MORNING BRIEFING
August 24, 2020

The Future Is Coming

Check out the accompanying chart collection.

(1) Lots of time to compare 2020s to 1920s. (2) Three recessions in the 1920s, and one Great Crash. (3) Beware of the 2030s. (4) Extrapolating 6% annual appreciation trend puts DJIA at 45,000 by 2030. (5) Latest round of technological innovation is just getting started. (6) Industrial Revolution was about brawn, while High-Tech Revolution is about brain. (7) More on the S&P 5-8 versus all the rest. (8) Not all FANGMAN stocks are in tech sector. (9) Movie review: "Fear City: New York vs The Mafia" (+ +).

Strategy I: Roaring '20s, Then & Now. In the August 11 *Morning Briefing*, we suggested that the 1920s—a.k.a. the "Roaring Twenties"—could be a precedent for the 2020s: "So far, the 2020s has started with the pandemic, but there are plenty of years left for the prosperous 1920s to become a precedent for the current decade. If so, the driver of the coming boom will be technology-enhanced productivity, as it was during the 1920s."

So we have a whole decade to keep you updated on how the 2020s compare to the 1920s. Both started with lots of woes. World War I was followed by the Spanish Flu pandemic of 1918, which infected an estimated 500 million people and killed as many as 50 million. Given that the world population was 1.8 billion back then, that implied a 28% infection rate and nearly a 3% death rate. Both stats currently are significantly lower for the COVID-19 pandemic. Today, the global population is 7.5 billion. There have been 23.2 million cases and 805,000 deaths worldwide as of yesterday.

Both decades started with recessions. In fact, the Roaring '20s included three recessions: from January 1920 to July 1921, May 1923 to July 1924, and October 1926 to November 1927 (*Fig. 1*). The available data compiled by the Fed show that industrial production doubled from January 1921 through the July 1929 peak, which was followed by a 54% plunge through July 1932.

The Dow Jones Industrials Average (DJIA) peaked at 119.62 on November 3, 1919 and dropped 46.6% to 63.90 through August 24, 1921. But then a roaring bull market was afoot,

with the DJIA soaring 496.5% to peak at 381.17 on September 3, 1929 (*Fig. 2*). It then crashed 89.2% to 41.22 on July 8, 1932. The S&P 500 rose 394.9% from August 1921 through September 7, 1929 and then crashed 86.2% through June 1, 1932 (*Fig. 3*).

So we may need to beware of the 2030s; but for now, let's focus on the 2020s. It's hard to imagine that stock prices could increase as much over the rest of this decade as they did during the 1920s, especially given the big 73% jump in the S&P 500 forward P/E from 12.9 on March 23 to 22.3 on Friday. Furthermore, assuming as we do that the bull market that started on March 9, 2009 is still intact, the S&P 500 is already up 402.1% since then. It's been a roaring bull market for well over a decade before the start of the 2020s. Now, consider the following long-term trend analysis:

(1) *S&P 500 earnings & dividends.* We have S&P 500 reported earnings data since Q4-1934 (*Fig. 4*). This series has been trending mostly around a 6% annual growth rate, within a range of 5%-7%, since the start. The same range-bound pattern can be attributed to the S&P 500 dividends series, which starts during Q1-1945 (*Fig. 5*). Including reinvested dividends, the S&P 500's total return index has been growing between 10% and 11% during most of the time since 1935 (*Fig. 6*).

(2) *DJIA and S&P 500 stock price indexes.* The DJIA stock price index (available monthly since the early 1920s) has been tracking a 6% annual appreciation rate since the late 1990s (*Fig. 7*). If it continues to do so, the DJIA will rise to 45,000 by the end of 2030. That's a 61% increase over Friday's close.

Similarly, the S&P 500 stock price index (available monthly since the early 1920s) also has been hugging a 6% trendline since the late 1990s (*Fig. 8*). If it continues to do so, it will hit 4320 by the end of 2030. That's only a 27% increase over Friday's close. That target can easily be adjusted higher or lower by raising or lowering the long-term appreciation rate for the index and/or doing the same for the forward P/E multiple expected in 2030. For example, a 6.5% growth rate would put the S&P 500 closer to 6000, a gain of over 80%.

In any event, that's not exactly the Roaring '20s, but let's recall that the 1920s ended with a meltup that was followed by a meltdown. That could happen again, though we may be experiencing a meltup now. The bottom line is that while history doesn't repeat itself, it does rhyme.

Strategy II: Tech Now & Then. In our August 11 commentary, we discussed the technological innovations that drove the prosperity of the 1920s. Then we discussed the ones that are likely to do the same during the current decade:

“The awesome range of futuristic ‘BRAIN’ technological innovations includes biotechnology, robotics and automation, artificial intelligence, and nanotechnology. There are also significant innovations underway in 3-D manufacturing, electric vehicles [EVs], battery storage, blockchain, and quantum computing.”

In my 2018 book, *Predicting the Markets*, I observed:

“In the past, technology disrupted animal and manual labor. It sped up activities that were too slow when done by horses, such as pulling a plow or a stagecoach. It automated activities that required lots of workers. Assembly lines required fewer workers and increased their productivity. It allowed for a greater division of labor, but the focus was on brawn. Today’s ‘Great Disruption,’ as I like to call it, is increasingly about technology doing what the brain can do, but faster and with greater focus.”

The future is always coming, of course. However, the future is already here to a large extent. Consider the following awesome technologies that are just starting to proliferate in ways that should boost productivity and prosperity:

(1) *Home-based work, education, and entertainment.* The pandemic has transformed the way many people work, pursue an education, and get entertained. They can do all these activities from home because of technologies that allow them to carry on their lives over the Internet. When the pandemic is finally over, many people may go back to their old normal routines. Employers, however, may tell their employees to continue to work from home or closer to home in the suburbs. Reducing or eliminating commutes to work certainly increases productivity. It also cuts the costs of urban office space.

A recent study by the National Bureau of Economic Research compared employee behavior over two eight-week periods before and after shelter-in-place mandates were implemented. Looking at email and meeting metadata, the group calculated that the workday lasted 48.5 minutes longer; the number of meetings increased about 13%, and people sent an average of 1.4 more emails per day to their colleagues.

(2) *Telemedicine.* Telemedicine allows patients to visit with clinicians remotely using virtual technology. Innovative uses of telemedicine are increasing with advances in telehealth platforms and remote patient-monitoring technology. New mobile health apps and wearable monitoring devices help track a patient's vitals, provide alerts about needed care, and help patients access their physician. Over the last few months, millions of people have relied on video or telephone calls to talk to their doctors.

During the coronavirus pandemic, the Centers for Medicare and Medicaid Services (CMS) has taken unprecedented action to expand telehealth for Medicare beneficiaries. On March 13, 2020, President Trump made an emergency declaration under the Stafford Act and the National Emergencies Act empowering CMS to issue waivers to Medicare program requirements to support healthcare providers and patients during the pandemic. One of the first actions CMS took under that authority was to expand Medicare telehealth on March 17, 2020, allowing all beneficiaries to receive telehealth in any location, including their homes.

Before the public health emergency, approximately 13,000 beneficiaries in fee-for-service Medicare received telemedicine in a week. In the last week of April, nearly 1.7 million did so. In total, over 9 million beneficiaries have received a telehealth service during the public health emergency, mid-March through mid-June, according to a July 15 HealthAffairs blog post.

(3) *6G.* An August 21 article in SingularityHub, titled "6G Will Be 100 Times Faster Than 5G—and Now There's a Chip for It," reports the following:

"Though 5G—a next-generation speed upgrade to wireless networks—is scarcely up and running (and still nonexistent in many places) researchers are already working on what comes next. It lacks an official name, but they're calling it 6G for the sake of simplicity (and hey, it's tradition). 6G promises to be up to 100 times faster than 5G—fast enough to download 142 hours of Netflix in a second—but researchers are still trying to figure out exactly how to make such ultra-speedy connections happen."

However, this technology probably won't be available for prime time until 2030. For now, we'll have to settle for 5G. The pandemic has slowed the rollout of 5G at the same time as it has increased the demand for the technology to facilitate working remotely by boosting data transmission speeds. Nevertheless, the rollout should continue during the second half of this year into 2021. When it becomes truly accessible, it promises to be more than 30 times faster

than the average 4G download speed and to revolutionize self-driving cars, augmented reality, and the Internet of Things.

(4) *Robotics, automation, and 3D manufacturing.* The August 18 issue of *National Geographic* featured an article titled "The robot revolution has arrived." The COVID-19 pandemic has significantly boosted the interest in having robots do more of what humans did before the health crisis. In many instances, it is simply the medically wise alternative to using infection-prone humans. The article reports:

"Already, in 2020, robots take inventory and clean floors in Walmart. They shelve goods and fetch them for mailing in warehouses. They cut lettuce and pick apples and even raspberries. They help autistic children socialize and stroke victims regain the use of their limbs. They patrol borders and, in the case of Israel's Harop drone, attack targets they deem hostile."

The pandemic disrupted global supply chains. One likely outcome is that manufacturers will increasingly explore ways to work with suppliers closer to home. Instead of just-in-time inventories, companies will be looking for ways to have just-in-case inventories available in the event of future supply disruptions. They are increasingly using 3D printers to produce parts on demand to the exact specification and in the exact numbers required—reducing wait time and safeguarding against external disruptions.

Robots, automation, and 3D printers are revolutionizing manufacturing. An August 21 article in engineering.com reports:

"Mighty Buildings claims to increase the efficiency and reduce the waste in building modern homes. Drawing from foundations in robotics, manufacturing and sustainability, Mighty Buildings' goal is no less than the reimagination of the construction sector. The company uses a combination of 3D printing and prefab techniques to automate up to 80 percent of the building process for greater productivity. … According to the Oakland, Calif.-based startup, they can build a 350-square-foot studio unit in under 24 hours while using 95 percent fewer labor hours at twice the speed of traditional manufacturing methods."

If one of the consequences of the pandemic is de-urbanization, there will be more suburbanites who will need to buy one or more cars to get around their small towns. The August 7 *Forbes* reports:

“A mass shift to single-occupancy vehicles is occurring nationwide according to new research from Cornell University, which poses a major traffic and pollution problem in many cities. The solution, according to today’s most influential automakers, is to accelerate the development of electric, driverless cars programmed by artificial intelligence.”

Volkswagen AG pledged more than a fifth of its vehicles will be electric by 2025, while investing 44 billion euros ($52 billion) on autonomous driving and “mobility services” by 2023.

By the end of the 2020s, autonomous drones carrying passengers and cargo could be as ubiquitous as in the old television cartoon *The Jetsons*. EHang, a Chinese company, reportedly is ahead of the pack with its autonomous aerial vehicle, or AAV. A user can summon an EHang drone using an app. The drone lands at a predetermined spot near the requested pick-up location. It can carry up to two passengers with a combined weight of under 440 pounds and travel up to 32 kilometers (22 miles) on a single charge.

(5) *Batteries.* The outlook for EVs and drones depends largely on progress made in increasing the capacity and service lives of large batteries while reducing their weight, as Jackie and I have often discussed in the past. The future may belong to solid-state batteries, which reportedly could be available by 2025. That’s the same year that the world’s biggest automakers plan to launch an array of new electric models.

Strategy III: The S&P 5-8 vs the Rest. High-tech spending on IT equipment, software, and R&D rose to a record $1.33 trillion (saar) during Q2-2020 (*Fig. 9*). It jumped to a record 50.1% of total capital spending in nominal GDP during the quarter (*Fig. 10*). Equipment and software accounted for 31.1% and R&D 19.1% of capital spending in nominal GDP.

This certainly helps to explain why the “S&P 5” now accounts for a record 25.7% of the market capitalization of the S&P 500 (*Fig. 11*). The S&P 5 is the group of five top companies in the S&P 500 by market capitalization. Currently, they are Apple ($2.1 trillion), Amazon ($1.6 trillion), Microsoft ($1.6 trillion), Google’s parent Alphabet ($1.1 trillion), and Facebook ($0.8 trillion). We also call them the “Magnificent Five,” or the “FAAGMs.”

The previous record high for the Magnificent Five’s market cap share was 18.5% during March 2000, when the five were Microsoft, Cisco, GE, Intel, and Exxon. Often added to the current list is Netflix ($0.2 trillion), resulting in “FAANGM.” The acronym Joe and I use for the Magnificent Seven, including Nvidia ($0.3 trillion), is “FANGMAN.”

Tesla's ($0.4 trillion) market-cap rise has also caught our eye, even though Tesla isn't part of the S&P 500. If it is included, the acronym will be "FANGMANT." Then we can compare the S&P 8 to the S&P 492. Consider the following:

(1) *Sector weights.* FANGMANT is often considered to be composed wholly of technology stocks. However, only Apple, Microsoft, and Nvidia are in the S&P 500's Information Technology sector, accounting for a whopping 51.1% of its market cap (*Fig. 12*). Facebook, Netflix, and Google's parent Alphabet account for 66.6% of the market cap of the Communication Services sector. Amazon accounts for 51.3% of the Consumer Discretionary sector, which will be home to Tesla if it is added to the S&P 500 as an auto manufacturer.

(2) *Revenues and earnings growth.* Since the start of 2015 through the August 21 week, the forward revenues and earnings growth rates of the FAANGMs were 126% and 110%, leaving the S&P 494 in the dust with 4.1% and 4.2% growth rates (*Fig. 13* and *Fig. 14*).

(3) *Valuation.* In a world of near-zero bond yields, what should be the forward P/E of the FAANGMs as well as the rest of the S&P 500? Since 2015, the FAANGMs have generated forward earnings growth of about 20% per year on average. The forward P/E of the FAANGMs is currently 42.9 (*Fig. 15*). That seems like a reasonable valuation multiple under the circumstances. Excluding the FAANGMs, the multiple of the S&P 494 is currently 19.3 (*Fig. 16*). That seems a wee bit pricey for very little earnings growth, but dividend-paying stocks remain attractive in a world with bond yields at historic lows.

Movie. "Fear City: New York vs The Mafia" (+ +) (*link*) is about the Commission, which essentially hijacked New York City during the 1980s. The Commission consisted of the heads of the five Mafia families that extorted billions of dollars from various New York City industries. Among the most lucrative businesses for the Mob back then was concrete. There was a skyscraper building boom in NYC during the 1980s. Developers like Donald Trump were forced to pay a big markup for the essential building material from the concrete industry that was monopolized by the five families. New York State Attorney General Rudi Giuliani, with the help of lots of wiretap evidence collected by the FBI, was able to charge, arrest, and indict the five Mafia bosses all in one sweep.

CALENDARS

US: Mon: Chicago Fed National Activity Index. **Tues:** Consumer Confidence 93.0, New Home Sales 786k, S&P Case-Shiller Home Price Index 3.6% y/y, Richmond Fed Manufacturing Index, API Crude Oil Inventories, Daly. (DailyFX estimates)

Global: Mon: None. **Tues:** Germany Ifo Business Climate, Current Conditions, and Expectations 92/87/98, Germany GDP -10.1%q/q/-11.7%y/y. (DailyFX estimates)

STRATEGY INDICATORS

Global Stock Markets Performance (*link*): Last week saw the US MSCI index rise 1.0% for its seventh gain in eight weeks and post record highs for a second straight week and for the first time since 2/19. The index ranked 10th of the 49 global stock markets we follow in a week when just 19/49 countries rose in US dollar terms, and the AC World ex-US index lost 0.7% as most regions declined. The US MSCI index was out of a correction for an eighth week after slipping back the week before that for the first time in five weeks. BRIC was the best-performing region last week, with a gain of 1.1% followed by EM Asia (0.3%). EM Eastern Europe (-5.1) was the biggest underperformer, followed by EM Latin America (-3.2), EMU (-1.6), EMEA (-1.3), and EAFE (-1.0). Sri Lanka was the best-performing country last week, with a gain of 5.3%, followed by Turkey (3.1), Egypt (2.5), New Zealand (2.4), and China (2.2). Among the 29 countries that underperformed the AC World ex-US MSCI last week, Russia fared the worst, with a decline of 5.8%, followed by Korea (-4.3), Brazil (-4.1), and Austria (-4.1). The US MSCI's ytd ranking improved two places to 6/49 as its ytd gain improved to 6.6% from 5.6% a week earlier. It's way ahead of the 6.0% ytd decline for the AC World ex-US. EM Asia is the best regional performer ytd with a gain of 6.3%, followed by BRIC (1.6). The worst-performing regions ytd: EM Latin America (-33.1), EM Eastern Europe (-22.8), EMEA (-18.3), EMU (-8.2), and EAFE (-7.7). The best country performers ytd: Denmark (21.0), China (15.0), Taiwan (10.2), New Zealand (10.0), and Finland (7.4). The worst-performing countries so far in 2020: Colombia (-43.8), Brazil (-37.2), Greece (-36.3), Austria (-30.0), and Turkey (-28.2).

S&P 1500/500/400/600 Performance (*link*): The performance for these indexes diverged last week as two of the three market-cap indexes fell and just seven of the 33 sectors advanced. LargeCap rose for a fourth straight week, but the SMidCaps were down for the first time in six weeks. SmallCap fell 2.5% for the week, worse than the 2.0% decline for MidCap and the 0.7% gain for LargeCap. LargeCap ended the week at a record high for the first time since

2/19. It has been out of a bear market for 19 weeks, and out of a correction for eight straight weeks. MidCap was out of a correction for a third week but weakened to 9.3% below its record high on 1/16. SmallCap was out of a bear market for a third week but remained in a correction as it dropped to 18.5% below its 8/29/18 record. The number of sectors that rose last week, seven, was down from 22 rising a week earlier. Only LargeCap Tech and MidCap Consumer Discretionary ended the week at a record high, but 13 sectors are now out of a correction. LargeCap Tech was the best performer last week with a gain of 3.5%, ahead of LargeCap Consumer Discretionary (2.4), SmallCap Health Care (2.1), and LargeCap Communication Services (1.7). SmallCap Energy was the biggest underperformer last week with a drop of 10.8%, followed by MidCap Energy (-8.5), LargeCap Energy (-6.1), MidCap Financials (-4.8), and SmallCap Financials (-4.6). LargeCap is the only index that's risen for the year so far, with a gain of 5.1%, ahead of MidCap (-7.4) and SmallCap (-12.4). Thirteen of the 33 sectors are now up so far in 2020, with the best performers led by LargeCap Information Technology (28.6), LargeCap Consumer Discretionary (23.1), MidCap Health Care (13.0), LargeCap Communication Services (10.3), and MidCap Consumer Staples (9.7). The biggest laggards of 2020 to date: SmallCap Energy (-52.4), MidCap Energy (-42.9), LargeCap Energy (-41.0), SmallCap Financials (-29.2), and MidCap Real Estate (-26.4).

S&P 500 Sectors and Industries Performance (*link*): Four of the 11 S&P 500 sectors rose last week, and three outperformed the composite index's 0.7% gain. That compares to a 0.6% gain for the S&P 500 a week earlier, when eight sectors rose and six outperformed the index. Tech's 3.5% gain made it the best performer for the week, ahead of Consumer Discretionary (2.4%) and Communication Services (1.7). Energy was the week's biggest underperformer with a decline of 6.1%, followed by Financials (-3.4), Utilities (-1.7), Industrials (-1.5), Materials (-1.3), Health Care (0.0), Real Estate (0.0), and Consumer Staples (0.2). The S&P 500 is now up 5.1% so far in 2020, with three sectors ahead of the index and six in positive territory. The leading sectors ytd: Information Technology (28.6), Consumer Discretionary (23.1), and Communication Services (10.3). The laggards of 2020 so far: Energy (-41.0), Financials (-21.2), Utilities (-8.5), Real Estate (-7.5), Industrials (-6.3), Materials (0.8), Consumer Staples (1.7), and Health Care (4.6).

Commodities Performance (*link*): Last week, the S&P GSCI index rose 0.3% for its 13th gain in the past 17 weeks. It's now down 20.5% from its recent high on 1/6, and still in a severe bear market at 29.7% below its cyclical high on 10/3/18. Wheat was the best performer last week, with a gain of 5.0%, followed by Kansas Wheat (4.8%), Zinc (3.7), and Natural Gas (3.1). GasOil was the biggest decliner for the week, with a drop of 3.4%, followed by Heating

Oil (-2.5), Sugar (-2.1), and Cocoa (-1.8). Eight of the 24 commodities that we follow are higher so far in 2020: Silver (50.0), Gold (27.8), Natural Gas (17.5), Zinc (7.5), and Copper (5.3). The worst performers ytd: GasOil (-40.3), Heating Oil (-39.3), Brent Crude (-31.9), Crude Oil (-30.7), and Unleaded Gasoline (-28.2).

S&P 500 Technical Indicators (*link*): The S&P 500 rose 0.7% last week, but was mixed relative to both its short-term, 50-day moving average (50-dma) and its long-term, 200-day moving average (200-dma). It was above its 50-dma for a 19th week after seven weeks below, and above its 200-dma for the 12th time in 12 weeks. It had been below its 200-dma for 13 weeks through late May, matching its prior streak that ended during February 2019. The index's 50-dma relative to its 200-dma improved for a 14th week after 12 declines and was in a Golden Cross (with 50-dmas higher than 200-dmas) for a seventh week after 15 weeks in a Death Cross. Before the 2020 meltdown, it had last been in a Death Cross for 13 straight weeks ending in March 2019. The index's 50-dma improved last week to 4.8% above its 200-dma from 4.2% above in the prior week. It had been 9.9% below in mid-May, which was the worst reading since May 2009. During late February, the 50-dma had been 7.6% above its 200-dma, which was the highest since May 2012. The S&P 500's 50-dma rose for a 14th week after declining for 12 straight weeks. However, the price index edged down to 5.4% above its rising 50-dma from 5.5% above its rising 50-dma a week earlier. The early June reading of 11.7% above its 50-dma had been the highest since May 2009, when it peaked at a record high of 14.0%. That compares to 27.7% below on 3/23—its lowest reading since it was 29.7% below on Black Monday, 10/19/87. The 200-dma rose for a 14th week as well. It had been rising for 39 weeks through early March. The index was above its 200-dma for an eighth week after falling below the week before that for the first time in five weeks. It had been above for 38 weeks through mid-February. It ended the week 10.5% above its rising 200-dma, compared to 9.9% above a week earlier. That's up from 26.6% below on 3/23—the lowest reading since March 2009 and down from a 24-month high of 11.2% in mid-February. That compares to a seven-year high of 13.5% above the index's rising 200-dma during January 2018 and 14.5% below on 12/24/18, which was then the lowest since April 2009. At its worst levels of the Great Financial Crisis, the S&P 500 index was 25.5% below its 50-dma (on 10/10/08) and 39.6% below its 200-dma (11/20/08).

S&P 500 Sectors Technical Indicators (*link*): Ten of the 11 S&P 500 sectors traded above their 50-dmas last week, unchanged from a week earlier and leaving Energy as the only sector trading below its 50-dma. That compares to all 11 sectors above in the three weeks around the start of June. Seven sectors traded above their 200-dmas, also unchanged from a week

earlier. Energy, Financials, Real Estate, and Utilities are the only sectors trading below their 200-dma. That compares to just one sector (Health Care) above its 200-dma in early April. Six sectors are now in the Golden Cross club (50-dmas higher than 200-dmas), unchanged from a week earlier. Sectors still in a Death Cross: Energy, Financials, Industrials, Real Estate, and Utilities. At the prior low during February 2019, just two sectors (Real Estate and Utilities) were in the club. Energy has not been in a Golden Cross for 94 straight weeks, and its 50-dma fell for a fourth week after briefly rising the week before that. Ten sectors have a rising 50-dma, up from seven a week earlier; Financials, Real Estate, and Utilities reversed course and turned back up in the latest week. In early June, the 50-dma had been rising for all 11 sectors for three straight weeks. That's a big improvement from the beginning of May, when all 11 had falling 50-dmas for ten straight weeks. Six sectors have rising 200-dmas, unchanged from a week earlier. Sectors with rising 200-dmas: Communication Services, Consumer Discretionary, Consumer Staples, Health Care, Materials, and Tech. Financials' 200-dma was down for a 25th week, so long for the first time since late August. Energy's 200-dma has been mostly falling since October 2018.

US ECONOMIC INDICATORS

Leading Indicators (*link*): Leading indicators moved higher in July for the third month, though the Conference Board warned "the initial post-pandemic recovery appears to be losing steam." Leading Economic Indicators (LEI) advanced 1.4% last month, half the pace of both the upwardly revised June increase of 3.0% (from 2.0%) and May's record 3.1% advance. It had plummeted 13.2% during the two months ending April. In July, six of the 10 components contributed positively to the LEI, while four contributed negatively. The indicators posting the biggest positive contributions were the average workweek (+0.56ppt), building permits (+0.50), and jobless claims (+0.37), with the average workweek and jobless claims topping contributors for the third straight month; the contributions from stock prices (+0.13) and the new orders diffusion index (+0.12) were also notable. Consumer expectations (-0.11ppt) was the biggest negative contributor to July's LEI, posting its fifth consecutive drag on the index, with the leading credit index (-0.08), real core capital (-0.06), and real consumer (-0.06) goods orders also weakening. According to Ataman Ozyildirim, senior director of economic research at The Conference Board, "Despite the recent gains in the LEI, which remain fairly broad-based, the initial post-pandemic recovery appears to be losing steam. The LEI suggests that the pace of economic growth will weaken substantially during the final months of 2020."

Coincident Indicators (*link*): The Coincident Economic Index (CEI) increased for the third month in July after a record plunge in April. The CEI climbed 1.2% last month, following record gains of 2.9% (vs 2.5% preliminary) and 2.4% in June and May, respectively. It's 7.9% below its record high posted in February. All four components of the CEI contributed positively in July—with payroll employment and industrial production finishing first and second for the third consecutive month: i) Payroll employment climbed 1.763 million in July, following gains of 4.791 million and 2.725 million the prior two months, while private payrolls climbed 1.462 million after gains of 4.737 million and 3.236 million during June and May, respectively. Total and private payroll employment advanced 9.279 million and 9.435 million, respectively, during the three months ending July, after plunging 22.160 million and 21.191 million during the two months through April. The former has recovered 42.0% of the jobs lost at the start of the pandemic, the latter 44.5%. ii) Industrial output improved in July for the third straight month, though remains considerably below February's pre-crisis level. Output recovered 3.0% in June and 9.8% in the three months through July after plummeting a record 16.6% the prior two months—leaving it 8.3% below February's level. More impressive was the 15.2% rebound in manufacturing over the three months ending July after a two-month drop of 20.1%. iii) Real personal income less transfer payments ticked up 0.3% in July after climbing 1.4% in each of the prior two months—with June's initial estimate of a 0.1% uptick revised substantially higher. Income had plunged 8.4% during the two months ending April. iv) Real manufacturing & trade sales advanced 0.7% last month, following a 1.1% loss and a 7.6% gain the prior two months; it's been bouncing in a volatile flat trend, 7.1% above April's bottom and 8.6% below February's record high. (Note: Latest data for both real personal income less transfer payments and real manufacturing & trade sales are estimated using statistical imputations to address the problem of lags in available data.)

Regional M-PMIs (*link*): Two Fed districts have now reported on manufacturing activity for August (New York and Philadelphia) and show the manufacturing sector continued to expand this month, though at half the pace of last month, as activity slowed sharply in the New York region. The composite index fell to 10.5 this month after soaring from a record low of -67.4 in April to 20.7 by July, as activity slowed in both the Philadelphia (to 17.2 from 24.1) and New York (3.7 from 17.2) regions, though Philly's remained at an elevated rate. Meanwhile, August's new orders measure followed a similar course, falling to 8.7 after jumping from a record low of -68.6 in April to 18.5 in July, as billings in the Philadelphia (to 19.0 from 23.0) region remained solid, while New York's (-1.7 from 13.9) weakened substantially. In the meantime, factories added to payrolls at a subdued rate this month, dipping to 5.7 following a

jump from a record low of -51.0 in April to 10.3 in July. Philadelphia (to 9.0 from 20.1) manufacturers hired at half July's pace, while New York's (2.4 from 0.4) remained around the breakeven point between contraction and expansion.

Existing Home Sales (*link*): Sales posted back-to-back record gains in June and July, catapulting existing home sales to 1.7% above its pre-pandemic level. Existing home sales—tabulated when a purchase closes—rebounded a record 24.7% in July and 49.9% during the two months ending July to 5.86mu (saar), its best reading since mid-2006. Sales had plunged 32.1% during the three months through May to 3.91mu (saar)—which was the lowest sales pace since October 2010. Both single- (+47.9% to 5.28mu, saar) and multi-family (+70.6 to 580,000units) sales posted sharp gains over the two months through July, after plunging 30.8% and 43.3%, respectively, during the three months through May. Existing home sales exploded in every region during July, with only sales in the Northeast still below year-ago levels. Here's a look at the sales performance in July and year over year: Northeast (30.6% m/m & -5.9 y/y), West (30.5 & 7.8%), Midwest (27.5 & 10.3), and South (19.4 & 12.6). Total inventory on the market was at 1.50mu at the end of July, down 2.6% from June and 21.1% from last July's 1.90mu. "The number of new listings is increasing, but they are quickly taken out of the market from heavy buyer competition," said Lawrence Yun, NAR's chief economist. "With the sizable shift in remote work, current homeowners are looking for larger homes and this will lead to a secondary level of demand even into 2021." On August 12, NAR released its latest data for metro home prices, which found that in 2020's second quarter, median single-family home prices increased in 96% of metro markets when compared to a year earlier.

GLOBAL ECONOMIC INDICATORS

US PMI Flash Estimates (*link*): Business activity in the private sector has bounced back above pre-pandemic levels, according to this month's flash estimates, with both the manufacturing and service economies contributing. August's C-PMI has improved steadily since bottoming at 27.0 in April, climbing to an 18-month high of 54.7 this month. Both the M-PMI (to 53.6 from 36.1 in April) and NM-PMI (54.8 from 26.7) showed activity accelerating at their best pace since January 2019 and March 2019, respectively. Manufacturers noted an acceleration in both new orders and production, with firms experiencing the first rise in foreign client demand since December 2019. Many goods producers noted that the restarting of business operations and the reopening of clients had helped to boost sales—with larger orders being placed by some companies. Meanwhile, the service sector got a boost from a renewed increase in sales following five months of declines. As for pricing, the report noted that "cost

burdens surged higher amid reports of greater raw material prices. Although manufacturers increased their selling prices at a faster rate to help compensate, service sector firms noted that competitive pressures and discounting to attract customers had stymied their overall pricing power."

Eurozone PMI Flash Estimates (*link*): Business activity in the Eurozone lost momentum this month, according to flash estimates, led by a slowing in service activity back near the breakeven point of 50.0. The C-PMI slipped to a two-month low of 51.6 this month after accelerating from an all-time low of 13.6 in April to a 25-month high of 54.9 in July. The NM-PMI shows the service sector, which was the hardest hit by the pandemic and on an upward trajectory the past few months, weakened considerably this month, falling to 50.1; it had rebounded from a record low of 12.0 in April to 22-month high of 54.7 in July. Meanwhile, the M-PMI was little changed at 51.7 this month, after recovering from 33.4 in April to a 20-month high of 51.8 last month. Looking at the top two Eurozone economies, Germany showed only a modest slowdown in growth this month, while France suffered a loss in momentum after a sharp acceleration in growth during July. Germany's August C-PMI slipped to 53.7 after soaring from 17.4 in April to a 23-month high of 55.3 in July, as the NM-PMI fell from 55.6 in July to 50.8 this month. Meanwhile, the manufacturing sector expanded at its fastest pace in nearly two years, with the M-PMI (to 53.0 from 51.0 in July) continuing to accelerate this month from its 34.5 bottom in April. France's C-PMI dropped to 51.7 this month—after soaring from a record low 11.1 in April to a 29-month high of 57.3 in July—as both the NM-PMI (to 51.9 from 57.3) and the M-PMI (49.0 from 52.4) deteriorated this month, with the latter falling back into contractionary territory. Meanwhile, the rest of the region—i.e., outside of France and Germany—continued to decline in August. The report noted that August's contraction was only marginal, as new orders fell slightly while companies cut jobs at a solid rate.

Japan PMI Flash Estimates (*link*): "Private sector downturn persists in August" is the headline of the Jibun Bank report, source of this month's flash estimate, as conditions remain challenging for both manufacturers and service providers. The C-PMI was unchanged at 44.9 in August after improving steadily from April's 25.8 bottom. Both the M-PMI (to 46.6 from 45.2) and NM-PMI (45.0 from 45.4) show the manufacturing and service sectors continued to contract in August, the former at a slightly slower pace and the latter at a slightly faster pace. The report warned: "The prospect of a solid recovery remains highly uncertain as Japanese firms were pessimistic about the business outlook on balance during August. Rising unemployment may also hit domestic household income and spending in the months ahead."

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