MORNING BRIEFING
September 28, 2017

Good Rotations

See the collection of the individual charts linked below.

(1) Remember risk-off/risk-on? (2) Follow the changing leaders. (3) Vertical integration creating more competition in semiconductor space. (4) Everybody wants to make designer chips. (5) GPUs for AR, VR, and AI. (6) Law of supply and demand pushing up some wages. (7) Fresh air in Beijing during mid-October. (8) China's strong man will get five more years in office, guaranteed. (9) China's economy continues to roll along thanks to lots of debt, which might be restructured into equities.

Strategy: Panics, Rotations & the Bull. The current bull market has been prone to panic attacks because the preceding bear market was so traumatic. Joe and I have counted 57 so far since March 9, 2009. The panic attacks were associated with "risk-off" trades involving a shift of funds from risky to safe stocks, e.g., from industrials to utilities. When the panic passed, it was back to "risk-on" trades. The bull market has also been associated with recurring "leaders-laggards" trades. Consequently, the bull market has been a broad one as leaders stall, allowing laggards to catch up and even lead for a while, then reassume leadership, and so on (*Fig. 1*).

The risk-on/risk-off phenomenon hasn't been discussed much lately because the overall market has had fewer, shorter, and less severe panic attacks since early 2016. The leaders-laggards trades continue nonetheless. Consider the leaders and laggards since the current mini-bull run, which started on February 11, 2016:

(1) Since then, the S&P 500 is up 36.5% (*Table 1*). Here is the S&P 500 sectors' performance derby since then: Financials (59.2%), IT (56.6), Materials (44.8), Industrials (42.3), S&P 500 (36.5), Consumer Discretionary (30.9), Health Care (28.3), Energy (24.0), Real Estate (20.1), Utilities (17.6), Consumer Staples (10.7), and Telecom Services (2.6).

(2) Here is the S&P 500 sectors' performance derby during the two years prior to the mini-bull market, from January 2, 2014 through February 11, 2016 (*Table 2*): Utilities (21.6%), Consumer Staples (15.5), Health Care (14.8), Real Estate (11.9), IT (10.0), Consumer Discretionary (3.1), Telecom Services (1.9), S&P 500 (-0.2), Industrials (-5.1), Financials (-9.6), Materials (-15.6), and Energy (-36.8).

Industry Focus: Chip Dip. Two recent examples of leaders that turned into laggards are the S&P 500 Semiconductor and Semi Equipment industries. Ytd through 9/19, the S&P 500 Semiconductors index was up 19.2%, and the S&P 500 Semiconductor Equipment index had risen 50.5%. On the ensuing five trading days, those industries were among the worst performers, down 2.9% and 4.4%, respectively (*Fig. 2* and *Fig. 3*).

Sentiment wasn't helped by a CNBC report that Tesla was developing its own chip for autonomous driving instead of purchasing chips presumably from Nvidia, its current provider. A number of companies, including Apple, Google, and Microsoft, are also developing their own chips and opting for vertical integration—i.e., developing the parts needed for their products in-house instead of turning to suppliers. Let's look at a few examples of this move toward vertical integration:

(1) *Driven mad*. Tesla appears to be the latest company developing its own semiconductor chips. A 9/20 CNBC article reported that Tesla is working with AMD to refine a new chip to be used for autonomous driving in its cars. Tesla has been using Nvidia graphics processing units (GPUs). But Tesla is now building a chip that uses AMD intellectual property and hopefully will be more power efficient. Heading Tesla's project is Jim Keller, who joined Tesla in early 2016 after working at AMD and Apple.

CNBC explained that GPUs, like those Nvidia builds for various artificial intelligence (AI) workloads, are capable of doing many things and aren't specialized. By developing custom chips with just a few narrow computing jobs in mind, the custom chip can be faster and more power-efficient. "Plus, Tesla would be less impacted by pricing dictated by Nvidia if it switches to in-house hardware."

(2) *Vertical-integrating Apple*. Earlier this year, Imagination Technologies announced that Apple would no longer buy Imagination's GPUs. Instead, Apple would develop its own chips for the graphics on iPhones and iPads. Apple proceeded to hire a "bevy" of Imagination's engineers and its chief operating officer, a 9/22 Bloomberg article reported. Apple also opened its own R&D center close to Imagination's UK offices. And when the new iPhone 8 was unveiled earlier this month, it contained Apple's new A11 Bionic SoC.

"If anything, look at Apple's move into graphics as a continuation of a trend it helped start. Rather than rely on outside partners for critical components, an increasing number of large-scale tech companies have invested in rolling their own silicon. The advantages are manifold; you can design them to work specifically with your own devices, find novel ways to differentiate, and avoid getting dragged down if something goes wrong on someone else's watch," a 4/3 Wired article reported.

But the move did have some downsides. Imagination Technologies' stock fell roughly 70% on news that Apple, its largest customer, was defecting. Apple kicked in roughly 50% of the company's revenue. The development sent Imagination looking for legal recourse. The company started a dispute resolution procedure as the company doubted Apple could develop its own GPUs without using Imagination's intellectual property.

In addition, Imagination put itself on the block. And earlier this week, Chinese-backed private equity firm Canyon Bridge Capital Partners announced it will pay $675 million for Imagination, a 42% premium, according to a 9/22 Bloomberg article. Apple owns an 8% stake in Imagination.

(3) *Google's in chips too*. In May, Google introduced the second generation of its artificial intelligence chip, dubbed tensor processing units (TPUs).

A 5/17 CNBC article explained the situation well: "Deep learning, a trendy type of AI, typically involves two stages: training artificial neural networks on lots of data, and then directing the networks to make inferences about the new data. Over the past five years, GPUs have become a standard for the training stage of deep learning, which can be used for image recognition, speech recognition and other applications. While (Google's) original TPU was only meant for the inference stage of deep learning, the new version can handle training as well. … It takes a day to train a machine translation system using 32 of the best commercially available GPUs, and the same workload takes six hours atop eight connected TPUs."

(4) *Chips in HoloLens.* Microsoft is continuing to improve its Holographic Processing Unit (HPU), which goes into its HoloLens goggles. The updated HPU will support deep neural network processing with an emphasis on AI, explained a 7/24 *PCWorld* article. It will allow the goggles to analyze what the user sees and hears in the goggles instead of sending the information to the cloud for processing.

(5) *Tit for tat*. Where does that leave Nvidia, which we profiled in our 9/21 *Morning Briefing*? Nvidia countered the Tesla report with its own announcement on Monday. The company will supply its AI-focused GPUs to several of China's largest cloud-computing providers and server hardware manufacturers, including Alibaba Group Holding, Baidu, and Tencent Holdings, according to a 9/26 MarketWatch article. Nvidia will also be working with JD.com on its drones and robots.

"The new drones, powered by Nvidia's Jetson supercomputer, will participate in several delivery pilot programs that aim to bring e-commerce to rural areas via airborne drones and on-the-ground delivery robots to service cities. JD will release more than 1 million drones over the next five years," the article states.

Our guess is that this industry is still at such a young age that Nvidia will be able to continue its growth for many years even if some of the largest players decide to vertically integrate some of their operations. In other words, the pie is growing fast enough that all can succeed.

That was certainly on display Tuesday night when Micron Technology surprised the market with amazingly strong fiscal Q4 results. The company, which makes NAND flash and DRAM memory chips, reported a 91% y/y increase in revenue and record EPS of $1.99 compared to a 16 cents-a-share loss last year.

Micron is benefitting from the continued increase in the use and collection of data, as applications like autonomous driving and AI take off. The shares gained more than 8% yesterday due to the earnings report, bringing their ytd gain to almost 70%.

US Labor Market: Screws Tightening. While we continue to believe that powerful structural forces are keeping a lid on inflation, we are also mindful of the basic law of supply and demand. So we are keeping a careful watch on any inflationary pressures we can find. If three items make a trend, then it may be time to watch for wage pressures in certain sections of the labor market. Specifically, there have been news reports about tight labor markets in housing, in the oil patch, and at retailers. Let's take a look:

(1) *Building tightness*. The construction market was having a tough time finding labor before the hurricanes. Now that the storms have wreaked havoc in Florida, Houston, and the Caribbean islands, the market for labor in the housing market down south could devolve into a severe shortage.

"Nearly 70 percent of Texas contractors had trouble finding concrete workers, electricians, cement masons and carpenters, according to a survey of construction firms that the Associated General Contractors of America conducted in July. Texas has long struggled to replenish its aging construction workforce. The average age of a master electrician in Texas is 59. For plumbers, it's 62," according to a 9/13 article by the Associated Press in *The Dispatch*. The state was expected to see the construction of 30,000 new homes started this year, and now an estimated 200,000 homes need to be repaired or rebuilt—in Texas alone.

(2) *Raising the Target*. Target announced last week plans to boost wages to $11 an hour starting next month and to $15 an hour within three years. The new rate will apply to all staff, including temp workers being hired for the holidays.

"The retail industry is the largest private-sector employer in the US, and competition for hourly workers has ratcheted up both in traditional stores and distribution centers that fulfill online orders. Retail trade workers in the US earn an average hourly wage of $15.35 as of August, an increase of about 10% from five years ago, according to Bureau of Labor Statistics data," noted a 9/25 *WSJ* article.

(3) *Drill, baby, drill*. The price of a barrel of oil may still be below $60, but drilling activity has continued in certain areas, and that's making workers tougher to come by.

"Experienced workers are harder and harder to find, and training newbies adds to expenses. The quality of work can suffer, too, erasing efficiency gains. [Elevation Resources CEO Steve] Pruett said [the company] recently had a fracking job that was supposed to take seven days but lasted nine because unschooled roughnecks caused some equipment malfunctions," noted a 9/25 Bloomberg article.

China: Blue Skies by Decree. As the 19th National Congress of the Communist Party of China convenes in Beijing on October 18 to revamp top leadership roles, two things are certain: President Xi Jinping will further consolidate his already considerable grip on power and the skies will be blue.

President Xi will be elected to a second five-year term because he has ruled with an iron grip and purged potential rivals in a wide-ranging anti-corruption campaign, so he is unlikely to face opposition. His political philosophies now will be included in the party constitution alongside those of Mao Zedong and Deng Xiaoping, according to a piece in the 9/18 *South China Morning Post.* The outstanding question is whether he'll be crowned with a new moniker that elevates his status from "core" leader to something more comparable to Mao Zedong's "thought" or Deng Xiaoping's "theory" leader.

The usually smog-filled skies in China will turn a brilliant blue because the government will restrict the use of vehicles, barring millions of them from the roads, and order factory shutdowns during the week-long event, as it does for all high-profile government affairs.

This year, though, the blue skies will be more than just the visible display of the Communist Party's control. They represent a vow made in March by Chinese Premier Li Keqiang at the launch of the annual National People's Congress to "make our skies blue again" in response to increasing public protests about deadly air pollution, often referred to as "airpocalypses," according to a 3/5 report in the U.K.'s *Independent* newspaper. A 2/14 Reuters article cited a study by the U.S.-based Health Effects Institute that estimates 1.1 million people die each year in China from the effects of air pollution.

Li called for upgrading coal-fired power plants, integrating renewable energy sources into the electricity grid, and cutting excess steel production. In the same speech, Li also lowered economic growth targets for 2017 to "around 6.5% or higher" as the country continues to pursue its transition to a domestic consumer-driven economy from its traditional role as an exporter. He referred to President Xi's "China Dream" goal of becoming a "moderately prosperous society" by 2020. The message: blue skies will come at the expense of more robust economic growth. The trouble: reining in the powerful state-owned enterprises such as the steel companies and banks.

Despite the economic slowdown, the country continues to deliver steady growth that far exceeds that of the rest of the world. The 6.9% expansion in GDP in Q2 came in better than expected and matched Q1 growth. China so far has avoided a long-feared hard landing as it transitions to a more services-oriented economy from an industrial might, and the stronger showing in the first half of the year gave central planners latitude to continue their reform agenda, Reuters explained in a 7/16 piece.

In the performance derbies, the MSCI China Share Price Index is the fourth-best performer ytd of the 49 country stock markets we track, up 39.1% ytd through Tuesday's close (*Fig. 4*). Yet China's market continues to appear undervalued: it is trading at a P/E of 13.6, while 2018 earnings are estimated to increase by 14.5% (*Fig. 5*). That compares to the 12.1% earnings growth expected for the broader

MSCI Emerging Markets Asia index. Moreover, forward earnings recently has been revised upward (*Fig. 6*). China remains attractive for investors.

Consider the following:

(1) *Cool down.* China's economy has continued to slow through August. Industrial output rose 6.0% y/y in August compared with growth of 6.4% in July and a forecast of 6.6%. Retail sales also missed targets in August, expanding 10.1% y/y compared with a forecast of 10.5% and growth of 10.4% the prior month (*Fig. 7*). Capital spending grew at the slowest pace since 1999, rising 7.8% y/y in August, below the projected 8.2% growth and down from July's 8.3% y/y advance, according to data supplied by Trading Economics.

(2) *But not too cool.* China's official PMI rose to 51.7 in August on strength in new orders, up 53.1, and output, up 54.1 (*Fig. 8*). The Producer Price Index surged 6.3% as the prices of industrial commodities and building materials rose in response to the government's shuttering of inefficient mines and mills amid a construction boom (*Fig. 9*).

(3) *Revised GDP forecasts.* The Asian Development Bank this week upgraded its growth forecast for China in 2017, to 6.7% from a previous 6.5%, and 2018, to 6.4% from 6.2%, following revisions to the same levels by the International Monetary Fund in July. "The PRC [People's Republic of China] economy remains resilient, solidifying its role as an engine of global growth," ADB Chief Economist Yasuyuki Sawada said in a 9/25 Reuters article.

"Supply-side reform is moving forward, but eventual success hinges on a careful balancing of the role of the market and the state, particularly as the country continues its transition to a more market and services-driven economy." On 8/30, Moody's Investors Service raised its 2017 GDP outlook on China to 6.8% from 6.6%.

(4) *Debt load.* You can't talk about China without addressing its enormous debt levels. S&P Global Ratings brought the subject into sharp relief when it downgraded China's sovereign credit to A+ from AA- on 9/21, citing the enormous level of debt and continued credit expansion. Curiously, the S&P action came four months after a similar downgrade by Moody's Investors Service in May and Fitch Ratings four years ago and just weeks ahead of the important twice-a-decade meeting of the National Congress. Yet a 9/24 report in the *FT* noted that China's debt-to-GDP ratio declined for the first time in nearly six years to 268% at the end of Q2, from 269% in the prior quarter, suggesting that Beijing's efforts to curtail lending are beginning to take effect. One strategy for reducing China's leverage ratio has been to promote debt-for-equity swaps in which lenders convert loans into equity, according to a 9/25 Reuters report.

The skies are looking bluer already.

CALENDARS

US. **Thurs:** GDP, PCE, and GDP Deflator 3.1%/3.3%/1.0%, Corporate Profits, Jobless Claims 275k, Merchandise Trade Balance Advance Estimate -$65.7b, Kansas City Fed Manufacturing Index, Weekly Consumer Comfort Index, EIA Natural Gas Report. **Fri:** Personal Income & Consumption 0.2%/0.1%, Headline & Core PCED 1.5%/1.4% y/y, Consumer Sentiment Index 95.3, Chicago PMI 58.5, Baker-Hughes Rig Count, Harker. (Bloomberg estimates)

Global. **Thurs:** Eurozone Economic Confidence 112, Germany CPI 0.1%m/m/1.8%y/y, Germany Gfk Consumer Confidence 11, UK Gfk Consumer Confidence -11, Japan CPI Headline, Core, and Core-

Core 0.6%/0.7%/0.2% y/y, Japan Industrial Production 1.8%m/m/5.2%y/y, Japan Retail Trade -0.8%m/m/2.4%y/y, Japan Jobless Rate 2.8%, BOJ Summary of Opinions at September Meeting, Carney. **Fri:** Eurozone Headline & Core CPI 1.6%/1.2% y/y, Germany Unemployment Change & Unemployment Rate -5k/5.7%, Germany Retail Sales 0.5%m/m/3.2%y/y, UK GDP 0.3%q/q/1.7%y/y, Canada GDP 3.9% y/y, China M-PMIs. (DailyFX estimates)

STRATEGY INDICATORS

Stock Market Sentiment Indicators (*link*): Our Bull/Bear Ratio (BBR) moved back above 3.00 this week for the first time in seven weeks. Our BBB rose for the third week to 3.18 after falling the prior six weeks from a five-month high of 3.70 to a 10-month low of 2.33 over the period. Bullish sentiment moved further above 50, climbing to 54.3% from 47.1% two weeks ago—which was the lowest since just before the election. Bearish sentiment slipped for the second week to 17.1% from a post-election high of 20.2% two weeks ago, back within the narrow 16.5%-18.3% range shown most of this year. The correction count dropped to 28.6% from 32.7% two weeks ago—which was near its high for this year of 33.6% recorded in late August. The AAII Ratio slipped to 59.6% last week after shooting up the prior two weeks from 38.5% to a 10-month high of 65.3%. Last week, bullish sentiment fell from 41.3% to 40.1%, while bearish sentiment rose from 22.0% to 27.2%.

S&P 500 Earnings, Revenues & Valuation (*link*): Last week saw S&P 500 consensus forward revenues tick down a whisker from its record high a week earlier. However, forward earnings rose w/w to a new record high. The forward profit margin forecast edged down w/w to 11.0% from a record high of 11.1%. The profit margin's record high had been its first since September 2015 and was up from a 24-month low of 10.4% in March 2016. Forward revenue growth for the S&P 500 ticked up to a 25-week high of 5.6% from 5.5%. That's down from 5.8% in late January, which was the highest since May 2012 and compares to a cyclical low of 2.7% in February 2016. Forward earnings growth was steady at a 10-week high of 11.1%, which compares to a six-month high of 11.3% in early July. It remains near January's 11.7%, which was the highest since October 2011 and compares to a cyclical low of 4.8% in February 2016. S&P 500 forward revenues and forward earnings growth are enjoying a tailwind now due to easy y/y comparisons for Energy and improving forward growth rate forecasts for revenues (STRG) and earnings (STEG) for Industrials, Materials, and Tech. However, Energy's contribution to forward growth peaked at the start of 2017. Looking at last week's results, the S&P 500 ex-Energy's STRG of 5.2% is 0.4ppt lower and STEG of 9.8% is 1.3ppts lower. The S&P 500 ex-Energy forward profit margin was steady w/w at a record high of 11.7%, which is its first since August 2007. The index price rose w/w, and the forward P/E was steady at an eight-week high of 17.7, which is down from late July's 13-year high of 18.0 and compares to a 15-month low of 14.9 in January 2016. The S&P 500 price-to-sales ratio improved to a record high of 1.98 from 1.97, and was also at a record high of 2.04 on an ex-Energy basis. On an ex-Energy basis, the forward P/E rose to an eight-week high of 17.5, which compares to a 13-year high of 17.6 in early March.

S&P 500 Sectors Earnings, Revenues & Valuation (*link*): Consensus forward revenue forecasts rose last week for 6/11 sectors, and forward earnings rose for 3/11. Tech had both measures improve w/w, and these three had both measures decline: Consumer Discretionary, Industrials, and Real Estate. Forward revenues and earnings are at or around record highs for 5/11 sectors: Consumer Discretionary, Consumer Staples, Health Care, Industrials, and Tech. Energy's forward revenues is stabilizing now near a 10-month low, and its forward earnings is around an eight-month low. The forward P/S and P/E ratios rose w/w for 5/11 sectors: Energy, Financials, Industrials, Materials, and Telecom. Health Care's P/E of 16.6 and P/S of 1.78 edged down from their 25-month highs a week earlier, but remain below their early 2015 highs of 17.9 and 1.88, respectively. Financials' P/E is up from 12.0 before the election to an 11-week high of 14.0, but remains below the post-election high of 14.6 in early March. With Energy's forward revenues and earnings up from cyclical lows in early 2016, its valuations are coming back to Earth; its P/S ratio of 1.34 compares to a record high of 1.56 in May 2016, and its P/E of 28.3 is down from a record high of 57.5 then. Higher y/y margins occurred for only 7/11 sectors in 2016, but margins are expected to improve in 2017 for all but Real Estate and Utilities. However, Real Estate's forecasted margin should improve as the year progresses when gains on property sales are included in the forecasts. Real Estate and Utilities had their forecasted forward profit margin improve 0.1ppt w/w, but Energy's and Industrials' each edged down 0.1ppt. Here's how the 11 sectors rank based on their current 2017 forecasts: Information Technology (to 20.0% in 2017 from 19.2% in 2016), Real Estate (18.4, 25.0), Financials (15.4, 14.3), Telecom (11.3, 11.2), Utilities (11.1, 11.5), S&P 500 (10.6, 10.1), Health Care (10.5, 10.3), Materials (9.6, 9.1), Industrials (9.1, 8.8), Consumer Discretionary (7.3, 7.3), Consumer Staples (6.5, 6.4), and Energy (3.9, 1.1).

US ECONOMIC INDICATORS

Durable Goods Orders & Shipments (*link*): Both core capital goods orders and shipments in August climbed to their highest readings since fall 2015. Nondefense capital goods orders ex aircraft (a proxy for future business investment) has only posted one decline this year, up 0.9% m/m and 4.6% ytd, to its highest reading since September 2015. The comparable shipments measure (used in calculating GDP) climbed for the ninth time in ten months—up 0.7% m/m and 6.0% over the period—to its highest reading since October 2015. Both core capital goods orders and shipments expanded at solid rates of 6.3% and 7.3% (saar), respectively, during the three months ending August, based on the three-month average. Headline durable goods orders rebounded 1.7% after tumbling 6.8% in July and soaring 6.5% in June, which were driven by wide swings in aircraft orders. Excluding transportation, orders advanced for the sixth time in eight months, by 0.2% in August and 3.7% ytd to a new cyclical high. The Commerce Department said it was unable to isolate the effects of Hurricanes Harvey and Irma on the data as the survey is "designed to estimate the month-to-month change in manufacturing activity at the national level and not at specific geographic areas."

Pending Home Sales (*link*): The Pending Home Sales Index—measuring sales contracts for existing-home purchases—sank in August for the fifth time in six months to its lowest reading since January 2016. Sales were down 2.6% y/y, falling on an annual basis for the fourth time in five months. According to NAR's chief economist, Lawrence Yun, "August was another month of declining contract activity because of the one-two punch of limited listings and home prices rising far above incomes." Demand continued to overwhelm supply in most of the country. Yun now believes that low supply, along with slower activity in the areas hit hard by Hurricanes Harvey and Irma, will likely pull existing sales for 2017 slightly below 2016's pace. However, he notes that nearly all the missed closings for the remainder of this year will likely show up next year—with sales forecast to rise 6.9%.

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