

The Economy and Markets:

The U.S. stock market was relatively stable over the last quarter. The S&P 500 closed this quarter at a value of 2,168.27, which is 3.31% higher than its value of 2,098.86 on June 30. The S&P 500 hit its all-time high this quarter on August 15, at a level of 2,190.15. By any standard metric, the stock market has had low volatility. The VIX measure, which we have discussed in detail in a past newsletter, stands at a relatively low value of 13.29 at the close of trading on Sept 30. The VIX was created in the early 1990s as a risk metric by Vanderbilt professor Robert Whaley, who then constructed the series back to the mid-1980s. Since the mid 80s, the VIX has had an average value around 18.

Markets at a Glance (Sept 30, 2016)

S&P 500	2,168.27
Dow Jones	18,308.15
10 yr. U.S. Treasury	1.60%
3mo U.S. Treasury	0.27%
GDP Growth (last quarter)	1.4%
Unemployment Rate	4.9%

The VIX measure, however, can change rapidly. It is an empirical regularity of financial markets that when asset prices are high, they tend to move around less – which yields lower estimates for volatility measures such as the VIX. When large negative moves do happen, they tend to happen suddenly. This isn't to say that a big negative move is necessarily around the corner for the U.S. stock market, only that the VIX is unlikely to give a significant warning of such a move if it is to happen. Another risk measure that has been shown to have some forecasting power for asset prices is the cyclically adjust price-earnings (CAPE) ratio, put forth by Robert Shiller of Yale University. As we have discussed in a previous newsletter, this measure looks at how “expensive” the stock market is, relative to the preceding 10 years of corporate earnings. The CAPE measure currently stands a bit below 27. This is just a little higher than it was at the beginning of the last quarter. However, the average for the

CAPE ratio is about 17, so by this indication the market is relatively expensive. This implies that the market is expected to have lower than average returns over the next 7-10 years. It does not, however, have short-term forecasting power. The take away from these divergent measures, I believe, is that this is a time to be particularly careful. Some measures of risk are low; some are high – *there is a great deal of uncertainty about the measures of uncertainty.* This isn't necessarily an indication that a prudent investor

S&P 500 Price Level



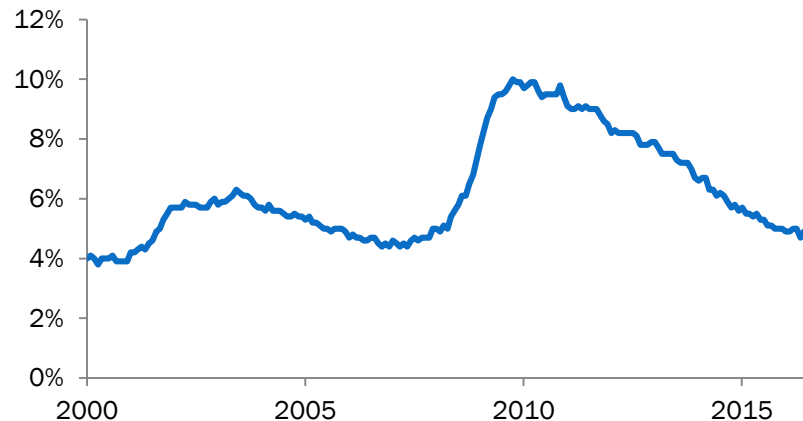
should dramatically change their portfolio allocation, but it is an indication that the prudent investor should be aware that the financial environment has the potential to shift rapidly, and more rapidly than some traditional risk metrics might indicate. On a more positive note, the U.S. election has injected a

decent amount of uncertainty into financial markets. The resolution of uncertainty typically has a buoying effect on asset prices.

The domestic U.S. economy appears to continue its steady, but slightly underwhelming performance. The most recently reported monthly unemployment rate in the U.S. is 4.9%. This is up slightly from the 4.7% at the time of our last newsletter, but steady for the three months reported since that time. After a very long period of high unemployment that has steadily declined since

the financial crisis, the U.S. economy appears to be at or very close to “full employment.” Moving forward, we are unlikely to see significant declines from this point, and if we do, it is likely to spur inflation.

U.S. Unemployment Rate



At the moment, however, inflation remains very tame in the United States. Market-derived measures indicate that expected U.S. annual inflation over the next five years is about 1.46%, and only 0.87% over the next year. Both of these measures are below the Federal Reserve target rate of 2%, indicating that they are likely to continue a relatively loose monetary policy for the foreseeable future. That said, there is widespread expectation that they will tighten monetary policy by raising short-term interest rates slightly this coming quarter. Monetary policy is currently very “loose” by historical standards, meaning that Fed-influenced rates are very low. Therefore, small increases to short-term rates will still leave us in an historically loose monetary environment. Our special topic in this newsletter concerns the functioning of the Federal Reserve, with a specific focus on its open market operations. So, you can see below for further discussion on this topic.

One focus of our economic discussion last newsletter was the then-recent “Brexit” vote, and the economic implications thereof. Many economists painted a very dire picture of the political decision of the United Kingdom to exit the European Union. With three further months to examine the consequences of that decision, it is interesting to revisit the subject. To the extent that there is economic damage, thus far the damage appears to be limited to citizens of the UK. As we see above, U.S. stock markets have increased slightly this quarter. Similarly, European indices are slightly higher. Perhaps paradoxically, the FTSE 100 (an index of major UK companies) is also up on the quarter, after taking a dive in the days just after the Brexit vote. There are a couple of circumstances that should temper enthusiasm for that result, however. Most notably, the FTSE 100 index is expressed in pounds, not dollars. As can be seen in the figure on the next page, the British pound is currently worth about \$1.30. The week before the Brexit vote, the pound fluctuated in a range around \$1.45. So the British currency is worth about 10% less than just before the Brexit vote. Adjusted for the currency decline,

the FTSE 100 is about 10% lower since May 31. Further, the British people now have a considerably less valuable currency, so their ability to purchase goods from abroad has diminished. On the positive side, it is probably a great time to visit England.

The real UK economy has been less negatively effected by the Brexit vote than the most dire of the forecasts. That is not particularly surprising. However, it is also worth noting that the United Kingdom has not yet formally invoked Article 50 (which will begin the formal process of leaving the EU). When this happens, it will begin a 2 year negotiation period, during which time EU laws will still be in force in the UK. The political process that will result in the UK withdrawal from the EU is impossible to predict, which means we are in a period of uncertainty. In economics, uncertainty leads to less investment, which eventually leads to less real output. It is hard to forecast GDP of the United Kingdom under these circumstances, but conventional economic models suggest that UK is at risk of a recession, or at least an economic slowdown.

Dollars per £



Quarterly Special Topic: So, what is going on with the Federal Reserve?

A great deal of attention is paid to the actions of the Federal Reserve in the business press. This is, for the most part, because the decisions made by the Federal Reserve so profoundly affect the economy of United States and the indeed, the world. And yet, there are a great many people whose lives are affected by these decisions who don't really understand what the Federal Reserve is doing, or how they are doing it. For our special topic today, I'd like to take a bit of time to briefly explain just that: what the Federal Reserve does, and how it does it.

The Federal Reserve (often abbreviated to simply "The Fed") was established in 1913 under the *Federal Reserve Act*, back when Congress named their acts in such a way as to correspond with what they were actually about. Had this legislation been passed today, I'm sure it would be called the "Save the Economy Act" or the "Morning for Jobs in America Act" or some such thing. The Federal Reserve Act established the central banking system in the United States, along with Federal Reserve Notes that comprise the currency of the United States. A complete description of the Federal Reserve is far

beyond the scope of a newsletter such as this (and beyond the interest level of virtually everyone), so I will limit our discussion today to some highlights.

The Federal Reserve System's duties fall into the following four categories:

- conducting the nation's monetary policy by influencing the monetary and credit conditions in the economy in pursuit of maximum employment and stable prices
- supervising and regulating banking institutions to ensure the safety and soundness of the nation's banking and financial system and to protect the credit rights of consumers
- maintaining the stability of the financial system and containing systemic risk that may arise in financial markets
- providing financial services to depository institutions, the U.S. government and foreign official institutions, including playing a major role in operating the nation's payments system

Today, I'd like to focus primarily on the first of these four categories. Certainly, the other three functions also touch people's economic lives in important ways, but the first category is the subject of the majority of the news that one sees about the Fed in recent weeks and months.

The Fed is considered an independent central bank, as its decisions do not need to be approved by the executive branch. However, it is subject to Congressional oversight. One of the major components of the Federal Reserve is the Open Market Committee (FOMC). The FOMC is a committee that oversees all open market operations, which is the primary tool the Fed uses to conduct monetary policy – primarily through buying and selling debt instruments in order to manipulate interest rates. These actions are collectively referred to as “monetary policy.”¹

The natural first question here is – *why* would the Fed want to manipulate interest rates? The answer to this goes to the first of those bullet points above. The Fed manipulates interest rates because in doing so, it can help spur greater employment in the economy and help keep prices stable. The difficult problem the Fed faces, however, is that it's interest rate choices have opposite effects on these two variables. Let's look at this in greater detail to see how this happens.

Consider some “normal” state of affairs for interest rates. Businesses are functioning, and they and consumers have some degree of need for money. In order for businesses to borrow money, they of course need to pay the “price” for it, in the form of the interest rates they pay for their loans. They can issue bonds or borrow directly from a bank, but either way they will need to pay interest. For whatever this going rate of interest is, some business investment will be worth paying the “price” of the interest, and some investments won't. Similarly, for consumers – some houses might be worth buying if the rate on the mortgage is low enough, and so forth. Whatever the state of the economy here, there will be a certain need for workers to carry out this economic activity, dictating the level of employment.

So what if the Fed decided that this level of employment was too low, and that there wasn't enough employment in the economy. Then, the FOMC can step in and “buy bonds.” What does this do to the

¹ This is the counterpoint to “fiscal policy”, which described attempts to use government spending to positively affect the economy.

economy? Well, the Fed has a great, great deal of buying power. So the Fed can virtually buy as many bonds as it likes. The process of buying bonds raises their price – which has the effect of lowering interest rates (the process of how this lowers interest rates, if you aren't familiar with it already, is a bit too technical to explain here). This lowering of interest rates is crucial though – it has the effect of lowering the “price” of money throughout the economy. So, there are a greater number of projects that businesses undertake, a greater number of loans individuals take out, and so forth – all of which generates additional economic activity.² Additionally, this has the effect of lowering the interest that banks pay, and that people earn on bonds – further inducing them to move their money to riskier, typically (but not always!) more profitable endeavors.

Unfortunately, there is a catch here. If there weren't, the Fed would simply always keep rates as low as possible. The catch is that all this money flooding into the system (literally, all this “cheap” money) means that dollars will gradually become less valuable than they were worth previously. This is the definition of inflation. When there is inflation, the dollar buys less than it did before. Remember how much cheaper things were when you were a kid? The degree to which that is true is driven by inflation. Inflation is effectively a tax on those who save. The dollars that are saved are worth less and less through time, the higher is inflation. Those who save their money in “safe” investments are harmed by this process as well – their low-risk investments earn very little return.

Generally speaking, central banks have found that maintaining low rates of inflation is desirable, but high rates of inflation create problems in the economy. High rates of inflation erode confidence in a currency as a store of value, can negatively affect real wages, and as mentioned, reduce the value of savings. High inflation can also complicate business investment decisions, further harming the economy. As a result, the Fed currently states a “target” level of inflation, set at 2% (they don't aim for 0% because negative inflation, or *deflation*, is a very negative economic circumstance). With current inflation levels running well below this level (current market-implied inflation rates are 1.31% per year over the next two years), it allows the Fed the flexibility to keep interest rates relatively low, in an attempt to increase economic activity.

On a final note, you can see how the economy benefits from the political independence of the Fed. As the din of the election surrounds us, it is easy to see how the levers of the Fed could be used to influence the economy in ways advantageous to those in power, but in a way harmful to the economy over the long run. The temptation to keep rates artificially low, spurring economic activity, but generating inflation for the long run would be strong indeed for a political incumbent. It is virtually never popular when the Fed increases rates to reign in economic activity. However, this is necessary to reduce inflationary pressures. It also isn't out of the question that an opposition Congress, if it had the power, would raise rates to hurt the economy and discredit a presidential incumbent.

Prior to the creation of the Federal Reserve in 1913, no U.S. central banking system had lasted more than 25 years. Although inferences are limited by the quality of historical data, evidence generally indicates that the boom/bust cycles that are part of economic life have been reduced in amplitude since the existence of the modern Federal Reserve system (though there is strong evidence to suggest that the Fed's mistake of raising interest rates at the wrong time led to an unnecessary

² I am trying desperately here not to get too technical. In reality, the Fed typically only buys and sells bonds overnight. In doing so, it adjusts what is known as the Federal Funds rate. This rate then trickles, imperfectly, through all the other rates in the economy. Recently, the Fed also undertook what it called “quantitative easing.” This unfortunately named undertaking meant that the Fed stepped out from its traditional operations and bought Treasury bonds of varying maturities, and even mortgage-backed securities. However, the basic idea of what they were trying to accomplish was unchanged from their usual activities. By buying “bonds” of various sorts, they were trying to lower interest rates – and they were quite successful.

Madison Financial Research, LLC Quarterly Newsletter

September 2016

lengthening of the Great Depression).³ In all, the creation of the Federal Reserve System and the decision to give it a great deal of independence from the political process appear to have been a wise move on the part of Woodrow Wilson (born just up the road in Staunton, VA!) and the 63rd Congress.

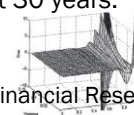
Disclaimer:

This newsletter is a publication of Madison Financial Research LLC. Information presented is believed to be factual and up-to-date, but we do not guarantee its accuracy and it should not be regarded as a complete analysis of the subjects discussed. All expressions of opinion reflect the judgment of the authors as of the date of publication and are subject to change.

Information in this newsletter do not involve the rendering of personalized investment advice. No content should not be construed as legal or tax advice. Always consult an attorney or tax professional regarding your specific legal or tax situation.

Information in this newsletter is not an offer to buy or sell, or a solicitation of any offer to buy or sell the securities mentioned herein.

³ See for example, this study: <http://www.nber.org/papers/w6948>, and this one: <http://www.nber.org/chapters/c10034.pdf> by some of the leading economists of the last 30 years.



About Us

Madison Financial Research, LLC (MFR) is a registered Investment Adviser.⁴ Jason Fink provides all of the investment advising offered by MFR. Dr. Fink has a PhD in Economics from the University of Virginia, and is a Professor and Wachovia Securities Faculty Fellow at James Madison University. He has over two decades of industry and academic experience, including previous positions at First Union Capital Markets, Fannie Mae, the University of Virginia and Florida State University.

What is Madison Financial Research?

MFR exists to provide *unbiased* answers to any financial questions its clients might have, and any help that its clients might need. We are comfortable working with a wide range of clients. For example, we are happy to explain the process of constructing an inexpensive and effective portfolio to novice investors, and to walk them through this process. We want to help you become comfortable with and understand your investments - not leave you mystified by them.

In the finance industry, almost all the people an individual can go to for advice have something they are trying to sell. A bank tells you why you need a mortgage. A financial adviser tells you why you should buy an annuity. An insurance agent tells you why their insurance product is ideal.

We are designed differently. We have nothing to sell but our time, which we use to convey knowledge to you. Whatever financial questions you might have, we will work to provide a solution.

These questions can be simple –

- “Is a particular mutual fund a good investment?”
- “Can you help me get started in understanding online brokerages?”
- “Is purchasing this particular annuity a good idea?”
- “Is my financial adviser charging me a lot for what he or she is providing?”

They can be complicated –

- “When can I retire, and how can I optimally construct my portfolio?”
- “Can you provide an overall assessment of my portfolio, including insurance, 401 (k), and other major holdings? How can I improve my approach? Should I diversify internationally?”

We have the expertise to handle virtually any financial question, and the patience and teaching experience to provide understandable and actionable answers and guidance to novice investors. And outside of our time, we *have no products to sell* - our advice is unburdened by an alternate agenda.

As an investment adviser, we have a fiduciary responsibility to put our clients first. Investment brokers, insurance agents, mortgage lenders – *none of these have such an obligation to you*. We do, and we embrace it.

The financial world is complex. We can simplify it.

To Contact Us

Phone: (540) 816-0203

Email: Jason.Fink@madisonfinancialresearch.com

⁴ Madison Financial Research is registered in the states of Florida and Virginia. Registration does not imply any certain level of skill or training. So, always ask your adviser about their skill and training – it's important.