

The Economy and Markets:

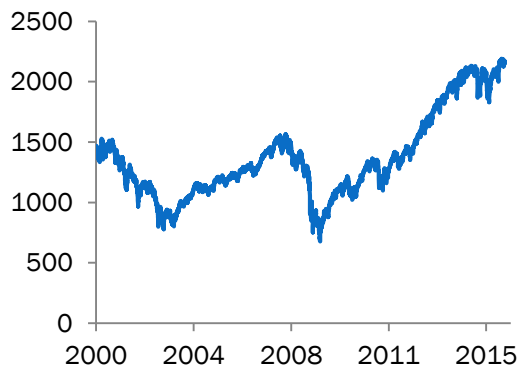
U.S. stock market indices increased over the last quarter, most notably since the November 8 election of Donald Trump. The S&P 500 closed this quarter at a value of 2,238.83, which is 3.25% higher than its value of 2,168.27 on September 30, and 5.03% higher than its Nov. 7 close, the day before the election. The S&P 500 hit its all-time high this quarter on December 13, at a level of 2,271.72. For 2016, the S&P 500 index had a return of 9.54%. The VIX risk measure, which we have discussed in detail in a past newsletter, stands at a relatively low value of 14.04 at the close of trading on December 30, well below its long run average of around 18 (though higher than at the close of last quarter). On the face of it, this would tend to suggest that the risk in the stock market is relatively low, and VIX is no doubt the risk measure most commonly referenced when thinking about the broader market. However, for reasons I will discuss below, I believe the degree of risk in the market is at an elevated level, despite the relatively low reading from the VIX measure.

Markets at a Glance (December 30, 2016)

S&P 500	2,238.83
Dow Jones	19,762.60
10 yr. U.S. Treasury	2.44%
3mo U.S. Treasury	0.50%
GDP Growth (last quarter)	3.5%
Unemployment Rate	4.6%

Regular readers of the newsletter know that I often refer to the CAPE measure as a good barometer of market risk. Like all such metrics, it is far from perfect, but it has been shown in academic studies to have some degree of forecasting power when it comes to stock market returns. The CAPE measure

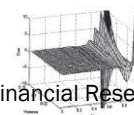
S&P 500 Price Level



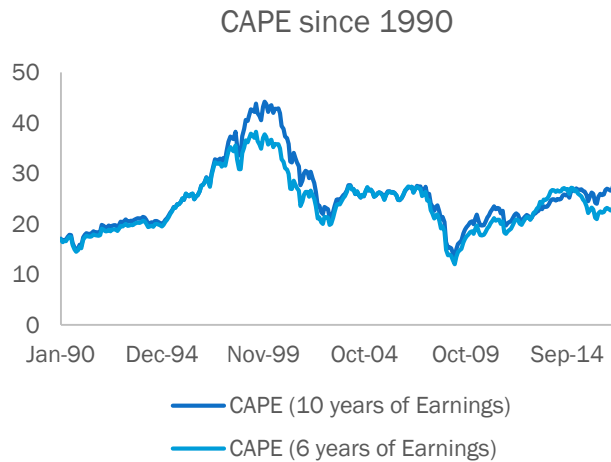
refers to the “cyclically adjusted price to earnings measure,” and is the creation of Robert Shiller at Yale University. Without going into the details, the CAPE measure roughly takes the price of the S&P 500, and divides that value by the earnings of S&P 500 firms over the last 10 years.¹ As such, it has shown to be a quality measure of the “value” of the stock market. When the measure is high, long-term (7 – 10 years) future stock returns tend to be low. When the measure is low, long term future stock returns tend to be high. The long term average for the CAPE measure is around 18 over the last 60 years. In the last newsletter, I expressed concern

that the CAPE measure had risen to an atypically high level of almost 27. Since that report, the CAPE measure has increased a bit further, to 27.85, in tandem with the recent stock market increases. On the face of it, this is a disconcertingly high reading. One caveat is worth noting, however. The CAPE measure divides the price level by the last 10 years of earnings data. As we are entering 2017, the first few years of these earnings are from the financial crisis of 2007 – 2009. The unusually low earnings of that time inflate the CAPE measure, and perhaps in a way different than intended by the measure’s creators. To control for this, I have put together an alternative measure, using data from

¹ You can find details regarding the CAPE measure and its relationship with stock market predictability in the Quarterly Special Topic of this past newsletter:
http://www.madisonfinancialresearch.com/files/2014_Q2_Newsletter.pdf



Robert Shiller's website. My alternative CAPE measure that uses the average earnings over the preceding 6 years, rather than the preceding 10. A comparison of the standard CAPE measure and my modified, shorter version may be seen on the figure to the right. Notice the similarity in the movements of the two series – they have a correlation of 96% since 1990. As can be seen near the end of the figure, the 6 year and 10 year measures have recently diverged. My 6-year modified CAPE measure stands at 23.56 at the end of 2016, 18% lower than the traditional CAPE measure. Nonetheless, the 6-year CAPE measure is in the upper 20th percentile of its values since World War II. This is better than the traditional CAPE measure, which is in the top 11th percentile, but still uncomfortably high. It is also worth noting that the last time there was a significant divergence between the 6- and 10-year CAPE measures was in the late 1990s, just preceding the crash following the tech boom. I don't have a good theoretical reason why a divergence between the two series should produce negative results, meaning the similarity may simply be a coincidence. But the similarity is worth noting nonetheless.



Despite my misgivings about valuations in the stock market, the domestic U.S. economy appears to be in excellent shape, continuing a long and impressive run of steady growth. The most recent estimates of 3rd quarter GDP show that the U.S. economy grew at an annualized 3.5% rate – well above its post-World War II average. Correspondingly, the unemployment rate now stands at 4.6%. This is on the lower level of what most economists would consider “full employment.” It is thus very likely



that any further labor market improvements would lead to higher inflation. There are several ways to estimate U.S. inflation, but current estimates are about 1.2% over the next year, and 1.6% over the next 5 years. These are both higher than last quarter, consistent with the improving employment picture. These rates are both below average and below the target rate of the Federal Reserve. So, a bit more inflation resulting from low unemployment wouldn't be too bad a thing at

this point. Related to this solid economic performance, 10-year Treasury rates have increased substantially this quarter, from 1.60% to 2.44%, most likely reflecting higher inflation expectations. Further reinforcing the solid economic readings, median household income in 2015 (the most recent year for which data is available) increased to \$56,516, a 7.3% increase from the post-financial crisis low of \$52,751 and an almost-complete recovery to pre-crisis levels. When the data are available, 2016 is expected to be considerably higher still.

There are risks to the economy on the horizon, though most of them appear to be political. There is a great deal of uncertainty as to what economic policies may be implemented in the United States. With Republicans controlling both branches of the federal legislature and the presidency, it is reasonable to believe that many Republican legislative staples may be enacted – lower taxes, decreased regulation and environmental standards, greater military spending, etc. All of these increase the profitability of firms, and expectation of the implementation of these policies are the likely drivers of the recent stock market increases. However, President-Elect Trump has proposed many less-orthodox policies that are far afield of these more traditional positions. To what extent these policies may be enacted is unknown, and creates substantial economic policy uncertainty. This is the topic for our quarterly special topic.

Quarterly Special Topic: Political Uncertainty and Stock Market Risk

As has been recounted endlessly in various news and entertainment outlets, 2016 exhibited an extraordinary degree of political upheaval throughout the Western world. The United Kingdom voted to undo a forty-year association with the European Union, which has been a bedrock institution in the post-World War II European era. When the UK finally invokes Article 50, which will begin the formal process of leaving the EU, it will begin a negotiation period of up to two years. The resulting political ties between the EU and the UK are virtually impossible to predict (at least by me!), but the value of the British Pound has declined by 21% relative to the dollar since June 23, indicating that in an important respect, the British people are poorer by roughly that amount. In the United States, the election of Donald Trump was a significant surprise. At various points during his presidential campaign, Mr. Trump flirted with the notion of deporting millions of people from the United States, discussed renegotiating the North American Free Trade Agreement, suggested that the official unemployment statistics in the United States were a hoax, promised to brand China a currency manipulator, and pulled the Federal

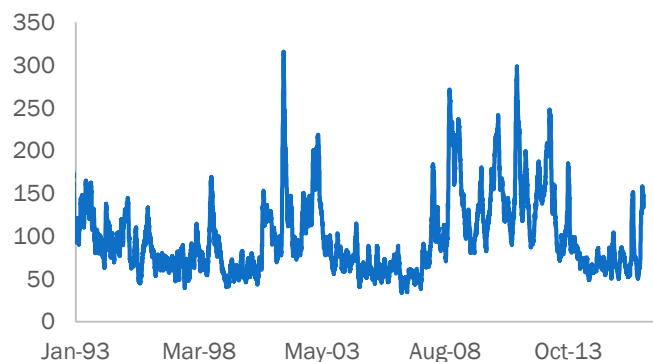
Reserve into the political arena by discussing their policies while running for president. Although he appears to have walked back some of his more unorthodox proposals since winning the election, Mr. Trump's untraditional campaign leaves a great deal of uncertainty concerning what policies and practices will be put in place during his tenure as President. Further, the rejection of constitutional reforms in Italy were a direct rebuke of Prime Minister Matteo Renzi's policies, and increase the probability that Italy may weaken ties with the EU in the future. Finally, 2017 appears likely to be a continuation of the theme of heightened global political uncertainty, with Germany and France each holding elections, and China hosting its Communist Party congress, which takes place every five years.



So, a crucial question for investors is inevitably – to what extent does political uncertainty affect financial markets? It makes a great deal of sense that political and economic uncertainty are to some extent intertwined.² For example, how should a U.S. multinational firm behave if they are uncertain about the future legal framework of their international business? If the U.S. or state governments are now willing to give increased financial incentives to companies that keep manufacturing jobs in the United States, how does that change U.S. firms' offshoring strategies? Is it beneficial for firms to threaten to export manufacturing jobs in order to attempt to secure incentives? Firms have always been able to choose municipalities that give them the best "deal" to keep jobs – but has that environment now been amplified? Will there be a notable change in U.S. energy policy that will make fuel here cheaper? Will polluting firms be able to save substantial costs through reduced EPA pollution standards? How will altered trade deals affect Silicon Valley firms that sell their devices worldwide? How will all of these things affect inflation? There is an unending list of such questions, and they all add up to a more uncertain environment for firm profitability – and stock investors should never forget that firm profitability is a primary driver of asset prices. The resolution of this uncertainty may be positive or negative, but in the interim, uncertainty remains.

Historically, uncertainty is a negative for asset prices. But, it is primarily a negative to the extent that the uncertainty extends to economic uncertainty for firms and investors. Very interesting academic work has been done by some professors at Northwestern, Stanford, and the University of Chicago in the construction of an index of economic policy uncertainty (EPU).³ By examining the prevalence of certain keywords in the articles of major news publications, they create an index that they claim captures uncertainty of economic policy. As can be seen in the figures to the right and below, the United States, post-election, indicates a particularly high level of economic policy uncertainty. This level of uncertainty is on par with the first invasion of Iraq (in the latter part of 1993), the Russian bond default in 1998, and the U.S. government shutdown in 2013. At the moment, the index remains well below the peaks seen after the Sept 2001 terrorist attacks and the uncertainty surrounding the Financial Crisis of 2009.

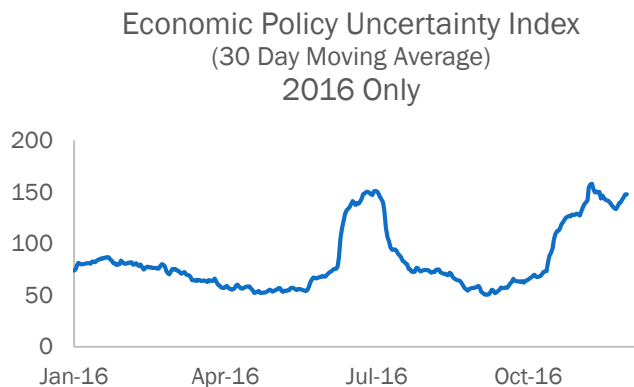
Economic Policy Uncertainty Index
(30 Day Moving Average)



² If you would like to examine some of the peer-reviewed work in this area, see Darby et al (*European Journal of Political Economy*, 2004), Pin (*European Journal of Political Economy*, 2009), or Julio & Yook (*Journal of Finance*, 2012), and the references found in those articles.

³ Baker, S., Bloom, N. and Davis, S. (2016) "Measuring Economic Policy Uncertainty" *Quarterly Journal of Economics*, forthcoming. The index itself may be found at <http://www.policyuncertainty.com/>

In the past year, there have recently been two spikes to this index. The latter follows the U.S. presidential election. The former is tied to Brexit, which occurred earlier in the year and has been discussed in previous editions of this newsletter. The figure to the right “zooms in” on 2016, and it can be seen that these two political events have driven economic policy uncertainty this year. It is worth noting that the uncertainty relating to Brexit was short-lived. It certainly didn’t have a lasting effect on the U.S. stock market, but as mentioned above the British Pound has fallen to a level about 21% lower relative to the U.S. dollar since the referendum.



By comparison, recent U.S. stock market behavior has been generally positive, and indicated relatively little uncertainty since the election of Donald Trump on Nov. 8. On Nov. 7, the S&P 500 closed at a value of 2,131.52. It has since climbed to a value of 2,238.83, a 5.03% increase. This increase does not necessarily mean that there has been a decrease in economic uncertainty. However, it would be difficult for the index to increase that much if there were a great deal of uncertainty about firm profitability. So what does this index, and the behavior of the market indicate? It isn’t easy to pigeonhole. I believe the market is pricing in a scenario in which traditional Republican policies – health care more in line with a free market, lower marginal tax rates (particularly on corporations), lower levels of regulation of firms, etc... are likely to take hold. These policies tend to increase firm profitability, which increases stock prices. However, investors would be wise to note that with economic policy uncertainty at an elevated level, the risks to stock prices from the political arena merit greater attention than is typically the case. The possibility of a trade war with China (or Mexico), or with a politically-induced recession in the EU, or other unforeseen event, is present. Coupled with the elevated CAPE measure discussed in the first section of this newsletter, this implies a high degree of uncertainty. High uncertainty provides an indication that the state of the market could potentially change quite rapidly.

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.

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