April 1, 2009 **First Quarter 2009 Client Letter**
"Investor Psychology"

> *"Most of the time common stocks are subject to irrational and excessive price fluctuations in both directions as the consequence of the ingrained tendency of most people to speculate or gamble... to give way to hope, fear and greed."* **-Benjamin Graham***

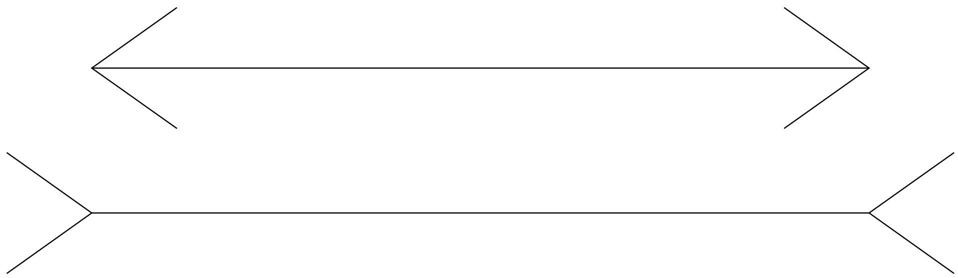
Introduction

The terms investor psychology, behavioral finance and neuroeconomics have become synonymous with research conducted on how individuals make decisions regarding money. Since the 1970s this field of study has continued to gain legitimacy, culminating in 2002 when a Nobel Prize was awarded to psychologist Daniel Kahneman and experimental economist Vernon Smith for their landmark research. The work of Kahneman and others provide empirical support to the notion that individual behavior does not align with traditional simplistic economic theories on financial decision making. Traditional economic theories falsely assume that people rationally weigh costs and benefits to make the most economically rewarding decision. Behaviorist studies confirm that we often make financial decisions that do not yield the largest economic gains, appropriately account for risks, or accurately assess probabilities. Researchers have categorized these 'behavioral traps' for lack of a better term into various groups and subgroups. Risk perceptions, anchoring, mental accounting and the gamblers fallacy are a few examples discussed in this letter. This topic and the four behavioral issues discussed in this letter were chosen because of their relevance to decision making after market declines. Emotions and behavioral traps present the greatest risk to investors during market extremes.

If we know how our mind works when confronted with financial decisions we may implement systems that counteract poor decision making throughout our lifetimes. In the movie *A Beautiful Mind* based on the life of Nobel Prize winning mathematician John Nash, he often saw patterns in data that really did not exist. Investors often see patterns in the market leading them to believe it is more predictable than it really is, we will discuss how later in this letter. Once John Nash realized that his brain was playing tricks on him he was able to adjust his behavior and decision making. Keep in mind that he did not stop seeing the patterns; he put a system in place that kept him from acting on what he perceived. It's important that we do not feel bad about the psychological biases and shortcomings we face. This is because they are normal and the fact that we are not born to make bias free, emotionless decisions is a result of our humanity. In fact, for the vast majority of our human history our brains have served us quite well.

Take a moment and examine the two lines in Figure 1 on the next page. Most people naturally believe that the second line is longer when in reality it is the same length as the first line. In fact, even when we know that the second line is the same length our instincts tell us it is longer and we have to rely on a ruler to make sure we are correct. This is one example of how we think when dealing with other behavioral issues. Jason Zweig, in his recent book, *Your Money and Your Brain*, quotes Daniel Kahneman saying "You must learn to recognize that you need to use a ruler."

Figure 1: The Muller-Lyer Illusion



Reflexive versus Reflective Decision Making

Psychologists contend that the brain engages two systems when making a decision; reflexive and reflective. Reflexive thinking is the emotional side of the brain which is often guided by intuition and gut instincts. Reflective thinking has more to do with logic and analysis than emotions. In many ways the two systems work well together attempting to balance the need for quick decision making with the need to make the most accurate and rational decisions. However, at times the strong pull of the reflexive/emotional side of our brains overrides the reflective side. Within the context of a relationship based on trust, financial advisors can bring immense value to investors by keeping the reflective aspects of financial decisions at the forefront. Advisors need to understand behavioral finance issues in order to help their clients avoid the behavioral traps. The success of an advisor should be tied to the client's success, which has very little to do with short term market performance and everything to do with a lifetime of prudent decision making. A great advisor will warn you when you are heading into a behavioral trap rather than assist you with falling into one.

Some of the investment products/strategies sold as panaceas during market extremes are clearly intended to exploit behavioral traps and satisfy the reflexive brain. These products/strategies often turn out to be horrible for investors. Recall the multitude of products created for investors during the technology bubble such as active trading programs which touted instant market data with dirt cheap trading costs and the multitude of mutual funds and other products designed to capture the hottest sectors of the market. On the flip side, after the market started to decline, advisors touting the merits of hedge funds and other "uncorrelated" products emerged on the scene along with advisors who professed market timing was the way to go. These approaches are perfect solutions to hindsight problems satisfying certain investors for the short term, but costing those investors over the longer term. The recent uptick in gold commercials, annuity sales and structured products claiming to offer market participation with limited risk should not surprise us.

We are all Prone to Behavioral Traps

Psychological biases do not discriminate by the level of wealth, fame, or intelligence a person possesses. Recently I traveled to Stanford University with Ethan Broga, an Empirical colleague, where we participated in a lecture given by behavioral finance expert, Meir Statman[+]. The professor asked us to read a paper he wrote titled "Martha Stewart's Lessons in Behavioral Finance" as pre-work to his lecture. It was an exciting break from the typical finance based material I usually read. In fact I have to admit that I couldn't wait to read it! I guess I felt it was my opportunity to indulge in some form of tabloid news for a valid reason without having to speed read while standing in the check out line. To point, during Martha's court proceedings which revolved around insider trading of ImClone stock, Martha's entire investment portfolio was revealed. With this disclosure came the ability to track her investment decisions, which is exactly what Meir Statman did. He found that aside from the transactions involving insider trading, Martha's investment decisions were quite poor and riddled with behavioral finance lessons; in Meir Statman's words, "Martha is a normal investor." Further, those endowed with brilliance don't elude behavioral traps either. In fact, Sir Isaac Newton had a string of financial failures and from what we know, Einstein may not have been an extraordinary investor either.

The study of how we make financial decisions is fascinating and several books have been written cataloging the research. In the remainder of this letter we focus on a few behavioral traps that investors need to be cognizant of while traversing a tough market. A broader study of behavior finance can be found in the list of resource books cited at the end of this letter.

Behavioral Traps Surrounding Risk Perceptions

One of the greatest challenges that investors and their advisors face is constructing an investment strategy that gets the investor where they want to go without taking on too much risk. Investors understanding, definitions of, and preferences toward risk do not remain constant and are elusive. There are several behavioral issues revolving around risk tolerance that we should be aware of. We firmly believe that it is an area that demands great attention and discipline because it often is the cause of major changes in portfolio strategy.

Studies have shown that tolerance for risk can change depending on a person's mood. If you are feeling happy you may feel more positive about taking on risk, if you are feeling negative you may be inclined to avoid risk. Intense positive or negative emotions can play a huge effect on our attitudes about financial risk. Also, our recent experiences with payoffs affect our feelings about risk, for example, if the market has gone up and our portfolio has increased we are inclined to take more risk than when the opposite occurs. This is normal behavior and researchers found that subjects in a series of bets were likely to bet more if they had won in their recent bets or if they were in a better mood for unrelated reasons. While this may be a normal reflexive reaction, unchecked this is dangerous because it leads us to increase risk when expected future returns are low (at market peaks) and decrease our risk exposure when expected returns are high (at market bottoms).

We have a difficult time quantifying risks and understanding the difference between rewarded risk and unrewarded risks. A quantification example may best be represented by a behavioral trap called familiarity bias. Investors often falsely believe that a company they work for or know locally is less risky than the market as a whole. This bias persists even after numerous companies, believed to be solid have disappeared completely. Rationally, we should all agree that the likelihood of the entire stock market going to zero is lower than that of one company. Even so, investors fail to understand the risk they face by not diversifying. Often, investors get confused about which risks they should expect to be rewarded for, this is the reason that casinos and lotteries exist and thrive. A rational analysis of risk would include calculating expected payoffs before choosing among endeavors. Clearly in the world of gambling and lotteries expected payoffs are negative. In the market however, trying to make these calculations is complicated and is often overlooked by investors. A diversified portfolio should present a positive expected return given enough time, rewarding investors for the risk taken. When investors concentrate their portfolios in too few securities, industries, asset classes or countries they take on additional risk without increasing expected returns.

Investors react more severely to short term price declines than they do to the long term wealth eroding effects of inflation. This occurs even though short term price declines should be viewed as temporary because the inflationary effects are veiled and occur over a longer period of time making the losses less noticeable. The faster the drop the more severe is our desire to react to it. These behaviors are seen in the market by tracking individual investor cash flows and investor sentiment surveys. In several instances, individual investors put money in stocks at record levels near market highs and pulled money out of stocks in record amounts near market bottoms. Investor sentiment often is positive at highs and negative at lows. Many investors engage in a constant battle of pride, regret, fear and overconfidence which leads them down various roads to poor decision making. It's important to note that while all of these reactions are normal, they do not translate to more wealth if acted upon unrestrained. We have to understand that the odds of a particular endeavor do not change because of how we feel about the next trial or what happened to us in the previous trial. The gambler's odds do not change based on the result of his last toss of the dice or the amount he won or lost on that last toss. Our minds may lead us to believe that we had something to do with the process in the past and that we can affect or predict the outcome going forward.

This is all normal behavior that should be kept in check in order to emerge successfully from market extremes. The key is to avoid changing our risk exposures too often and for the wrong reasons.

Methods of Managing Risk Perception Issues

It is best to avoid making large financial decisions while you are in an extreme emotional state (either positive or negative). When it comes to investing, written investment plans built during a calm emotional state with the assistance of a qualified advisor, who will hold you accountable, can help counter emotion-based decision making. Plans should be made, reviewed and periodically updated with an awareness of your emotional state and they should include your financial values. Your financial values tend to be long term and rarely change, so they act as a better filter to screen financial decisions. Also, your values tend to act as a better adhesive when examining the merits of sticking to your written plans. Assessing risk tolerance periodically and considering how market and life circumstances affect you over the long run should help as well.

Investment policy documents capture your specific goals, risk tolerance assessment and financial objectives including your financial values, and provide a written analysis of the investment philosophy being implemented. The documents should outline how investment decisions are made so that there are few surprises when we head into various market conditions. It is our recommendation that we review the various components of your investment and financial plan annually (during up, down and sideways markets). Again, putting things in writing gives us the ability to refer back to our plan when we find ourselves tempted to make decisions in an emotional state. It gives us a frame of reference in which we can ask ourselves if we are making changes for the right reasons and if those changes will move us toward or away from our goals. Further, the historical investment performance data shows the effects of bear markets on the portfolio allocation being used in your specific case. Knowing market history is one way to combat emotion-based decision making.

Mental Accounting

Mental Accounting is the tendency for individuals to organize and file decisions separately. We use a mental accounting system similar to a file cabinet when tracking investment decisions. The folder contains the costs and benefits associated with a particular decision. Once an outcome is assigned to a mental folder, it is difficult to view that outcome in any other way. For example, a person may be saving to buy a vacation home in 5 years in one account that earns 4%, while paying 9% on a 3 year car loan. Because each goal has been classified separately the person does not see the flaw with this strategy. We like to put labels on different monies: dirty money, easy money, free money, sacred money and treat these pools of money differently. In an economic sense, money inherited from a respected family member should be handled the same way as money received from a tax refund. Yet people are more likely to invest the inherited money in one way, usually conservatively, while the tax refund is likely to be spent or invested in another way.

Mental accounting also causes investors to view each of their portfolio holdings in isolation rather than within a total portfolio context. This practice can be very expensive over a lifetime of financial decision making because it causes investors to miss the point of modern portfolio theory, which is to view all of your assets and liabilities in combination rather than in isolation. Viewing each investment separately rather than using a portfolio and total net worth approach limits investors' ability to minimize risk and maximize return.

Methods of Managing Mental Accounting

When it comes to our investments investors should avoid focusing on the performance of one investment or one asset class in isolation. For example, if we have a combination of fixed income and equities it is better for us to focus on the combined performance of the entire portfolio over a long period of time. This also applies to each account; we should focus on the performance of all our accounts combined. Further, investors should include all of their assets (both liquid and less liquid assets) and the effect on their total net worth over time rather than the amount of decline experienced over a very short period of time in one section of their net worth (like the piece invested in the market) or one sub asset class (like emerging markets). Diversification needs time to work and it does not work perfectly in every one year (or less) time period. However, it works well over long periods of time so investors should stay focused on the bigger picture when going through difficult markets. Your investment strategy is likely the result of a combination of short, intermediate and long term goals. It may be tough to keep that in mind when investments are mixed in a way that combines all of those goals.

Anchoring

This is the tendency for investors to latch on to a specific reference point when making decisions even though the reference point has no relevance. Daniel Kahneman and Amos Tversky conducted an experiment where participants were asked to spin a wheel with numbers on it prior to answering a question. They found that results of the wheel spin greatly affected the number given in response to the question. The participants would anchor on to the number that came up on the wheel even though it had no relevance to answering the question. Anchoring is a common occurrence with investing. For example, investors have the tendency to use the original purchase price of a stock as a reference point when making future decisions about selling or holding the stock. They fail to realize that the market and the stock do not care what the investor paid for it in the past as it has little relevance to the real value now. During declining markets, investors tend to anchor on to the peak value their portfolio reached. Investment declines are calculated from the peak point not from a specific time period in the past. Anchoring in this way may cause severe emotional reactions.

Methods of Managing Anchoring

The best way for investors to counter this behavior is to inspect portfolio values over specific longer term time intervals instead of high and low points. Rather than checking portfolios daily, weekly or even monthly, investors should make an effort to wait for their statements to arrive. Research has shown that individuals who check their accounts more frequently tend to trade more frequently and also tend to generate lower returns. It is best to examine the returns of an investment strategy over the past several years and where possible, over an investment lifetime. For investors that have not been investing for long it is worth examining the long term historical data on diversified portfolios.

Another strategy is to examine gains or losses in the context of total net worth changes over longer periods of time. For example, a person who has seen their $500,000 portfolio decline 30% from the high point (a $150,000 decline) may be prone to panic by focusing on a loss of $150,000. If their pre-market decline total net worth was $1,000,000 before the market decline the percentage decline is cut in half. Also, if they looked at the change in their total net worth over the last five to ten years they may find losses are even less severe than previously thought.

Gambler's Fallacy (Law of Small Numbers)

Research shows that people place too much emphasis on a few witnessed observations when making predictions about future outcomes. We believe trends are apparent where they do not exist and this leads to chasing performance among other poor investment decisions. Our minds are adapted to making quick reflexive decisions because for most of our existence we had to avoid dangers and seek opportunities for food with little time for calculation. For example, researchers found in coin flipping experiments that if a coin was flipped as little as three times in a row coming up heads all three times, most people placed a bet that the next flip would be tails. They did this even though they were aware the odds of the next flip being heads remained at 50%. However, if the participants were asked to wait twenty minutes or so before placing the next bet they were less likely to bet on tails than the group who did not take a break. In lotteries or at roulette tables, people have a tendency to bet on numbers that have not recently come up because they believe the odds are low that the same numbers would repeat. Clearly this is not true. In any random string of events guided by probability, you will see many streaks over short intervals. Statisticians explain that the oddity is when you do not see streaks occur. It is over large numbers of trials that results gravitate toward the expected probability, with many streaks and breaks from the long term odds occurring over short intervals.

In areas such as investing we are prone to make a different mistake because we believe that skill is involved. In the coin experiment, participants changed their bets thinking the trend would reverse. With investing, we tend to follow the trend. When a particular money manager or strategy outperforms the stock market we are tempted to place our money with that manager or into that strategy thinking that the trend of out performance will continue. It is likened to a basketball player experiencing a hot streak during a particular game and attributing it to some magical force rather than recognizing that we expect players to have games where their shooting percentage is significantly better or worse than the long term average by chance alone. With investing this becomes very dangerous because investors hear about a money manager(s) doing well during the recent down market so they shift to that manager only to find that his past performance was nothing more than pure chance. The same trend following occurs during positive markets.

The media perpetuates this problem by giving credence to the small number of professional investors that have had good past track records. It is critical to notice that these managers are always selected after the fact. Rarely, if ever, do financial media make available a list of their previous picks along with their track record of finding winners in advance. As we have pointed out in past communications, there is virtually no consistency among winners, thus the need for a new list every year.

Avoiding the Gambler's Fallacy

When friends, neighbors, family members, media persons or investment managers come to you bragging about their brilliant foresight in predicting this recent downturn, smile and then politely change the topic of conversation. Research shows that those who attempt to market time do poorly, let's examine why their overconfidence should be ignored. These people will question the merits of staying the course and attempt to make you feel foolish for doing so because they believe there getting out of the market was a skillful move. By the way their telling you this is the result of another bias people experience when making decisions; they do not like to be alone in their views. My advice is to treat them as you would a neighbor who won the lottery. You may be happy for them and tempted to buy a ticket yourself but you would not purchase lottery tickets with your life savings because you would realize they were just lucky not skilled in lottery number selection. In the same way, investors should not abandon a sound investment strategy because they feel the market decline was predictable. We are excellent "deletion" creatures who make wrong predictions frequently yet don't realize it because we quickly delete those wrong predictions from our memories. Only the past inclinations we had that become a reality rise to the forefront of our minds leading us to believe we are right more than we really are. Lastly, we need to consider what academics call survivorship bias when we think predicting markets is easy. For example, you only hear from the neighbor who won the lottery not the overwhelming majority of those neighbors who lost. The same is true of those who happen to call the market correctly on a specific occasion including ourselves.

Let's look at one last illustration demonstrating how winners will always emerge by pure chance without a pattern of consistency being present. If we filled a stadium with 10,000 coin flippers and conducted a series of 10 flips (think of 10 years of market returns), with those getting heads staying in the contest (winners or market beaters) and those getting tails being dropped from the contest. In the first flip we would expect 5,000 people to remain in the contest, the second flip 2,500 and so on. After the 10th flip we would expect close to 10 people to remain who have flipped 10 heads in a row. It would be false to assume these people have skill in coin tossing. However, if they were investors, the press would herald these 10 people as market gurus; these lucky individuals may even start money management firms and write columns in Forbes magazine attracting large amounts of investor money. Hopefully, we all see that it would not be wise to invest our money in a strategy put forward by these 10 coin flippers in spite of past success. Remember, over a one year period (or the first flip) we would expect 5000 coin flippers to win. There is a high probability that a large number of people avoided some of the market decline, the problem is we would expect that by chance and those people now have to know when to get back in the market in order to win over the long run. Further, they have to be able to repeat this process over time. We should no more listen to those lucky coin flippers than our friends or opportunistic money managers who tell us they avoided the down market last year.

Conclusion

The study of investor psychology is critical to enhancing investor success. The fact that we do not make purely rational decisions helps explain why the market swings from one irrational extreme to another, only eventually gravitating toward its long term average. The study of behavioral finance should not lead investors to believe that markets are predictable and that active investment approaches exploit market inefficiencies. Many of the experts in this field concur that the existence of emotional, reflexive decision making, presents greater support for a long-term investment approach utilizing passively managed and diversified investment vehicles.

The issues of investor risk perceptions, mental accounting, anchoring and the gambler's fallacy are illustrations of just a few behavioral traps that should be accounted for and addressed within an investment strategy. While these are certainly trying times, the best approach is to avoid making drastic changes to our investments.

We are committed to the diligent pursuit of portfolio management and financial planning discoveries that may enhance your investment experience.

Sincerely,

Kenneth R. Smith

The Empirical Wealth Management Team
Kenneth R. Smith, CFP®, MS
Chief Executive Officer

***Benjamin Graham** was a professor at Columbia University's Graduate School of Business. He is revered as the founder of value investing and investment analysis. Graham co-authored of one of the most influential financial books to date, *Securities Analysis*, first published in 1934. Recently, an updated 6th edition of the book was published which includes commentary from Warren Buffet among other famous value investors. He also wrote The Intelligent Investor.

+**Meir Statman** received his Ph.D. from Columbia University and his B.A. and M.B.A. from the Hebrew University of Jerusalem. He is the Glenn Klimek Professor of Finance at the Leavey School of Business, Santa Clara University. His research focuses on behavioral finance. He attempts to understand how investors and managers make financial decisions and how these decisions are reflected in financial markets.

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