Yardeni Research

MORNING BRIEFING
May 10, 2018

AlterEgo

See the collection of the individual charts linked below.

(1) S&P 500 unfazed by 3% bond yield. (2) No sign of tightening credit in junk bond yield spread. (3) Forward P/E has much more noise and less signal than does forward earnings. (4) Our Boom-Bust Barometer is at a record high. (5) Consumer Discretionary R&R companies reporting solid results at their various resorts. (6) Tech companies continue to mess with our heads. (7) AI may soon help you find the keys you lost.

Strategy: Noise-to-Signal Ratio. The 10-year Treasury bond yield edged up above 3.00% yesterday (*Fig. 1*). This widely feared level didn't faze the S&P 500, which rose 1.0% on Wednesday to 2697.79 (*Fig. 2*). Rising oil prices, in response to Trump's no-deal with Iran, helped to lift the S&P 500 Energy sector (*Fig. 3*). But the Tech and Financial sectors also had a good day yesterday (*Fig. 4*).

While the 10-year yield suggests that credit conditions are tightening, the yield spread between US high-yield corporate bonds and the 10-year Treasury bond continues to fluctuate in a tight range at a level that matches previous cyclical lows (*Fig. 5*). All of the volatility in the S&P 500, and the downside pressure on this index, so far this year have been attributable to the forward P/E of the index, which has dropped from a high of 18.6 on January 23 to a low of 15.9 on May 3 (*Fig. 6*).

The forward P/E has been very noisy so far this year on fears of higher inflation, tighter Fed policy, and trade protectionism. It has masked the underlying bullish trend of the S&P 500 forward earnings (*Fig. 7*). Thanks to Trump's tax cuts at the end of last year, this weekly measure of industry analysts' consensus estimates for earnings over the coming 52 weeks has been soaring since the start of the year. Our Boom-Bust Barometer (BBB), which is the ratio of the CRB raw industrials spot price index to initial unemployment claims, continues to be highly correlated with S&P 500 forward earnings. Our BBB rose to a record high at the end of April.

It is also highly correlated with the S&P 500 stock price index, but less so than with forward earnings (*Fig. 8*). That's because there is more noise than signal in the S&P 500 than in forward earnings.

Joe and I have managed to tune out most of the noise and focus on hearing the signal since the beginning of the current bull market. We hope we will continue to do so. In our opinion, the signal remains clearly bullish for now despite the noise.

Consumer Discretionary: Vacation Time. It was a long time coming this year, but warmer weather in New York has finally arrived, and with it have come thoughts of school letting out and family vacations. Despite the strength of the economy and consumers, the S&P 500 Airlines index has tumbled by 5.0% y/y through Tuesday's close, hurt by the recent surge in the price of oil. Airline traffic data for February is slated for release today. Hopefully, consumers will be able to absorb any uptick in prices from higher fuel costs that airlines pass on. Recent earnings reports from Disney and Marriott indicate the consumer is ready, willing, and able to spend on rest and relaxation. I asked Jackie to take a quick look at what these companies had to say about the state of their hospitality businesses:

(1) *Happiest place on Earth*. In addition to its movie studio, television network, and ESPN, Disney has a theme parks business that caters to almost 40 million visitors just in the US annually. Revenue in Disney's Parks and Resorts segment increased by 13% to $4.9 billion in its fiscal Q2 (ended March), and segment operating income jumped by more than twice that, 27%, to $1.0 billion. The company attributed the increases to strong results at its domestic and international resorts, as well as the benefit of having Easter fall in fiscal Q2 this year instead of fiscal Q3 as it did last year.

"Higher operating income at our domestic parks and resorts was primarily due to increased guest spending, attendance growth at Walt Disney World Resort and higher sponsorship revenue, partially offset by increased costs. Guest spending growth was due to increases in average ticket prices, average daily hotel room rates and food, beverage and merchandise spending. The increase in costs was primarily due to labor and other cost inflation, an increase in depreciation associated with new attractions and higher technology spending," according to the company's earnings press release.

"Per capita spending (at the parks) was up 6% on higher admissions, food and beverage and merchandise spending. Per room spending at our domestic hotels was up 12% and occupancy was up about 2 percentage points to 90%. Attendance at our domestic parks was up 5% in the quarter and reflects about a 2 percentage point benefit from the timing of the Easter holiday," said Disney CFO Christine McCarthy on the quarterly conference call. Mickey Mouse still has star power.

(2) *The inn's filling up*. Marriott's Q1 revenue increased 2% y/y to $5.0 billion, adjusted EBITDA improved by 8% y/y, adjusted net income jumped 30% y/y to $487 million, and diluted EPS jumped 40% y/y to $1.34. The company's top line missed analysts' estimates of $5.57 billion, but the bottom line topped their expectations for $1.22 per share, Reuters reported.

The industry often refers to revenue per available room (RevPAR) to describe its well-being. The figure is the hotel's average daily room rate multiplied by its occupancy rate. At Marriott, Q1 RevPAR rose 3.6% worldwide, which includes 7.5% outside North America and 2.0% in North America.

"Given improving demand fundamentals, we have increased our expectations for full year 2018 worldwide constant dollar RevPAR growth to 3 to 4 percent, a 1.5 percentage point increase over the mid-point of our prior guidance," said Marriott's CEO Arne Sorenson in a press release.

Marriott breaks out the RevPAR performance of its various brands system-wide, and in North America its luxury brands had stronger performance, with a 4.3% increase in RevPAR, than its limited service brands, which had a 2.5% increase.

The company benefitted from a tax rate that fell to 20.7%, or $104 million, down from 24.9%, $123 million in the year-ago quarter. Marriott believes full-year 2018 adjusted EBITDA could total $3,445 million to $3,500 million, a 10%-12% increase over 2017 adjusted EBITDA of $3,131 million.

(3) *The numbers*. Despite Disney's exposure to the travel industry, it's a member of the S&P 500 Movies & Entertainment stock price index, which has fallen 1.1% ytd and has fallen 2.3% y/y, underperforming the S&P 500 in both periods (*Fig. 9*). The industry's revenue is expected to increase by 4.6% in 2018 and 3.6% in 2019 (*Fig. 10*). Meanwhile, earnings are expected to jump by a sharp 19.1% this year and by a more modest 6.7% in 2019 (*Fig. 11*). The industry, which is struggling to answer competition from streaming services, has a modest P/E, at 13.0, relative to both itself and the broader market (*Fig. 12*).

Marriott is a member of the S&P 500 Hotels, Resorts & Cruise Lines stock price index, which has fallen

2.7% ytd through Tuesday's close, but is up 17.0% y/y, besting the S&P 500's 11.4% y/y return (*Fig. 13*). Analysts expect the industry's revenue will increase by 6.9% in 2018 and 7.4% in 2019, while its earnings are expected to surge 21.7% this year and 14.7% in 2019 (*Fig. 14* and *Fig. 15*). Despite the strong forecasts, the industry's forward P/E remains reasonable at 16.3 (*Fig. 16*).

Technology: Your Brain on AI. We've gone from using a computer at a desk to carrying a computer in our pockets. What's next? Perhaps a small computer—a brain-computer interface (BCI)—will be implanted in our brains. Very basic versions of it are being used today to help paralyzed individuals move prosthetic limbs and help deaf people hear.

But those basic functions are just scratching the surface of what may be possible if human machine symbiosis becomes a reality. The digitization of our thoughts is set to radically change how we communicate. Most of the Tech Titans are involved in developing this new technology. Let's take a look at how MIT, Elon Musk, and others are trying to get into our heads:

(1) *Powerful thoughts*. The MIT Media Lab is working on project AlterEgo. It involves a computing device worn around a person's lower face and jaw that can read one's internal thoughts by picking up on neuromuscular signals. Think a question, and the Internet-enabled device will answer it by responding through headphones.

A paper published in March by the MIT research team explains how the device works. Notably, it doesn't require any sensors to be placed in the skull, so it's less invasive than other devices being tested—one of its main benefits. It's also very portable since it connects wirelessly via Bluetooth to any external computing device.

AlterEgo is 92% accurate. If the user thinks up a list of numbers to add, subtract, divide or multiply, AlterEgo can do the calculation and whisper the answer into the user's ear. It can be used to issue reminders, schedule tasks at specific times, and serve as "a form of memory augmentation to the user." The device can tell time, too, or it can be asked to shut off home appliances that are connected wirelessly. No more having to clap off lights; with AlterEgo, simply thinking it will get it done.

AlterEgo can be connected to peripheral devices, like lapel cameras or smart glasses to gain additional information. Two people wearing AlterEgo could silently communicate with each other in a meeting or in a noisy environment that makes verbal communication difficult.

"Through the AlterEgo device, we seek to …couple human and machine intelligence in a complimentary symbiosis," the study's authors explain. "As smart machines work in close unison with humans, through such platforms, we anticipate the progress in machine intelligence research to complement intelligence augmentation (IA) efforts, which would lead to an eventual convergence—to augment humans in wide variety of everyday tasks, ranging from computations to creativity to leisure."

60 Minutes did a fantastic job explaining how AlterEgo works in a 4/22 episode about the MIT Media Lab. The researcher working on AlterEgo showed how he could order a pizza by silently commanding: "Order pepperoni pizza." Likewise, his thinking a question would prompt the device to search all of the information on the Web for the answer.

(2) *Brain implants*. The BrainGate research team at Brown University, Massachusetts General Hospital, Stanford University, Case Western Reserve University, and Providence VA Medical Center is developing neurotechnologies, or BCIs, to help people overcome paralysis.

BrainGate implants electrodes into a patient's brain to record brain activity. That activity is transmitted to a device attached to the patient's skull, which transmits the information to a computer. The information then can be used to control the computer or the "message" could be passed on to a robotic limb or to electrodes in the patient's limb.

While the project is still experimental, it has enabled quadriplegics to pick up and drink a cup of coffee simply by thinking about moving a robotic arm, as you can see in this video. Hurdles include the inflammation buildup that occurs around foreign objects in the brain, which ultimately reduce their ability to work over time.

There are various forms of BCIs, including retinal implants for people who have lost their sight and cochlea implants for patients with hearing loss. "A small speaker sits on the outside of the skull, and feeds a digital signal to a small computer that sits inside the cochlea, which sends the nerve signals relating to sound to the brain," explained a 10/19/17 article in TechRadar.

There are BCIs that provide deep brain stimulation to alleviate the tremors affiliated with Parkinson's. And maybe in the future, there will be BCIs that retain memories to help Alzheimer's patients.

(3) *One step further*. In addition to developing electric cars and reusable rockets, Elon Musk has a lesser-known company, Neuralink. It's developing a technology that would put billions of tiny electrodes into our brains to allow us to communicate our thoughts to others without using language. It would allow us to tap into the computer just by thinking about it, almost as if our iPhones were implanted in our brains.

Neuralink's success is important, according to Musk, because it will allow us to stay a step ahead of devices using artificial intelligence, the TechRadar article reported. Musk has been very vocal in warning about the risks of AI, especially when AI becomes smarter than humans and learns faster than us. Instead of humans being the top of the food chain, he warns that AI-controlled devices will rule the land.

"We're going to have the choice of either being left behind and being effectively useless or like a pet—you know, like a house cat or something—or eventually figuring out some way to be symbiotic and merge with AI," said Musk according to a lengthy 4/20/17 blog post on Waitbutwhy.com.

Musk's solution is to merge humans and AI to create human machine symbiosis. "The pace of progress in this direction matters a lot. We don't want to develop digital superintelligence too far before being able to do a merged brain-computer interface," he told Waitbutwhy.com.

Using Neuralink's product, we would be able to search the Internet with our minds, watch video in our minds, and communicate wirelessly with the brains of anyone who also has this device implanted. Imagine walking up to your house and unlocking the door with your thoughts. Or perhaps ordering an Uber.

Musk hopes to have a product out in about four years for patients with brain injuries. The more fanciful product for folks without injuries could take eight to 10 more years of development.

In addition to figuring out how to get the brain to accept a foreign object, Neuralink will need to figure out how to access greater bandwidth with which to communicate. In addition, the brain surgery would need to be automated to keep its cost down, and the device would need to be wireless. Sounds like child's play for the man who invented reusable rockets and affordable electric cars.

CALENDARS

US. Thurs: Headline & Core CPI 2.5%/2.2% y/y, Jobless Claims 220k, Weekly Consumer Comfort Index, Treasury Budget $88.0b, EIA Natural Gas Report. **Fri:** Import & Export Prices 0.5%/0.3%, Consumer Sentiment Index 99.0, Baker-Hughes Rig Count, Bullard. (*Wall Street Journal* estimates)

Global. Thurs: China New Yuan Loans 1100b, China Aggregate Financing 1325b, China CPI & PPI 1.9%/3.4% y/y, UK Headline & Manufacturing Industrial Production 3.1%/2.9% y/y, BOE Bank Rate 0.50%, BOE Asset Purchase Target 435b, BOE Inflation Report. **Fri:** Canada Employment Change & Unemployment Rate 20.5k/5.8%. (DailyFX estimates)

STRATEGY INDICATORS

Stock Market Sentiment Indicators (*link*): Our Bull/Bear Ratio (BBR) remained below 3.00 this week for the seventh week after 26 weeks above. The BBR declined for the seventh time in eight weeks, dropping to 2.09 this week—the lowest since November 2016—from a recent high of 3.50 in mid-March. Most of the recent movement has been between the bullish and correction camps. Bullish sentiment fell for the second week to 43.1% this week after rising the prior two weeks from 42.2% to 48.0%, while the correction count rose for the second week to 36.3% this week, after falling from 39.2% to 32.4% the previous two weeks. Bearish sentiment edged down to 20.6% this week after edging up from 19.6% to 20.8% last week—which was the most bears since November; movements in bearish sentiment have been relatively subdued recently. The AAII Ratio sank to 48.4% last week after climbing the prior two weeks from 37.9% to 59.1%. Bearish sentiment increased from 25.6% to 30.3% last week, while bullish sentiment decreased from 36.9% to 28.4%.

S&P 500 TCJA Earnings Leaders & Laggards (*link*): The 2018 earnings forecast for the S&P 500 has surged 9.4% in the 20 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 change in the 2018 forecast improved from 8.7% a week earlier as analysts began to incorporate the outstanding Q1 results into their models. The top sector gainers since the TCJA was passed: Energy (29.2%), Telecom (15.9), Financials (12.1), Industrials (10.8), and Consumer Discretionary (9.7). Real Estate is the sole decliner, with a drop of 2.7%; also underperforming the S&P 500 are Consumer Staples (1.9), Utilities (2.0), Health Care (6.7), Tech (8.1), and Materials (8.3). Higher oil prices have contributed heavily to the improvement in Energy's 2018 earnings forecast.

S&P 500 Earnings, Revenues & Valuation (*link*): With analysts adjusting their models following Q1 results, S&P 500 consensus forward revenues, earnings, and margins rose to record highs last week. The forward profit margin forecast edged up 0.1ppt to 12.2%, which is up from 11.1% prior to the passage of the TCJA in December and a 24-month low of 10.4% in March 2016. Forward revenue growth edged down to 6.0% from 6.1%, which is little changed from an 80-month high of 6.3% at the end of February. That reading compares to a cyclical low of 2.7% in February 2016. Forward earnings growth dropped 0.7ppt w/w to 15.2% from 15.9%. That's down from 16.9% in February, which was the highest since October 2010, but it's up 4.1ppts from 11.1% prior to the passage of the TCJA, and up 10.4ppts from the cyclical low of 4.8% in February 2016. Turning to the consensus expectations for 2018, the revenue growth forecast improved w/w to 7.4% from 7.2%, and earnings growth rose to 21.3% from 20.5%. Looking at last week's results among the 11 sectors, three had a w/w improvement in their forward revenue growth forecast: Consumer Discretionary, Consumer Staples, and Real Estate; and two had forward earnings growth improve: Consumer Discretionary and Real Estate. Energy's contribution to forward growth peaked at the start of 2017. The S&P 500 ex-Energy's forward growth was steady at 5.6% for revenues and fell 0.6ppt to 14.0% for earnings. The S&P 500 ex-Energy forward profit margin was steady at a record high of 12.7%, which is up from 11.7% before the TCJA.

Valuations fell w/w primarily due to the surge in forward revenues and earnings. The S&P 500's forward P/E dropped to 16.0 from 16.3, which compares to a 16-year high of 18.6 at the market's peak in late January and a 15-month low of 14.9 in January 2016. The S&P 500 price-to-sales ratio of 1.95 was down from 1.97, and compares to late January's record high of 2.16.

S&P 500 Sectors Earnings, Revenues & Valuation (*link*): Consensus forward revenue forecasts rose w/w for eight of the 11 sectors, and forward earnings forecasts rose for all but Consumer Staples. These eight had both measures improve w/w: Consumer Discretionary, Energy, Financials, Health Care, Industrials, Materials, Real Estate, and Tech. 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 and earnings are back on uptrends after stalling during 2016-2017, and its earnings have about tripled from their 18-year low in April 2016. Forward P/S and P/E ratios are down from their recent highs for all sectors, and most fell w/w with the exception of Tech and Utilities. Energy's valuations remain elevated relative to historical levels, but are normalizing 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 19.4 is down 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. Seven sectors had their forward profit margin rise w/w and two fell: Consumer Staples posted a 0.6% gain w/w in their forward profit margin, and Tech rose 0.2ppt. They were followed by 0.1ppt increases for these five sectors: Consumer Discretionary, Financials, Materials, Telecom, and Utilities. Health Care and Real Estate were the sole decliners, with drops of 0.7ppt and 0.4ppt, respectively. Here's how the sectors rank based on their current forward profit margin forecasts: Information Technology (22.7%), Financials (18.6), Real Estate (16.1), Telecom (13.4), Utilities (12.3), S&P 500 (12.2), Materials (11.5), Health Care (10.5), Industrials (10.2), Consumer Discretionary (8.2), Consumer Staples (7.7), and Energy (6.6).

S&P 500 Q1 Earnings Season Monitor (*link*): With nearly 89% of S&P 500 companies finished reporting earnings and revenues for Q1-2018, the earnings metrics are stronger compared to the same point during the Q4 season and the best in seven years, but revenues are a tad weaker than during Q4. Of the 443 companies in the S&P 500 that have reported, 80% exceeded industry analysts' earnings estimates by an average of 7.2%; they have averaged a y/y earnings gain of 25.0%. At the same point during the Q4-2017 reporting period, a lower percentage of companies (78%) in the S&P 500 had beaten consensus earnings estimates by a lower 4.8%, and earnings were up a lower 16.3% y/y. On the revenue side, 76% beat sales estimates so far, with results coming in 1.1% above forecast and 8.3% higher than a year earlier. At this point in the Q4 season, a higher 79% had exceeded revenue forecasts by a higher 1.3%, and sales rose a higher 9.6% y/y. Q1 earnings results are higher y/y for 86% of companies vs a lower 79% at the same point in Q4, and Q1 revenues are higher y/y for 87% vs 88% a quarter ago. These figures will continue to change as more Q1-2018 results are reported in the coming weeks. With the season now winding down as investors await retailers' results, it looks like Q1-2018 will mark the seventh straight quarter of positive y/y earnings growth and the strongest since Q4-2010 in part due to lower tax rates.

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