Without approval from Congress, Trump can use executive orders to instruct the Interior Department to offer more government land for oil and gas leases. Also using an executive order,

**Percent of States’ 2015 Generation From Renewables**



Trump is likely to overturn Obama's moratorium on new leases for coal mined on federal land. Peabody Energy, Arch Coal, Cloud Peak Energy, Alpha Natural Resources, Bowie Resources, Kiewit and Westmoreland Coal are the largest coal producers on federal land.

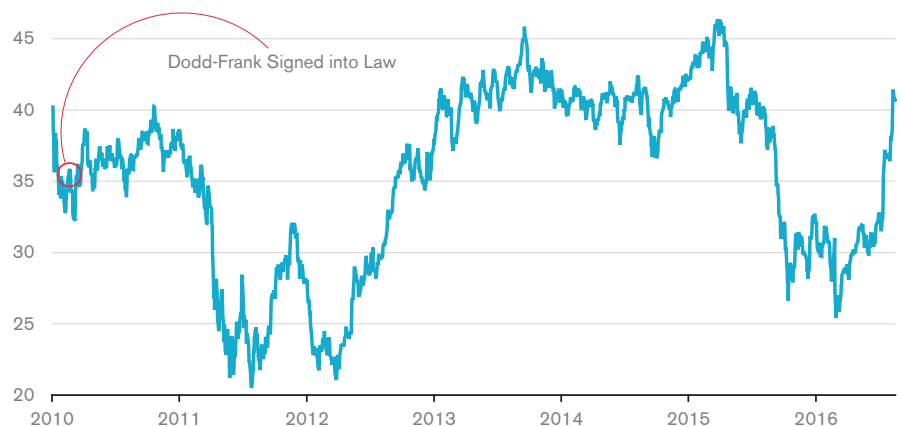
U.S. clean energy deployment is probably insulated from the fossil-fuel focused goals of Trump for at least the short term. Federal tax credits will support new projects for about four years, and Congress is unlikely to halt the credits in 2017. State incentives and mandates have been major drivers of utility wind and solar projects, and extended targets in California, New York and other states may support longer-term demand that's decoupled from federal actions. Leading equipment suppliers to U.S. renewable energy projects, such as First Solar, Trina Solar, General Electric and Vesta, may see continued demand despite a lack of new federal clean energy policy goals or policies.

Congress' effort to update the Communications Act of 1934 may finally take flight in 2017. The combination of Trump's win and Republicans' retention of the House and Senate offers the best odds in years for an update. Senator John Thune likely will continue to lead the Senate Commerce Committee, and he and key House Republicans have expressed interest in reworking the law. The effort could touch every corner of telecom and media oversight. AT&T, Verizon, Comcast, Charter and Twenty-First Century Fox are among companies that may face fewer legal limits if Congress reworks the law.

### Rolling Back Regulation

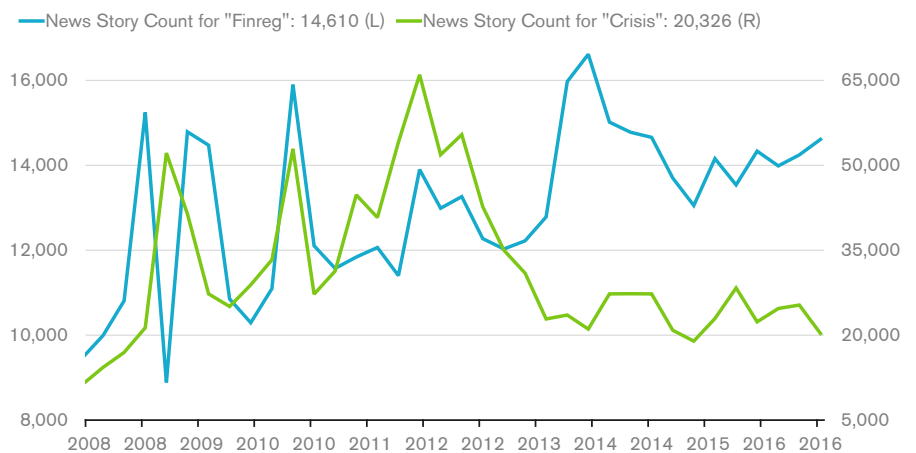
Dodd-Frank will come under intense scrutiny with Republicans having a real chance to roll back the 2010 law. Yet full-scale changes are unlikely. Without 60 Republican votes in the Senate, odds for specific, targeted relief are much higher. But that depends on whether Democrats will block all attempts at change or pick and choose areas. If Democrats negotiate, it's likely certain segments

### Investment Banks Are Up 3.3% Since Dodd-Frank



Source: Bloomberg

### Regulation vs. Crisis



Source: Bloomberg

of the financial-services industry, such as small- to mid-sized banks, have greater chances for regulatory relief.

U.S. policy makers' 2010 response to the financial crisis, the Dodd-Frank Act, has affected almost all aspects of the U.S. financial system, from banks such as Goldman Sachs and Bank of America, to exchanges CME Group and Intercontinental Exchange, along with asset managers and insurers such as BlackRock and AIG.

Political instability, and as a corollary financial-regulatory uncertainty, are bound to intensify in 2017 as Europe faces general elections and Brexit

negotiations begin. A groundswell in populist sentiment threatens the survival of the EU, and could lead to the dismantling of centralized regulation.

Meanwhile, as MiFID II market reforms gain momentum, investment firms can expect more clarity on a raft of issues including research commissions and algorithmic trading. Half of the world's financial-services companies have regional or global headquarters in the U.K. and use such bases as a gateway to access the EU's single market. HSBC, JPMorgan, Nomura, Schrodgers, BlackRock and BNY Mellon are among such companies to which MiFID II rules will apply.

## LITIGATION

# Trump Holds Ace to Leave Lasting Supreme Court Impact

Global Litigation Team

Donald Trump has an immediate chance to put his mark on the Supreme Court, thanks to a vacancy Republican lawmakers have kept open since Justice Antonin Scalia's death in February 2016. Trump's nominee is likely to restore the pro-business leaning that often defined the court when Scalia was alive. If other seats open, business may gain a decisive edge. Such a court could ease antitrust oversight, scrutinize regulation and curb litigation.

## Trump's Supreme Pick

With Scalia in the majority, the court often backed federal pre-emption, confined federal regulation, favored companies over environmental groups, and limited class actions and other lawsuits against businesses. The court could have moved in a new direction after Scalia's death, as Barack Obama's pick of Merrick Garland would have created a majority of justices nominated by Democrats, but Senate Republicans refused to consider the appointment.

The new nominee could come from a number of positions, bucking the prevalent trend of nominating a federal appellate judge to the high court. Trump's September shortlist featured judges from both federal- and state-level courts, including several who clerked for conservative Supreme Court Justices. The list indicates Trump's nominee might be a judge who doesn't sit on a federal appeals panel, or perhaps even a non-jurist. Seven of the eight current justices served on U.S. appeals courts before ascending to the Supreme Court, while Justice Elena Kagan was solicitor general. Of the federal appellate judges on Trump's list, Neil Gorsuch and Raymond Kethledge are the youngest — about the same ages as Justices John Roberts and Elena Kagan were when they were nominated.

## U.S. Supreme Court Likely to Tilt Right

### Appointed by Democrats



### Appointed by Republicans



### Ninth Justice?



Source: Bloomberg Intelligence (photos: www.supremecourt.gov)

## Trump's September Short List

Fed. Appeals Court	Fed. District Court	State S. Ct.	NonJurists
Neil Gorsuch*	Amul Thapar	David Stras*	Ted Cruz*
Diane Sykes**	Ron Clark	Don Willett	Mike Lee
William Pryor, Jr.	Lee Rosenthal	Joan Larsen*	
Raymond Kethledge*	Christopher Connor	Thomas Lee*	
Jeffery Sutton*	James Browning	Allison Eid*	
Raymond Gruender	Federico Moreno	Thomas Rex*	
Jennifer Elrod		Keith Blackwell	
Steven Colloton*		Charles Canady	

\*Former Supreme Court Clerk

\*\*Previously mentioned as a potential Supreme Court nominee by Pres. George W. Bush

Sources: Trump Campaign Website; Empirical SCOTUS; PredictIT; FantasySCOTUS; Bloomberg Intelligence

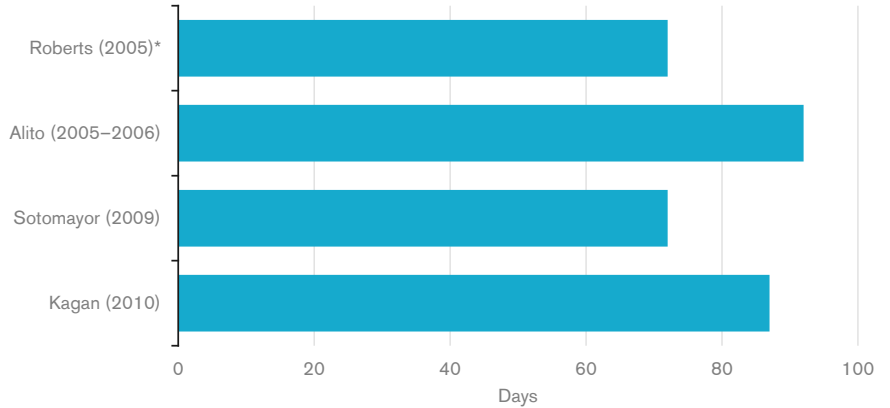
If the president-elect's nominee is to hear and decide any cases this term, Trump will have to name the justice promptly after his Jan. 20 inauguration and the Senate will need to confirm quickly thereafter. More likely, the new justice would start deciding cases in October, when the new term begins. The current term ends on April 26, and the new justice isn't likely to rule on cases argued before he or she reaches the court. The four most recent justices took about 80 days to be confirmed.

**Pro-Business Tilt**

The longevity of any shift on business issues by the high court will likely turn on whether other justices depart during Trump's term. Replacing Scalia with another conservative would preserve a slight pro-business status quo. If Trump also replaces Justices Ruth Bader Ginsburg, 83, or Stephen Breyer, 78, or another justice picked by a Democrat, business interests might gain a decisive edge that could shape the law for decades. The court would be able to overturn regulations, ease antitrust oversight, relax rules on corporate campaign contributions, and tighten procedural pathways to class actions.

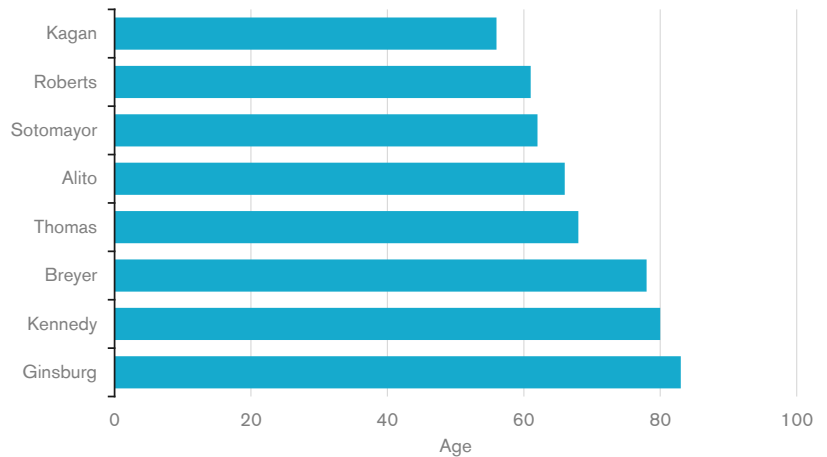
For federal agency actions, which may carry the biggest impact for business, the outlook has shifted from winning judicial support to potentially not even being defended by the U.S. government.

**Days Between U.S. Supreme Court Justice Announcement, Confirmation**



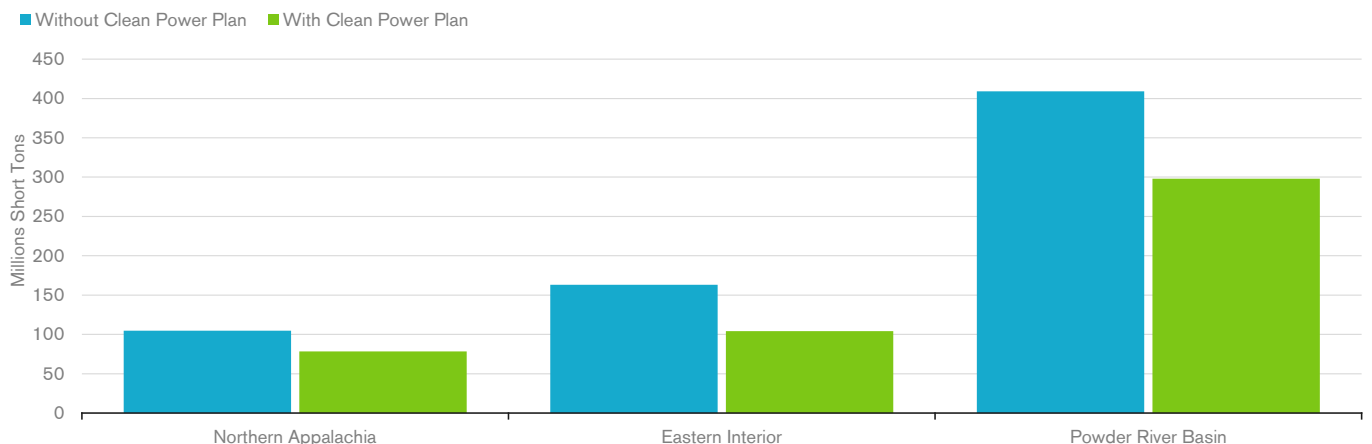
\*Roberts was first nominated July 19, 2005. On Sept. 5, 2005, he was re-nominated to be Chief Justice. He was confirmed Sept. 29, 2005  
Source: Bloomberg Intelligence

**Ages of Current U.S. Supreme Court Justices**



Source: SupremeCourt.gov

**2030 Coal Production**



Source: Bloomberg Intelligence, U.S. Energy Information Administration

The Clean Power Plan, Obama's marquee climate change rule, has good odds of surviving a lower-court battle, but not a challenge under a reconstituted Supreme Court. Net neutrality, another regulatory measure with outsized impacts on certain sectors, follows the same model. MetLife's questioning of its Systemically Important Financial Institutions tag, challenges to the Department of Labor's fiduciary rule and the constitutionality of the Consumer Financial Protection Bureau will likely fare better under a high court that includes Trump appointees if the cases get that far.

### 'Pay-for-Delay' Dissents

With the addition of one or more Trump appointees, the Supreme Court may take a more laissez-faire approach toward business conduct, leading to a pullback in antitrust enforcement. These laws are susceptible to ideological interpretation and splits along party lines. In a 2013 decision, aspects of which may be back before the high court, a majority held that pharmaceutical "pay-for-delay" agreements can sometimes violate antitrust laws. All Republican-appointed justices who took part in the ruling dissented, except Anthony Kennedy. Under a "pay-for-delay" settlement of a patent lawsuit, a branded drug's owner pays

### Select 'Pay-for-Delay' Data

Total Settlements	140	145	140
Potential "Pay-for-Delays"	40	29	40
# of Branded Drugs Involved	31	21	20
Combined Annual U.S. Sales	\$8.3 billion	\$4.3 billion	\$6.2 billion

Source: Federal Trade Commission

a generic-drug maker to delay the sale of its copycat version. Allergan, Endo, GlaxoSmithKline, Impax, Mylan, Pfizer and Sandoz are among companies that have been involved in such agreements.

### Higher Class-Action Hurdles

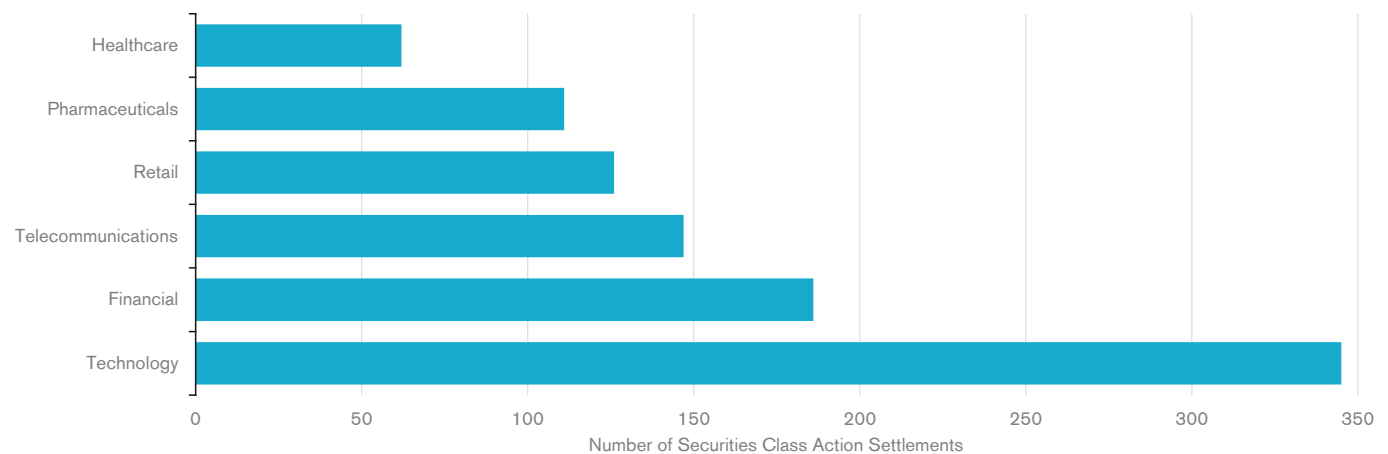
The new Supreme Court also could make it harder to sue businesses in the class-action format. Although joining with others is often the only feasible way for individuals to sue large businesses, class actions aren't a guaranteed procedural pathway and require showing that all class members face a common legal problem. Scalia often joined his conservative colleagues to make procedural hurdles higher. Trump's nominee would likely do the same. Those procedural details are important: In 2016, Dow Chemical

settled a class action for \$835 million after citing the risk of unfavorable outcomes for businesses involved in class actions after Scalia's death.

### Puerto Rico Debt Dispute

Cases defining the scope of the Puerto Rico recovery act, Promesa, are likely to make their way to the high court in coming years. Trump's pick to replace Scalia could mean the 1st U.S. Circuit Court of Appeals, the likely source of petitions to the high court, will be calling the shots. Justice Samuel Alito is likely to recuse himself from Promesa cases, so Trump's nominee, as the ninth justice, could lead to a 4-4 vote. When the high court is tied, the lower-court decision stands. Alito recused himself from prior Puerto Rico bankruptcy cases, possibly because of his Puerto Rico bond holdings.

### Securities Class Action Settlements, 1996–2015



Source: Cornerstone Research

## ESG

# Low Carbon Wind Tempered, Momentum Carries Forward

Environmental,  
Social and  
Governance Team

Donald Trump's U.S. election victory took the wind out of the low-carbon transition sails, but momentum from efforts at the state level, other countries and technology cost trends means efforts will continue, even if clouded. China's plans to implement a national emissions trading program, alongside new taxes in other countries, will keep the pressure on cutting carbon. Battery and plug-in electric vehicles have grown to about 1% of global auto sales, which points to longer-term oil demand pressure.

## Green Bonds Finance Growth

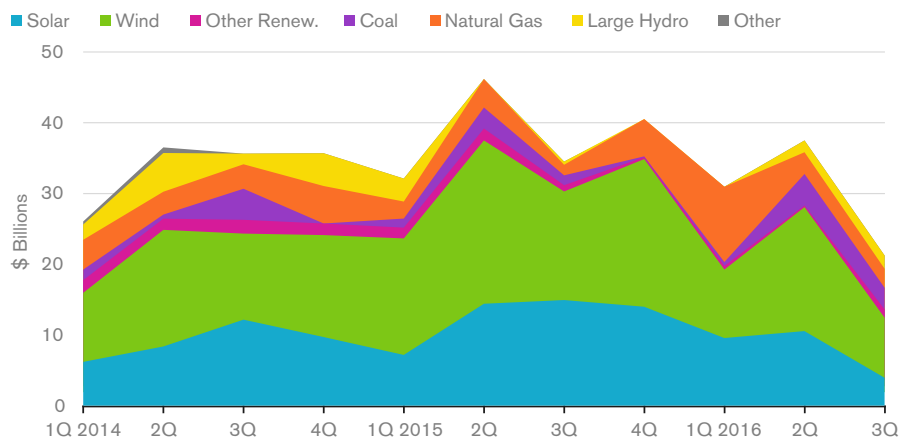
Green-bond issuance growth may need to push climate change-related financing higher if renewable energy investments stagnate. Clean-energy investment through 2020 may stop short of 2015's \$349 billion peak, after dropping 15–20% in 2016, according to Bloomberg New Energy Finance. In contrast, the broader green bond market that finances efforts including low-carbon energy, transport and buildings may build on its record-breaking issuance, powered by continued Chinese efforts.

Renewable energy investments would need to reach \$400 billion a year by 2030 to meet Paris Agreement climate goals, according to the IEA. Bank of America Merrill Lynch, Credit Agricole, JPMorgan, SEB, Bank of China and HSBC lead corporate and government green bond underwriting in 2016.

## China Adds Carbon Market

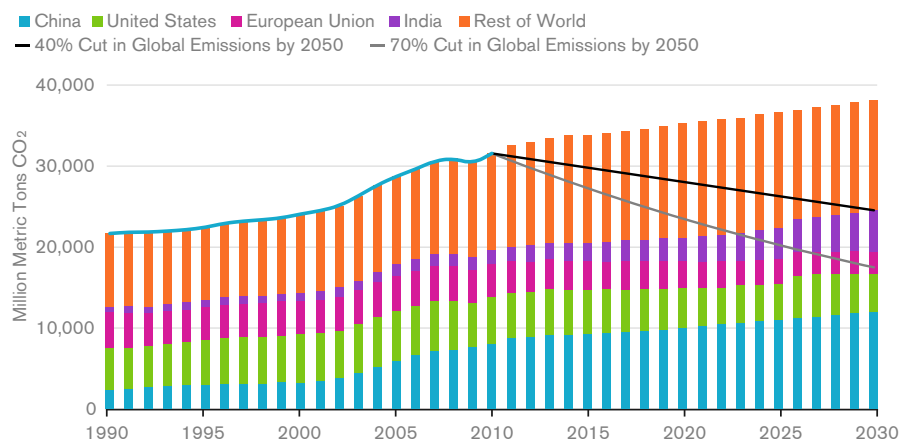
China's planned national carbon market introduction in 2017 will boost global carbon reduction efforts, but the overall outlook is less certain under a Trump administration. Alongside carbon taxes next year in South Africa and Alberta, Canada, China's carbon market may point to continued global momentum to rein in emissions. China's market

## Power Debt and Equity Financing



Source: Bloomberg New Energy Finance, Bloomberg Intelligence

## Projected Carbon Emissions Based on Climate Goals



Source: UNFCCC, IPCC, IMF, BP Statistical Review, Bloomberg Intelligence

will need to avoid Europe's over-allocation problem, leaving prices languishing too low to provide sufficient market incentive to invest in emissions reduction. China's market could cover 4 billion tons of carbon, double the size of Europe's.

**Peak for Fossil Fuel Demand**

Alternative-energy technology and committed country carbon goals could wipe out forecasts for fossil fuel demand growth and see coal and even oil reach peak demand by 2020, and trim natural gas growth. If countries follow through on their Paris climate agreement goals — a big if — coal demand would peak by 2020 and oil by 2030, according to OPEC forecasts. Global coal use fell in 2015, and China's has been down for two straight years, which may point to the risk of a faster energy and emissions transtion. In a sign of shifting expectations, oil demand could peak within five to 15 years due to efficiency and substitution, according to comments by Shell CFO Simon Henry on the company's 3Q earnings call in November.

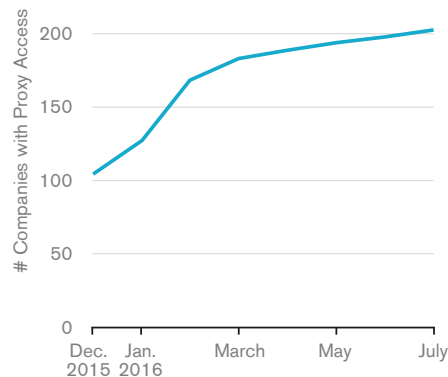
**Gender Pay Gap Scrutiny**

Companies will need to spend 2017 identifying and addressing gender pay-gap issues ahead of U.K. reporting requirements in 2018 and potentially more investor proxy proposals in the U.S. Women are slowly making headway in company board rooms, holding a median 20% of seats across S&P Global 1200 index members. Companies reporting on and achieving grade and pay parity could do more to help attract and retain diverse talent than focusing on just their director ranks. Standard Chartered, Old Mutual, Bunzl, Persimmon, Prudential, William Hill, Daily Mail & General Trust and Compass Group are U.K. companies that report the proportion of women in senior manager roles is less than half the rate across all employees.

**Beware Governance Wrath**

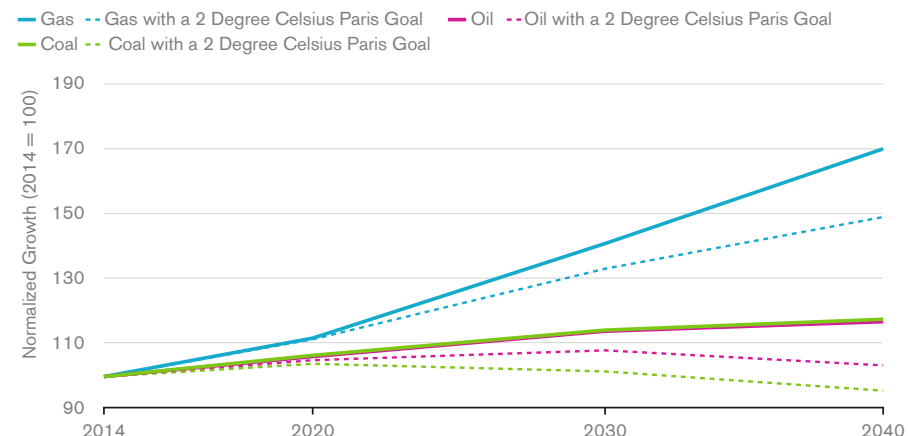
Shareholder voting power is a rarely wielded tool, yet investors may be more willing to exercise their voice in perceived egregious situations. U.S. companies are increasingly relenting on proxy access measures to allow director nominations, and Japanese investors are under government pressure to be more forceful in prodding companies to boost performance. Many investors may be hesitant to rock the boat, but companies that draw scrutiny for poor governance practices may incite shareholder wrath.

**S&P 500 Companies Adopting Proxy Access**



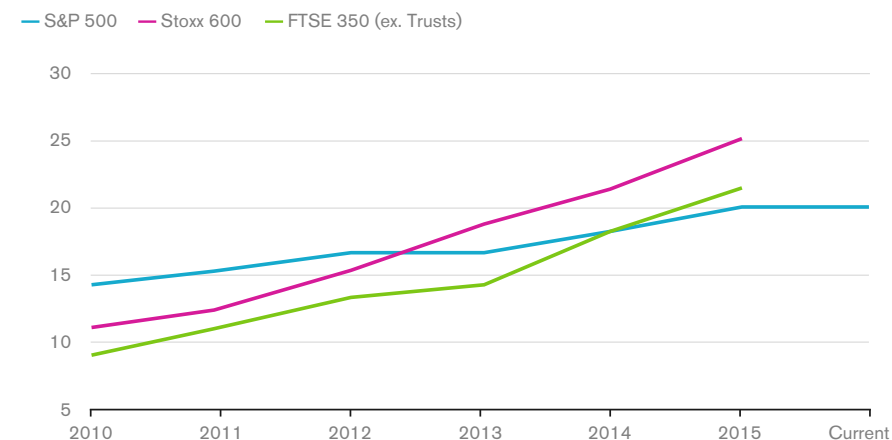
Source: Company filings, Bloomberg Intelligence

**OPEC Forecast: Energy Demand Growth**



Source: OPEC, Bloomberg Intelligence

**Index Median % Women on Board**



Source: Company filings, Bloomberg Intelligence

## CORPORATE CREDIT THEMES

# Investment Grade Bond Risk Rises as Leverage Ticks Up

U.S.  
Credit Team

Risk is on the rise in global corporations, at least in the key investment grade tiers. Conversely, debt-to-Ebitda has held steady in 2016 for the BB rating tier. And the single B rating class, which experienced an increase in leverage at midyear, is also on track to end the year flat.

## Leverage Rising Everywhere

Median leverage within the S&P 500 non-financials has increased .3 to 2.6 times in 2016, with the telecommunications, utility and energy sectors having among the highest financial risk.

Global earnings are poised to improve in the global oil and gas services and equipment sector, based on consensus, yet may represent just 28% of 2015 levels, limiting improvement. AT&T's pending deal for Time Warner and CenturyLink's proposed deal for Level 3 may further elevate leverage in the telecom sector.

## Downgrade Rate Worsens

The upgrade/downgrade ratio at S&P for North America is at its lowest level since the Great Recession, underscoring elevated credit risk within corporate credit. Most of the pain has been in high yield, where 52% of the rating activity has occurred, and led to 2.6 downgrades per upgrade in 2016. High grade bonds were also negatively impacted by 35 fallen angels, including CF Industries, EMC, Gap and Freeport-McMoRan.

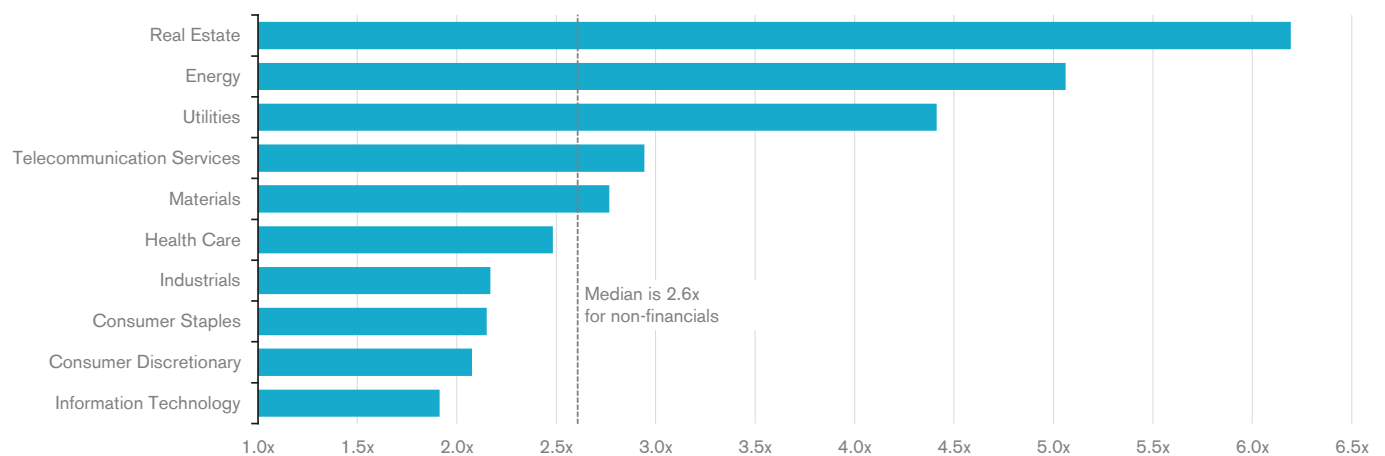
Bonds of AT&T, Bayer and British American Tobacco are among the \$203 billion of debt on negative watch at both S&P and Moody's,

which could impact this ratio further. Moody's upgrade/downgrade ratio of 0.41 is worse than S&P's and is the lowest since the recession.

## \$4.8 Trillion of M&A

Merger and acquisition activity is on pace for the second highest level in the past nine years, impacting credit quality. Ebitda multiples have ticked up 0.2 times to 11.2 times in 2016 compared with last year, while cash and debt financing were used the majority of the time, increasing leverage. Of the \$4.8 trillion in global deals announced, the majority have been financed in cash and debt — one catalyst for rising leverage within the S&P 500.

## Median Leverage by Sector



Source: Bloomberg

## S&P Upgrade-to-Downgrade Ratio

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
1Q	0.40	0.74	1.35	1.23	0.98	0.92	0.73	0.11	0.35	1.21	0.97
2Q	0.59	0.98	1.76	1.63	1.63	2.19	1.16	0.23	0.53	1.23	1.07
3Q	0.64	0.64	1.85	1.06	0.70	1.25	1.33	0.59	0.28	0.68	0.77
4Q	0.58	0.36	1.21	1.87	0.59	0.45	1.38	0.95	0.16	0.97	0.91
<b>Total</b>	<b>0.54</b>	<b>0.64</b>	<b>1.51</b>	<b>1.45</b>	<b>0.94</b>	<b>0.95</b>	<b>1.12</b>	<b>0.29</b>	<b>0.28</b>	<b>1.02</b>	<b>0.94</b>

Source: Bloomberg

Pending deals for Time Warner, Monsanto, Reynolds American and St. Jude Medical may also affect leverage metrics should they close.

### \$854 Billion to Mature

Bank of America, GE, Citigroup and Ford may be among the largest issuers of U.S. dollar investment grade debt in 2017, based on upcoming maturity schedules. Financials, at 41% of the total obligations, may experience the most technical pressure, followed by consumer discretionary and industrials.

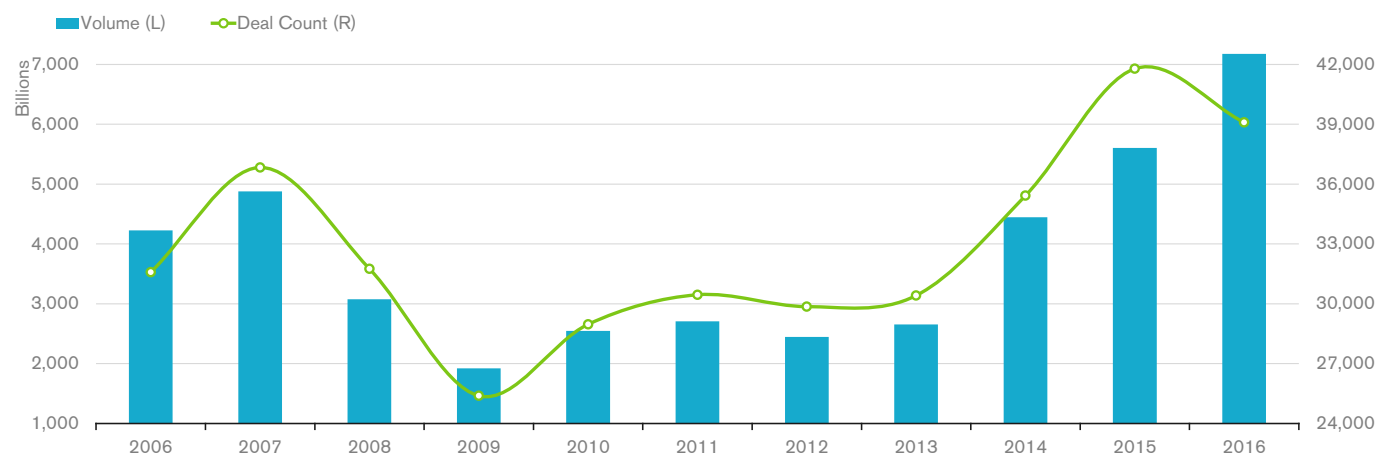
Economists view the probability of a rate hike in December at over 90%, and 86% in February. That may affect interest expense and weaken related cash flow metrics in 2017.

## 2017 U.S. Dollar-Denominated Maturities: Investment Grade

Issuer Name	Total	Consumer		
		Financials	Discretionary	Industrials
<b>Total</b>	<b>854,924</b>	<b>351,691</b>	<b>59,917</b>	<b>44,727</b>
European Investment Bank	28,154			
Kreditanstalt fuer Wiederaufbau	25,700			
Bank of America	14,694	14,694		
General Electric	13,176			13,176
International Bank for Reconstruction and Development	13,131			
Citigroup	11,450	11,450		
JPMorgan Chase	10,132	10,132		
Asian Development Bank	10,130			
Wells Fargo	9,980	9,980		
Morgan Stanley	9,682	9,682		
Ford Motor Credit	9,339		9,339	

Source: Bloomberg

## Merger and Acquisition Trends



Source: Bloomberg

## FIXED INCOME THEMES

# Credit Markets in Transition as U.S. Growth, Stimulus Loom

Fixed Income  
Strategy Team

U.S. bond markets begin a pivotal policy transition year with record-high non-financial leverage and credit spreads below long-term averages. Companies usually deleverage in anticipation of tighter monetary policy, while spreads typically narrow as rates rise. This time, spreads may already anticipate expectations for an improving economy – but not the consequences of more government spending, including higher interest rates or a stronger dollar.

## Policy Transition Is Biggest Risk

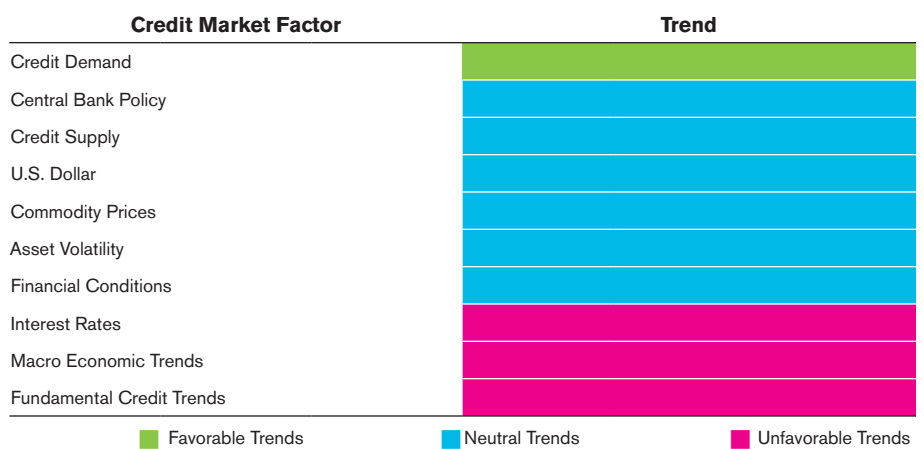
Critical factors important to corporate bonds are shifting to less favorable from favorable as spreads on benchmark investment grade and high yield indexes are below long-term averages while non-financial leverage is at 16-year highs.

In 2017, bond markets will need to accommodate an unprecedented transition to the risks of a lesser-known Republican-led fiscal stimulus plan and the consequences of tighter monetary policy, from the benefits of easy monetary policy.

Risks to credit markets in 2017 include consequences of inflation, a shift to tighter monetary policy led by the Federal Reserve and the implementation of Donald Trump's fiscal policy. How these factors play out may determine the path for the \$8.7 trillion of bonds with negative yields in the Bloomberg Barclays Global Aggregate Index and the remaining \$36.7 trillion of notes with positive yields that have gained from the need to put cash to work in higher-income alternatives.

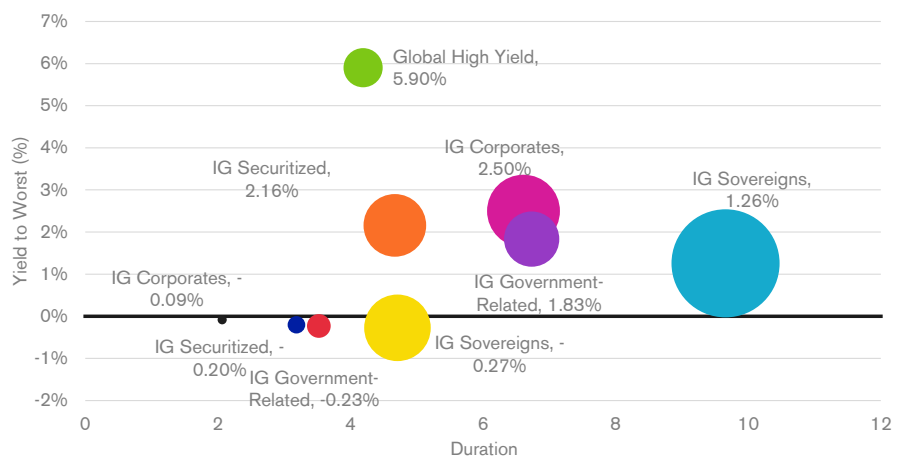
Credit markets need to accommodate the pivotal shift away from easing U.S. monetary policy and fund any potential budget shortfalls that may result from Trump's administration.

## Critical Factors Impacting Credit Markets



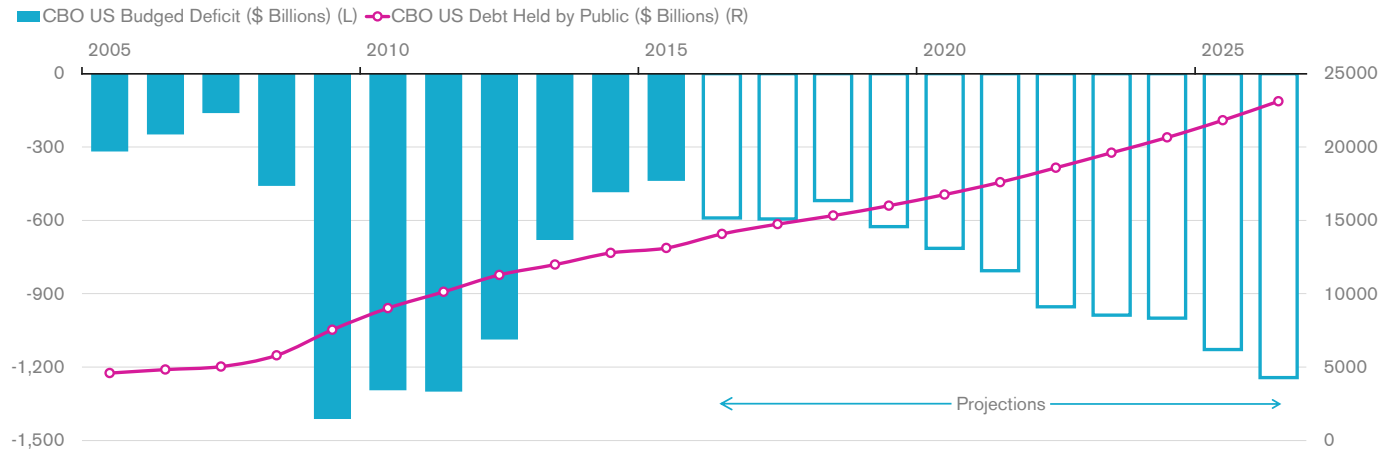
Source: Bloomberg

## Global Bond Yields by Asset Class



Source: Bloomberg Barclays Global Aggregate Level

### CBO Projects Deficit, Treasury Bond Growth



Source: Congressional Budget Office

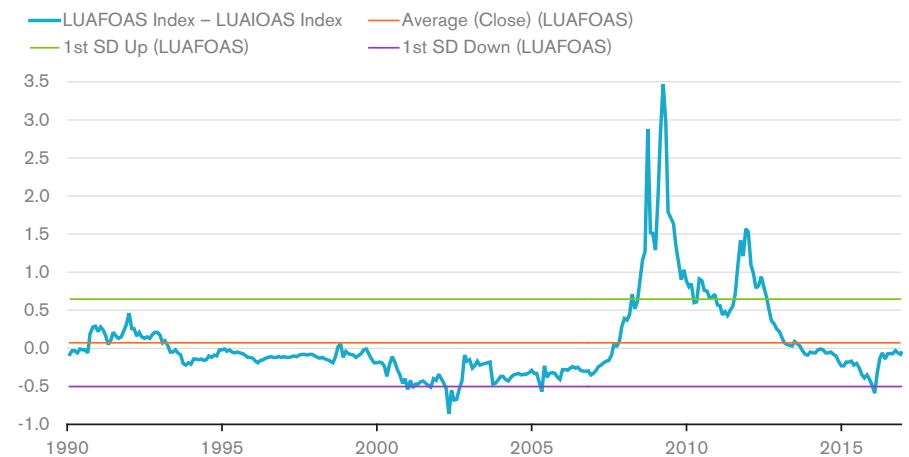
The Congressional Budget Office hasn't yet revised its baseline forecast to reflect new policy plans. The current forecast shows an increase in the deficit to \$1.2 trillion and U.S. government debt growing to \$23.1 trillion by 2026.

#### What History Tells Us

The spread on the Bloomberg Barclays U.S. Corporate Bond Index is slightly below its long-term average of 135 bps. History shows index spreads narrowed and remained below 100 bps during prior Federal Reserve tightening cycles in 1994 and 2004-06. The difference today is that credit ratios for non-financial high grade issuers are much weaker headed into this tightening cycle than in past ones. Prior policy tightening periods saw high grade financial spreads narrow relative to non-financials.

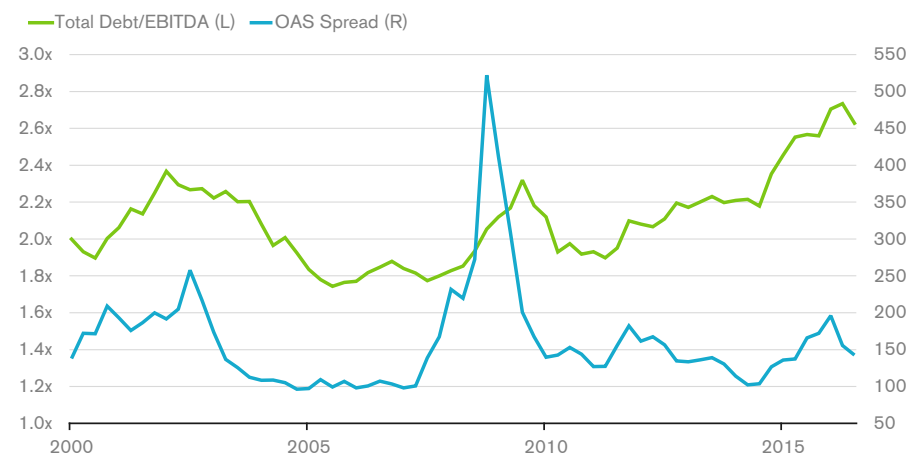
Favorable demand for high grade bonds and the recovery in commodity prices helped the spread on the U.S. Corporate Bond Index tighten to 130 bps as of Nov. 25, from 165 bps on Jan. 1. The narrowing trend is inconsistent with a 16-year peak in leverage of 2.6x reached in the second quarter, based on the median total debt-to-Ebitda ratio for non-financial, index-eligible borrowers.

### Financial vs. Non-Financial Spreads



Source: Bloomberg

### Record Debt, Low Spreads for High Grade Issuers



Source: Non financial issuers in the Bloomberg Barclays U.S Corporate Bond Index

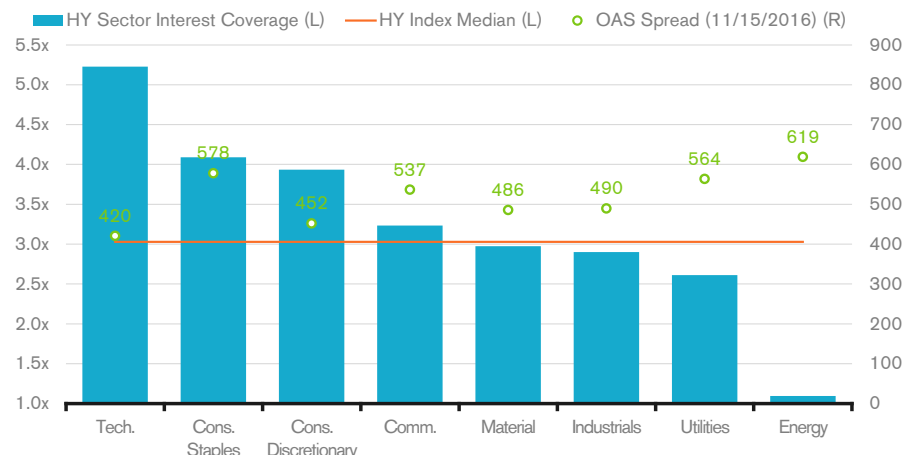
The risk is that spreads begin to reflect declining trends in credit quality as interest rates move higher.

Despite U.S. GDP averaging just 2.1% since 2009, high yield issuers have taken advantage of declining borrowing costs to leverage balance sheets to record levels of 4.8 times trailing 12-month Ebitda. As a result, median interest coverage is now three times, well below the 5.8 ratio the last time the Federal Reserve began to raise rates in the second quarter of 2004. The risk is that higher interest rates may disproportionately impact high yield sectors with already weak interest coverage ratios including energy, materials and capital goods.

Breakeven ratios show which sectors provide the greatest cushion to protect against higher interest rates. The one-year spread breakeven ratio for the Bloomberg Barclays U.S. Corporate Bond Index is 18 basis points based on its option-adjusted credit spread of 135 bps and its spread duration of 7.3 years. This means the index spread can rise by 18 bps over a one-year period and still break even on an excess return basis. Energy, basic industries and bank bonds provide the highest spread breakeven ratios.

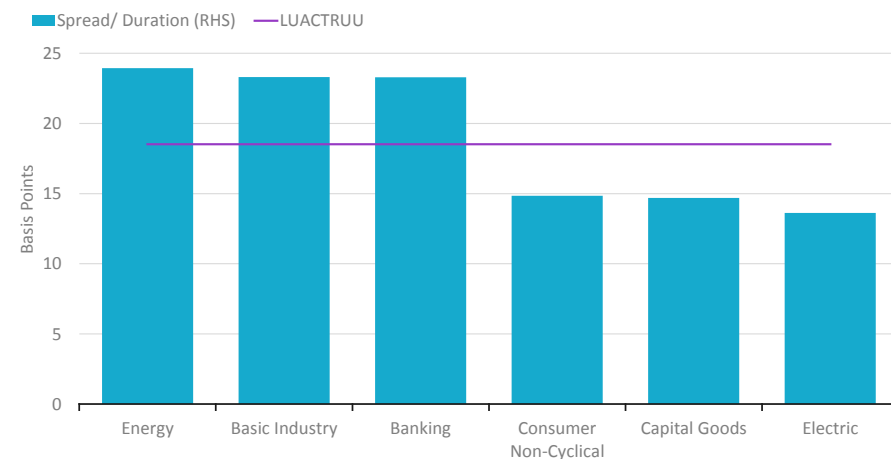
Risk premiums for high yield bonds are similar across double-B and single-B ratings classifications. The risk should interest rates head higher is that credit markets will better delineate differences in credit quality, following stellar gains of 14.7% for the U.S. Corporate High Yield Bond Index since Jan. 1. Within the double-B ratings category, utilities, communications and energy bonds have the highest spread relative to leverage, while technology, consumer staples and industrials have the lowest.

## High Yield Bonds



Source: Non financial issuers in the Bloomberg Barclays U.S. Corporate Bond

## High Grade Breakeven Ratio by Sector



Source: Bloomberg Barclays U.S. Corporate Bond Index

## High Yield Spread Per Turn of Leverage

Industry	BB	B
<b>All Industry</b>	<b>91</b>	<b>94</b>
Utilities	122	132
Communications	102	98
Energy	95	103
Consumer Discretionary	94	84
Materials	90	109
Health Care	89	91
Technology	81	112
Consumer Staples	81	95
Industrials	62	82

Source: Company Filings, Bloomberg Intelligence

## WHAT IS BLOOMBERG INTELLIGENCE

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Bloomberg Intelligence (BI), the research arm of Bloomberg LP, delivers in-depth analysis and datasets on industries, companies, and the government, economic, credit and litigation factors that impact business decisions. BI research covers more than 135 industries and 1,300 companies globally.

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