MORNING BRIEFING
August 2, 2018

Artificial vs Material Worlds

See the collection of the individual charts linked below.

(1) AI will power the next Industrial Revolution, or kill us all. (2) Fritz Lang saw it coming in 1927. (3) Racist robots. (4) Algos have a "black box" problem. (5) From virtual to fake reality. (6) Weaponized drones and Terminators turning war into a video game. (7) Kissinger says the end is near for the Enlightenment. (8) FANG workers of the world unite! (9) High fives in China. (10) Materials sector has winners and losers. (11) More on prime-working-age males: vets and ex-cons.

AI: SciFi or Reality? Artificial intelligence, a.k.a. AI, has the potential to do amazing things. It should spur the development of new drugs. It may power robots that can serve as helping hands and drive autonomous cars. AI stands to be as transformative as the Industrial Revolution and the advent of the Internet.

But there's also a darker side to AI. Those who think deeply about the ethics of technology warn that we need to be prepared for robots that are smarter than humans, weaponized drones, fake news/videos, and algorithms with undisclosed biases. It's the stuff of science fiction, akin to the 1927 film "Metropolis," where a robot is given the identity of a woman programmed to start a rebellion. Science fiction is becoming a reality faster than we might expect or be prepared for. I asked Jackie Doherty, our contributing editor, to shine a little light on the dark side of AI:

(1) *Unintended results*. Robots equipped with AI are still very literal and can make unintended mistakes. For example, Tay was a system built about two years ago by Microsoft to chat with digital hipsters. However, users were appalled to find Tay spewing hateful speech because she'd repeat whatever was said to her. Tay was shut down.

New and improved systems have been developed to learn to converse instead of just respond with canned answers. But if a chat bot is learning language from those who are prejudiced or offensive, it's liable to say incorrect or offensive things. "If you mention your company's C.E.O., it may assume you are talking about a man—unaware that women are chief executives, too. If you ask a simple question, you may get a cheeky reply," according to a 2/21 *New York Times* article. AI mistakes in a chat bot may be annoying or embarrassing; AI mistakes in weapons systems may be lethal.

(2) *Mysterious black box*. Zeynep Tufeki is a techno-sociologist known for her research on the social implications of emerging technology. A Fellow at the Berkman Center for Internet and Society at Harvard University and a 2015 Andrew Carnegie Fellow in the Social Sciences and Humanities, Tufeki gave a 2016 TedTalk discussing the problems involved with relying on AI. Machine learning tells companies whom they should hire, which news item should be recommended, whether to grant parole, and, more shockingly, whom should be hit by an autonomous car. The problem: We don't know what drives the algorithms in the "black box" and are essentially abdicating our decision-making to these machines.

For example, Facebook's algorithm decides what you see on your news feed. Tufeki notes that when news reports about the Ferguson, Missouri protests broke out, they didn't appear on her Facebook feed. It turns out the Ferguson story wasn't "algo" friendly. It wasn't liked. It had few comments. Instead, Instead, many Facebook news feeds showed a story on the ALS ice-bucket challenge, which was liked, commented on, and passed on.

"We cannot outsource our moral responsibilities to machines," Tufeki implored the TedTalk audience. "We need to cultivate algorithm suspicion, scrutiny, and investigation. We need to make sure we have algorithmic accountability, auditing, and meaningful transparency."

(3) *Security threats*. As AI gets smarter, its potential threat to our security grows. Some of these threats are laid out in an aptly named report: "The Malicious Use of Artificial Intelligence: Forecasting, Prevention and Mitigation." Published in February, the report notes that AI systems can now categorize pictures better than humans and can generate an image that's almost indistinguishable from a photograph. As a result, the "ability to recognize a target's face and to navigate through space can be applied in autonomous weapon systems. Similarly, the ability to generate synthetic images, text, and audio could be used to impersonate others online, or to sway public opinion by distributing AI-generated content through social media channels."

Because they can be employed from afar, AI systems can increase anonymity and psychological distance between victim and perpetrator. Someone using an autonomous weapons system to carry out an assassination need not be at the scene of the crime or look the target in the eyes. And if perpetrators know the crime is untraceable, they may feel less empathy and be more willing to carry out the attack.

The report notes that in addition to advancements in AI, the "Progress in robotics and the declining cost of hardware, including both computing power and robots are important too … For example the proliferation of cheap hobbyist drones, which can easily be loaded with explosives, has only recently made it possible for non-state groups such as the Islamic State to launch aerial attacks." The same may also soon be true for autonomous cars.

In general, the report warns that attackers will "conduct more effective attacks with greater frequency and at a larger scale." In addition, the improved technology will allow one person to launch an attack remotely using many weaponized autonomous drones.

AI can be (and is being) used in various ways to control dissent and affect political outcomes. States can use automated surveillance to suppress protests, for example. Fake news reports with fabricated video and audio can make leaders seem to say or do things they never have said or done. Automated, disinformation campaigns can target voters in swing districts with personalized messages or manipulate media platforms' content curation algorithms.

(4) *World domination*. Though it may sound grandiose, the country or countries that develop and harness AI may also be the countries that dominate the world's future economic and military power. Just as oil became a key to national power in a world dominated by the combustion engine, there will be certain "raw materials" that make countries powerful in a world dominated by AI.

One key ingredient: access to data. "AI will augment the national power of those countries that are able to identify, acquire, and apply large datasets of high economic and military importance in order to develop high-performance AI systems," concludes a 7/25 report from the Center for a New American Security. In this respect, China benefits from its willingness to make data available to promote the development of AI. Conversely, doing so in the US could elicit complaints that the government is

trampling on privacy rights.

The report also noted that AI-dominating countries will need scientists, mathematicians, and engineers—i.e., humans sophisticated enough to develop advanced AI systems. They'll also require massive computing resources to train machines. And finally, successful countries will have cooperation between their public and private institutions. This, too, gives China an edge over the US government, which often clashes with the titans of Silicon Valley.

Henry Kissinger, former national-security adviser and secretary of state to Presidents Richard Nixon and Gerald Ford, recommended in the June issue of *The Atlantic* that the US government consider assembling a "presidential commission of eminent thinkers to help develop a national vision" for AI.

"The Enlightenment started with essentially philosophical insights spread by a new technology. Our period is moving in the opposite direction. It has generated a potentially dominating technology in search of a guiding philosophy," Kissinger warned. "Other countries have made AI a major national project. The United States has not yet, as a nation, systematically explored its full scope, studied its implications, or begun the process of ultimate learning. This should be given a high national priority, above all, from the point of view of relating AI to humanistic traditions."

(5) *Employees revolt*. Those in the trenches writing the code that empowers AI at Microsoft, Google, and Amazon recently have stood up to protest what their companies are doing with their AI services—specifically, to whom the AI is being sold.

At Google, employees protested and some quit over concerns that the company's contract with the Pentagon meant Google was sharing technology that the Pentagon could use to kill people. Google Cloud won "Project Maven to develop AI that can recognize people and objects captured in drone footage," reported a 6/4 article in ZDNet. "While Google claimed only to be providing its open-source TensorFlow APIs to the Pentagon, emails seen by Gizmodo show that Google was planning to build a 'Google Earth-like' surveillance system for Pentagon analysts, enabling highly-accurate real-time views over people, vehicles, crowds, and land features of an entire city," the article stated.

Google won't be bidding to renew the contract that expires in 2019. Bet relinquishing potential business like that wouldn't have happened in China.

Microsoft employees became upset in June when they realized the company's Azure Government cloud-computing arm had entered a partnership with the US Immigration and Customs Enforcement (ICE). "Microsoft condemned family separation by ICE in a statement to Gizmodo but declined to specify if specific tools within Azure Government, like Face API—facial recognition software—were in use by the agency. The company also did not comment on whether it had assisted in building artificial intelligence tools for ICE, something the agency has been seeking (and courting Microsoft over) for some time," reported a 6/18 Gizmodo article.

Finally, Amazon employees have asked their company to discontinue any work with ICE and to end the sale of the facial recognition technology Rekognition to law enforcement agencies. "We don't have to wait to find out how these technologies will be used. We already know that in the midst of historic militarization of police, renewed targeting of Black activists, and the growth of a federal deportation force currently engaged in human rights abuses—this will be another powerful tool for the surveillance state, and ultimately serve to harm the most marginalized," an employee letter states, according to a 6/23 *Seattle Times* article.

No doubt Chinese leaders are overjoyed and doing high fives.

Materials: Trade Wars Winners & Losers. President Trump's trade war with the world has helped some of the industries in the S&P 500 Materials sector and hurt others. The Steel industry is decidedly in the former camp, as the tariffs have helped US manufacturers compete against foreign players. However, the price of copper has fallen sharply during the tariff wars on fears that a slowdown in global commerce will depress economic growth (*Fig. 1* and *Fig. 2*).

So far, the benefit from the winners is outpacing the drag from the losers. Wall Street's analysts expect the S&P 500 Materials sector will deliver some of the fastest earnings growth over the next 12 months when compared to the other S&P 500 sectors. Here's how the S&P 500 sectors' forward earnings growth stacks up: Energy (40.3%), Financials (17.4), Materials (15.2), Industrials (14.9), Consumer Discretionary (14.3), S&P 500 (14.1), Tech (12.9), Health Care (10.5), Telecom Services (8.0), Consumer Staples (7.9), Utilities (5.6), and Real Estate (-3.6) (*Fig. 3*).

The recent strength in the S&P 500 Materials sector's forward earnings is a striking departure from the lack of growth the sector exhibited between its 2011 peak in forward earnings and its 2016 trough. The sector's forward earnings broke through the 2011 peak in December and has moved steadily higher (*Fig. 4*).

Growth among the sector's industries is far from uniform, ranging from a 50.7% jump in the Fertilizers & Agricultural Chemicals industry's forward earnings to a 7.7% decline in the Copper industry's forward earnings. Here's what's expected for the forward earnings of all the industries in the S&P 500 Materials sector: Fertilizers & Agricultural Chemicals (50.7%), Construction Materials (27.9), Paper Packaging (20.2), Diversified Chemicals (19.0), Steel (18.4), Metal & Glass Containers (15.3), Materials sector (15.2), Specialty Chemicals (13.5), Industrial Gasses (11.6), Gold (7.2), Commodity Chemicals (2.2), and Copper (-7.7) (*Fig. 5* and *Fig. 6*).

Despite the rosy perspective on upcoming earnings from the sector, the S&P 500 Materials stock index is among the worst performing of the S&P 500's 11 sectors ytd. Here's how the ytd sector returns stack up: Consumer Discretionary (12.7%), Tech (12.4), Health Care (7.5), Energy (6.7), S&P 500 (5.3), Industrials (1.2), Utilities (0.3), Financials (0.0), Real Estate (0.0), Materials (-1.2), Consumer Staples (-6.4), and Telecom Services (-9.9) (*Fig. 7*).

Labor Force: PWAM-NILF Vets & Ex-Offenders. In Monday's *Morning Briefing*, Melissa and I explored the depressing several-decades-long decline in the labor force participation rate of prime-working-age males (PWAMs). Today, we're following up on a related lingering question: Do increased numbers of veterans or ex-offenders explain the rise in PWAM-NILFs? "NILF" (which stands for "not in the labor force") denotes working-age people who neither have a job nor are actively looking for one. NILFs are not factored into the unemployment rate.

It wasn't hard to find lots of articles, studies, and statistics on the challenges of reentering the workforce after serving active military duty or being charged with a crime. But those challenges don't provide a neat explanation for the rise in PWAM-NILFs; the data don't support a correlation. We can comfortably say that veterans are not a contributing factor to the rise in PWAM-NILFs. The data on ex-offenders isn't as clear cut, but they probably have not significantly contributed to the rise in PWAM-NILFs either. Further, neither veterans nor ex-offenders independently represent the majority of NILFs. Let's have a look at the available data:

(1) *Share of vets on the decline*. Alan B. Krueger's 2017 paper titled "Where Have All the Workers Gone? An Inquiry into the Decline of the U.S. Labor Force Participation Rate" answered our question on veterans in a footnote: "A natural question is whether an increase in the number of disabled military

veterans returning to civilian life has contributed to the decline in the participation rate. The short answer is that this does not appear to be the case. The share of out-of-the-labor-force prime-age men who are veterans has declined, from 11.4 percent in 2008 to 9.7 percent in 2016."

A 2016 Obama administration analysis corroborated that: "[A]lthough veteran participation has fallen by more than for the overall prime-age male population, the share of nonparticipating prime-age men who are veterans has declined, suggesting that this is not a key factor in the overall decline."

(2) *Ex-offenders only a fraction.* According to a study cited in the Obama analysis, approximately 6.0% to 7.0% of the entire PWAM population has a criminal record, but how many PWAMs with a criminal record are also NILFs is unknown. We do know that about 12.0% of the entire PWAM population is also NILF. So if all of the roughly 6.0% of PWAMs with a criminal record were also NILFs, they would make up about half of the PWAM-NILF cohort.

But we can safely assume that at least some PWAMs with a criminal record are working or looking for work. That means that ex-offenders likely make up less than half of the PWAM-NILF cohort. Further, some fraction of PWAM-NILFs with a criminal record may have opted out of work even before committing an offense—so their NILF status would not be a result of having a criminal record.

Nicholas Eberstadt, in his book *Men Without Work: America's Invisible Crisis*, observed that PWAMs with a criminal record are more likely to be NILFs than those without one. However, he also notes: "[T]he great male flight from work had already been under way for more than a decade and a half before the U.S. male population of ex-prisoners and at-large felons began to soar in the early 1980s and … curiously enough, the explosive growth of that 'criminal class' after 1980 seemingly did little or nothing to speed the pace of decline for prime-age male [labor force participation rates] over the following three-plus decades."

If vets and ex-offenders do not explain the decline in PWAM labor force participation, then there must be other reasons for it. Perhaps that gives more weight to the argument that government support may have something to do with the increase in PWAM-NILFs. That is, unless the nearly half of them who report they are too disabled or ill to work truly are so.

(3) *Second-chancers*. Data aside, we don't mean to minimize the problem that many individuals face in rejoining the workforce after a trying time. We think lending a hand to ex-offenders may help to resolve a separate, but related, labor force problem: The number of job openings currently exceeds the number of job seekers, as our friend Jeffery Korzenik, chief investment strategist at Fifth Third Bank, has observed. In a 6/29 article for *Barron's,* he wrote: "Our best opportunity is for businesses to make better use of our most underappreciated labor resource: 'second-chancers.' This population—those who have paid for mistakes through incarceration or other forms of supervision—offers a path to expand and extend our economic expansion."

By the way, prisoners are not counted in the labor force participation rate because the denominator for the rate excludes working-age adults who are incarcerated. According to the Obama analysis, if the 1.1 million PWAMs in federal or state penitentiaries were included in the labor force participation rate, the rate would be about 1.5 percentage points lower.

CALENDARS

US. Thurs: Jobless Claims 218k, Challenger Job-Cut Report, Factory Orders 0.9%, EIA Natural Gas Report. **Fri:** Total, Private, and Manufacturing Payroll Employment 190k/184k/15k, Unemployment & Participation Rates 3.9%/62.8%, Average Hourly Earnings 0.3%m/m/2.7%y/y, Average Workweek

34.5hrs, Merchandise Trace Balance -$45.6b, ISM & IHS Markit NM-PMIs 58.8/56.3, Baker Hughes Rig Count. (*Wall Street Journal* estimates)

Global. Thurs: BOE Bank Rate 0.75%, BOE Asset Purchase Target 435b, BOE Inflation Report, BOJ Minutes of June Policy Meeting. **Fri:** Eurozone Retail Sales 0.4%m/m/1.4%y/y, Eurozone, Germany, France, and Italy C-PMIs 54.3/55.2/54.5/53.5, Eurozone, Germany, France, and Italy NM-PMIs 54.4/54.4/55.3/53.7, UK C-PMI & NM-PMI 54.9/54.7, Japan & China C-PMIs & NM-PMIs. (DailyFX estimates)

STRATEGY INDICATORS

Stock Market Sentiment Indicators (*link*): Our Bull/Bear Ratio (BBR) edged down this week for the second week, to 2.90, after climbing from 2.53 to 2.99 the prior two weeks. There was little movement in the measures for the second week. Bullish sentiment ticked down 0.8ppt (to 54.5% from 55.3%) the past two weeks, after an 8.2ppts jump the prior two weeks, while the correction count inched up 0.5ppt (26.7 from 26.2) after a two-week 8.1ppts drop. Meanwhile, bearish sentiment (18.8 from 18.5) continued to fluctuate in a narrow band between 17.6% and 18.8% the past two months. The AAII Ratio fell for the second week last week from 59.6% to 54.0% over the period. Bullish sentiment fell from 43.1% to 31.5% over the two-week period, while bearish sentiment rose for the first time in four weeks, to 26.9% last week, after falling from 40.8% to 24.9% the previous three weeks.

S&P 500 TCJA Earnings Leaders & Laggards (*link*): The 2018 earnings forecast for the S&P 500 has surged 10.2% in the 32 weeks since the TCJA was signed into law on December 22. This outstanding performance has no comparison over the years since consensus earnings forecasts were first derived in 1978. The rate of change in the consensus forecasts has slowed since the Q1 earnings season as analysts appear to have fully incorporated lower tax rates into their estimates. The top sector gainers since the TCJA was passed: Energy (42.7%), Telecom (19.4), Financials (12.5), Materials (12.3), and Industrials (10.7). Real Estate is the smallest gainer, with an increase of 1.0%; also underperforming the S&P 500 are Consumer Staples (1.1), Utilities (2.0), Consumer Discretionary (6.3), Health Care (7.4), and Tech (7.9). Higher oil prices have contributed heavily to the improvement in Energy's 2018 earnings forecast.

S&P 500 Earnings, Revenues & Valuation (*link*): S&P 500 consensus-per-share forecasts for forward revenues and earnings rose to record highs again last week. The forward revenues growth forecast was steady w/w at 6.0%, and forward earnings growth rose 0.2ppt to 14.1%. The forward profit margin remained steady at a record high of 12.2%, which is up from 11.1% prior to the passage of the TCJA in December and from a 24-month low of 10.4% in March 2016. Forward revenues growth of 6.0% is little changed from an 80-month high of 6.3% at the end of February, and compares to a cyclical low of 2.7% in February 2016. The annual 2018 revenues growth forecast edged up 0.1ppt to 8.0%, but 2019's edged down 0.1ppt to 5.0%. Forward earnings growth is up from a 26-week low a week earlier, but down from 16.9% in February, which was the highest since October 2010. Still, that's up 3.0ppts from 11.1% prior to the passage of the TCJA, and up 9.3ppts from the cyclical low of 4.8% in February 2016. Turning to the annual earnings growth expectations, the earnings growth forecasts rose 0.2ppt for both 2018 (22.5%) and 2019 (10.2%). Energy's contribution to forward growth peaked at the start of 2017. The S&P 500 ex-Financials forward revenues growth forecast was steady at 6.2%, but the forward earnings growth forecast improved 0.3ppt to 13.4%. The S&P 500 ex-Financials forward profit margin rose 0.1ppt to a record high of 11.4%, and is up from 10.4% before the TCJA. Valuations were higher w/w as the S&P 500's forward P/E rose to an 18-week high of 16.9 from 16.7, which compares to a 16-year high of 18.6 at the market's peak in late January and its recent low of 16.0 in early May. The S&P 500 price-to-sales ratio improved 0.02ppt to a 25-week high of 2.07, which compares to late January's record high of 2.16 and early May's low of 1.95.

S&P 500 Sectors Earnings, Revenues & Valuation (*link*): Consensus forward revenues forecasts rose w/w for 5/11 of the sectors last week, and forward earnings rose for 8/11 sectors. Consumer Discretionary had both measures fall w/w, and these three sectors were mixed: Consumer Staples, Energy, and Telecom. The per-share measures for forward revenues and earnings are at or around record highs for 4/11 sectors: Consumer Discretionary, Health Care, Industrials, and Tech. Forward margins are at record highs for 8/11 sectors, all but Energy, Health Care, and Real Estate. Energy's forward revenues and earnings are back on uptrends after stalling during 2016-2017, and its earnings has about tripled from its 18-year low in April 2016. Looking at last week's readings for forward growth among the 11 sectors, four had a w/w improvement in their forward revenues growth forecast (Health Care, Industrials, Tech and Telecom) and two weakened (Financials and Utilities). STEG revisions activity was high among the 11 sectors last week, with Tech and Telecom posting notable gains. Forward P/S and P/E ratios are down from their recent highs in early 2018 for all sectors. In the latest week, all but Consumer Discretionary and Telecom had their P/S ratio improve, and all but three sectors had their forward P/E rise: Consumer Discretionary, Real Estate, and Telecom. Energy's valuations remain elevated relative to historical levels, but are slowly returning to normal now after soaring in 2016 when revenues and earnings collapsed. Energy's P/S ratio of 1.29 compares to a record high of 1.56 in May 2016, and its P/E of 17.2 is down to a 42-month low now from a record high of 57.5 then. Due to the TCJA, higher margins are expected y/y in 2018 for all sectors but Real Estate, but that sector's forward earnings includes gains from property sales and typically improves as the year progresses. Four sectors had their forward profit margin rise w/w: Health Care, Real Estate, Telecom, and Utilities; the remaining sectors remained steady. Here's how the sectors rank based on their current forward profit margin forecasts: Information Technology (22.8%), Financials (18.8), Real Estate (16.3), Telecom (13.9), Utilities (12.6), S&P 500 (12.3), Materials (11.3), Health Care (10.6), Industrials (10.2), Consumer Discretionary (8.0), Consumer Staples (7.6), and Energy (7.5). Energy's forward profit margin is now the highest since December 2014. Among the remaining 10 sectors, all but two (Real Estate and Health Care) are at or near recent record highs.

S&P 500 Q2 Earnings Season Monitor (*link*): With Q2 results in hand for two-thirds of the S&P 500 companies, we find a higher percentage of companies reporting positive surprises than at the same point during the Q1 earnings season but a lower overall percentage surprise. Year-over-year growth rate metrics for the Q2 reporters to date are close to Q1's historically high levels. More specifically, of the 328 companies in the S&P 500 that have reported through mid-day Wednesday, 82% exceeded industry analysts' earnings estimates by an average of 5.3%; they have averaged a y/y earnings gain of 26.6%. At the same point during the Q1-2018 reporting period, a lower percentage of companies (81%) in the S&P 500 had beaten consensus earnings estimates by a higher 7.9%, and earnings were up a lower 25.7% y/y. On the revenue side, 73% of companies beat their Q2 sales estimates so far, with results coming in 1.0% above forecast and 10.0% higher than a year earlier. At this point in the Q1 season, a higher 75% of reporting companies had exceeded revenue forecasts by a higher 1.5%, and sales had risen by a lower 9.7% y/y. Q2 earnings results are higher y/y for 85% of companies, vs a higher 88% at the same point in Q1, and Q2 revenues are higher y/y for 86% vs a higher 91% a quarter ago. These results are very encouraging, particularly the percentage of companies growing revenues y/y. Q2-2018 should mark the eighth straight quarter of positive y/y earnings growth and among the highest growth since Q4-2010. The strong results are mostly due to lower tax rates and improved business conditions.

US ECONOMIC INDICATORS

ADP Employment (*link*): In July, private industries added a larger-than-expected 219,000 to payrolls, following upward revisions to both June (to 181,000 from 177,000) and May (196,000 from 189,000) counts, for a net gain of 11,000. July's 219,000 gain was above the average monthly gain of 182,000

last quarter, and 47,000 above the expected gain of 172,000. “The labor market is on a roll with no signs of a slowdown in sight,” said Ahu Yildirmaz, vice president and co-head of the ADP Research Institute. “Nearly every industry posted strong gains and small business hiring picked up.” Last month, service-providing industries rose 177,000, while goods-producing industries climbed 42,000—accelerating from June’s eight-month low of 28,000. Manufacturing (23,000) and construction (17,000) companies continued to add to payrolls, though at a slower pace; over the past 20 months, they’ve boosted payrolls by 316,000 and 367,000, respectively. Natural resources/mining jobs have climbed steadily since the end of 2016, up 77,000 over the period. Within service-providing industries, the increase was broad based, with health care & social assistance (49,000), professional & business services (47,000), and leisure & hospitality (37,000) once again leading the pack. By company size, medium-sized companies (119,000) remained at the top of the leader board, adding the most jobs since October 2014, with 106,000 service-providing and 13,000 goods-producing. Small companies moved up to the number-two position, boosting payrolls by 52,000—45,000 service-providing and 7,000 goods-producing. Large companies moved down to the cellar, adding 48,000 jobs, with the mix fairly even between service-providing (27,000) and goods-producing (21,000) companies.

Auto Sales (*link*): Motor vehicle sales in July dropped below 17.0mu for the first time in nearly a year. Sales sank to 16.8mu (saar) last month, after averaging 17.1mu the first half of this year. Sales matched a 12-year high of 18.2mu last September—boosted by consumers’ replacement of flood-damaged vehicles in areas hit by the hurricanes. Domestic car sales remains the weakest segment of the market, falling nine of the last 10 months to 3.9mu (saar)—which was the lowest reading since November 2010. These sales have been in a virtual freefall since peaking at 6.1mu (saar) in August 2014. Meanwhile, July light-truck sales slipped to 9.1mu (saar), though was only 0.4mu below its recent peak of 9.5mu—which was the strongest showing since the summer of 2005. Sales of imports slowed to 3.7mu (saar), not far from the May reading of 4.0mu, which was the strongest pace since August 2009.

Construction Spending (*link*): Construction spending in June dipped after reaching a new record high in May. Total spending fell -1.1% after climbing eight of the prior nine months by 6.2%. Public construction spending plunged -3.5%, following a nine-month surge of 10.9% to a new cyclical high. Private construction spending edged down -0.4% after climbing six of the prior seven months by 6.5% to a new record high. Within private construction, nonresidential investment is stalled at record highs, slipping -0.3% in June after upticks of 0.2% and 0.1% the prior two months. Meanwhile, residential investment ticked down -0.5% in June after a two-month jump of 4.5% to a new cyclical high. Both single- (-0.4%) and multi-family (-2.8) construction spending fell in June, with the former stalled around its cyclical high, and the latter remaining in a volatile multi-year flat trend around record highs. Meanwhile, home-improvement spending has jumped 10.4% ytd, to a new record high in June.

GLOBAL ECONOMIC INDICATORS

Global Manufacturing PMIs (*link*): Global manufacturing activity grew at its slowest pace in a year at the start of Q3, with both production and new orders growing at their weakest rates since September 2016. Part of the slowdown was trade-related, as new export orders “eased to near-stagnation and was the weakest during the current two-year sequence of expansion,” according to the report. July’s JP Morgan M-PMI fell for the sixth time in seven months after reaching a seven-year high of 54.5 in December, sinking to 52.7 last month. Developed nations (to 54.1 from 54.4) continued to record much stronger growth than emerging ones (51.0 from 51.2), though both have slowed since late last year—to the weakest readings since last July. Among the larger industrial nations, M-PMIs show the US (to 55.3 from 55.4) has one of the strongest manufacturing sectors, though the Eurozone’s (55.1 from 54.9) rate of expansion nearly matched the US’s. Among Eurozone nations, the Netherlands (58.0, 14-month low), Germany (56.9, 2-month high) and Austria (56.8, 2-month high) continued to have the strongest

M-PMIs, with growth improving slightly in the latter two, but easing to a 14- month low in the Netherlands. Rates of expansion also slowed in Ireland (56.3, 2-month low), Spain (52.9, 11-month low), and Italy (51.5, 21-month low), whereas France's M-PMI (53.3, 2-month high) showed an acceleration in activity; Greece's M-PMI was unchanged at 53.5. Among the two largest Asian economies, M-PMIs showed growth slowed to an eight-month low in China (50.8 from 51.0) and an 11-month low in Japan (52.3 from 53.0), with both below the global average. Also below the average were: India (52.3 from 53.1), the Philippines (50.9 from 52.9), Indonesia (50.5 from 50.3), Thailand (50.1 from 50.1), South Korea (48.3 from 49.8), and Malaysia (49.7 from 49.5)—with manufacturing activity in the latter two contracting through most of this year.

US Manufacturing PMI (*link*): Manufacturing activity slowed again in July, according to the ISM measure, though was not far from February's 14-year high, while IHS Markit's gauge dipped to a five-month low. The ISM M-PMI fell for the first time in three months last month, to 58.1, after rising the prior two months from 57.3 to 60.2; it peaked at 60.8 in February. The new orders index (to 60.2 from 63.5) slowed, though was at 60.0 or above for the 15th straight month, while the production index (62.5 from 58.5) slipped back below 60.0. The new export orders sub-index (55.3) sank for the fourth time in five months since reaching a seven-year high of 62.8 in February. Meanwhile, the supplier deliveries gauge dropped to 62.1 after reaching a 14-year high of 68.2 in June. The employment index (56.5 from 56.0) showed hiring remained at a healthy pace, while inventories (53.3 from 50.8) continued to accumulate. The price index eased for the second month, to 73.2, since climbing to a seven-year high of 79.5 in May. IHS Markit's M-PMI fell for the third month to 55.3, back down to its low for the year posted in February. According to the survey, "The US manufacturing sector continued to expand in July, but shows increasing signs of struggling against headwinds of supply shortages, rising prices and deteriorating exports."

Contact us by email or call 480-664-1333.

Ed Yardeni, President & Chief Investment Strategist, 516-972-7683
Debbie Johnson, Chief Economist, 480-664-1333
Joe Abbott, Chief Quantitative Strategist, 732-497-5306
Melissa Tagg, Director of Research Projects & Operations, 516-782-9967
Mali Quintana, Senior Economist, 480-664-1333
Jackie Doherty, Contributing Editor, 917-328-6848
Valerie de la Rue, Director of Institutional Sales, 516-277-2432
Mary Fanslau, Manager of Client Services, 480-664-1333
Sandy Cohan, Senior Editor, 570-775-6823