How Not to Be Wrong and Helicopter Money

" We are consistently too quick to perceive order and causality in randomness."
Daniel Kahneman, Nobel Laureate

Dear Valued Clients & Friends:
Hopefully, everyone has been enjoying their summer. Here in Wisconsin, similar to the recent stock market increase in July, our temperatures have recently hit the high mark for the year-to-date. However, the path for both the temperature and investments has not been on a linear path. This newsletter addresses how these non-linear paths are important to be aware of. We see them in reviewing first half investment returns, in predicting future investment returns, and in reviewing future economic scenarios. Being aware of this concept can improve the investor experience and hopefully lessen anxiety along the way.

First Half Award
As is the tradition in many activities, when people reach midpoints they typically reflect on the trail blazed, highlight a few achievements, and lessons learned as they continue onto the second half. Financial markets are no different in that it is appropriate to reflect on the recent past and put into historical context what that could mean moving forward. However, one must be careful not to see Maggie Mayer John T. McCarthy Ambassador . patterns where, in fact, randomness is partly to blame. As the statistician William Feller said "To the untrained eye, randomness appears as regularity or tendency to cluster".

As we review the events of the first half of 2016, the award for "Best Portfolio Decision" goes to sticking to your appropriate asset allocation target and rebalancing when appropriate. We have seen the stock market and fixed income market gyrate up and down for a variety of reasons (i.e. Fed raising rates, Fed not raising rates, Brexit, etc.). The S&P 500 decreased 10% through February, but then rebounded 15% by June 30th to finish up 3% in price terms. This volatility can be expected as the investing world continues to figure out daily which direction the world

Index - Through 6/30/2016	**2Q**	**YTD**	**1 YR**	**3 YR**	**5 YR**
S&P 500	2.46%	3.84%	3.99%	11.66%	12.10%
Russell 2000 (small-caps)	3.79	2.22	-6.73	7.09	8.35
MSCI EAFE NR USD (foreign)	-1.46	-4.42	-10.16	2.06	1.68
MSCI All Country World Index (foreign and US)	0.99	-0.61	-3.73	6.03	5.38
Barclays US Aggregate Bond Index	2.21	5.31	6.00	4.06	3.76
Source: Morningstar. All calculations represent total return and are annualized for periods exceeding 1 year. See below for index descriptions					

economies are moving. Long-term investors have the advantage of being able to downplay the daily movement and use patience to capture various market premiums the portfolio is targeting.

Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results. Index returns are not representative of actual portfolios and do not reflect costs and fees associated with an actual investment. Actual returns may be lower. Source: The S&P data is provided by Standard & Poor's Index Services Group.

Second Quarter Return Summary

Diversification means owning investments that will not all move in the same direction. This has been proven to help with risk and improve returns for level of risk taken. It also means that most likely there will be a different asset class that outperforms the others each quarter. The second quarter was no exception as US small cap stocks moved to the winner's circle as shown in the table below. US large caps also continued their relative high returns. Interest rates continued to decrease across the yield curve, so longer term bonds outperformed short term bonds.

Second Half Predictions

I recently finished reading Jordan Ellenberg's book, How Not to Be Wrong. The book was touted as a guide to becoming a better thinker in addition to explaining how math is interwoven into our daily lives without us knowing it.[1] A particularly useful example he used in the book which can apply to the investment world is regarding "on pace" statistics. For example, it is customary in baseball for sport reporters to project hitter and pitcher statistics for the entire year based on what they have done to date. The way in which they estimate full-year stats is simply through linear extrapolation (i.e. Chris Carter, Milwaukee Brewers first baseman, hit 22 home runs through 81 of 162 games. Linear guess is he will hit 44 for the year). Jordan did his own research and concluded that is simply not very accurate. The more reliable approach was to look at the batter's historical data in combination with current information and then assume some reversion to the mean for the remainder of the year. [2]

The lesson for investments is to avoid this trap of false linearity and getting caught up in the short-term noise. For instance, the Barclays US Aggregate Bond Index returned 5.31% for the first six months of the year. We do not expect that the return for the second half will be another 5.31% for a total of 10.62% for the year. Even though it is possible, based on current interest rates and historical movements this is not the most probabilistic situation. As investors, we need to set reasonable expectations so as not to be unduly disappointed in six months. Because our longer-term mean return expectation for fixed income is closer to 2- 3%, it is possible that we will see reduced returns over the following six months.

[1]For those of us interested in math, statistics and probability theory or has general interest in how math interacts with our daily lives, I recommend this book. He is a University of Wisconsin Madison professor so one of our own.

[2]For fun, I will predict Chris Carter ends the season with 37 home runs.

The Economy and Helicopter Money

The first estimate of second quarter GDP is scheduled to be released this Friday, July 29th. However, the Federal Reserve Bank of Atlanta's GDPNow™ forecast for real GDP growth in the second quarter is 2.4%. This would be below the historical average of 3.2%, but an increase from the first quarter's 1.1%. In the Monetary Policy Report submitted to Congress on June 21, 2016, the Board of Governors of the Federal Reserve System still expect GDP to fall within the 2% median range for the foreseeable future. As we discussed in the first quarter newsletter, this lower GDP rate has implications for future return expectations. To the extent this growth rate stays around 2.0%, our equity and fixed income return expectations also will remain low.

As we have seen throughout history, the future has a funny way of looking differently than what the consensus opinion is. Certainly, this low GDP growth, low interest rate, and low equity return mindset has become a very popular one to project. However, because the Federal Reserve's job includes inflation targets, investors should be aware of possible alternative scenarios. Either the inflation rate will continue to rise on its own with the presence of stronger economic growth or the Federal Reserve will help institute new policies in order to get that necessary rise in inflation. Thus, we thought it would be good to discuss that other scenario: helicopter money.

The idea of "helicopter money", which originated with economist Milton Friedman back in 1948, became more popular after former Fed Chairman Ben Bernanke discussed the topic in 2002 (for those that enjoy the details this speech is very educational considering the time frame delivered and the events that eventually unfolded afterwards). [3] Although Bernake assigns an extremely low probability of this occurring, it is good to understand as the world continues to live in low inflation, low growth environment. The basic premise could be carried out in multiple ways but essentially the idea is:

- Congress would approve additional fiscal spending, tax rebates, or combination of both.
- This increased spending or reduced revenue would be financed by the Treasury selling bonds that the Fed would agree to purchase and hold indefinitely.
- Cash would enter the economy through these public work projects or increased tax savings without the normal debt that usually accompanies these types of fiscal policies. Basic economics would then kick-in and more cash in the system would cause spending to increase and eventually more inflation.

If you are still reading, you are probably now thinking "Great, but what does this mean for my portfolio". We discuss these alternative scenarios to remind us that we do not invest for only one economic scenario. For example, what we think is going to be a low rate environment for the foreseeable future might not come to fruition. Thus, we diversify across not only asset classes but also across different economic scenarios.

[3] www.federalreserve.gov/boarddocs/Speeches/2002/20021121

Takeaways
As we have seen through the first half of 2016, the investment world continues to be unpredictable in the short-term and does not follow a linear path. Staying invested according to your plan continues to be the award winning strategy. Although there is somewhat consensus idea of what the future investment returns will look like, we cannot completely eliminate the possibility of other less probable events.

As always, we appreciate your business and stand ready to discuss and review any changes or updates in your personal situation. If someone you know would benefit from this newsletter, please feel free to pass it along. We look forward to continuing to serve you in all of your investment and planning needs.
Matthew Miler, CPA. CFP ®

Benchmark indices are not available for direct investment. An index is an unmanaged portfolio of specified securities and the index does not reflect any initial or ongoing expenses. Such cost would lower performance.

Barclays US Agg Bond TR USD The index measures the performance of investment grade, U.S. dollar denominated, fixed-rate taxable bond market. The index is composed of the BarCap Government/Credit Index, the Mortgage-Backed Securities Index, and the Asset-Backed Securities Index. TR (Total Return) indexes include daily reinvestment of dividends.

MSCI ACWI NR USD The index measures the performance of the large and mid cap segments of all country markets, including US equity securities. It consists of stocks from 23 Developed Markets (DM) and 23 Emerging Markets (EM) countries and covers approximately 85% of the global investable equity opportunity set. NR (Net Return) indexes include dividends that are reinvested after deduction of withholding tax, applying the rate applicable to non-resident individuals who do not benefit from double taxation treaties. MSCI EAFE NR USD The index measures the performance of the large and mid cap segments of developed markets, excluding the US & Canada equity securities. This Europe, Australasia, and Far East index is a market-capitalization weighted index of 21 non-U.S., industrialized country indexes. NR (Net Return) indexes include dividends that are reinvested after deduction of withholding tax, applying the rate applicable to non-resident individuals who do not benefit from double taxation treaties.

Russell 2000 TR USD The index measures the performance of the small-cap segment of the US equity universe. It consists of the 2000 smallest companies in the Russell 3000 Index. TR (Total Return) indexes include daily reinvestment of dividends.

S&P 500 TR USD A market capitalization-weighted index composed of the 500 most widely held stocks whose assets and/or revenues are based in the US; it's often used as a proxy for the stock market. TR (Total Return) indexes include daily reinvestment of dividends.

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