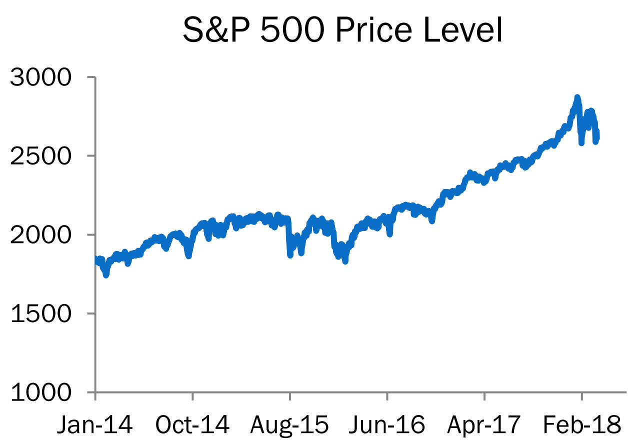
The Economy and Markets:

The US Stock market continued its bumpy ride in the second quarter of 2018. While stock price indices are up nicely from last quarter and the from beginning of the year, their paths have been anything but monotonic. The S&P 500 closed June 30 at a value of 2,718.37, which is 2.93% higher than its value of 2,640.87 on March 28, and about 1.7% higher for the year. While not as turbulent as the first quarter, the public markets were far from serene. The high for the quarter was 2,786.85 on June 12, while the quarter low was more than 7% lower at 2,581.88, on April 2. The uncertainty in the market appears to be tied most closely to the increased rhetoric (and recently, action taken) concerning trade relations between the United States and the rest of the developed world. While none of these tariffs individually is overly concerning, the hostile posturing of the United States has caused many to become concerned that a "trade war," in which countries successively increase tariffs on each other, is a distinct possibility in this environment (we will discuss this possibility further, below). As a significant escalation would result in a fundamental transformation of the international economic order of the last 30 (and possibly 70) years – a period in which the United States fashioned the world order to allow it to dominate economically – markets are understandably unsettled. This unsettling in 2018 has been an abrupt reversal of the calm increase in asset prices over 2017, which were primarily motivated by the then-imminent passage of tax cuts. To date, however, the volatility has not led to significant market declines. This is an indication that significant escalation of trade hostilities is not a foregone conclusion.

Markets at a Glance (Jun 30, 2018)	
S&P 500	2,718.37
Dow Jones	24,271.41
10 yr. U.S. Treasury	2.85%
3mo U.S. Treasury	1.88%
GDP Growth (last quarter)	2.0%
Unemployment Rate	3.8%



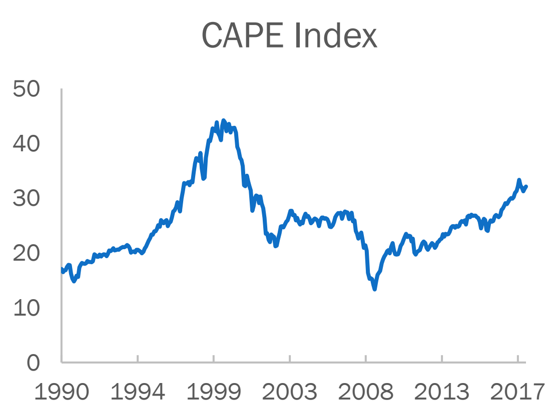
There are two broad risk metrics that we tend to keep an eye on (bearing in mind that no one metric, or even two metrics, can alone tell the entire story), both of which we have discussed in detail in past newsletters.[1] The first is the VIX risk measure. The VIX measure comes from the price of options traded on the S&P 500, and is a market-derived measure of the expected variability of price movements in that index. The VIX ended trading on June 30 at a close to 16, level lower than last quarter, but markedly higher than the end of 2017, when it was at 11.04. The high for VIX over the quarter was on April 2, when it hit 23.62, and as recently as June 28 it measured over 18. The VIX

[1] All past newsletters, and some other useful resources, may be downloaded at http://www.madisonfinancialresearch.com/Resources.html.

measure effectively reports how much the value of the overall market tends to "move around." One thing to always keep in mind with the VIX is that it is subject to change quickly, as the figure makes clear. One implication of the now-higher VIX is that the price of market "insurance" is now considerably higher than it was last year. This is a clear indication that market participants are collectively more worried about downside risk in stock prices than they were as recently as December.

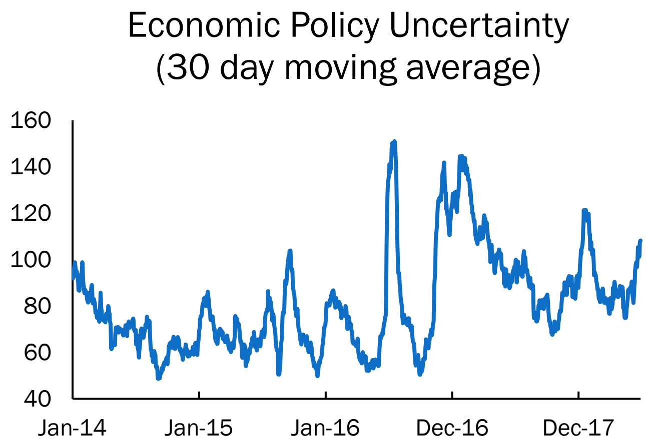
In contrast to the VIX, the CAPE measure (CAPE is an acronym for "cyclically adjusted price to earnings") is a measure of the "value" of the stock. The idea behind this measure is to estimate how much an investor approximately pays for $1 in real earnings from the stock market at any given time. When the CAPE 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 average for the CAPE measure is around 18 or so. The CAPE measure has been increasing rather consistently along with the stock market for almost a decade. The current value is around 32.1 – slightly up from the beginning of the year and close to its highest point since the time of the internet boom. According to this measure, the market remains quite expensive.

Taken together, and just as reported last quarter, the VIX and CAPE seem to imply a potentially dangerous combination – high volatility implying significant daily price movements, coupled with what appears to be an expensive market. This elevated level for CAPE tends to forecast lower than average future stock returns. It is important to note, however, that any predictions that utilize CAPE are much longer-term predictions than simply a few quarters, and are notoriously difficult to provide with any accuracy.



Usually, national politics has relatively little effect on stock market activity. Most endeavors of the national government – immigration policy, geopolitical posturing, debates over abortion, military spending, etc… have very little to do with the profitability of firms, and therefore do not affect stock market prices to an appreciable degree. There are, however, some topics that directly affect firm profitability and value. Some examples include national debt, and, in greater focus at the moment: international trade.

Potential policy changes (primarily delivered via tweet – remember, markets react in *anticipation* of policy changes, and this is how policy is currently being signaled) in international trade appear to have led directly to recent stock market fluctuations. These fluctuations tend to be quite negative, and stand in contrast to the otherwise quite healthy market and economic environment. At the beginning of June, the United States levied tariffs of 25% and 10% on steel and aluminum (respectively) from the European Union, Canada and Mexico. $50 billion worth of tariffs are set to go into effect July 6 on Chinese goods. Earlier in the year, the United States increased tariffs on solar panels and washing machines. The market has reacted negatively to each suggestion of tariffs.



However, the biggest concern is that these tariffs could be just the beginning. Naturally, traditional U.S. allies are upset that the U.S. has explicitly targeted them for economic conflict. The European Union has announced retaliatory tariffs on the United States to begin in July, on goods such as steel and agricultural products. Canada has also put together a list of over $16 billion in products from the United States to now be subject to increased tariffs, beginning July 1 (with timing reminiscent of "America First", they will go into effect on Canada Day). Similar actions are being undertaken by India. Meanwhile, Chinese investment in the United States dropped 92% this year relative to 2017 – and that 2017 number was down 36% compared to 2016.

Perhaps most disturbingly, these tariff exchanges are accompanied by caustic rhetoric, suggesting that escalation certainly seems possible. Recently, the president of the United States left the G-7 summit early, suggested Russia should be re-admitted, and called the Prime Minister of Canada "very dishonest." Discussing the upcoming retaliation by the EU, Angela Merkel stated ""We won't let ourselves be ripped off again and again." German media routinely skewers Trump.

Consider the following excerpts, all from the editorial boards of major international newspapers across the political spectrum:

From the *Wall Street Journal* (May 31, 2018), a right-leaning leading American newspaper:

> *We are supposed to believe his tariff threats are a clever negotiation strategy, but on Thursday he revealed he's merely an old-fashioned protectionist. His decision to slap tariffs on steel and aluminum imports from Europe, Canada and Mexico will hurt the U.S. economy, his own foreign policy and perhaps Republicans in November....*

From *Der Spiegel* (June 6, 2018), a center-left leading German newspaper:

> *But it's not just about trade balances and company profits. The speed with which the U.S. has been turning its back on the world order it has shaped since the end of World War II has been breathtaking.*

From *The People's Daily* (June 16, 2018), a leading Chinese paper and outlet of the Communist Party:

> *'America first' is becoming America on its own. The Trump administration obstinately persists in playing the inglorious role of global economic agitator. Recently, America is brandishing the trade war big stick, smacking other countries at will.*

From *The Financial Times* (June 3, 2018) a leading centrist British newspaper :

> *Donald Trump is not consistent on many things. But he is consistently protectionist. The tariffs he has imposed on his allies' exports of steel and aluminium are part of a broader offensive against the market-based and rules-governed trading system. The EU and other allies need to retaliate in a proportionate, but forceful, manner.*

When editorials from the pre-eminent western newspapers and *The People's Daily* sound similar and anti-American, at least some concern is warranted. Since World War II, the United States dollar has been the *de facto* world currency. When oil is sold in Dubai from Saudi Arabia to China, the transaction is settled in dollars. The world's central banks hold dollars as their reserves. The United States reaps enormous, and hard-to-measure benefits from this. If the United States were to put that standing at risk, it would be a significant blow against American economic preeminence.[2]

While the trade scare – and at the moment, it is mostly just a scare – is important to watch, the U.S. economy otherwise continues to appear fundamentally sound. Estimates of 1th quarter 2018 GDP growth registered 2.0%. This is off from the previous two quarters, and indeed 4th quarter GDP was also revised downward from initial estimates. However, this slowing of GDP growth is modest, and relatively close to expectations. GDP growth looking forward is still expected to significantly increase from this level as the tax cuts enacted last year prompt repatriation of capital and further investment. The unemployment rate is also strong, at 3.8%.

For a long time, economists have expected inflation to increase from current levels. This is especially a concern when unemployment is so low. At Madison Financial Research, we prefer to look to the market for such expectations, and for years these market-derived expectations have been muted. However, there are signs of increasing inflation in these measures recently. At the end of this quarter, market activity indicated an inflation expectation of about 2.11% per year over the next 5 years. This is up from 1.94% at the end of last quarter, and a level of 1.6% nine months ago. There appears to be a developing upward trend. The

[2] A quality and accessible read about the U.S. reserve currency role can be found here: http://www.caymanfinancialreview.com/2018/01/22/the-worlds-reserve-currency/

Federal Reserve, always keeping an eye on inflation, recently raised the Federal Funds rate to a target range of 1.75% - 2.00%. This is part of an extended upward march in this rate, and these increases are expected to continue.

We have mentioned in recent newsletters that one benchmark we are keeping an eye on is the spread between 10-year and 3-month Treasury rates. This difference is a simple estimate of the slope of the "yield curve." Economic studies show that when this difference becomes negative, it is often associated with economic weakness. Currently, there is a 0.97% spread between these yields, once again, just slightly lower than last quarter. This is not at the level typically associated with concern. We will continue to monitor this important economic indicator, given its negative trend, and past predictive power.

Quarterly Special Topic: It's World Cup Time!

Our special topic will be a bit abbreviated this quarter, as the FIFA World Cup is upon us. A study of the 2014 World Cup (the most recently completed edition of the tournament) found that the productivity lost due to watching the games that year was over $2 billion just in the United States.[3] Globally, more than a billion people watched the final match as Germany defeated Argentina. Apparently, we here at Madison Financial Research are not alone in our distraction. The stuff of tragedy, the United States failed to qualify for the 2018 World Cup (although Americans are still second in total tickets purchased for the games, behind the host country of Russia). Nonetheless, the global party continues, and as always influences both the world and us here in the United States.

In our last newsletter, we examined the pioneering work of Daniel Kahneman and Amos Tversky, who examined departures from rationality in economic decision making. In this section, we look at a specific set of such departures: reactions of world economies to the World Cup. It turns out that the resulting collective mood swings of those countries involved in World Cup matches have influence over their domestic financial markets, and this influence even spills over into U.S. markets.

Edmans et al. (*Journal of Finance*, 2007) specifically document the country-level depression side of the equation. Examining the results of over 30 years' worth of match results in 39 different countries, they find that the "excess returns" to national markets following World Cup losses is about 49 basis points (just under ½ of a percent). To put that in perspective, a ½ percent drop in the Dow Jones Industrial average currently would be about 125 points per World Cup loss. Pity the poor countries that lose frequently! Interestingly, as the authors point out, this is very much in keeping with the Prospect Theory of Kahneman and Tversky. While we expect small deviations from perfect rational decision making amongst the financial actors in our society, this is a rather startling departure. Ashton et al (2003), writing in *Applied Economics Letters* find similar effects looking at just one national team, that of England. They find that the performance of the FTSE 100 index is associated with the performance of The Three Lions. Indeed, Edmans et al point out "…as a testament to the fundamental importance of sports, the effects of sports results extend far beyond simple mood changes. For

[3] https://smartasset.com/infographic/worldcup

instance, in many cases sport results have such a strong effect that they adversely affect health. Carroll et al. (2002) show that admissions for heart attacks increased 25% during the 3-day period starting June 30, 1998, the day England lost to Argentina in a World Cup penalty shoot-out." The news isn't all negative though – a survey by the German newspaper *Die Zeit* demonstrated that the country underwent a baby boom nine months after that country's World Cup winning performance, with some regions of the country exhibiting a birth rate increase of almost 30%.

Many of our readers logically take the next mental step when they read of such reactions and think "Well then, if people are both irrational and predictable in their mistakes, how can I take advantage of such behavior? I don't care at all whether Germany beats Argentina!" After admonishing you for your indifference and complimenting you for your initiative, we would point you to a 2010 paper by Kaplanski and Levy in the *Journal of Financial and Quantitative Analysis* entitled "Exploitable Predictable Irrationality: The FIFA World Cup Effect on the U.S. Stock Market." These authors devise a clever procedure by which this irrationality can be exploited. Their method has the particular advantage of only needing trades to be executed in the United States. The idea is simple: people are more negatively affected by a loss than a win (consistent with Prospect Theory), and the U.S. market is the recipient of spillover effects from international markets. So if you short the U.S. equity market during the World Cup, you come out ahead more often than not. This has yet an additional advantage: it isn't necessary to predict the winners of the games. The authors find that the average return to the U.S. market over the World Cup's global effect days is −2.58%, compared to +1.21% average return overall, for the same period length.[4]

Nonetheless, our official recommendation here at Madison Financial Research is this: There are about 2 weeks of the World Cup left to enjoy. Forget about asset markets. If you haven't already, adopt a team. Watch that team's games and just take in the spectacle. Be part of the lost economic productivity. There are so few celebrations of humanity's interconnectedness across national boundaries, and this is one of the great ones. You won't be disappointed.

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[4] Interestingly (although perhaps spuriously), this strategy would have worked during this World Cup, at least so far. The S&P 500 is down 2.3% since June 14th, when the World Cup kicked off. International results are consistent, too. The German market is down even more than the U.S. market (Germany was a shocking early casualty in the World Cup last week).

About Us

Madison Financial Research, LLC (MFR) is a registered Investment Adviser.[5] 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, but also have particular knowledge on endowment spending policies to aid charitable institutions. We want to help investors understand their investments.

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 –

> "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?
> "What is a sustainable spending rate from a given portfolio?"

We have the expertise to handle virtually any financial question, and the patience and teaching experience to provide understandable and actionable answers. 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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