RAYMOND JAMES°

Gleanings
Published by Raymond James & Associates

Jeffrey D. Saut, Chief Investment Strategist, (727) 567-2644, Jeffrey.Saut@RaymondJames.com

Scott J. Brown, Ph.D., (727) 567-2603, Scott.J.Brown@RaymondJames.com

Andrew Adams, CMT, (727) 567-4807, Andrew.Adams@RaymondJames.com

July 25, 2017

Gleanings

A Monthly Chart Presentation and Discussion Pulling Together the Disciplines of Economics, Fundamentals, Technical Analysis, and Quantitative Analysis

"Old Turkey"

I have recently been regaling the media with the story about Mr. Partridge, aka "Old Turkey," who was a particular shrewd stock market investor in the early 1900s. He was mentioned in the seminal book *Reminiscences of a Stock Operator* about the trading habits of Jesse Livermore. Accordingly, other stock investors would come up to Old Turkey and ask what they should do in the markets. He would smile, cock his head to the side and reply, "It's a bull market, you know." It was as if he was giving his questioners the most important investment pearl in the world. As written by Benton W. Davis in an article titled *Davis on Dow*:

Two paragraphs further along in the "Old Turkey" chapter are so basically important that I think they should be quoted here. I think it was a long step forward in my trading education when I realized at last that when old Mr. Partridge (Old Turkey) kept on telling the other customers, "Well you know this

is a bull market!" he really meant to tell them that the big money was not in the individual fluctuations but in the main movements - that is, not in reading the tape but in sizing up the entire market and its trend. And right here let me say one thing. After spending many years in Wall Street and after making and losing millions of dollars, I want to tell you this: It never was my thinking that made the big money for me. It always was my sitting. Got that? My sitting tight! It is no trick at all to be right on the market. You always find lots of early bulls in bull markets and early bears in bear markets. I've known many men who are right at exactly the right time, and began buying or selling stocks when prices were at the very level which should show the greatest profits. And their experience invariably matched mine - that is, they made no real money out of it. Men who can both be right and sit tight are uncommon, I found it one of the hardest things to learn. But it is only after a stock operator has firmly grasped this that he can make big money. It is literally true that millions come easier after he knows how to trade than hundreds did in the days of his ignorance.



Text continues on page 3

Contents

Market Review with Jeffrey Saut	. 4
Economic & Market Update	12
Stock Trends/Quantitative Analysis with Andrew Adams	13
Economic Review with Scott Brown	24
Important Disclosures	43

Jeffrey Saut

"Old Turkey"

Continued from page 1

The reason is that a man may see straight and clearly and yet become impatient, or doubtful when the market takes its time about doing what he figured it must do. That is why so many men in Wall Street, who are not at all in the sucker class, not even in the third grade, nevertheless lose money. The market does not beat them. They beat themselves, because though they have brains, they cannot sit tight. Old Turkey was dead right in doing and saying what he did. He had not only the courage of his convictions, but the intelligent patience to sit tight.

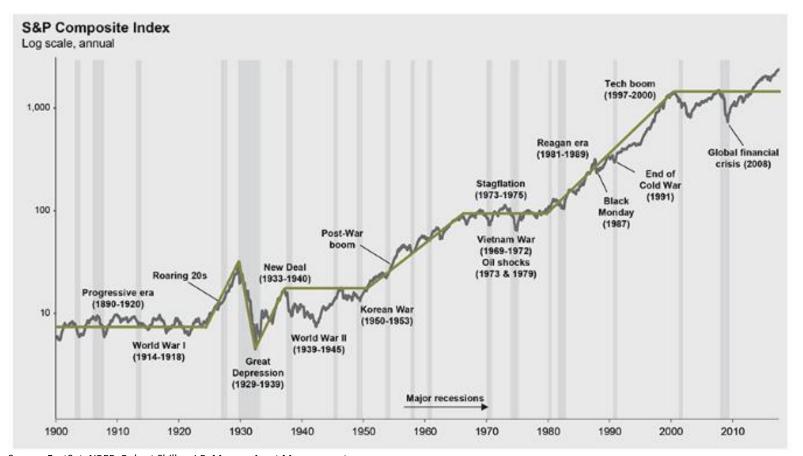
... Davis on Dow, by Benton W. Davis

I repost this Old Turkey reference because that's all you really need to know, we are in a secular bull that has years left to run. Now many pundits will tell you that this is the second-longest bull market in history, in my opinion they are using the wrong measuring stick. They are measuring this Bull Run from the nominal price lows of March 2009. As often stated, nobody measures the 1982 – 2000 secular bull market from the nominal price low of December 1974, but rather from when the indices broke out above the trading range of 1966 and 1982 in the fall of 1982. If that pattern repeats, it means this secular bull market actually began when the S&P 500 broke out of the 2000 to 2013 trading range in April of 2013. Indeed, "It's a bull market, you know!"

Jeffrey Saut

Secular Bull Markets

The stock market since 1900 shows that secular bull markets tend to last 14+ years. So, even if you want to measure from the 2009 nominal price lows (we are not so sure that's the right starting point), we still should have years left in this Bull Run.



Source: FactSet, NBER, Robert Shiller, J.P. Morgan Asset Management,

Data shown in log scale to best illustrate long-term index patterns.

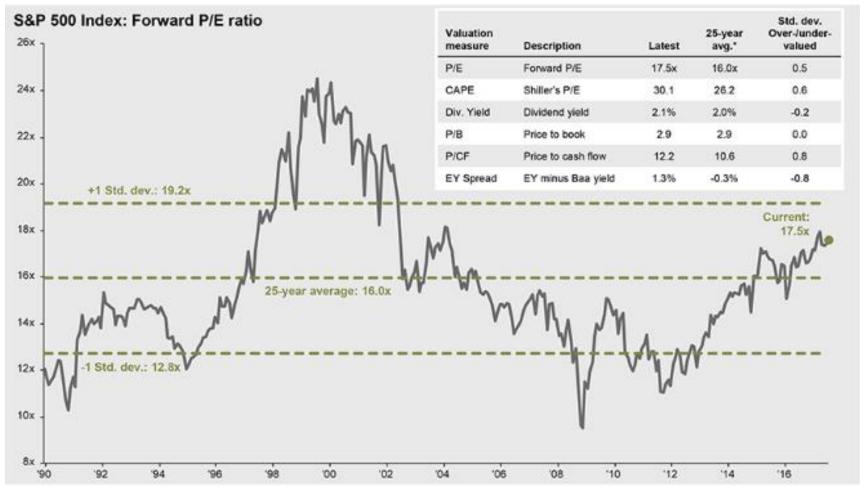
Past performance is not indicative of future returns. Chart is for illustrative purposes only.

Guide to the Markets – U.S. Data are as of June 30, 2017

Jeffrey Saut

Valuations Higher, But Rightly So

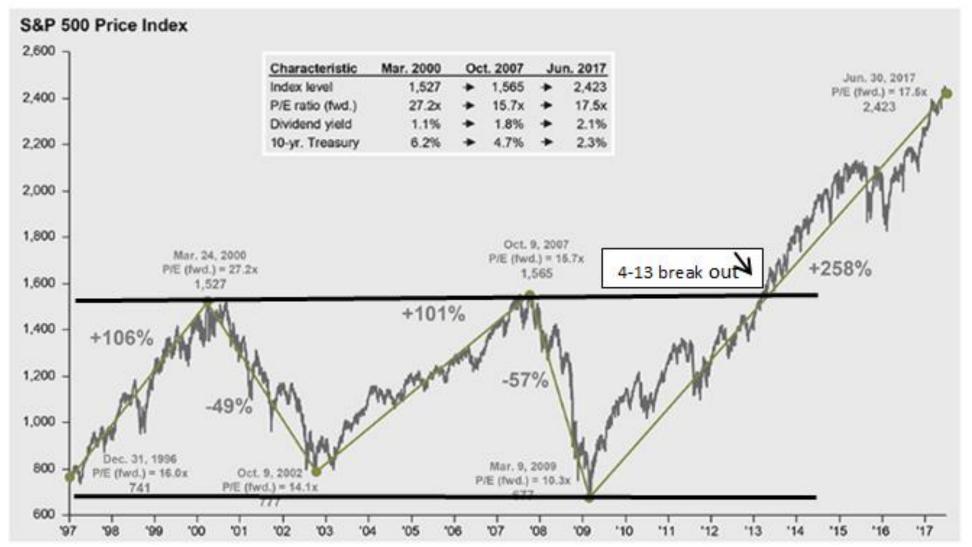
Many pundits argue that stocks are very richly priced, but we have suggested valuations should be higher than historic norms. Given that there are more higher margin/high growth stocks in the S&P 500 than ever, and the tectonic shift from tangible to intangible assets on corporate balance sheets, valuations should indeed be higher.



Source: FactSet, FRB, IBES, Robert Shiller, Standard & Poor's, J.P. Morgan Asset Management.

Jeffrey Saut

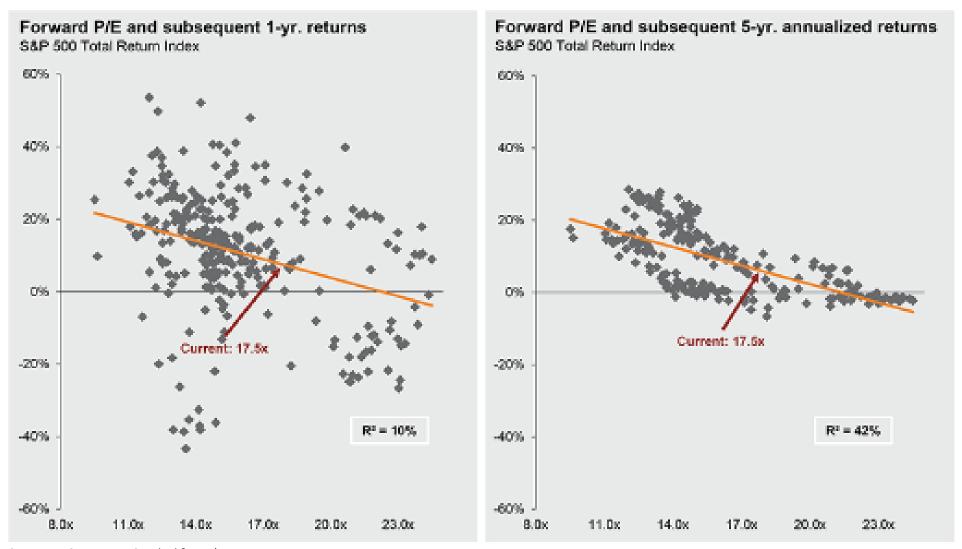
The Upside Breakout From the Trading Range Occurred In April of 2013



Source: Compustat, FactSet, IBES, Federal Reserve, Standard & Poor's, J.P. Morgan Asset Management.

Jeffrey Saut

P/E Ratios and Equity Returns



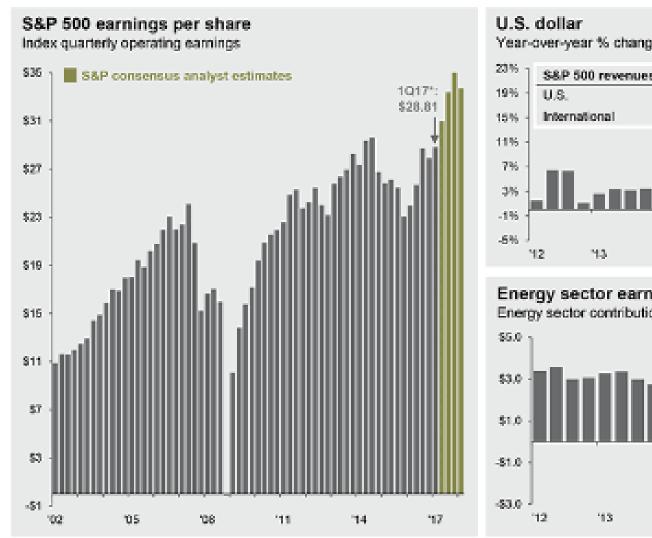
Source: FactSet, Reuters, Standard & Poor's, J.P. Morgan Asset Management.

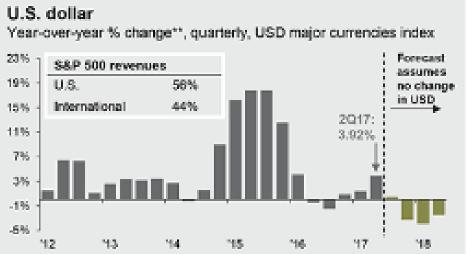
Returns are 12-month and 60-month annualized total returns, measured monthly, beginning June 30, 1992. R² represents the percent of total variations in total returns that can be explained by forward P/E ratios.

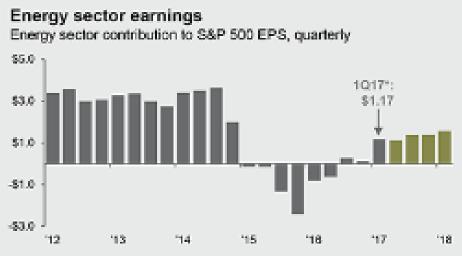
Guide to the Markets - U.S. Data are as of June 30, 2017

Jeffrey Saut

We Have Transitioned From an Interest Rate-Driven Secular Bull Market to an Earnings-Driven Secular Bull Market







Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management; (Top right) Federal Reserve, S&P 500 individual company 10K filings.

Jeffrey Saut

Haven't Been "Abroad" In a While?

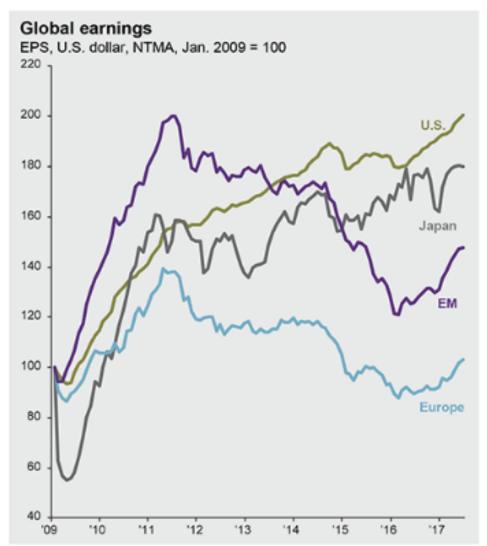
Time to consider international securities.

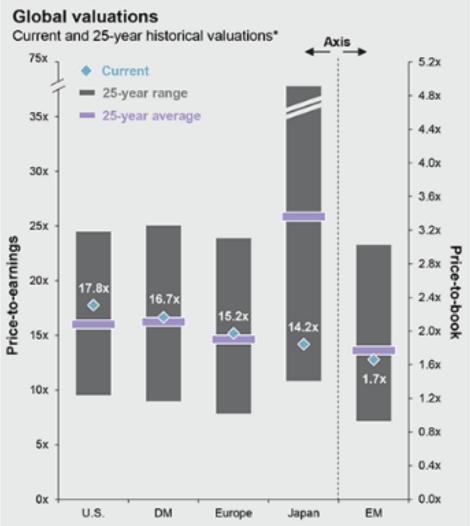


Source: MSCI, Standard & Poor's, FactSet, J.P. Morgan Asset Management.

Jeffrey Saut

International Earnings and Valuations



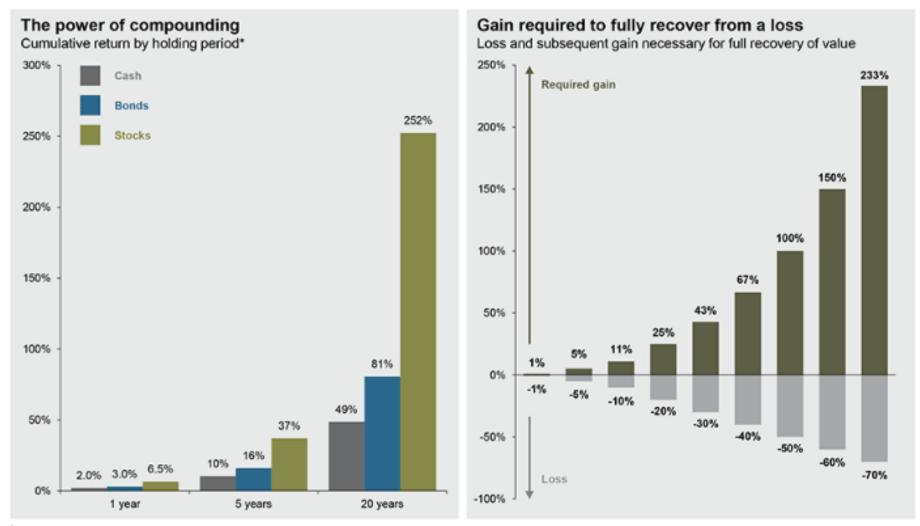


Source: MSCI, Standard & Poor's, FactSet, J.P. Morgan Asset Management.

Jeffrey Saut

"It's a Bull Market, You Know!"

The importance of staying invested and limiting losses. As Ben Graham said, "The essence of portfolio management is the management of risks, not the management of returns."



Source: J.P. Morgan Asset Management.

Economic & Market Update

Equity Markets/Technical Analysis

 Market Outlook – Buying power is close to crossing above
 Fed Monetary Policy Report to selling pressure. Consistent with this, the NYSE Advance/Decline line reached new all-time highs last week (as well as the S&P 500/400/600, Nasdag Composite, and Russell 2000). Participation is broad and pullbacks should be short and shallow.

S&P 500 Earnings:

After 14% growth in 1Q17, the 2Q17 estimated earnings growth rate for the S&P 500 is now 7.2%.

With one-fifth of the index reporting results, 73% have beat the mean EPS estimate; 77% have beat the mean sales estimate.

If revenue beats continue at this pace, it will be the highest percentage of companies beating since data was tracked in 2008 (previous high 72% in 2Q11).

The relatively weaker U.S. dollar is expected to boost earnings of companies with substantial overseas operations.

S&P 500 Earnings estimates*:

2017 - \$127.86, **2018** - \$144.82

Current P/E: 2017 – 19.4x, 2018 – 17.1x

While earnings estimates are down slightly, valuations are higher, reflecting strong index performance.

S&P 500

Key support: 2468, 2450, 2430, 2400-2405, 2350-2355

Key resistance: 2478, 2500

Sectors (earnings):

While earnings growth expectations for Energy have declined over the course of the quarter, the sector is still poised to lead all sectors in y/y earnings growth. Ex-Energy, earnings growth falls to 4.8% for the S&P 500 from 7.2%. Nine of the eleven S&P sectors are expected to report v/v earnings growth; only Utilities and Consumer Discretionary are expected to report earnings declines.

Monetary Policy, Inflation, FX

- Congress (July 7) The report reinforced much about what we already knew: the Fed expects to gradually increase short-term interest rates over the next couple of years. Balance sheet unwinding is expected to begin (gradually) by end of year.
- Yellen MP Testimony (July 12) -Yellen broke no new ground in her testimony. The Fed is critical of proposals to a rules-based approach to monetary policy.
- Consumer Prices (CPI Bureau of Labor Statistics) - The Consumer Price Index rose 1.6% y/y in June. Ex-food& energy, the CPI rose 1.7% y/y. Wireless telecom services fall sharply in March, pushing the y/y pace lower.
- Exchange rates (July 25) EUR/USD......\$1.166 GBP/USD......\$1.305 USD/JPY ¥111.59 USD/CAD...... \$1.252

U.S. Economy

- Consumer Confidence (Confidence) Board) - Consumer Confidence came in at 121.1 vs. initial estimate for July at 116.5. Consumers' assessment of current conditions at 16-year high. Job market perceptions continue to improve.
- Retail Sales (Census Bureau) Retail sales (-0.3% vs. +0.1% forecast) were weaker than expected. Weak consumer spending may be partly explained by the soft growth in real earnings (y/y), but real wage growth should pick up as gasoline prices stabilize or move a bit lower.
- Industrial Production (Federal Reserve) – Production rose 0.4% in June, boosted by a 6.8% gain in oil and gas well drilling. Manufacturing output rose 0.2%, trending about flat since February.
- June Employment Report (Bureau of Labor Statistics) - Nonfarm payrolls rose by 222K in June. Private sector job growth for 2017 is about the same pace as in 2016. The unemployment rate ticked up from 4.3% to 4.4%, but likely just noise.

Global Economy

- World Economic Outlook (International Monetary Fund) -Cyclical growth continues. Global output is projected to grow by 3.5% in 2017 and 3.8% in 2018, however contributions at the country level are somewhat different as U.S. growth projections are lower than in April (less expansionary fiscal policy), while China, Japan, and the Eurozone have all been revised up.
- The **Bank of Canada** (BOC) raised its target for the overnight rate to 0.75%, noting that "a significant amount of economic slack has been absorbed." Taking a page from Yellen's book, "factors behind soft inflation appear to be mostly temporary."
- ECB The European Central Bank's Governing Council left short-term interest rates unchanged and did not alter its asset purchase program. Many (hawks) were hoping for a possible change, but Draghi said that "a very substantial degree of monetary accommodation is still needed..." and stressed that FCB could still expand asset purchase program if needed.

Source: FactSet, Raymond James Research.

*S&P 500 earnings estimates are bottom-up operating earnings as of 7/20/17 market close, provided by Standard & Poor's.

Andrew Adams

Don't Look Now, But...

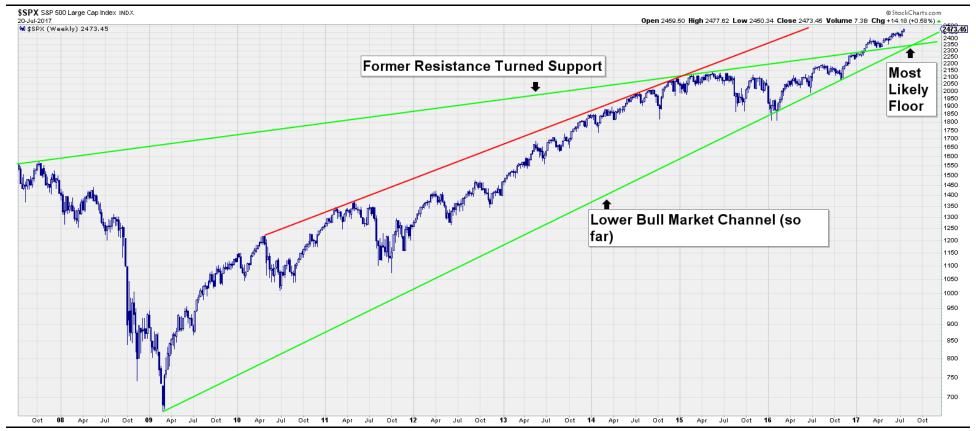
It does appear the S&P 500 is making an attempt at rising above the resistance line that has acted as its ceiling the past few months. Once again, there also remains plenty of support underneath the index that should help prevent a major decline.



Andrew Adams

"You're Gonna Need a Bigger Chart"

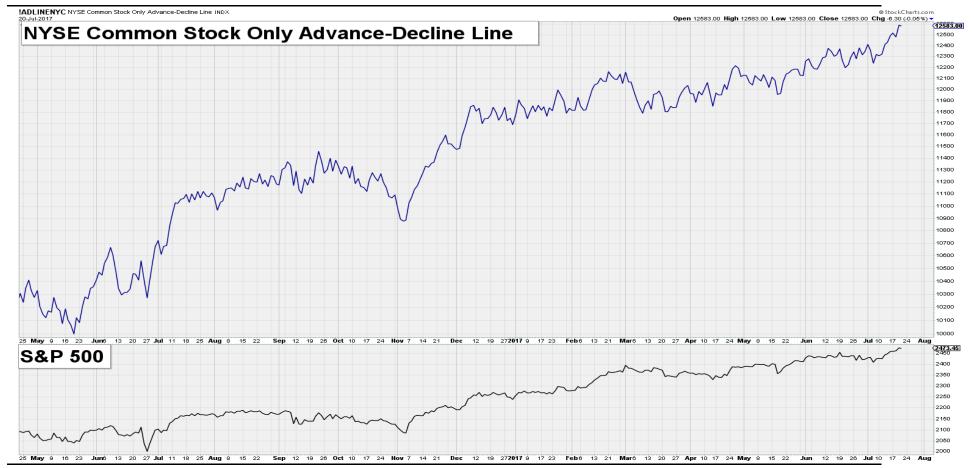
Backing out further, the S&P 500 is actually doing so well that it's nearing the upper end of my chart. If it's not clear already, the trend definitively remains up and until that uptrend starts to look to be in jeopardy, long-term investors should remain bullish.



Andrew Adams

Breadth Also Making New Highs

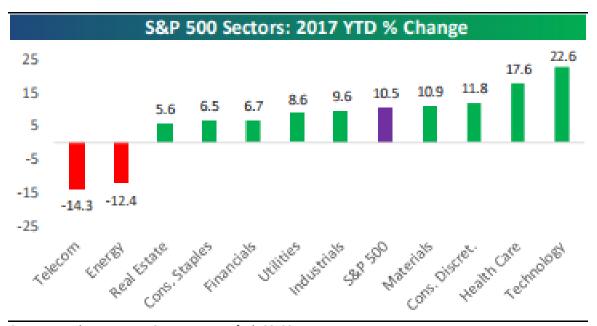
Even better, the recent breakout to new all-time highs in U.S. stocks (bottom panel) is also being confirmed by the NYSE Common Stock Only Advance-Decline Ratio. This is a sign that we're seeing broad participation across the market and we're, therefore, just not seeing the weakening under the surface that often precedes more major corrections.



Andrew Adams

Our Favorite Sectors Remain Strong

The various S&P 500 sectors obviously come into and out of style as the market fluctuates, but Technology, Health Care, and Consumer Discretionary have largely been our favored sectors the last few years. All three have performed well so far in 2017 and we continue to like these areas going forward over the next few years despite the possibility that we may see them pause or pull back a little in the near term given the run they've had.



Source: Bespoke Investment Group. Data as of July 20, 2017.

Andrew Adams

Technology Making Another Go At Resistance

Technology, especially, has been hot lately but may be running into another wall in the near term given the long-term resistance line we have pointed out in the past couple of months. Hitting this upper end of its channel caused the Technology Select Sector Index to dip a bit in June, but the sector has since come roaring back to make another attempt at rising above. Naturally, if Tech is to overcome that barrier, it would be a sign of tremendous strength.



Andrew Adams

Small Caps Remain Stuck

The pattern in the Russell 2000 continues to fascinate me, as the small-cap index just cannot seem to rise above the upper end of its broadening channel. It is making another attempt at the moment, but only a weekly close above that top resistance line will provide a clear sign that the small caps are perhaps ready to make another run. The good news, however, is the resistance has not knocked the Russell 2000 down too much over the last few months despite the limited upside.



Andrew Adams

International Still Looking Relatively Attractive

We have written previously this year that looking outside the U.S. may help boost returns considering world markets are generally cheaper than in the United States and have not experienced the steep run over the last few years that the S&P 500 has enjoyed. This divergence between the MSCI World Index (ex-USA) and the S&P 500 can easily be seen in the chart below, as the latter has now risen more than 55% on a price-return basis over its 2007 peak, while the former remains almost 20% *beneath* its late 2007 peak. If world stocks can, therefore, play some catch-up, it can possibly help total portfolio returns.



Andrew Adams

Emerging Markets Breaking Out

Speaking of the rest of the world, the developing parts have been looking very good this year and the MSCI Emerging Markets Index has now broken its downtrend since late 2007. It, therefore, continues to perform well on an absolute basis and when compared to the S&P 500 (lower panel).



Andrew Adams

Interest Rates Still Behaving Quite Predictably

The benchmark 10-Year U.S. Treasury rate bounced off the 2.1% level as we expected, but has since run into some trouble around 2.4%. This resistance has caused the yield to pull back near a probable support zone around 2.2% and we will now have to see how it performs there. As we continue to state, 2.6% looks like the big level to watch on the upside while 2.1% is key on the downside.



Andrew Adams

Oil Behaving Better Too

Crude oil has bounced from its lows near \$42, which has helped take some of the pressure off Energy stocks and the broad market. There is still quite a bit of resistance overhead that may prevent the commodity from rising too much, but if it's able to stabilize it may at least not provide such a big drag on stock performance and breadth readings.



Andrew Adams

Another Good Sign

The oil rebound has now created a higher high and higher low on the daily chart, which will relieve many oil and Energy bulls after several months of new lows. Work still needs to be done, but it is, at least, an encouraging sign.



Scott Brown

The Economy in Brief

The economy continued to expand in 2Q17, although the rebound (from a "soft" 1Q17) appears to have fallen short of earlier expectations (the advance estimate of 2Q17 GDP, along with annual benchmark revisions, is due on July 28). Consumer spending growth was moderate in 2Q17, but monthly data reflected poor momentum heading into 3Q17. Business fixed investment has been fueled by strong sentiment and the recovery in oil and gas well drilling. Residential homebuilding continues to improve, but is restrained by cost and affordability issues. In Washington, the Trump agenda has had little progress, but economic growth was always going to be limited by the tightening in labor market conditions.

Federal Reserve officials believe that recent softer inflation figures are due to transitory effects (such as the sharp drop in wireless telecom services in March) and expect inflation to move toward the 2% goal as the labor market tightens. Policymakers anticipate a gradual pace of increases in short-term interest rates over the next couple of years. The Fed expects to begin reducing the size of its balance sheet by the end of the year, starting gradually, but increasing the drawdown over time – likely putting some upward pressure on long-term interest rates.

Washington Developments

Tax Reform: The Affordable Care Act has important tax elements that must be addressed before real tax reform can begin. Even still, tax reform is virtually impossible (nobody wants to give up their tax breaks – deductions total \$1.5 trillion per year). Yet, while broad tax reform is unlikely, Congress can still reduce tax rates (just not as much as was hoped for earlier).

Trade Policy: A misstep here has been viewed as one of the biggest risks to the economic outlook. Increased tariffs on Canadian softwood lumber have boosted construction costs. President Trump came very close to pulling the U.S. out of NAFTA (day 100) and is reported to be considering raising tariffs on Chinese steel imports. Many U.S. firms are trying to secure alternative supply chains (in case of a trade war).

Fed Personnel: President Trump has nominated <u>Randal Quarles</u> to be the Fed's Vice Chair of Supervision.

The Russia Thing: Special Counsel Mueller's investigation is reported to be progressing, but it will still take some time. Financial market participants haven't expressed much concern, but that may change

Scott Brown

Economic Outlook – Key Themes

Moderate Growth

Domestic economy

- Consumer fundamentals remain strong (jobs, wages)
 - Gasoline prices are moderating (increased purchasing power)
 - Rents have been outpacing overall inflation
 - Some minor signs of credit stress (an initial increase in auto loan delinquencies)
 - Sentiment is divided sharply by political affiliation
- Housing fundamentals are strong, but affordability and supply issues will continue
 - Mild winter likely pulled forward activity (softer in April/May, but strong y/y)
 - Higher building costs
- Business fixed investment got some boost from improved sentiment in 1Q17
 - Need to see gains in consumer spending for that to last
 - Energy recovery adding (oil and gas well drilling is capital intensive)

Long-term demographic restraints

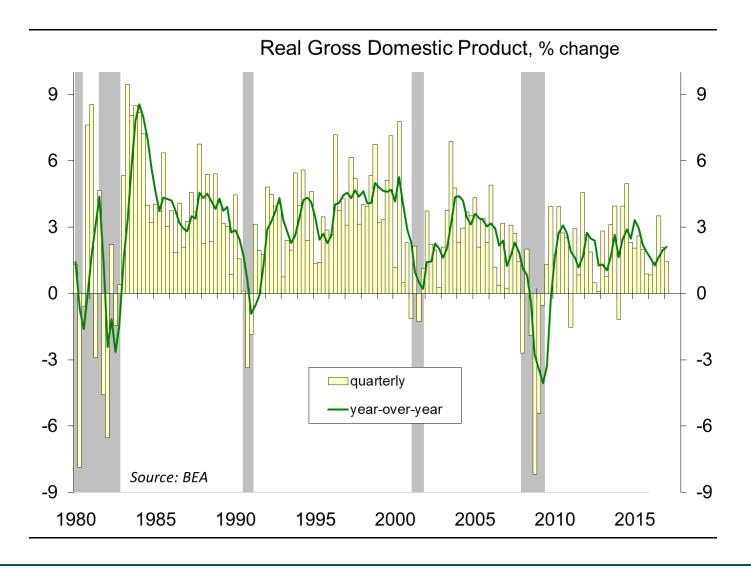
- Slower labor force growth than in previous decades (+0.5%/year over next 10 years)
 - And 40% of that is projected to be immigration (could be slower)
- Fed notes some signs that labor market constraints are restraining economic growth
- Better trend economic growth depends on stronger growth in productivity

Rest of the world

- Brexit negotiations expected to be difficult
- China economic restructuring likely to be uneven, concerns about high debt levels
- Near-term global economic outlook has continued to improve
- Demographic constraints will limit the long-term pace of global growth

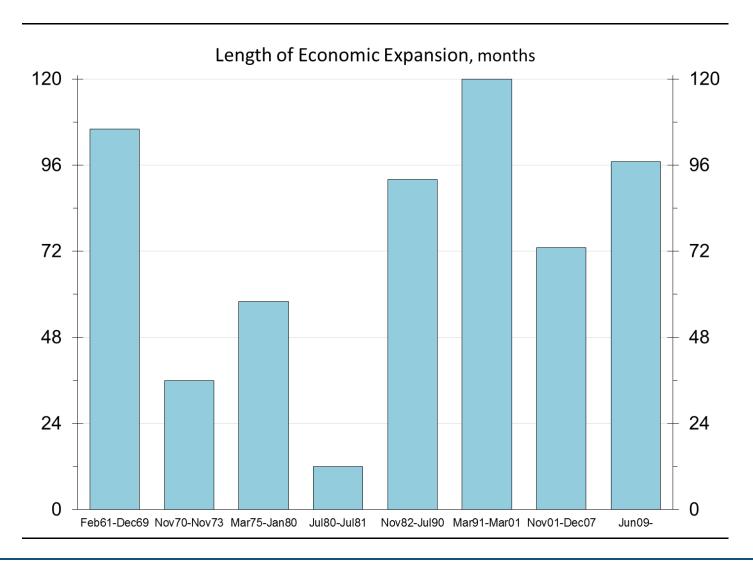
Scott Brown

GDP Growth Has Remained Moderate In 2017



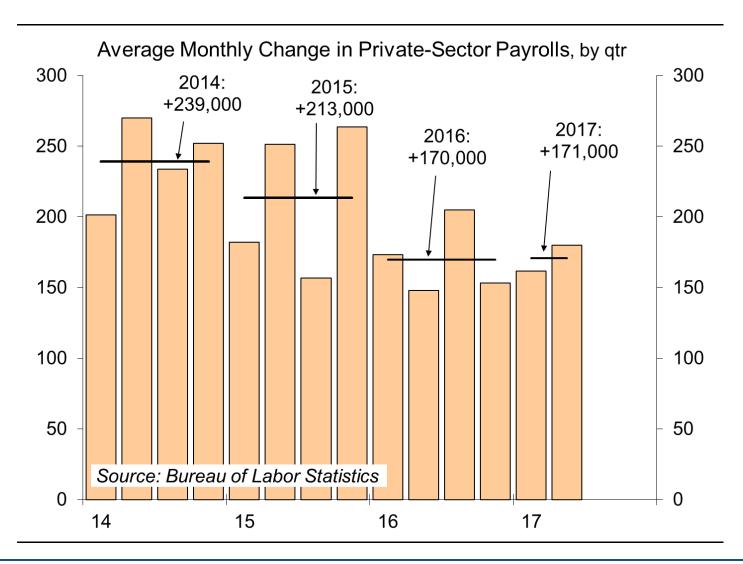
Scott Brown

The Current Expansion Is the Third-Longest Post-World War II



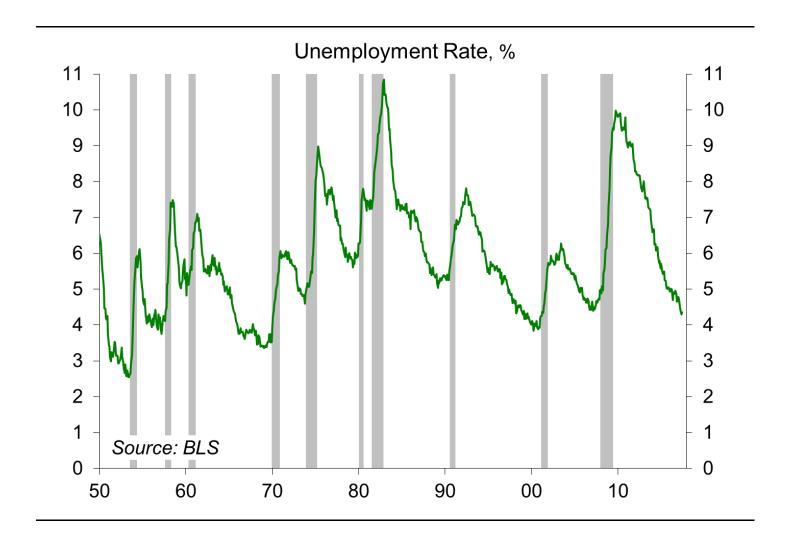
Scott Brown

Job Growth Is Trending About the Same As in 2016



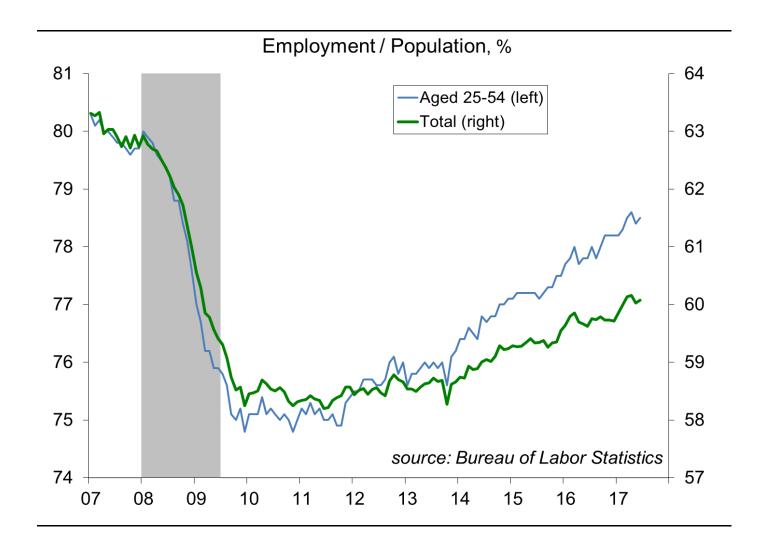
Scott Brown

The Unemployment Rate Is Low



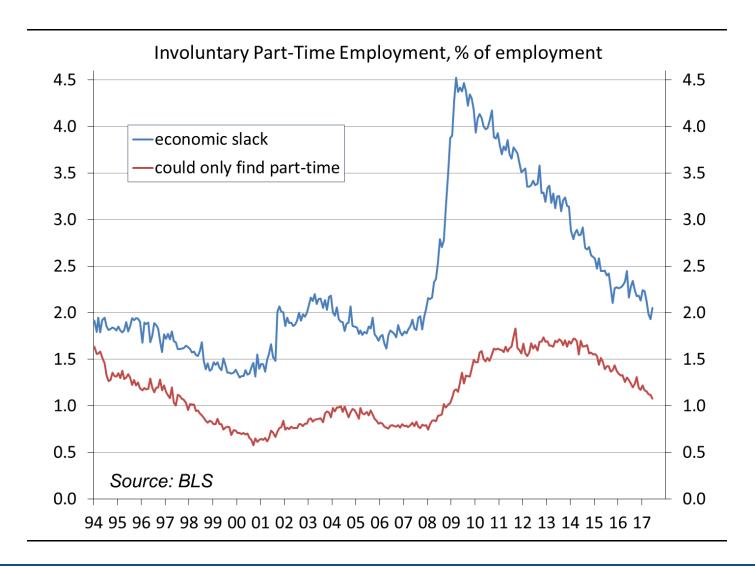
Scott Brown

Labor Market Slack Has Been Reduced



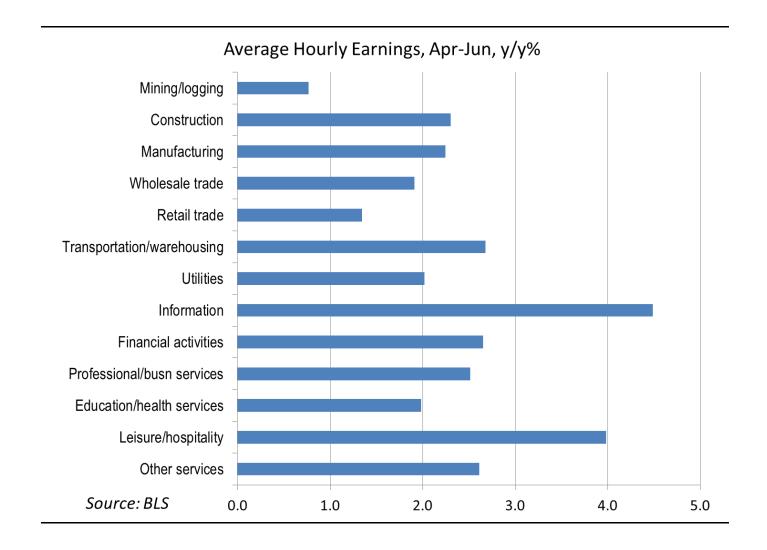
Scott Brown

Measures of Underemployment Are Trending Lower



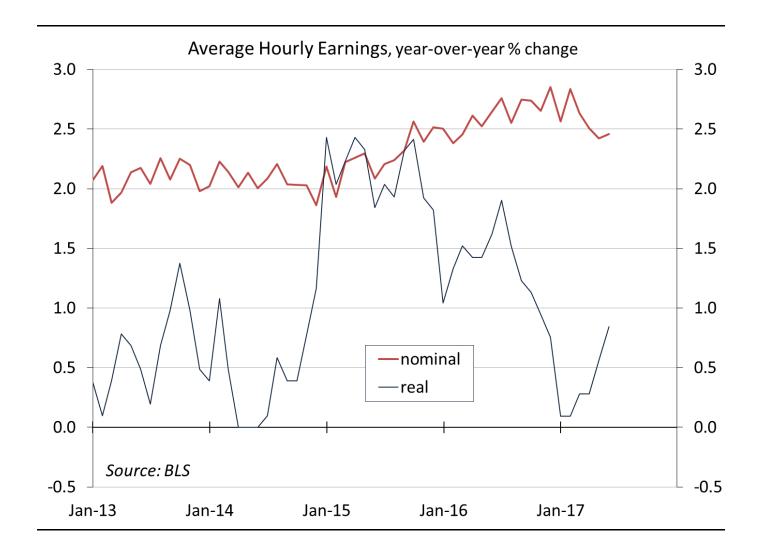
Scott Brown

Nominal Wage Growth Has Been Moderate



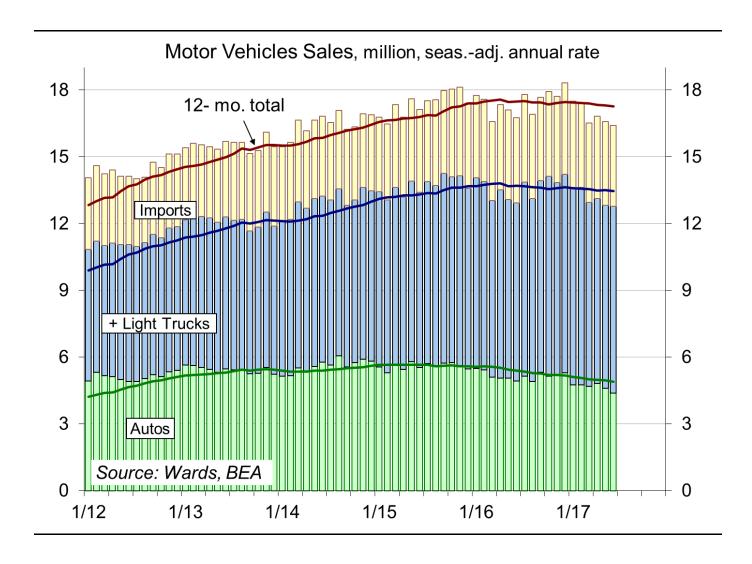
Scott Brown

Real Wage Growth Is Picking Up



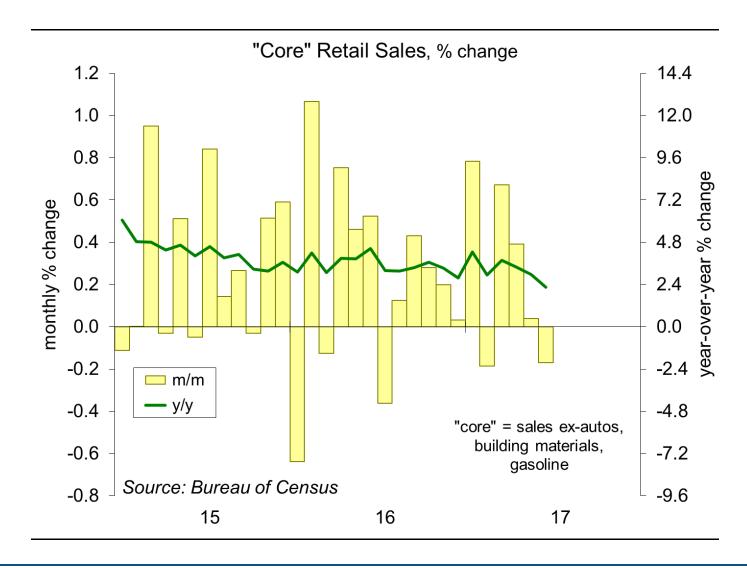
Scott Brown

Motor Vehicle Sales Are Trending Lower



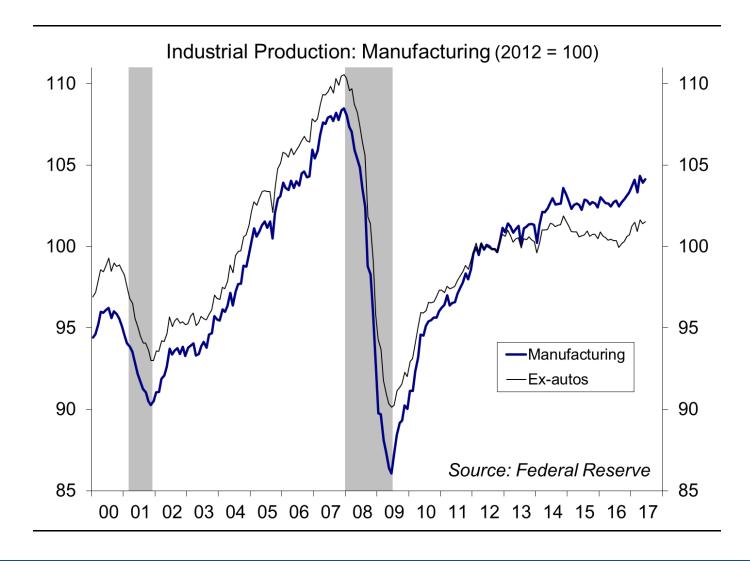
Scott Brown

Retail Sales Slowed In May and June



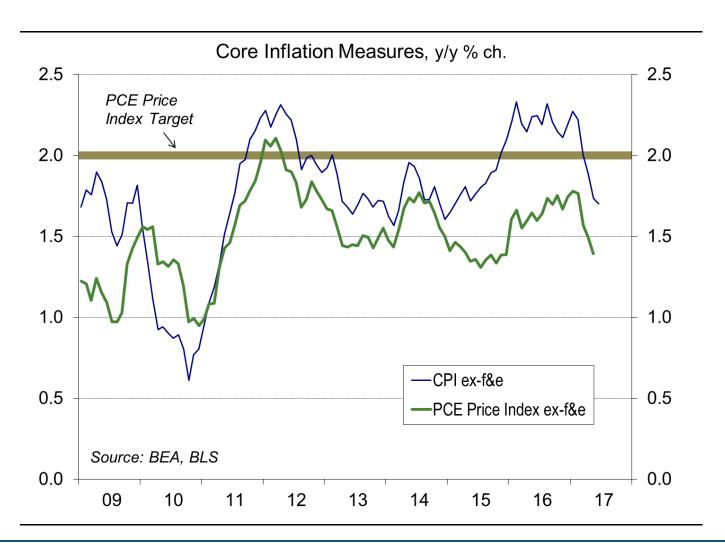
Scott Brown

Growth In Manufacturing Output May Be Slowing



Scott Brown

Core Inflation Remains Below Target, Partly Reflecting A Sharp Decline In Wireless Telecom Services



Scott Brown

Federal Reserve Policy

The [FOMC] continues to expect that the evolution of the economy will warrant gradual increases in the federal funds rate over time to achieve and maintain maximum employment and stable prices. That expectation is based on our view that the federal funds rate remains somewhat below its neutral level -- that is, the level of the federal funds rate that is neither expansionary nor contractionary and keeps the economy operating on an even keel.

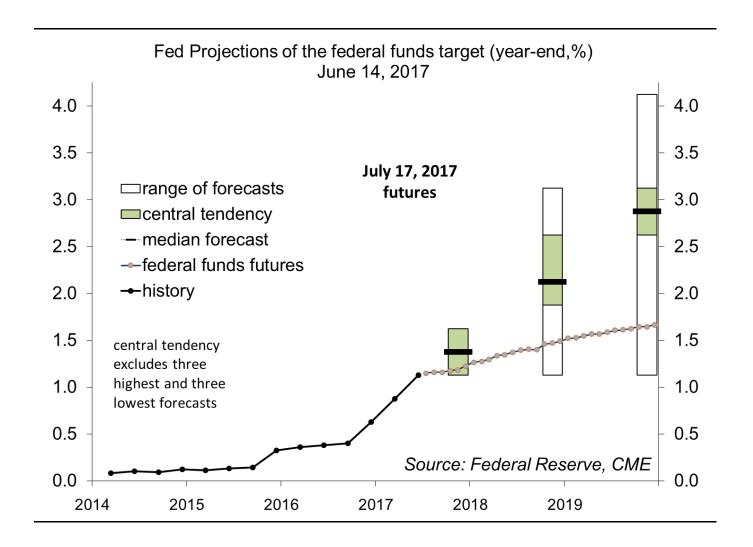
Because the neutral rate is currently quite low by historical standards, the federal funds rate would not have to rise all that much further to get to a neutral policy stance. But because we also anticipate that the factors that are currently holding down the neutral rate will diminish somewhat over time, additional gradual rate hikes are likely to be appropriate over the next few years to sustain the economic expansion and return inflation to our 2 percent goal.

Yellen Monetary Policy Testimony (July 12)

Note that there are currently three vacancies on the Fed's Board of Governors. Randal Quarles has been nominated to the BOG (and as the Vice Chair on Supervision). Yellen's term as chair runs to February 3, 2018. Personnel changes add another layer of uncertainty to the Fed policy outlook.

Scott Brown

The Market Expects Fed Rate Hikes To Be More Gradual



Scott Brown

Federal Reserve Policy – Balance Sheet Reduction

Once normalization of the level of the federal funds rate is well under way, the Fed will set caps on the monthly amount of run-off (principal payments above the cap will be reinvested). Initially, the cap (amount of monthly run-off) will be set low: \$10 billion (\$6 billion for Treasuries and \$4 billion for Mortgage-Backed Securities). The cap (monthly run-off) will increase by \$10 billion each quarter, until it reaches \$50 billion (\$30 billion Treasuries, \$20 billion MBS), where it will continue until the size of the balance sheet reaches an appropriate level (yet to be determined).

The start date of balance sheet reduction has not been set, but minutes of previous FOMC meetings suggest that it's likely to begin by the end of the year (most likely, October). The initial balance sheet reduction is relatively modest and should not be unsettling for the financial markets. It's unclear where the size of the balance sheet will end up when the reduction process ends. Currently, it is \$4.5 trillion. At full stride (\$50 per month = \$600 billion per year), the pace may be a lot for the financial markets to handle.

"...the Committee would be prepared to resume reinvestment of principal payments received on securities held by the Federal Reserve if a material deterioration in the economic outlook were to warrant a sizable reduction in the Committee's target for the federal funds rate."

Scott Brown

Economic Indicators

Economic Indicator	Status	Comments
Growth		Recent data suggest that the second quarter rebound will fall short of earlier expectations, but growth is expected to be around 2% for the second half of the year.
Employment		Growth in nonfarm payrolls has remained moderate, but is expected to slow as labor market conditions tighten.
Consumer Spending		Wage and job growth have remained supportive, but figures suggest a lackluster trend into the second half of the year. Autos sales are trending down. This bears watching closely.
Business Investment		Businesses remain generally optimistic. The energy rebound has helped. However, the first half's pace of improvement may be difficult to maintain.
Manufacturing		Uneven in recent months, the trend in factory output has been about flat since February. The energy rebound and an improving global economy are helping.
Housing and Construction		The mild winter may have pulled forward activity this year. Builders continue to note supply constraints (a scarcity of skilled labor, higher construction costs).
Inflation	•	Uneven in the first few months of the year (not unusual), the underlying trend in consumer price inflation remains below the Fed's goal, restrained by a drop in wireless telecom services. Pipeline pressure have been mild. Wage pressures are moderate.
Monetary Policy		The Fed expects to raise short-term interest rates gradually and has issued guidelines for how it will reduce the size of the balance sheet. Personnel changes (three vacancies on the Fed's Board of Governors, Yellen's term as chair runs to February 3) add uncertainty.
Long-Term Interest Rates	•	Inflation pressures do not appear to be as strong as feared earlier. Lower interest rates abroad should keep U.S. bond yields from rising rapidly. The balance sheet unwind ought to put some upward pressure on yields, but gradually.
Fiscal Policy		State and local government budgets are in better shape and spending should add a bit to overall GDP growth. At the federal level, the timing, character, and scale of infrastructure spending and tax cuts is very much in doubt, but (while hope remains) expectations have been pared back.
The Dollar		Fed policy uncertainty (mostly personnel-related) and Washington turmoil may put some downward pressure on the dollar, especially if signs of economic softness continue.
Rest of the World	•	Brexit negotiations should be difficult for the U.K. and Chinese debt levels are a concern. However, the global economic outlook is improving. The possibility of trade conflicts remains an important risk for the U.S. economic outlook.

Scott Brown

Key Calendar Dates

CB Consumer Confidence (July) July 25 July 26 FOMC Policy Decision (no press conference) July 27 Durable Goods Orders (June) July 28 Real GDP (2Q17, advance estimate + benchmark revisions) Employment Cost Index (2Q17) ISM Manufacturing Index (July) August 1 Motor Vehicle Sales (July) ADP Payroll Estimate (July) August 2 Employment Report (July) August 4 Consumer Price Index (July) August 11 August 15 Retail Sales (July) **Employment Report (August)** September 1 September 4 Labor Day Holiday (markets closed) FOMC Policy Decision (Yellen press conference) September 20 November 1 FOMC Policy Decision (no press conference) December 13 FOMC Policy Decision (Yellen press conference)

Important Investor Disclosures

Raymond James & Associates (RJA) is a FINRA member firm and is responsible for the preparation and distribution of research created in the United States. Raymond James & Associates is located at The Raymond James Financial Center, 880 Carillon Parkway, St. Petersburg, FL 33716, (727) 567-1000. Non-U.S. affiliates, which are not FINRA member firms, include the following entities that are responsible for the creation and distribution of research in their respective areas: in Canada, Raymond James Ltd. (RJL), Suite 2100, 925 West Georgia Street, Vancouver, BC V6C 3L2, (604) 659-8200; in Europe, Raymond James Euro Equities SAS (also trading as Raymond James International), 40, rue La Boetie, 75008, Paris, France, +33 1 45 64 0500, and Raymond James Financial International Ltd., Broadwalk House, 5 Appold Street, London, England EC2A 2AG, +44 203 798 5600.

This document is not directed to, or intended for distribution to or use by, any person or entity that is a citizen or resident of or located in any locality, state, country, or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation. The securities discussed in this document may not be eligible for sale in some jurisdictions. This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. **Investors should consider this report as only a single factor in making their investment decision.**

For clients in the United States: Any foreign securities discussed in this report are generally not eligible for sale in the U.S. unless they are listed on a U.S. exchange. This report is being provided to you for informational purposes only and does not represent a solicitation for the purchase or sale of a security in any state where such a solicitation would be illegal. Investing in securities of issuers organized outside of the U.S., including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of, the U.S. Securities and Exchange Commission. There may be limited information available on such securities. Investors who have received this report may be prohibited in certain states or other jurisdictions from purchasing the securities mentioned in this report. Please ask your Financial Advisor for additional details and to determine if a particular security is eligible for purchase in your state.

The information provided is as of the date above and subject to change, and it should not be deemed a recommendation to buy or sell any security. Certain information has been obtained from third-party sources we consider reliable, but we do not guarantee that such information is accurate or complete. Persons within the Raymond James family of companies may have information that is not available to the contributors of the information contained in this publication. Raymond James, including affiliates and employees, may execute transactions in the securities listed in this publication that may not be consistent with the ratings appearing in this publication.

Raymond James ("RJ") research reports are disseminated and available to RJ's retail and institutional clients simultaneously via electronic publication to RJ's internal proprietary websites (RJ Investor Access & RJ Capital Markets). Not all research reports are directly distributed to clients or third-party aggregators. Certain research reports may only be disseminated on RJ's internal proprietary websites; however such research reports will not contain estimates or changes to earnings forecasts, target price, valuation, or investment or suitability rating. Individual Research Analysts may also opt to circulate published research to one or more clients electronically. This electronic communication distribution is discretionary and is done only after the research has been publically disseminated via RJ's internal proprietary websites. The level and types of communications provided by Research Analysts to clients may vary depending on various factors including, but not limited to, the client's individual preference as to the frequency and manner of receiving communications from Research Analysts. For research reports, models, or other data available on a particular security, please contact your RJ Sales Representative or visit RJ Investor Access or RJ Capital Markets.

Additional information is available on request.

Simple Moving Average (SMA) - A simple, or arithmetic, moving average is calculated by adding the closing price of the security for a number of time periods and then dividing this total by the number of time periods.

Exponential Moving Average (EMA) - A type of moving average that is similar to a simple moving average, except that more weight is given to the latest data. **Relative Strength Index (RSI)** - The Relative Strength Index is a technical momentum indicator that compares the magnitude of recent gains to recent losses in an attempt to determine overbought and oversold conditions of an asset.

International securities involve additional risks such as currency fluctuations, differing financial accounting standards, and possible political and economic instability. These risks are greater in emerging markets.

Small-cap stocks generally involve greater risks. Dividends are not guaranteed and will fluctuate. Past performance may not be indicative of future results.

Investors should consider the investment objectives, risks, and charges and expenses of mutual funds and exchange-traded funds carefully before investing. The prospectus contains this and other information about mutual funds and exchange –traded funds. The prospectus is available from your financial advisor and should be read carefully before investing. Not approved for rollover solicitations.

For clients in the United Kingdom:

For clients of Raymond James Financial International Limited (RJFI): This document and any investment to which this document relates is intended for the sole use of the persons to whom it is addressed, being persons who are Eligible Counterparties or Professional Clients as described in the FCA rules or persons described in Articles 19(5) (Investment professionals) or 49(2) (High net worth companies, unincorporated associations etc) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended) or any other person to whom this promotion may lawfully be directed. It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons and may not be relied upon by such persons and is therefore not intended for private individuals or those who would be classified as Retail Clients.

For clients of Raymond James Investment Services, Ltd.: This report is for the use of professional investment advisers and managers and is not intended for use by clients.

For purposes of the Financial Conduct Authority requirements, this research report is classified as independent with respect to conflict of interest management. RJFI, and Raymond James Investment Services, Ltd. are authorised and regulated by the Financial Conduct Authority in the United Kingdom.

For clients in France:

This document and any investment to which this document relates is intended for the sole use of the persons to whom it is addressed, being persons who are Eligible Counterparties or Professional Clients as described in "Code Monétaire et Financier" and Règlement Général de l'Autorité des Marchés Financiers. It is not intended to be distributed or passed on, directly or indirectly, to any other class of persons and may not be relied upon by such persons and is therefore not intended for private individuals or those who would be classified as Retail Clients.

For clients of Raymond James Euro Equities: Raymond James Euro Equities is authorised and regulated by the Autorité de Contrôle Prudentiel et de Résolution and the Autorité des Marchés Financiers.

For institutional clients in the European Economic Area (EEA) outside of the United Kingdom:

This document (and any attachments or exhibits hereto) is intended only for EEA institutional clients or others to whom it may lawfully be submitted.

For Canadian clients:

This report is not prepared subject to Canadian disclosure requirements, unless a Canadian analyst has contributed to the content of the report. In the case where there is Canadian analyst contribution, the report meets all applicable IIROC disclosure requirements.

Proprietary Rights Notice: By accepting a copy of this report, you acknowledge and agree as follows:

This report is provided to clients of Raymond James only for your personal, noncommercial use. Except as expressly authorized by Raymond James, you may not copy, reproduce, transmit, sell, display, distribute, publish, broadcast, circulate, modify, disseminate or commercially exploit the information contained in this report, in printed, electronic or any other form, in any manner, without the prior express written consent of Raymond James. You also agree not to use the information provided in this report for any unlawful purpose.

This report and its contents are the property of Raymond James and are protected by applicable copyright, trade secret or other intellectual property laws (of the United States and other countries). United States law, 17 U.S.C. Sec.501 et seq, provides for civil and criminal penalties for copyright infringement. No copyright claimed in incorporated U.S. government works.