NORTHERN NEW ENGLAND SCHOOL OF BANKING

Date: Tuesday, October 23, 2018

Subject(s): Economic Demographics: Northern New England (1)

Monetary Policy (2)

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Monetary Policy Post Global Financial Crisis

THE FRAMEWORK

- **Monetary Policy & QE: An Overview**
- Higher Growth/Rising Rates: Back to the Future?
- Inflation vs. Deflation
- Is Debt Inflationary or Deflationary?
- Shifting the Play-Book: Global vs. Local
- Coordinated Global Quantitative Easing
- Investment Implications & the Business Cycle

Global Monetary Policy since the GFC: A Quick Overview

- Monetary policy is the process by which the monetary authority of a country controls the supply of money, often **targeting an interest rate or inflation rate. Today the Fed Fund's interest rate is 2.25%. This is the rate at which the Fed loans money to major banks.**
- The goal is economic growth and stability, "full" employment and benign inflation
- Monetary policy is **separate from fiscal policy** which refers to changes in taxation, government spending, etc. Trump's recent tax changes are changes in fiscal policy
- Monetary policy is referred to as either being **expansionary** or **contractionary**.
- When policy is expansionary, the governing body is trying to stimulate the economy by increasing the money supply
- On the other hand, contractionary monetary policy is applied when the economy is "running too hot" and inflation is a problem.
- Today, the U.S. is arguably running expansionary monetary policy in a very robust environment

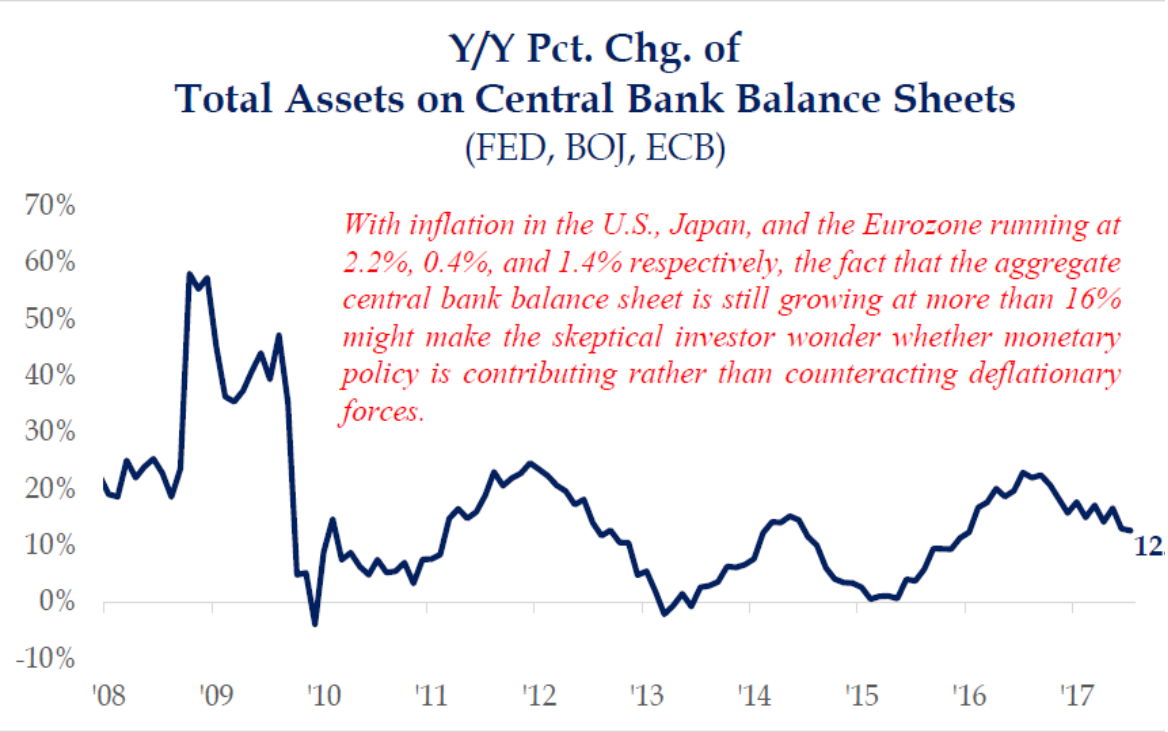
Global Monetary Policy since the GFC: A Quick Overview

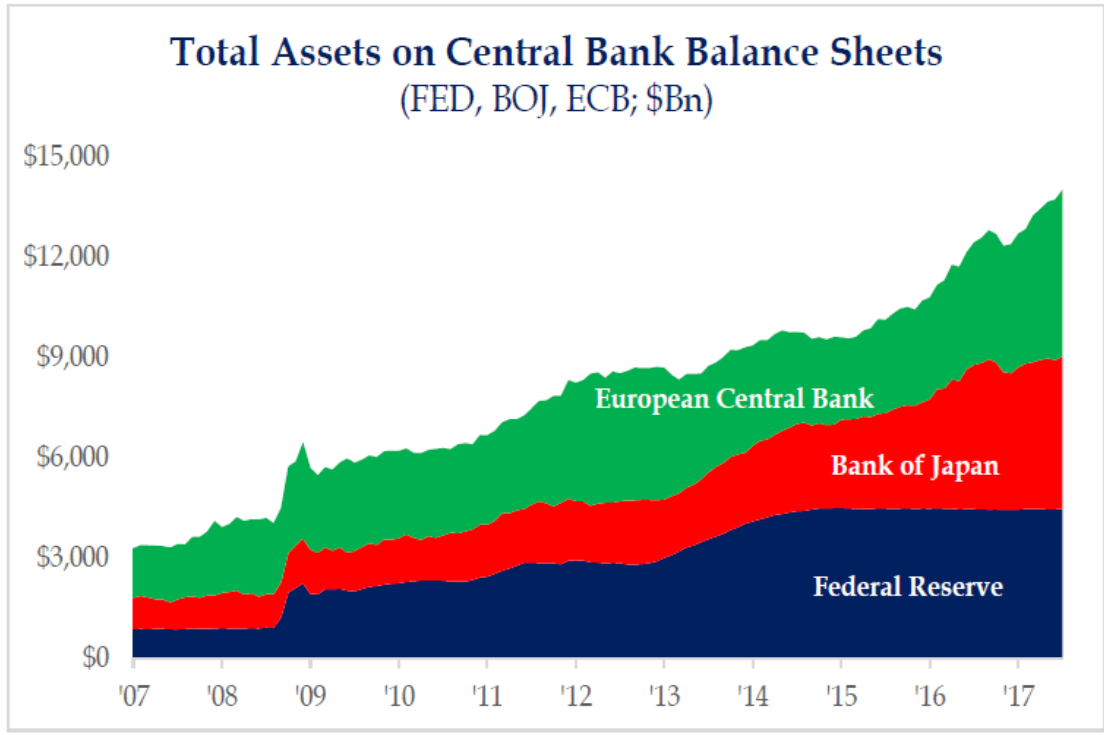
- In the wake of the Global Financial Crisis in 2008-2009, the Federal Reserve adopted some unusual central bank policy by being the first major bank to implement Quantitative Easing.
- The Fed Funds rate was high before the crisis – averaging 5.25% for much of 2007 before the Fed began cutting rates in anticipation of the crisis in September of that year. The GFC was so severe, that the Fed knew that cutting rates from 5.25% down to 0% just was not going to solve the problem.
- Instead the Fed adopted Quantitative Easing, buying huge amounts of government bonds and letting those bonds sit on it balance sheet in the hopes of lowering interest rates and providing liquidity.

Global Monetary Policy since the GFC: A Quick Overview

- All major countries and economies have their own central banks. These banks are tasked with managing inflation and employment in their own economy. However, as the world has become more global, these central banks increasingly **need to consider the monetary policies of other nations**.
- QE (quantitative easing) fever had taken over the developed world in an unprecedented fashion in the years following the recession. **This form of "money printing" has not had the inflationary effect predicted by pessimists**.
- Thus far, global QE has had no impact on inflation but has been credited with boosting equity markets and, as a result, **perpetuating income inequality**.
- Over the last year, the U.S. Federal Reserve has been **tightening monetary policy** by raising the interest rate on its over-night rate along with allowing bonds on its balance sheet to mature and "run-off."
- The ECB in Europe has been ramping down its QE, promising to eliminate it altogether this Spring.
- The BoJ in Japan is still applying quantitative easing.

Global Monetary Policy since the GFC: A Quick Overview





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Monetary Policy Post Global Financial Crisis: Low Growth, Low Rates: The New **Neutral?**

- PIMCO's "The New Neutral" was/is characterized by a "multi-speed world of economies converging to modest trend growth rates…and a global economy that is no longer restrained by private sector de-leveraging but, instead is learning to live with record levels of public and private debt without a cushion that would be provided by more rapid growth or higher inflation." i.e. Interest rates will stay low
- The fundamental problem is that **debts remain too high**, relative to the capacity for borrowers to service or repay unless global interest rates remain low
- Investment implications to this view: **long-term returns on both fixed-income and equities will be lower than in previous cycles. On the other hand, a continued background of low rates makes it less likely that markets will crash or that we will fall into another deep recession. Will interest rates stay relatively low?**
- Fiscal policy is influencing interest rates as President Trump's tax plan and the large fiscal deficit that it generates means that the Fed will have to issue a lot of Treasury bonds to pay the bills. This, alone, might drive rates much higher.

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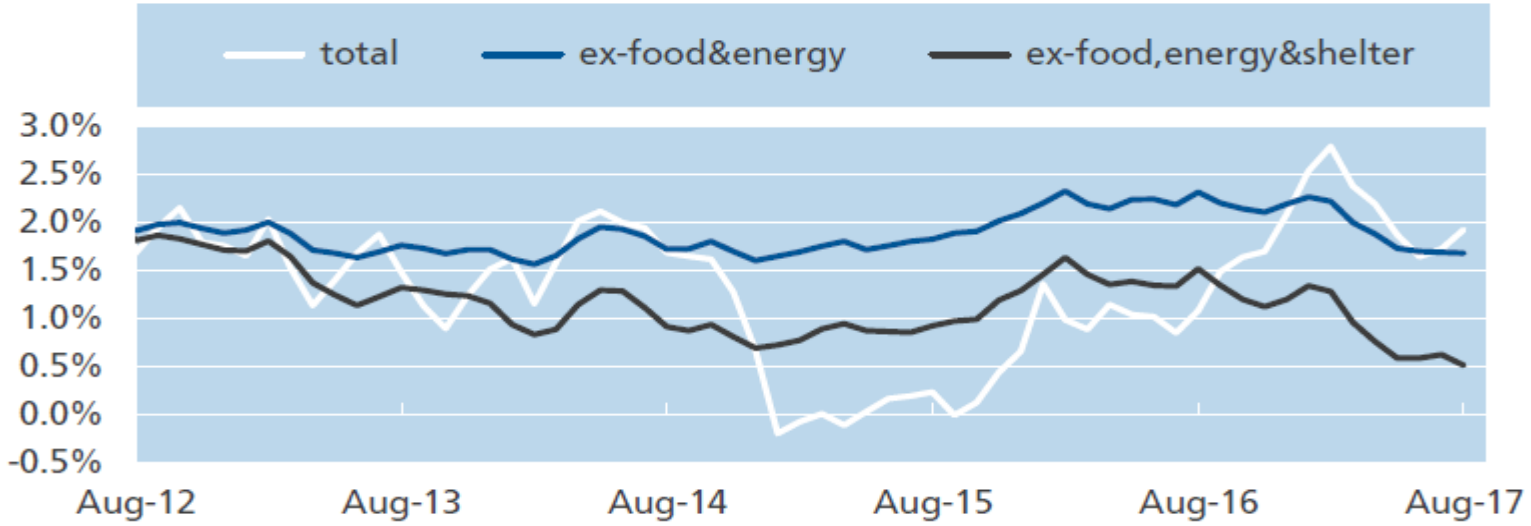
Monetary Policy Post Global Financial Crisis: Inflation vs. Deflation

When QE was first revived in the recovery period (as opposed to the initial, late-2008 burst of Fed action) 'monetarists' told us all about the inflation it was going to cause. But events showed that if anything it averted a liquidity trap. And recent core inflation, once rents are excluded, has lurched downward, to ½% in the chart above. This may reflect a revival of technology benefits to productivity; and tech-effects are also thought to have caused some overstatement of inflation: the underlying rate of US inflation may in reality be effectively nil. In that is anywhere near the truth, the Fed's pursuit of 2% inflation is a natural bubble-maker.

US CPI, various measures, 12-month % change



Monetary Policy Post Global Financial Crisis: Low Growth, Low Rates: Inflation vs. Deflation

- QE was a new concept when it was introduced globally after the GFC. The primary worry from the investment community seemed to be that extreme stimulus would result in **notable inflation** thanks to an increase in money supply
- Since 2009, the world had seen **more deflation than inflation**. This started to change in 2017 as inflation inched higher. **Now most of the world is generating modest inflation**.
- The monetary base (M0) is what most people think about when it comes to the amount of money in circulation. Banks make loans with deposits on-hand. The money from those loans is then deposited back into the banking system and re-loaned, over and over again. This is called the money multiplier effect
- In the wake of the GFC, the money was never loaned out. Banks and financial institutions hoarded money in order to shore-up their own balance sheets and regain profitability (which was necessary given the excessive regulations imposed on financial companies)

Monetary Policy Post Global Financial Crisis: Low Growth, Low Rates: Inflation vs. Deflation

- The “three D’s” contributed to the deflationary impulse since 2011. While inflation has recently been stronger, the “three D’s” are still relevant.
- **Debt**: While global consumers have deleveraged a bit since the GFC, governments have taken up a disproportionate amount of debt. Further, the consumer debt that has been taken on globally has not been income-producing in nature and is, therefore, considered “unproductive” debt (Lacy Hunt)
- **Demographics**: The U.S. is getting old, and the baby-boomers are starting to retire. Japan is the oldest large nation on earth, and Europe is not too far behind. China’s population peaks in 2020 thanks to the “one child” policies of the 1970s. Older consumers are less inclined to borrow and spend
- **De-globalization**: Investors believe that the global economy has reached “peak” globalization thanks to populist efforts in the U.S., Europe and the UK. Global trade in hard numbers is slowing as a percentage of GDP for the first time since WWII. We are in trade war with China.

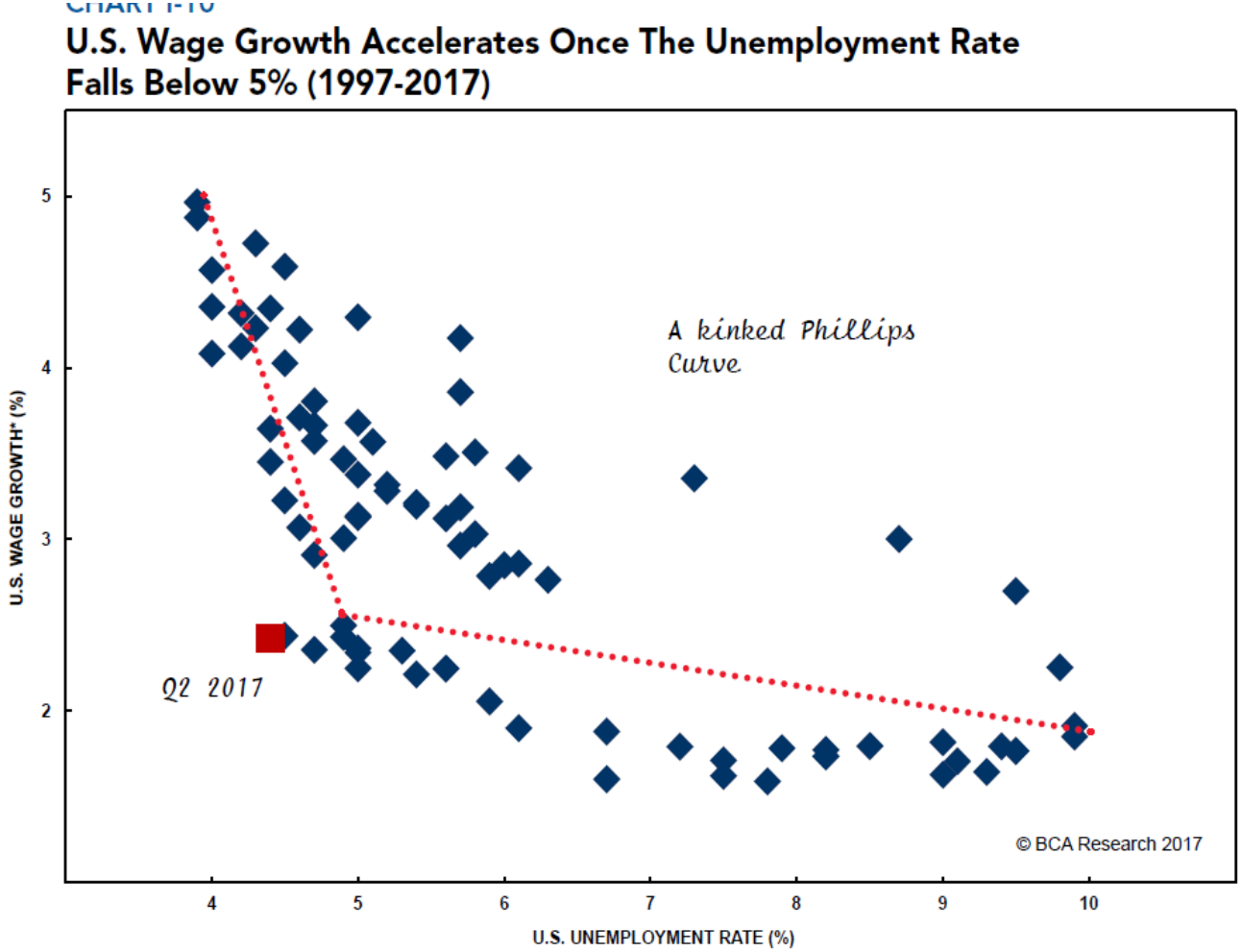
Monetary Policy Post Global Financial Crisis: Low Growth, Low Rates: Inflation vs. Deflation

- Other variables that may have capped inflation….
- **Lack of Labor Productivity**: this remains a bit of a mystery though several theories abound. The predominant one being the idea that there is more productivity in the economy than we are able to measure in the traditional way thanks to technological advances
- **The Technology Revolution**: This is difficult to measure, but Technology seems to have made both individuals and businesses more efficient.
- **Capital Expenditures**: corporate spending has been subdued throughout this business cycle though Trump's tax plan has boosted this lately. There are many theories on this as well:

Monetary Policy Post Global Financial Crisis: Low Growth, Low Rates: Inflation vs. Deflation

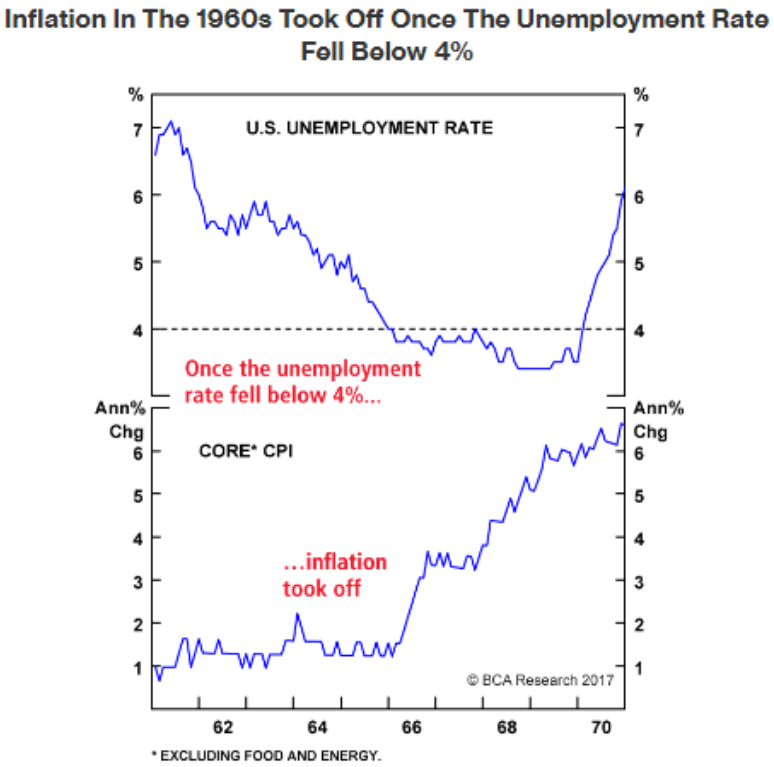
- Inflation has been benign globally since 2011 and still sits at about 2% for the developed nations (U.S., Europe, Japan, UK, Canada, etc.) What happens next?
  - **Watch the rate/pace of wage growth**. This is THE most important factor. For the U.S., this is released during the monthly Fed jobs' report. Anything higher than 4% signals that inflation is imminent. The last reading was about 2.8%
  - Eurozone: NAIRU (the natural rate of unemployment) is higher in the Eurozone than it is in the U.S. thanks to demographics and labor elasticity
  - Watch the direction of the Euro and over-all, broad inflation measures in the region
  - Also, watch the general trend of energy prices
- What is in the CPI (consumer price index) basket? There is "core" and "non-core"
  - The CPI basket is: food & beverage, housing, apparel, transportation, medical care, recreation, education & communication (includes wireless bills)
  - "Core" CPI is less volatile than CPI because it excludes food and energy prices

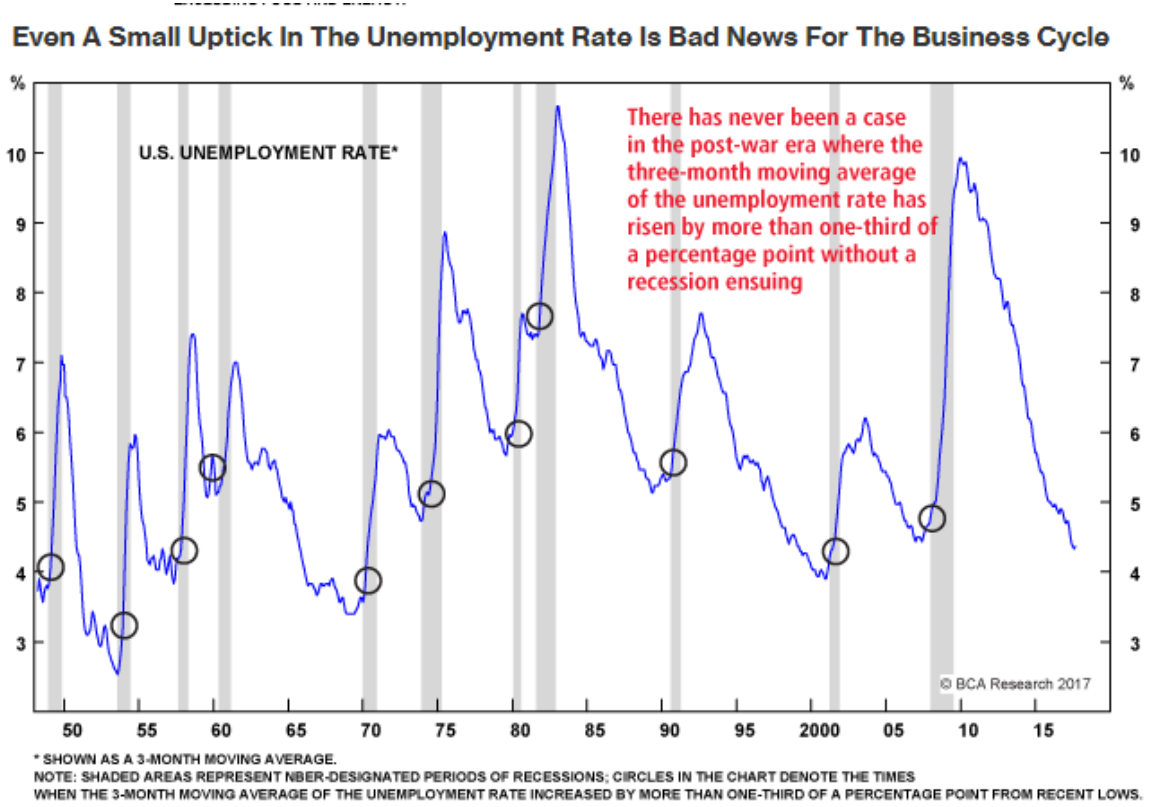
Monetary Policy Post Global Financial Crisis: Low Growth, Low Rates: Inflation vs. Deflation



Monetary Policy Post Global Financial Crisis: Low Growth, Low Rates: Inflation vs. Deflation

- Is major inflation knocking at the door?





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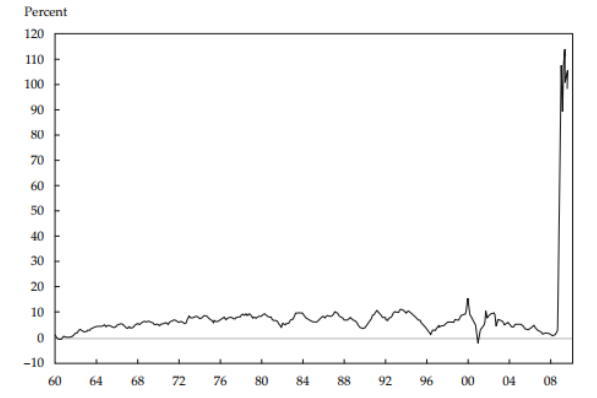
Monetary Policy Post Global Financial Crisis: Is Debt Inflationary or Deflationary?

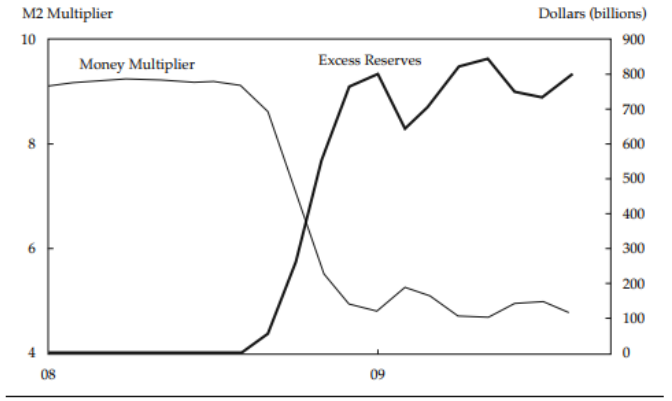
- The initial response by investors and economists when the “QE experiment” began was that increasing the monetary base but a huge extent = inflation around the corner
- As we know, this chorus of economists has been wrong since the GFC since deflation has been more of a worry than inflation
- The economist Irving Fisher asserted in 1933 that over indebtedness eventually creates a deflationary economic environment

Figure 1. Growth of the Monetary Base, 1 January 1960 through 26 August 2009



Source: Federal Reserve.

Figure 3. M2 Multiplier Compared with Excess Reserves, 1 January 2008 through 17 August 2009



Source: Federal Reserve.

Monetary Policy Post Global Financial Crisis: Is Debt Inflationary or Deflationary?

- According to Fisher, the are three requirements in order for growth in the monetary base to translate into higher prices. These conditions were not present in 2009-2016. Are they present today?
  - **1) An upward-sloping supply curve**: the answer to this is controversial – the first question that you have to answer is, "the supply of what?"
  - Some say that excessive regulation imposed by the Obama administration (especially upon financial institutions) caused supply of all things monetary to contract. This is changing today.
  - Others contest that the supply of content, information and services allowed by our current technological revolution has grown immeasurably!
  - Certainly in the early years following the recession, we had an oversupply of available labor (globally) which would suggest that the supply curve was downward sloping

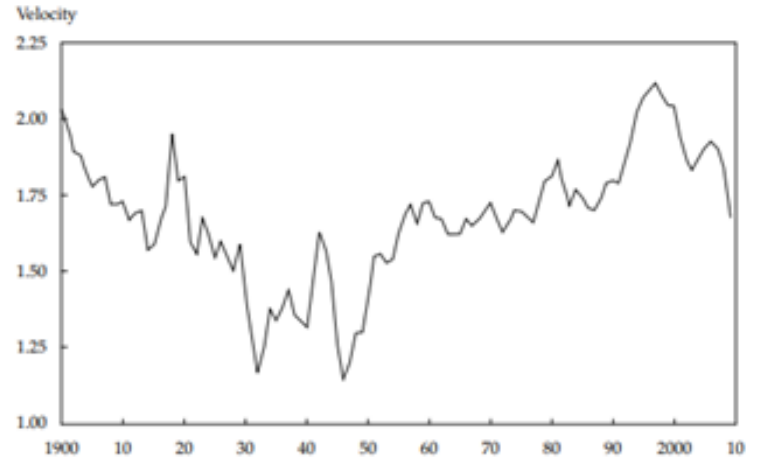
Monetary Policy Post Global Financial Crisis: Is Debt Inflationary or Deflationary?

- According to Fisher, the are three requirements in order for growth in the monetary base to translate into higher prices. These conditions were not present in 2009-2016. Are they present today?
  - **2**) **A stable or rising money multiplier.** Suffice it to say that the money multiplier has been structurally lower than in previous eras since the GFC. This has yet to turn up materially.
  - What will get it moving again? Well, our financial institutions have to start lending money and making credit available. Have the banks been greedy, sitting on cash provided to them by the government (TARP)? This would be the Elizabeth Warren argument.
  - Or, have the banks been regulated to the hilt (robust Tier I and Tier II capital standards) and have credit limits gotten so tight that credit is just not getting to the population that really needs it? Who in the middle class with a mediocre FICO score had the 30% down-payment required to buy a new home in 2011? This would be the David Zervos argument.

Monetary Policy Post Global Financial Crisis: Is Debt Inflationary or Deflationary?

- According to Fisher, the are three requirements in order for growth in the monetary base to translate into higher prices. These conditions were not present in 2009-2016. Are they present today?
  - **3**) **Stable or rising velocity of money (M2).** Like the money multiplier, the velocity of money has been structurally lower than in previous eras since the GFC. This has yet to turn up materially. This can be attributed to the same factors that we mentioned in the previous slide.

Figure 2. Velocity of Money, 1900–2008



Sources: Federal Reserve Board, U.S. Bureau of Economic Analysis, U.S. Census Bureau, and *Monetary Statistics of the United States.*

Monetary Policy Post Global Financial Crisis: Is Debt Inflationary or Deflationary?

- I think that the take away's are as follows:
- Over indebtedness is deflationary at the beginning of the cycle or for a time
- Eventually these conditions breed inflation
- Personally, I do not think that we'll see meaningful, prolonged inflation (reminiscent of the 1970's) until the next business cycle, so in the 2020's era

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Monetary Policy Post Global Financial Crisis: Global vs. Local

- Economists and investors have always been very home-country-centric
- U.S. investors today have about 85% of their equity allocations invested in U.S. stocks
- In the past, the economic factors and indicators that were relevant to the U.S. were generated in the U.S.
- Today, our economic world is much more global. About 45% of S&P 500 revenues are generated outside of the U.S.
- We should not just be considering the level of U.S. unemployment or NAIRU – we should be considering that of the world.
- Why? Because we are in a global workforce were the substitution effect is very much in play.
- Likewise for fixed income market analysis. Global inflation matters, not just U.S. inflation. Demand for U.S. sovereign debt has been, perhaps, THE most important factor in getting debt markets right over the last 8 years.
- China, Chinese consumers and Chinese economic policies matter more to the U.S. and to global investors than ever before. This is NOT going away. In fact, it will become more important as time goes on.

Monetary Policy Post Global Financial Crisis: Global vs. Local

- Another factor to consider is how foreign demand impacts U.S. debt/Treasury markets and the implication for our equity market
- The U.S. 10-year Treasury yield sits at 3.2% today (from 2.34% during last year's lecture) – the yield that you earn on the world's safest investment.
- This seems relatively low, but what are the equivalent yields in other major markets for 10-year sovereign bonds? Hmmm, well in German this yield is 0.47%. In France it is 0.88%. In Switzerland, it is 0.10% (broke into the positive category)! In Japan it is 0.16%.
- You could always take a gamble and invest in Brazilian sovereign debt with a yield of 10.88%, recently government scandals not withstanding. In Argentina, the 10-year bond yield is 17.6%.
- The U.S. is looking like the best house in a bad neighborhood in terms of investment, i.e. the sovereign debt flows/demand is not going to stop anytime soon.

Monetary Policy Post Global Financial Crisis: Global vs. Local

- What country is the largest holder of U.S. debt and what is its demand looking like? Well, the answer is the U.S. and then China.
- The U.S. debt is $20 trillion. The Social Security Trust Fund owns most of that national debt. This category is called Intragovernmental Holdings and is the portion of the federal debt owed to 230 federal agencies totaling $5.55tr or 30% of the $20tr figure.
- The public holds the $14tr balance, and foreign governments hold about half of that figure. As of July of 2017, China owns $1.166 tr. Japan owns $1.091tr.
- For all the bickering with Trump and China, the Chinese have not sold any U.S. Treasuries though they have not been buying more.
- Europe, Japan and China all want to keep the value of the dollar higher than the value of their currencies which helps with the value of their debt outstanding as well as keeps their exports affordable.

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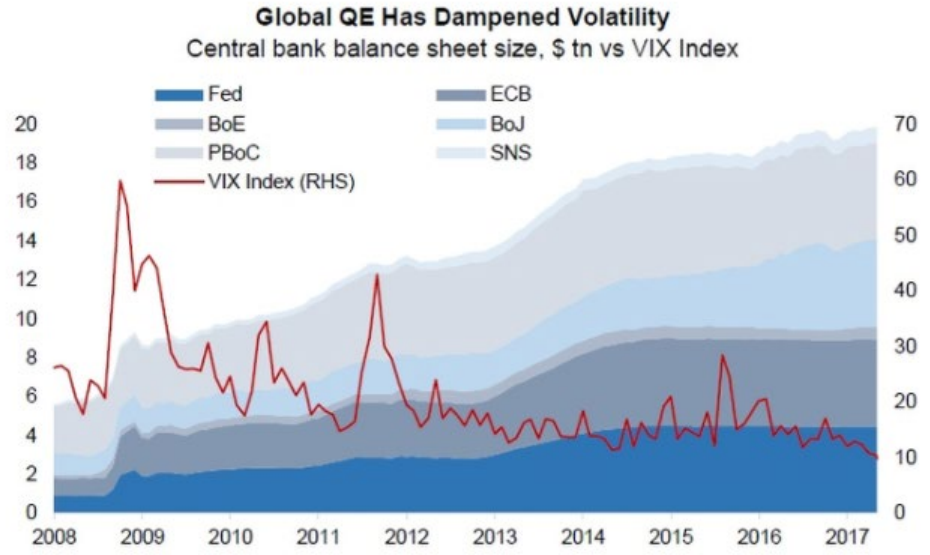
Monetary Policy Post Global Financial Crisis: Coordinated Global QE

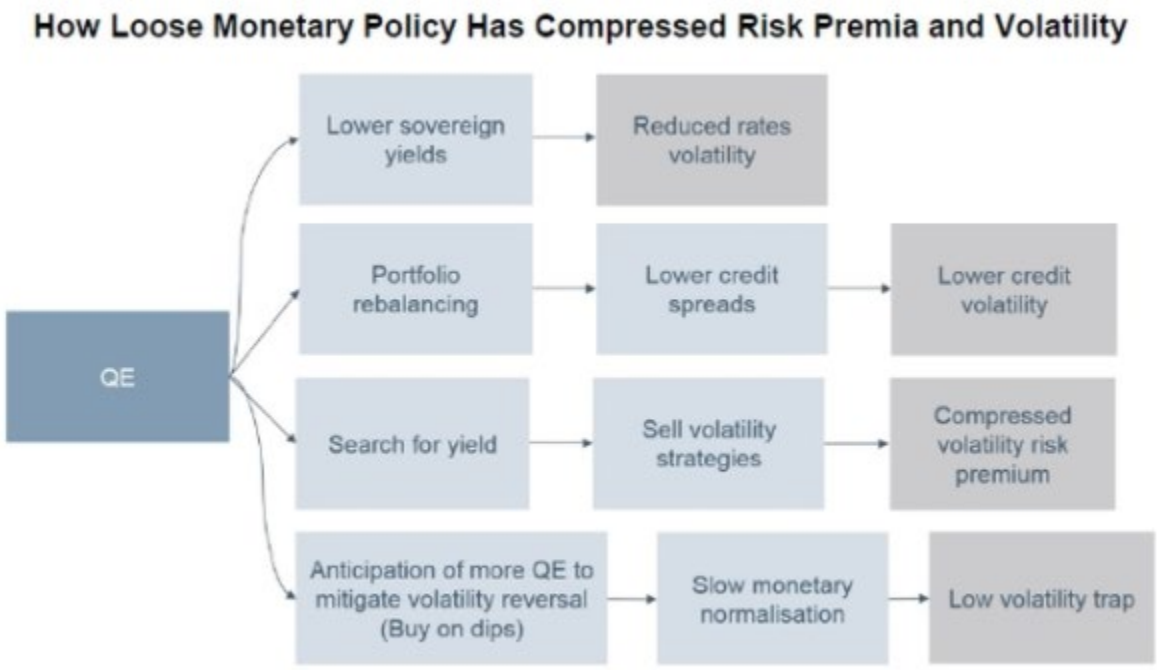
- After the GFC, the Bank of England (BoE), European Central Bank (ECB) and the Bank of Japan (BoJ) all launched their own form of QE in order to try to stimulate their economies. The PBoC (People's Bank of China) funded a massive stimulus plan but did not formally embark upon QE.
- The BoJ's was the most aggressive on a per capita basis. The BoJ has even been buying Japanese equities outright via ETF.



Source: Algebris (UK) Limited, Bloomberg

Monetary Policy Post Global Financial Crisis: Coordinated Global QE

- Despite improving employment figures globally, global inflation has been moderate

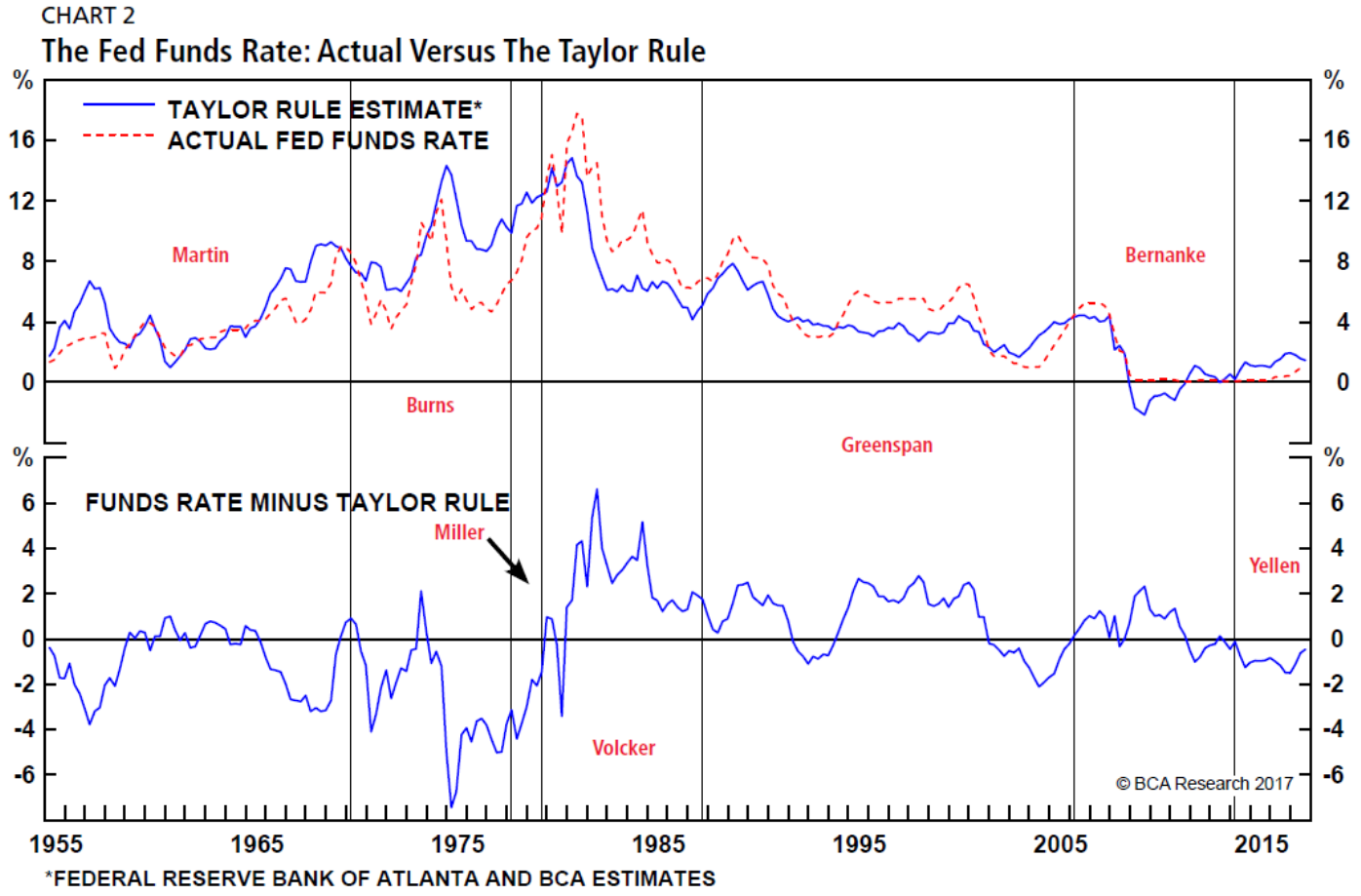


Source: Algebris (UK) Limited

Monetary Policy Post Global Financial Crisis: Coordinated Global QE

- All of these central banks should begin the process of QT – quantitative tightening. In fairness, each central bank has a different proclivity to tighten interest rates
- The Bank of England faces a weakening economy in the face of uncertainty around Brexit
- The Bank of Canada is hiking interest rates into a housing bubble and an uncertainly energy price environment
- While growth rates in the Eurozone have improved immensely, the Euro structure is not sustainable long-term and structural unemployment remains. The ECB is unlikely to hike rates until a new ECB governor takes the helm in October of 2019
- The Bank of Japan is unlikely to hike rates, perhaps ever again

Is the Fed really behind? Yes according to the Taylor Rule



Monetary Policy Post Global Financial Crisis: Coordinated Global QE

QE to QT?

The U.S. Federal Reserve began winding down its balance sheet this month.

We could see the ECB taper its QE program in 2018.

The BoJ may be the only major Central Bank allowing for monetary accommodation in 2019.

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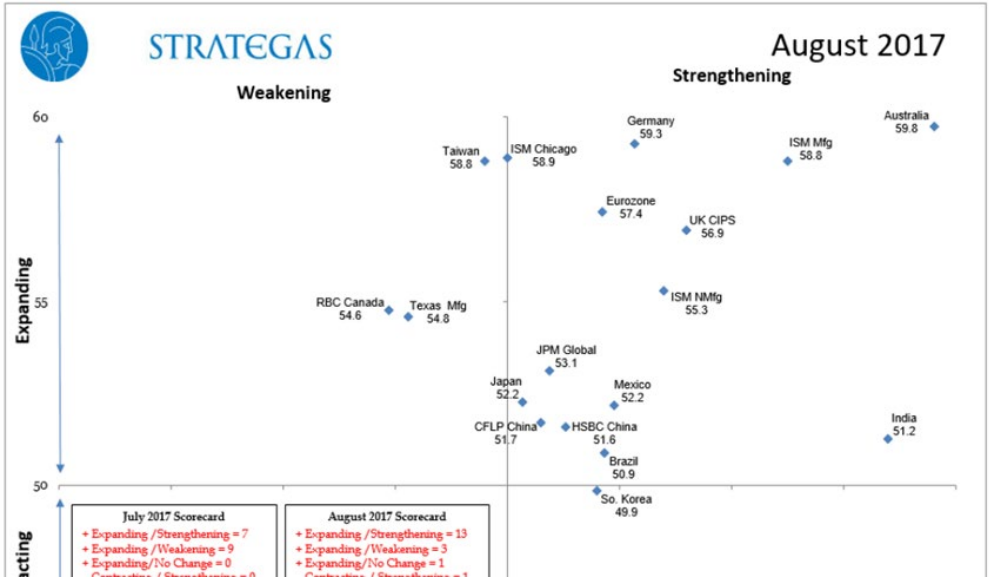
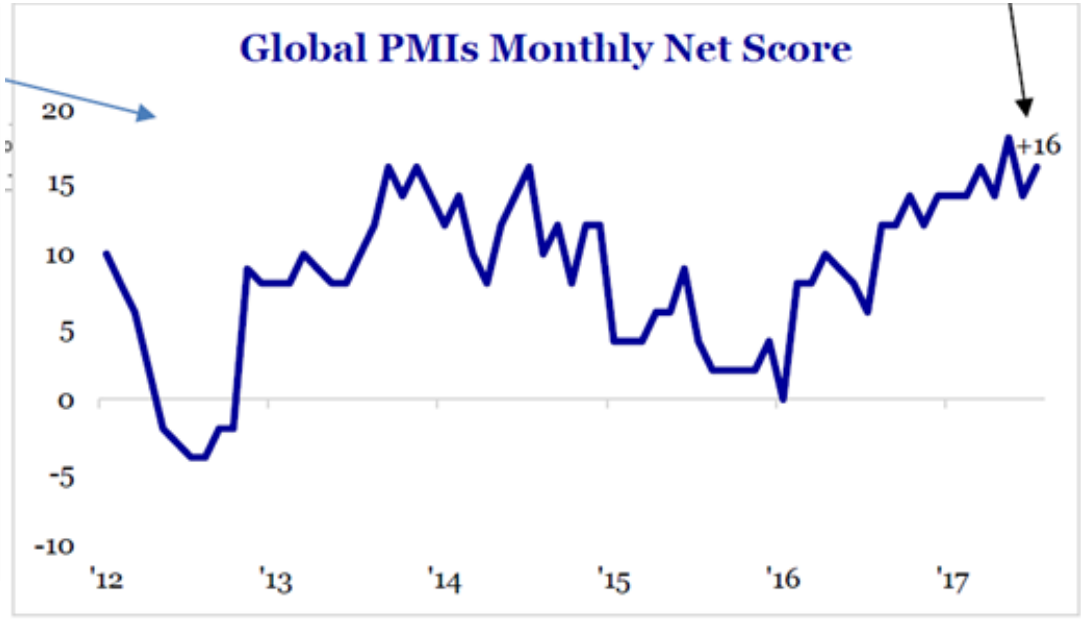
Investment Implications & the Business Cycle

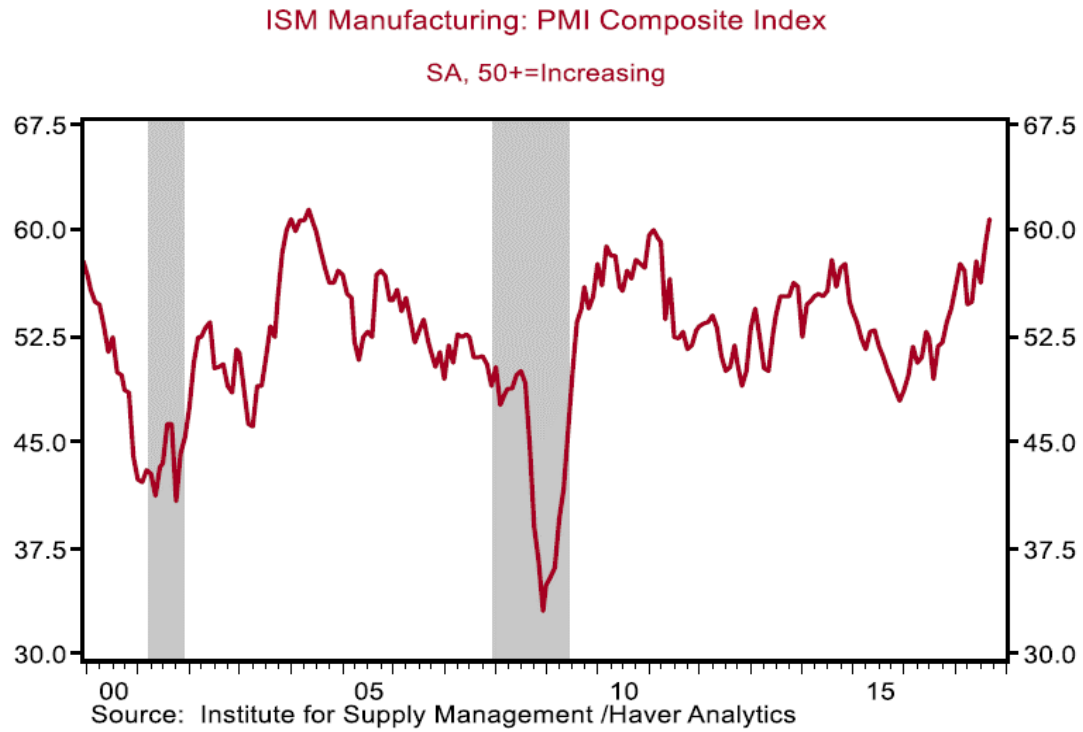
- After several years of a moribund economic environment and market returns, international markets made a come-back in 2017. Today, the U.S. market is booming!





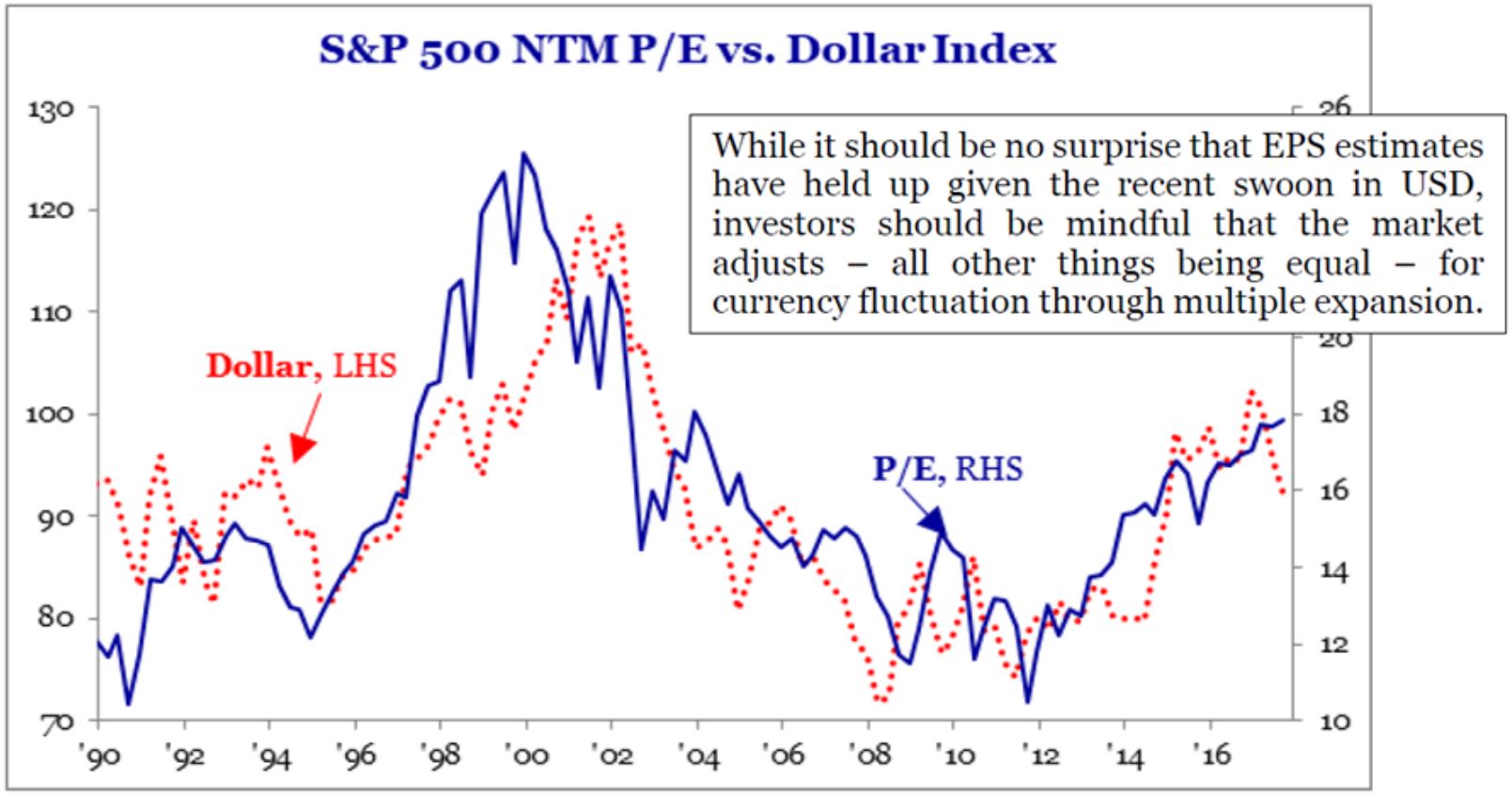
Investment Implications & the Business Cycle

- Conditions in the U.S. are very strong – in some cases the strongest in 30 years.



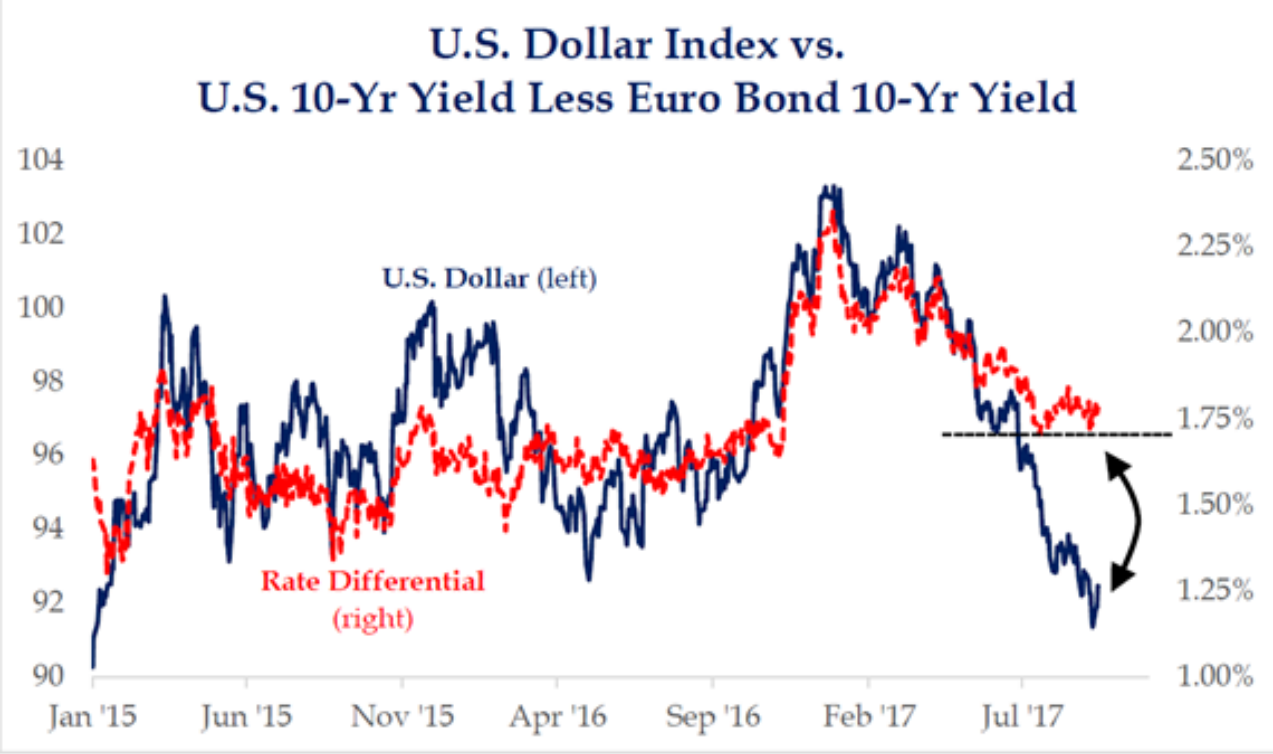
Investment Implications & the Business Cycle

- The U.S. equity market is certainly not cheap. Historically multiples contract when inflation grows and manufacturing measures have peaked.



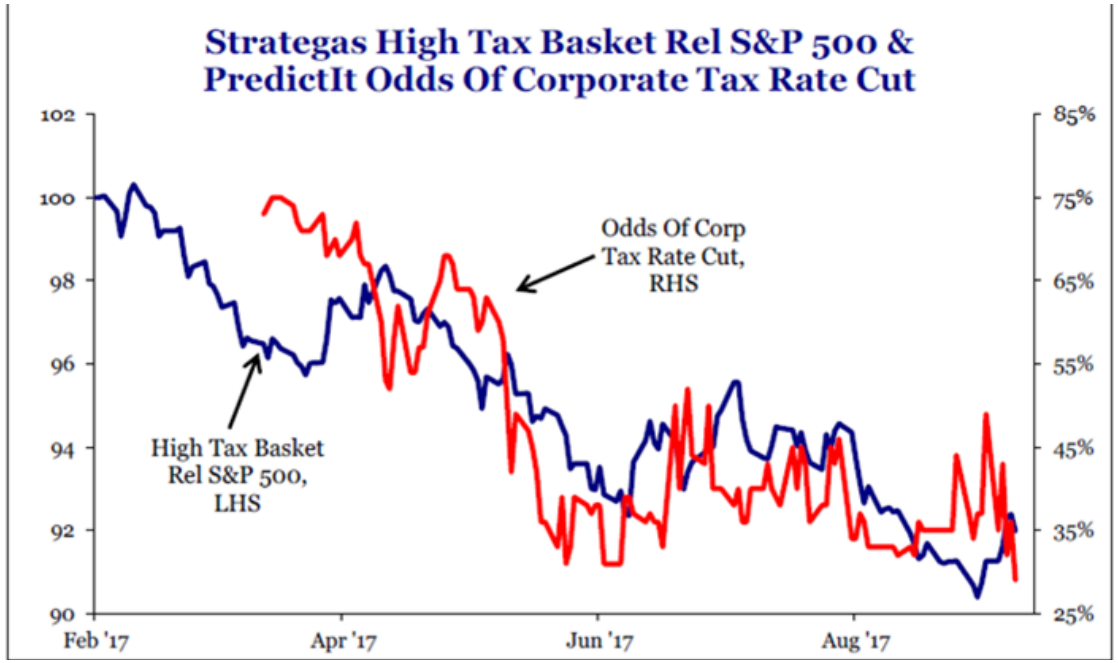
Investment Implications & the Business Cycle

- Much of this depends upon the direction of the U$ dollar relative to its trading partners. A weak dollar is generally good for corporate America.



Investment Implications & the Business Cycle

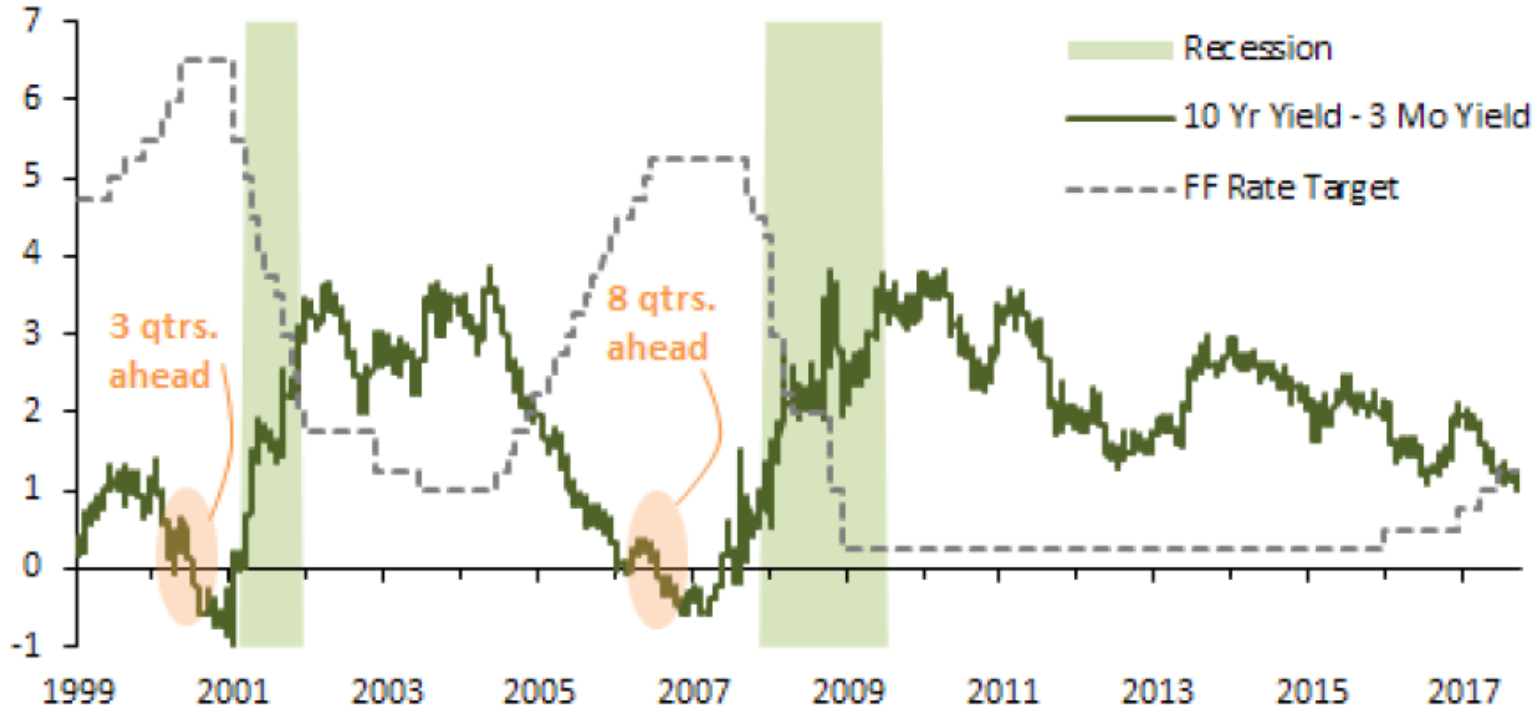
- Last year we stood up here saying that a moderate tax cut (corporate rates to 23%-25%) will get through in Washington in 2017.
- An even better tax cut was produced, and the corporate U.S. tax rate is now 21%!



Investment Implications & the Business Cycle

- In conclusion, we think that last year's coordinated burst of global growth and this year's impressive growth out of the U.S. can carry this business cycle for another year ***max***, but that a recession becomes likely in late 2019/early 2020.
- This should be a relatively modest recession; not like what we experienced in 2008-2009. A modest recession is when the stock markets decline by ~25% instead of the 50% that we saw during the GFC.
- The new business cycle that begins in approximately 2021/2022 should be when the inflation from global quantitative easing emerges to the detriment of the global economy.

Inverted Yield Curve: How & When the Fed Will Cause It

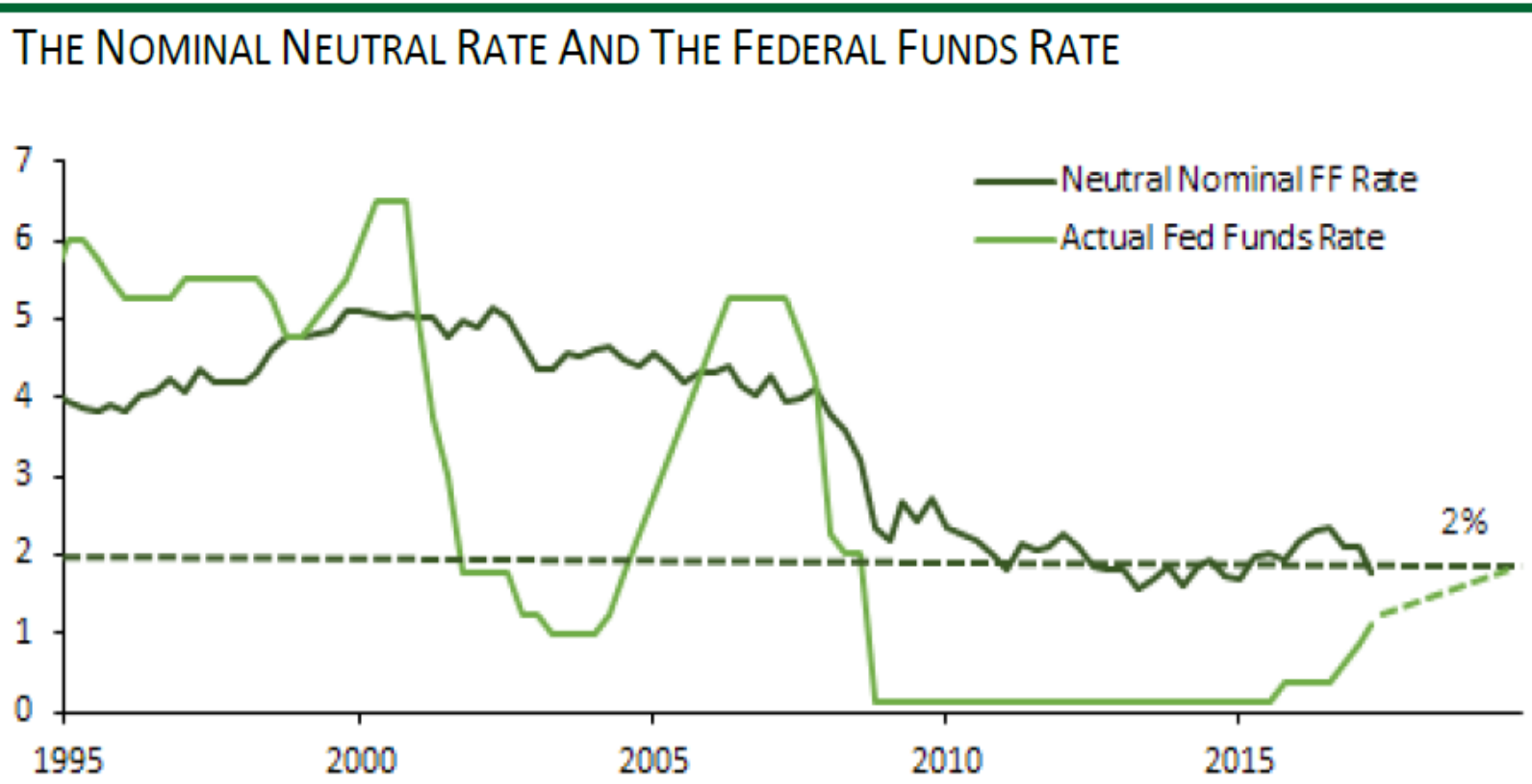


Sources: Cornerstone Macro and Bloomberg.

An inversion of the curve during Fed tightening episodes is not uncommon – actually, it's the norm. Sometimes (like in 2000) an inversion signals an imminent recession. Sometimes (like in 2005) it doesn't.

Inverted Yield Curve: How & When the Fed Will Cause It

The nominal neutral rate has averaged about 2% since 2009, and shows no signs of moving up. In the absence of a serious inflation threat, the Fed won't raise rates beyond 2% in this cycle.



Source: Cornerstone Macro.

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- If the flattening continues, the yield curve will invert (generally predictive of recessions).
- The Fed is on pace to hike four times in 2018 and at least twice in 2019, bringing the Fed Funds Rate to 3%.
- Just those rate hikes are sufficient to bring the funds rate into the **neighborhood of the r* 2.75%-3% rate**.
- What could cause the term premium to increase and change the investment case?
  - Fed balance sheet shrinking
  - A positive fiscal surprise (i.e. Trump tax reform)
  - An improving global outlook (last year's story)