## The Economy and Markets:

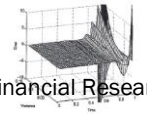
The U.S. stock market had a relatively calm 2nd quarter this year…right up until June 24. On June 23, the United Kingdom voted via referendum to exit the European Union, which it had been a part of for about forty years. This outcome was not expected by financial markets, given prior polling and the predictable economic cost that such a route would impose on the voters in the UK. In retrospect, it probably should have been better forecast, given the tight polling just prior to the vote. Nevertheless, it was not. This is an excerpt from our last newsletter:

| Markets at a Glance (June 30, 2016) | |
|---|---|
| S&P 500 | 2,098.86 |
| Dow Jones | 17,929.99 |
| 10 yr. U.S. Treasury | 1.48% |
| 3mo U.S. Treasury | 0.26% |
| GDP Growth (last quarter) | 1.1% |
| Unemployment Rate | 4.7% |

> *On June 23, for example, The United Kingdom will hold a referendum on whether to leave the European Union. The UK does not participate in the Euro currency. But, as part of the EU, the UK is part of an integrated goods, services and labor market with the other 27 member countries. The risk that the UK may exit the Eurozone has shaken currency traders, and the value of the pound Sterling has fallen to £1= $1.43 on March 31, down from $1.47 at the beginning of the year, and well over $1.55 last summer. Political analysis seems to indicate the referendum is most likely to end in UK remaining in the EU. However, the outcome will be affected by the refugee crisis – and some estimates of the cost to the UK economy if they abandon their 40 year integration with Europe (it joined the predecessor to the EU, the European Community, in 1973) exceed £100 billion and 950,000 lost jobs, even under the scenario in which free trade agreements with Europe are restored relatively rapidly.*

And so, on June 24, 2016, the British Pound Sterling dropped 8% relative to the dollar, and continued its slide the following week. By early afternoon trading on Monday the 27th, the total drop exceeded 12%. These are huge negative movements for a currency. The last time the Pound was that cheap relative to the U.S. dollar *Back to the Future* debuted in movie theaters and Madonna was engaged in her *Like a Virgin* tour. While stock markets throughout the world have gained most of their losses from June 23 already, the value of the British Pound remains off about 11%, relative to the day before the vote. There are significant implications to all Pound-denominated assets losing 11% of their value. To try to gain some perspective, per-capita British GDP expressed in U.S. dollars was about $41,200 in 2015. The currency decline alone would reduce that to about $36,670 per person. Any workers that are paid in British Pounds, or companies that receive revenues that are denominated in that currency, will be comparatively poorer as a result. The British people will likely face significant inflation as imports become more expensive, and the resultant reduction in economic activity may well trigger a British recession later in the year.

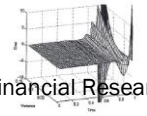
But those are just the direct effects. Perhaps the key issue with the British exit is uncertainty. No one really knows how the subsequent political order will play out (and as a trained economist, I certainly don't have a good forecast – we tend to assume people act in their economic self-interest, and that appears to clearly have not been the case, at least in the short to intermediate term). Participation in the European Union specified that the United Kingdom had access to the Euro-area single market. Movement of goods and people is unimpeded in the area. The exit of Britain from this



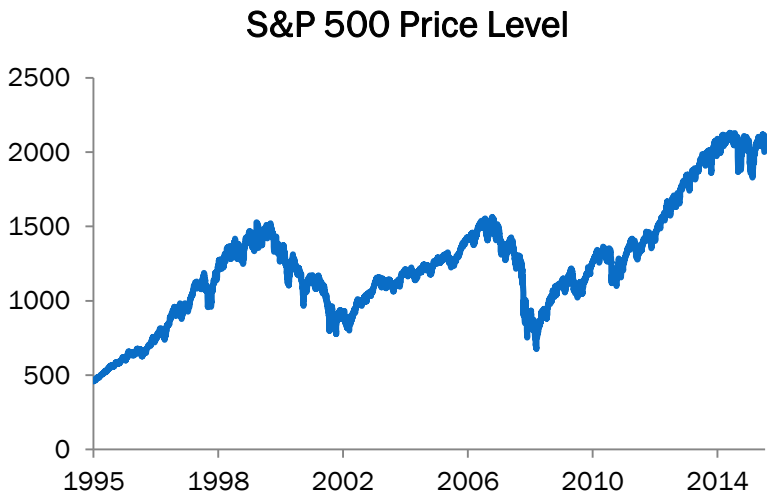
structure means that new treaties will need to govern the access the UK will have to EU markets, what access the EU will have to the UK market, and how the movement of people will be permitted and restricted. The 27 remaining EU countries by law negotiate collectively, so separate deals can't be made between Germany and the UK, or Ireland and the UK, and so forth. What new treaties will be implemented? No one knows for sure, and they will be subjected to the political process (the official position of Madison Financial Research is that we loathe anything subjected to the political process). The UK will need to negotiate a withdrawal from the EU, and the resulting agreement must be ratified by 72% of the remaining EU members. Uncertainty rules the day. Reflective of this, Standard and Poor's downgraded the credit ratings of both the European Union and the United Kingdom to AA (from AA+ and AAA, respectively).

This newsletter isn't a good forum for delving too deeply into the politics of the UK exit – only that which is necessary to examine the economics (which even that can only be a cursory examination given the degree of uncertainty). The resulting political uncertainty, however, further resulted in a selloff of risky assets throughout the world. On June 24th, the FTSE 100 dropped over 3%, the Euro-denominated STOXX dropped more than 8%, the Japanese Nikkei index was off 7.92% and the S&P 500 fell 3.59%. Measures of risk worldwide increased. For example, the VIX that I often cite in this newsletter as a measure of risk spiked to 25.7 from 17.2. Interestingly, as of the time of the writing of this newsletter the markets appear to have stabilized, with equity prices mostly recovering from their Brexit-induced losses. The VIX has fallen back below 16. But, in this period of heightened volatility that has the potential to change quickly. It will take a while to fully understand the implications of the UK exit from the EU. Days, months, even years from now, the full implications will likely not be known. The increased uncertainty has a generally negative effect on the values of assets, and will take a toll on world economies. Again illustrating the complexity of the situation, the FTSE 100 actually closed June 30 *higher* than the day before the Brexit vote. Why might this be? A reasonable explanation is that the FTSE 100 is comprised of large, international corporations that sell a large percentage of their goods outside of the UK. With the fall of the British Pound, their costs are now cheaper (the value that they pay their workers, for example) are now less, while the relative value of their revenues in foreign currencies has increased.

The American economy may have (and hopefully has!) less exposure to the Brexit-induced political risk than many world economies. We import far more than we export (we have a trade deficit), and as such, ironically, we are afforded a degree of protection. The British economy is a relatively small source of exports for the U.S. However, as the selloff in American equities on June 24 confirms, the heightened uncertainty has the potential to negatively affect us as well. The EU has been a source of stability in the post-World War II international order. It is undoubtedly weakened by the exit of the United Kingdom. The potential weakening of western economies relative to, say, Russia and China, could have long term negative consequences for the American economy that aren't necessarily apparent today.



The S&P 500 ended the quarter at 2,098.86, 1.90% higher than the 2059.74 level at which it concluded last quarter. You can see in the figure below that the sell-off related to Brexit is less than some recent market declines, and far less than what we experienced during the financial crisis. The market appears to have rebounded rapidly from the declines related to the British exit from the EU, though the uncertainty of the situation means that this could potentially change quickly. This appears to be reflective of the relatively minor obvious damage to U.S. firm profitability as a result of the events. The VIX risk measure which we have discussed in past newsletters concluded the quarter with a value around 15.6. By comparison, the VIX was at a level of 13.95 at the time of our last newsletter. Both values are below the VIX long run average of about 18. From a valuation perspective, the recent market selloff has made the stock market a bit of a better bargain, with a cyclically-adjusted PE ratio (the CAPE ratio we have previously discussed) of 26.11, actually a bit above its concluding value from last quarter and still well above its long-run average.



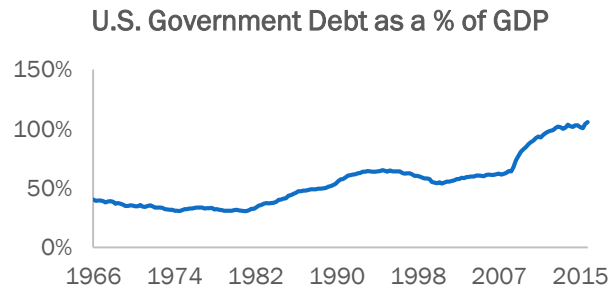

On the domestic front, the real U.S. economy appears to continue its steady, but slightly underwhelming performance. This continues a divergence between the U.S. and global economies that was mentioned in the last newsletter. The U.S. unemployment rate has now declined to 4.7%, its lowest level since 2007. Despite this very low number, the participation rate in the U.S. labor market is also relatively low, at about 62%. This has given some market observers pause. However, the economists I've spoken with seem to indicate that this decline is primarily driven by non-economic factors. For example, baby-boomers are retiring in record numbers and more young adults are attending college. These actions remove these individuals from consideration when the unemployment rate is computed, but they show up in the declining labor force calculations. These demographic trends began more than a decade ago, and appear likely to continue to drag down the labor force participation rate for decades to come. The reduced labor market participation is a concern for the fiscal health of Social Security, but isn't a reflection of poor health of the American economy.

## Quarterly Special Topic: The U.S. Federal Budget Deficit

In Spring of 1989, the *Journal of Economic Perspectives* hosted an issue devoted to one of the most pressing economic issues of the day: the rapidly increasing federal debt. Economists at the time had conceptual disagreements about the likely effects of the dramatic increases in the federal debt that arose from the tax cuts of the early 1980s. Those who contributed to the special issue included some of the luminaries of the day, and the work was tied together by a Professor at Berkley who is a good bit better known today, Janet Yellen.

Back in the spring of 1989 the U.S. federal debt as a percentage of GDP (the measure of debt that is considered most relevant) had risen to a level of that hadn't been seen in decades. The federal debt had just exceeded 50% of GDP, and was showing every sign of continuing for the foreseeable future. The federal debt had peaked at the end of WWII at around 120% of GDP, and the fell steadily until its lowest point of about 30% in the fall of 1981. The steady increase throughout the 1980s that unraveled the downward march in debt was potentially alarming for academic and professional economists alike (bear in mind, an "alarming" state of affairs for us economists is a bit more toned-down affair than in some other circles).

The federal debt continued to increase until about 1995, topping out at about 65% of GDP. Interestingly, a contentious political debate between President Bill Clinton House majority leader Newt Gingrich led to a budget compromise that stemmed the increase of national debt. The cost may still be with us in the form of uncivil political discourse, but the goal of reducing the debt was achieved. Debt as a percentage of GDP declined until the 2nd quarter of 2001, when it bottomed out at about 54%. This was a great improvement and the first decrease in the measure since the 1970s, but still a level higher than that which alarmed the esteemed economists of 1989.




In 2001, the first of two major pieces of tax legislation signed into law by President Bush were passed by a Republican House and evenly divided U.S. Senate. Marginal tax rates dropped considerably, but spending was largely unchanged. At the same time, a mild recession following the tech boom was beginning. This recession lasted only two months, but no doubt had an effect on national debt as social safety net expenditures increase automatically in such situations. By the beginning of the Great Recession in December of 2007, federal government debt was back up to about 63% of GDP at $11 trillion. Almost all of the Clinton-Gingrich work was undone. [1]

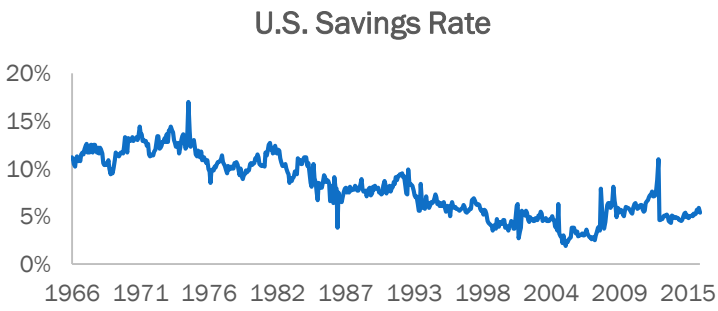
[1] The entire evolution of public debt from 2001 to 2010 is an excellent example of why everyone should be skeptical of politically oriented "think tank" economists as opposed to academic or professional economists. This link is to a report by the Heritage Foundation claiming that the tax cuts of 2001 would "effectively pay off the federal debt" by 2010: http://origin.heritage.org/Research/Reports/2001/04/The-Economic-Impact-of-President-Bushs-Tax-Relief-Plan Virtually no credible economist would have made such a claim. Even among economists, an $11 trillion error is something to be a bit embarrassed about. By way of comparison, the GDP

By the end of the Great Recession, in June of 2009, the percentage had spiked to about 85%. A spike of this magnitude is predictable, as revenue sources dropped considerably - jobs were lost and stock market gains disappeared, reducing income taxes and capital gains taxes accordingly – at the same time that the social safety net automatically increases government expenditures. In the few years after the Great Recession, the ratio continued to increase, as the labor market remained weak and tax receipts were relatively low. Ultimately, the ratio drifted up to about 100 to 105%, where it appears to have stabilized.

The history lesson brings us full circle back to a few important questions. Does the level of U.S. government debt matter to the economy? Does it matter to investors?

Not a lot of theory has been added by academic economists to the debt debate since 1989. Well, a lot of theory has been added (I mean, PhDs have to be earned somehow), but not a lot of new theory has been agreed upon and incorporated into the broader consensus. The leading theories of 1989 suggested the following logic: If a particular government program is financed by issuing bonds instead of increasing taxation, current consumption increases, national savings rates decrease, and investment and/or exports decline. The mechanisms by which these effects occur vary depending on the economic model, but there is (mostly) a consensus on the effects. The tax cuts of 1981 and 2001/2003, since they weren't accompanied by a reduction in spending, and the spending increases in the Recessions of 1991, 2001, and 2007-2009, since they weren't accompanied by tax increases, all effectively amounted to choosing to fund the government by bonds rather than taxes.

The forecasts made by theory are generally negative, though no credible economist would argue against carrying some debt. It is broadly acknowledged that a national economy is better off if the government can borrow funds for public investment (roads, vaccines, environmental improvement, national defense, tax collection enforcement, and so forth), and to spur the economy during times of economic contraction (the U.S. does this automatically through welfare payments including unemployment insurance, social security, Medicare and Medicaid, etc…).




Have we seen the effects that theory would predict? It is hard to tell directly whether we have had the current consumption increases that are predicted by theory. Consumption has increased, but we don't know the effect of the debt since we don't know how much consumption would have increased in its absence. Theory predicts that national savings rates would decline, and this we can meaningfully observe. In the figure above, we can see that the U.S. savings rate did decline notably over the last 50 years. However, the movements of this rate are only weakly correlated with debt levels. So on this score, theory seems to be at least a useful guidepost, but probably not the final word. The decreased savings rates have implications for investors. If savings

of China in 2014 was $10.3 trillion. If the 2001 tax cuts had somehow magically added to the U.S. Treasury the value of *everything* produced in China in 2014, it *still* wouldn't be as rosy as the Heritage Foundation's shameless economic forecast.

rates are lower, there is less economic investment, unless that investment is substituted by investment from abroad. We have seen this: investment in the U.S. economy is down (notice all the reports of public companies buying back shares rather than investing in new projects), and investment from abroad has increased. But U.S. investment in foreign countries has also increased, and all of this investment seems to correlate weakly, at best, with public debt levels.

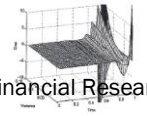
There does seem to be one obvious result of financing government by bonds rather than increased taxes: it increases wealth inequality. As a matter of basic mathematics, the wealthy pay the vast majority of the taxes necessary to fund the government. This is true to a greater extent with progressive income tax systems. Relative to other developed countries, the U.S. tax system is mildly progressive, but progressive nonetheless. When taxes are cut, inevitably the wealthy benefit more – there is little practical way around this. Further, when the government then finances those tax cuts by borrowing more, they issue bonds. By the same math, the wealthy inevitably buy the vast majority of the new government bonds. So the result of increasing the government debt increases income inequality by lowering the taxes paid by the wealthy, and finances these lower tax rates by borrowing from the wealthy (and subsequently paying them interest). The inevitable result is that the wealthy increase their wealth, and the poor, since they have relatively little to begin with, continue to have very little. Wealth inequality increases.

Now, things are a little more complicated than this, of course. If the investments made by the government are not such that they grow the capacity of the economy, then the large debt levels imply that higher taxes later are inevitable. It is also inevitable that these higher future taxes will also be borne disproportionately by the wealthy. So, some portion of the increased government debt has the effect of reducing the tax burden on today's wealthy, to the detriment of the future wealthy.

I had a conversation with a friend of mine a few years ago. At the time, debt reduction was a "hot" political topic, and the government had been temporarily shut down over a political budget dispute. I made the argument back then that I thought the concern about debt was overblown, and that the need for government spending to help reduce the unemployment rate was more important. The unemployment rate was then about 7.5%. That rate has since dropped to below 5%, and is now in the range of full employment. I believe it would be a prudent time for politicians to address this debt issue.

The level of U.S. federal government debt, at 105% of GDP, has now reached a point where its level is of concern. I say this not because it is particularly problematic at its current level from the standpoint of carrying the debt. The United States, with its fortunate role as the world's reserve currency, has more flexibility to address its debt levels than any country in the world. Rather, there are two concerns. First, if interest rates begin to increase, the debt will likely increase further. Perhaps rapidly. If nothing else, this would cause the percentage of the federal budget that is allocated simply to the payment of interest to increase, and that is terribly inefficient.

Secondly, the federal government plays a crucial role in spurring economic activity during a severe economic downturn. The federal government has done much less than many may have hoped in the aftermath of the Great Recession, and much of it may be attributed to political concern over increasing



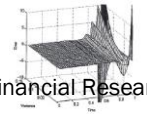
the level of debt.[2] That concern is natural and responsible given the debt levels. But the lack of stimulus coming from the federal government has undoubtedly slowed the recovery from the crisis. Reducing the debt burden now would allow greater political flexibility in the next crisis.

There are two ways, of course, to reduce the ratio of federal debt to GDP – decrease the debt, or increase GDP. Expanded trade has shown repeatedly to increase the economies of both countries, and is still an option to increase GDP for the United States. Unfortunately, the arguments from both sides of the political aisle in this election all appear to be heading in irresponsible directions. It is not feasible to have the federal government fund a university education for all students - that would greatly increase debt levels. It is not responsible to cut taxes – that too would follow history in increasing debt levels. It is detrimental to curb trade through tariffs, as that would reduce GDP growth and increase the debt ratio.

All of this has important implications for investors. If the U.S. federal debt is not addressed, it will not have immediate negative consequences. However, if the presence of the debt limits fiscal policy to help in the next crisis, then that crisis will be more severe (perhaps considerably more severe), and recovery from it will be slower. This will reduce the wealth of the country relative to what it could have been. The value of publicly traded companies would then be less, which virtually by definition means the value of the stock market would be lower.



[2] Janet Yellen, who at the time was Vice-Chair at the Fed, said this in 2013: "Discretionary fiscal policy hasn't been much of a tailwind during this recovery…instead of contributing to growth thereafter, discretionary fiscal policy this time has actually acted to restrain the recovery. State and local governments were cutting spending and, in some cases, raising taxes for much of this period to deal with revenue shortfalls. At the federal level, policymakers have reduced purchases of goods and services, allowed stimulus-related spending to decline, and have put in place further policy actions to reduce deficits."



## About Us

Madison Financial Research, LLC (MFR) is a registered Investment Adviser.[3] 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 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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