Yardeni Research

MORNING BRIEFING
December 19, 2019

Chips for the Holidays

Season's Greetings and Happy New Year!
The next *Morning Briefing* will be sent on January 6, 2020.

See the collection of the individual charts linked below.

(1) FedEx and Boeing are downers in an otherwise up year. (2) Tech and Nasdaq come out ahead. (3) Semi Equipment is the best-performing S&P 500 industry in 2019. (4) Semi stocks are saying the cycle's bottom is in, and good times are ahead. (5) 5G's rollout means more equipment, more devices, and more chips. (6) Analysts upgrading semis. (7) Offering AI services makes you cool.

Strategy: A Strong Year for Almost Everyone. For a year that started on a sour note, 2019 sure looks about to end fabulously. Despite the December 2018 correction, the market rallied this year, helped by the Federal Reserve's midyear about-face and the recent cooling in the US trade war with China. The S&P 500 is up 27.4% ytd through Tuesday's close, and many sectors and industries boast even stronger results.

Here's the performance derby for the S&P 500 sectors ytd through Tuesday's close: Information Technology (45.0%), Communication Services (29.8), Financials (29.4), S&P 500 (27.4), Industrials (26.4), Consumer Discretionary (24.5), Consumer Staples (23.2), Utilities (20.8), Real Estate (20.0), Materials (20.0), Health Care (17.4), and Energy (5.5) (*Fig. 1*).

Recent headlines have been filled with tales of woe from two large US companies: FedEx and Boeing. Fortunately, neither is big enough to have a large impact on the S&P 500. And neither FedEx's nor Boeing's ills reflect a weak US economy. New competition from Amazon and a troubled European merger are primarily what has hurt FedEx. Meanwhile, Boeing's shares have risen only 1.4% ytd due to engineering problems with the 737 Max.

FedEx is down 8.6% ytd after selling off on Wednesday in the wake of its poor earnings report and after lowering its earnings estimate for this fiscal year (ending May). The company does make up 7% of the S&P 500 Transportation index's market capitalization. While the Transports have risen 19.1% ytd through Tuesday's close, they're still 3.8% below their 9/21/18 record high (*Fig. 2*).

In addition to dragging down the S&P 500, Boeing's shares also have weighed down the Dow Jones Industrial Average, which is up 21.2% ytd (*Fig. 3*). The Nasdaq, however, has neither Boeing nor FedEx as constituents, and thanks to the strong returns of tech shares, Nasdaq has had the strongest returns ytd of the three major indexes. It's up 33.0%, a gift for which we can all be thankful (*Fig. 4*).

Technology: Semi Equipment Wins the Day. The S&P 500's top-performing industry so far this year is Semiconductor Equipment, up 96.5%, followed by Technology Hardware, Storage & Peripherals (71.4%), Diversified Support Services (69.0), Computer & Electronics Retail (63.1), and Personal Products (58.4) (*Fig. 5*). The Semiconductors industry was just a bit further down the performance line,

up 40.6% ytd (*Fig. 6*). Here's Jackie's look at some of the news driving semis to the front of the pack:

(1) *A bottom has arrived.* The notoriously cyclical semiconductor industry started this year in a freefall, but a bottom appears to have been made this summer. Worldwide sales of semiconductors rose 2.9% in October m/m, but sales remains down 13.1% y/y, according to a Semiconductor Industry Association 12/3 press release. The improvement in the three-month moving average of semi sales is impressive, up 9.3% (*Fig. 7*). The World Semiconductor Trade Statistics organization projects sales will increase by 5.9% in 2020 and 6.3% in 2021, after falling 12.8% this year.

Micron Technology confirmed our optimism last night when in its earnings report, its CEO said he was optimistic that the company's current quarter will be the cyclical bottom for its financial performance.

A bottom would be good news for the industry's earnings, which after falling sharply this year are expected to recover in 2020. The Semiconductor Equipment industry's earnings are expected to surge 15.7% in 2020 and 17.1% in 2021 after falling 21.5% this year (*Fig. 8*). And net earnings revisions in November were positive for the first time in 17 months.

Wall Street analysts aren't expecting the earnings recovery in the Semiconductors industry to arrive until 2021, when earnings are forecast to jump 16.5% compared to a 12.4% decline this year and a 1.5% decline in 2020 (*Fig. 9*).

(2) *5G drives recovery.* Some of the excitement around Semis and Semiconductor Equipment centers on the buildout of 5G telecom services. After being discussed for years, the 5G rollout is expected to accelerate next year. Semiconductor chips will be needed in the new equipment used to send and receive 5G signals as well as the new phones and Internet-connected devices.

(3) *Analysts getting excited.* A number of analysts have started upgrading stocks based on the 5G buildout next year. Susquehanna upgraded Western Digital and Micron Technologies to Positive from Neutral on Monday, according to a 12/16 CNBC article. The analyst anticipates improvements in the selling price of DRAM and NAND chips in the May quarter and through H2-2020. A Wedbush analyst raised Micron's rating to Outperform from Neutral due to an "improving memory cycle," a 12/17 Seeking Alpha article reported.

Bank of America's analyst Vivek Arya upgraded Skyworks Solutions and Qorvo to Buy from Underperform, a 12/9 *Barron's* article reported. "In our view, 5G could prove to be one of the more compelling and investible themes in semis, driven by the exponential growth in components required to upgrade ~1.4 billion 4G smartphones and several hundred million IoT [Internet of Things] devices," his report stated.

(4) *Industry players optimistic too.* Applied Materials CEO Gary Dickerson sounded upbeat in the company's 11/14 earnings conference call. "Looking beyond the cycle at the broader context for the electronics industry, it's important to recognize that we are in a period of transition as major new growth drivers emerge in the form of IoT, Big Data, and Artificial Intelligence. Over the next decade, we expect hundreds of billions of edge devices to be deployed, an explosion of data generation, and new approaches to computing to sustainably process and create value from all the data that's available."

And Taiwan Semiconductor Manufacturing, the world's largest contract chip maker, added to the industry's cheer in October when it upped its capital expenditure forecast by almost 40%, a 10/18 *WSJ* article reported. Taiwan Semi manufactures chips designed by others, including Apple, Huawei, AMD, and Qualcomm. So when it's doing well, that means many other industry players are too.

"The Taiwanese bellwether cited 5G, the next-generation wireless network, as the main reason for its confidence in the industry. It expects the penetration rate of 5G smartphones globally to reach midteens next year—more optimistic than its single-digit forecast six months ago," the article stated. 5G phones are expected to have more chips in them than older phones. While the stock market has clearly sniffed out the industry's bounce in advance, these stocks should continue to improve in 2020, as the cycle should last for a year or two before the inevitable next downturn arrives.

Disruptive Technology: All Things AI. Perhaps it's just a coincidence, but the number of companies with AI announcements seems to be multiplying. AI is becoming as buzzy as the Internet was in 1999. Here's a rundown of some of the recent AI news making headlines:

(1) *AI in healthcare.* Cigna is rolling out Health Connect 360 to help patients control chronic conditions like diabetes, heart disease, and pain. "The system aggregates medical, pharmacy, lab and biometric data—such as information from glucometers, which measure blood-sugar levels—into a dashboard that is accessible through an online interface," a 12/12 *WSJ* article reported. The information can be accessed by patients, Express Scripts case managers, nurses, and physicians with access rights. The system's algorithms will analyze the data to make recommendations on ways to improve patient care and ideally prevent costly problems from arising.

(2) *AI in chips.* Intel announced the $2 billion acquisition of Habana Labs, a startup that makes AI chips used in data centers to help customers analyze data. AI is one of Intel's investing priorities, and the Habana deal follows Intel's 2016 acquisition of Nervana Systems, which specializes in machine learning systems, and its purchase of Movidius in 2016. Movidius specializes in AI and computer vision processors that power the cameras in devices that need to understand what they are seeing, like drones and thermal cameras.

"Intel said it expects the market for chips to power AI to grow to $25 billion by 2024. Almost half that revenue, it said, would be generated from selling chips to be used in big data centers," a 12/16 *WSJ* article noted.

(3) *AI to boost savings.* JPMorgan Chase hopes to use artificial intelligence to tap the data it has about its customers to create new products and services for them. "The bank 'stores about 390 petabytes—or 390 million gigabytes—of data, ranging from information about its customers to data about credit-card transactions,' [CIO Lori] Beer said. The bank also integrates details from about 7,500 alternative data sources, such as public financial statements, census data, social media, satellite images, news sources and market data," a 12/11 *WSJ* article reported.

With that trove of data, JPM could use AI-based virtual assistants to help consumers save money for retirement. It's already using AI to help tailor its marketing messages to customers and to audit the company's employees' travel and expense data.

(4) *AI in 2020.* IBM made five predictions about how AI will advance in 2020, according to a 12/17 Inside HPC article. The company expects more AI systems to use neuro-symbolic technology, which combines learning and logic but requires less data. That should lead to technological breakthroughs that help computers better understand human conversations and allow companies to deploy more conversational automated customer care and technical support tools.

Workers will start feeling the impact of AI more directly in their jobs, and employees should focus on expanding their skills. We'll see the rise of AI to govern AI—to ensure that it's reliable, fair, and accountable. IBM has developed an AI tool to predict the result of millions of chemical reactions, and it

can synthesize molecules in the cloud. IBM expects the system will discover and develop new materials next year.

CALENDARS

US. Thurs: Leading Indicators 0.1%, Jobless Claims 225k, Philadelphia Fed Manufacturing Index 8, Existing Home Sales 5.44mu (-0.4%), EIA Natural Gas Storage. **Fri:** Real GDP & Real PCE 2.1%/2.9%, GDP Price Index 1.8%, Personal Income 0.3%, Nominal & Real Personal Spending 0.4%/0.2%, Headline & Core PCED 1.4%/1.5% y/y, Consumer Sentiment Index 99.2, Kansas City Manufacturing Index -3, Baker-Hughes Rig Count. (DailyFX estimates)

Global. Thurs: UK Retail Sales Including & Excluding Autos 2.1%/2.0% y/y, Gfk Consumer Confidence -14, BOE Asset Purchase Target £435b, BOE Bank Rate 0.75%, Japan Headline, Core, and Core-Core CPI 0.5%/0.5%/0/7% y/y, Lane. **Fri:** Eurozone Consumer Confidence -7.1, UK GDP 0.3%q/q/1.0%y/y, UK Gfk Consumer Confidence 9.8. (DailyFX estimates)

STRATEGY INDICATORS

Stock Market Sentiment Indicators (*link*): The Bull/Bear Ratio (BBR) resumed its climb this week, remaining above 3.00 for the eighth week, as bullish sentiment moved back near its high for this year. The BBR rebounded to 3.34 this week after falling from 3.40 to 3.10 the prior two weeks. Once again, there were wide swings in bullish sentiment and the correction count. Bullish sentiment advanced 4.4ppts to 57.7% this week (just below the 2019 high of 58.1%) after falling 4.8ppts the prior two weeks (to 53.3% from 58.1%), while the correction count sank 4.5ppts to 25.0% after rising 4.7ppts the prior two weeks (29.5% from 24.8%). Bearish sentiment ticked up to 17.3% from 17.2% this week, having fluctuated in a narrow band for most of this year. The AAII Ratio increased to 59.1% last week after falling the previous four weeks from 62.7% to 52.1% over the period. Bullish sentiment rebounded to 37.6% last week after declining the prior three weeks from 40.7% to 31.7%. Bearish sentiment fell for the second week to 26.1% after rising the prior three weeks from 23.9% to 30.3%.

S&P 500 Earnings, Revenues, Valuation & Margins (*link*): Consensus S&P 500 forward revenues and earnings both edged down last week, but are only a bit below their record highs in early October. Forward revenues is 0.1% below its record high then, while forward earnings is down 0.2%. Analysts expect forward revenues growth of 5.1% and forward earnings growth of 9.4%, with the revenue measure up 0.1ppt w/w. Forward revenues growth is down 1.2ppt from a seven-year high of 6.3% in February 2018 and compares to the prior week's 31-month low of 5.0%. Forward earnings growth is down 7.5ppts from a six-year high of 16.9% in February 2018 but is still comfortably above its 34-month low of 5.9% in February 2019. Prior to the passage of the Tax Cuts and Jobs Act (TCJA), forward revenues growth was 5.5% and forward earnings growth was 11.1%. Turning to the annual growth expectations, analysts expect revenues growth to slow from 8.5% in 2018 to 4.0% in 2019 and 5.1% in 2020, but the 2020 estimate rose 0.2ppt w/w. They're calling for earnings growth to slow sharply from 24.0% in 2018 to 1.1% in 2019 before improving to 9.1% in 2020. The forward profit margin was steady w/w at a five-month low of 12.0% and is down only 0.4ppt from a record high of 12.4% in September 2018. That compares to 11.1% prior to the passage of the TCJA in December 2017 and a 24-month low of 10.4% in March 2016. Analysts are expecting the profit margin to drop 0.3ppt y/y from 11.9% in 2018 to 11.6% in 2019 before improving to 12.0% in 2020. The S&P 500's forward P/E rose 0.2pt w/w to 17.9, close to its 22-month high of 18.1 at the end of November. That's up from 14.3 during December 2018, which was the lowest reading since October 2013 and down 23% from the 16-year high of 18.6 at the market's valuation peak in January 2018. The S&P 500 price-to-sales ratio rose 0.02pt w/w to 2.15, which is near its record high of 2.16, also in late November. That's up from 1.75 during December 2018, when it was the lowest since November 2016, and down 19% from its then-

record high of 2.16 in January 2018.

S&P 500 Sectors Earnings, Revenues, Valuation & Margins (*link*): Consensus forward revenues and earnings rose w/w for three of the 11 S&P 500 sectors last week. Consumer Staples and Information Technology had both measures improve w/w. Forward revenues and earnings are at or around record highs for 4/11 sectors: Consumer Discretionary, Health Care, Industrials, and Tech. Forward P/S and P/E ratios remain near record or cyclical highs for Communication Services, Consumer Discretionary, Information Technology, Real Estate, and Utilities. Financials and Health Care are rebounding from cyclical lows, while the remaining sectors are above their multi-year lows during December 2018. Due to the TCJA, the profit margin for 2018 was higher y/y for all sectors but Real Estate. The outlook for 2019 shows higher margins are expected y/y for two sectors now: Financials and Utilities. The forward profit margin rose to record highs during 2018 for 8/11 sectors, all but Energy, Health Care, and Real Estate. Since then, it has moved lower for nearly all the sectors. Industrials and Utilities are the only sectors with forward profit margins at a record high. Here's how the sectors rank based on their current forward profit margin forecasts versus their highs during 2018: Information Technology (21.8%, down from 23.0%), Financials (18.4, down from 19.2), Real Estate (15.7, down from 17.0), Communication Services (14.9, down from 15.4), Utilities (13.2, record high), S&P 500 (12.0, down from 12.4), Health Care (10.5, down from 11.2), Industrials (10.5, record high), Materials (10.3, down from 11.6), Consumer Discretionary (7.4, down from 8.3), Consumer Staples (7.4, down from 7.7), and Energy (6.3, down from 8.0).

GLOBAL ECONOMIC INDICATORS

Eurozone CPI (*link*): November's CPI headline rate moved back up to 1.0%, matching the flash estimate, after falling from 1.0% in July/August to 0.7% in October (which was the lowest since November 2016). It was the 13th consecutive month the headline rate was below 2.0%. Meanwhile, the core rate climbed further above 1.0%, from 0.9% during July/August to a seven-month high of 1.3% in November—back up at April's two-year high. Looking at the main components, food, alcohol & tobacco (to 1.9% from 1.5%) and services (1.9 from 1.5) recorded the highest rates—with both accelerating from October. The rate for non-energy industrial goods (0.4 from 0.3) edged higher for the second month, continuing to fluctuate just above zero. Meanwhile, the rate for energy (-3.2 from -3.1) fell further below zero, easing steadily from March/April's rate of 5.3%. Of the top four Eurozone economies, rates in Germany (1.2% y/y) and France (1.2) were above November's headline rate of 1.0%, while Spain's (0.5) and Italy's (0.2) were below—with Italy's posting the lowest rate among Eurozone members.

Germany Ifo Business Climate Index (*link*): "The German economy is heading into the New Year with more confidence," according to Clemens Fuest, president of Ifo, as business confidence continued to climb in December after falling fairly steadily for almost two years. Germany's Ifo Business Climate index climbed to a six-month high of 96.3 after bottoming at 94.4 in August, led by the expectation component, which ended 2019 at 93.8, up from its September bottom of 90.9. The move up in the present situation component was more muted, rising from its bottom of 97.5 in August to 98.8 in December. Sentiment in the service sector (21.3 from 13.3 in August) continued to improve, with the expectations component (5.3 from -3.5) moving further into positive territory over the period. The manufacturing sector remains stuck in a recession, though looks to have found a bottom, with expectations (to -10.8 from -16.8 in August) climbing to a seven-month high. Construction remains in a rut, with sentiment falling to a 22-month low of 17.9—as the expectations component (-5.3) sank to its lowest level since December 2014.

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