Investors Behaving Badly: Why Investors Often Make the Wrong Decisions at the Wrong Time

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In many areas of our lives, we have all the knowledge we need to make better decisions. The problem is that we do not always do what we are supposed to do. We know that working out is good for us, but we find it difficult to stay committed to exercise. And while there is no question that maintaining a healthy diet is best, that calorie-laden dessert can be too tempting to resist. In other words, we misbehave.

The same is true with investing. Most of us understand the time-tested principles—do not try to time the markets, be sure to diversify your portfolio, define your long-term goals, and stick with your strategy. Still, most investors find it challenging to adhere to the fundamentals. What causes us to misstep when we know better?

This paper explores how we make decisions, with a focus on behaviors that can lead to investment pitfalls. Specifically, we address three key questions:

1. Is investing a winner's game or a loser's game?
2. What drives investment underperformance?
3. How can investors overcome the causes of sub-optimal decision-making?

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1. Is investing a winner's game or a loser's game?

In his book titled *Investment Policy: How to Win the Loser's Game*, author Charles Ellis draws a distinction between professional tennis (a winner's game) and amateur tennis (a loser's game). Anyone who has watched professional tennis players in action knows that they rarely make mistakes. The key to winning at professional tennis is to outpower, outserve, and outplay your opponent. Amateur tennis players, on the other hand, constantly make mistakes. The key to winning at amateur tennis is to simply avoid making mistakes.

The same is true in investing: The way you win at investing in the long-run is by minimizing the number of mistakes you make. Unfortunately, investors routinely fall short of their potential as a result of self-induced errors, as the study below demonstrates.

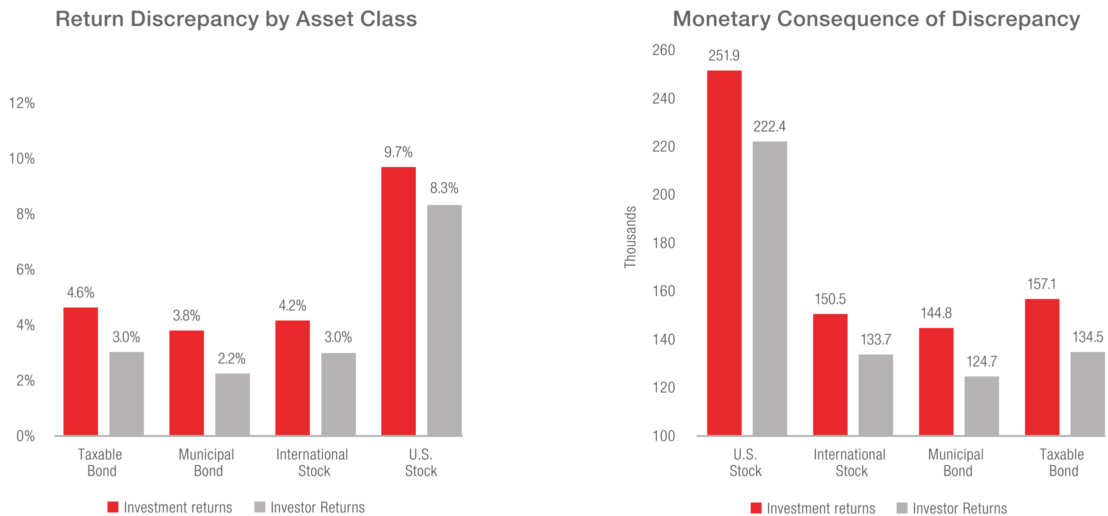
Morningstar Study

Published annually, the Morningstar's *Mind the Gap* study covers a 10-year period and a broad array of asset classes. Drawn from this study, the graphs below compare the investor returns experienced by investors in their personal portfolios (dollar-weighted returns) with the investment returns of the underlying investments (time-weighted returns). By subtracting *investor* returns (actual) from *investment* returns (potential), we can measure what we call the *behavior gap*.

Numerous other studies point to similar conclusions.

Investors earn less than they should.

A 10-year Morningstar study shows on average how investors fall short.



Source: Kinnel, Russel, "Mind the Gap 2018," Morningstar,® Published: 21, August 2019, Accessed: 19, March, 2019, https://morningstar.com/articles/878600/mind-the-gap-2018.html.

1.2%–1.6%

Percentage by which investors' returns in every category lagged the investment's total potential return.

$252,000

Approximate amount a $100,000 investment in the U.S. Equity category would have grown to over the past ten years if left untouched.

$30,000

Due to poor timing decisions, the approximate difference between the average U.S. stock investor's portfolio and the total return on a $100,000 investment.

2. What drives investment underperformance?

Understanding the Behavior Gap

Investors underperform for both rational and irrational reasons:

Rational drivers of behavior: It is easy to understand how investment results will suffer if we make rational but bad investment decisions. For example, you may have identified a fantastic investment opportunity, but if you do not have the cash to invest in it, its returns are unobtainable. Also, unpredictable life events may require us to sell investments at inopportune times.

Irrational drivers of behavior: While we may be intelligent and knowledgeable, we may not always be rational. In fact, studies have shown that the more knowledgeable we think we are, the more our biases mislead us. We hold on to a losing stock too long because we do not want to accept a loss, even though it is in our best interests to sell. We want to buy popular stocks because we have a "fear of missing out" (FOMO), and because there is comfort in going along with the crowd.

It has only been in the last few decades that we have begun to really understand how our minds work when making decisions. We owe this new and improved understanding to a few ground-breaking thinkers who changed how we view decision-making, leading to the birth of a whole new field of study.

Behavioral finance came of age in the 1970s and 1980s largely due to the contributions of Amos Tversky, Daniel Kahneman, and Richard Thaler. While the pathbreaking work of these three thought leaders was rejected at first by many in the academic and professional community, their contributions to behavioral finance subsequently earned them Nobel Prizes.

Traditional Finance vs. Behavioral Finance

Their research was revolutionary because it challenged many of the foundational assumptions of traditional finance. Prior to the advent of behavioral finance, most standard finance theories assumed that:

- Markets are efficient.
- Investors are risk averse.
- Most importantly, investors are rational.

As we know intuitively, the problem with these assumptions is that markets are not always efficient, people are often not always risk-averse, and investors are not always rational. Behavioral finance contributes to our understanding of human decision-making by taking what we know intuitively and building analytical frameworks and models around that knowledge.

In contrast to Traditional Finance theory, Behavioral Finance recognizes that decisions about money are not always rational.

Traditional Finance	Behavioral Finance
• Markets are efficient. • Investors are rational. • People are coherent, accurate, and unbiased.	• Humans are not logical. • Emotions and conjecture rule. • Decisions are often based on greed and fear.

Systemic Biases

By combining our understanding of psychology and our understanding of economics, behavioral finance has identified dozens of systematic biases that are pervasive and will predictably recur. Almost always at work when we make financial decisions, these biases affect how we value money and how we assess risk or probabilities. The following common biases illustrate how our decision-making is affected.

Loss Aversion

The pain of losses exceeds the pleasure of gains.

Fear of Regret

Regret from acts of commission exceeds the regret from acts of omission.

Mental Accounting

We put labels on money and ascribe arbitrary qualities to money based on each label.

Overconfidence

We overestimate our skills and abilities.

Loss Aversion, *not* Risk Aversion – Prospect Theory

Developed by Kahneman and Tversky, Prospect Theory describes how people evaluate the benefits of prospective options or decisions. Prospect Theory contributed three new concepts to our understanding of decision-making:

- The notion of a reference point
- The importance of small changes in our wealth
- The importance of losses vs. gains

Prior to Prospect Theory we believed that how people felt about their personal financial situation was a function of how much total wealth they had. For example, someone with a net worth of $3 million would feel a certain way about it. The happiness, satisfaction, or utility that $3 million generated was considered independent of any **reference point** or how someone got there.

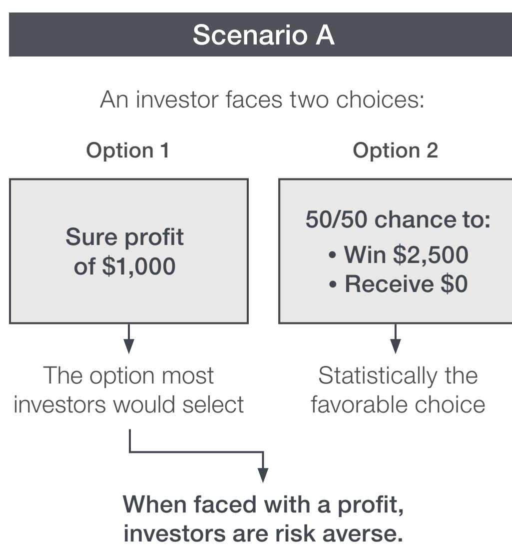
Prospect Theory tells us this is not true. The person with $3 million who started with $1 million is going to feel much better than the person who started with $5 million and lost $2 million. Our happiness is not just a function of how much we have, but how much we have gained or lost in relation to a reference point.

The challenge is that the reference point is not always clearly defined and frequently changes. How or what an investor chooses as a reference point will have a huge impact on how they feel about prospective changes in their wealth. Even **small changes** from a reference point can have a significant effect on how investors feel about a change in their wealth. Someone with a net worth of $10 million may still gain tremendous satisfaction from saving $1,000 on a dining room set, even though $1,000 is a tiny fraction of their wealth.

One of the most significant conclusions of Prospect Theory is the insight that **the pain of loss is greater than the pleasure of gains**. In other words, we enjoy making money, but losing money is far more painful.

Loss-aversion theory helps explain why investors often hold on to investments that have gone down in value for too long. We hope to recover those losses to break even and avoid the pain of loss. It also helps explain why avoiding losses is more important to most investors than earning a positive investment return.

Example: Loss Aversion



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Fear of Regret

Closely related to loss aversion is the fear of regret. Regret is different from disappointment. Disappointments can happen for any number of reasons outside of our control. Regret is much more personal: It is the anguish we feel as a result of a poor decision. Regret can come from one of two types of mistakes:

- Errors of commission
- Errors of omission

With errors of commission, we experience regret from the result of an action we took or a decision we made. Errors of omission, on the other hand, can produce regret from decisions or actions not taken.

For investors, the fear of regret often makes us avoid or delay decisions. This can lead to the following possible negative consequences:

- Holding on to losing investments too long
- Paying taxes too soon by not recognizing losses on bad investments
- Avoiding the market because of past losses

Based on research, we know that regrets from acts of commission make us feel worse than regrets from acts of omission. (An investor who makes changes to his/her portfolio and then loses 20% feels worse than someone who does nothing.)

Example: Fear of Regret

You have been playing the same lottery numbers for the past two years, and you have never won. A friend suggests you change your selection for the next draw. Should you?

The probability of winning with your old numbers or the new numbers is the same. However, most of us would struggle with this decision because;

- If we do not change our numbers and the new numbers win, then we suffer regret of omission, the regret from not taking action.
- If we change our selection and the old numbers win, we will experience regret of commission, or regret from the act of doing something.

Mental Accounting

Another common bias is referred to as mental accounting. While money is fungible, our minds are not programmed that way. Our brain has an uncanny ability to think of the value of specific dollars differently depending upon their source or intent. For example, we think of spending money, vacation money, retirement money, college money, and so on. And we open a separate mental account for each, taking care to avoid mixing money between different mental accounts.

This can be both a positive and a negative:

- On the positive side, putting labels on money prevents us from using funds in our 401(k) to pay for vacations or dipping into our college savings to buy a new car.
- At the same time, compartmentalized thinking can be unproductive, e.g., not using money in a savings account to pay off a credit card bill.

Example: Mental Accounting – Theatre Ticket

Assume that you go to a play and realize as you arrive at the theatre that you lost your $100 ticket. Would you buy another ticket? Most people would not.

Now, what if you had not already purchased the ticket and intended to buy one at the theater? But when you arrive, you open your wallet and realize you had lost $100 but still had enough to buy a ticket. Most people would go ahead and purchase the ticket.

We view the situations very differently:

- In the first case, we feel like we paid double for the ticket and overpaying makes us uncomfortable.
- In the second case, we do not associate the $100 loss as being in the same mental account as the ticket, and so we are more comfortable buying the ticket.
- The outcome would be the same in the two cases: Our net worth is down by $200, and we saw a play. Yet, because of mental accounting, we evaluate these two outcomes very differently.

Investors often create separate mental accounts for capital and gains.

Example: Mental Accounting – Casino Betting

You visit a casino with $500, and you are up $500 after some lucky bets. If you are like most people, you create two mental accounts: Your hard-earned money is in one account and the so-called house money—the $500 you won—in another.

The way you behave with your money during the rest of your visit at the casino will be different with the two mental accounts. Most would have no problem losing the house money, but losing their own money is an altogether different matter.

Even though the purchasing power of the house's money is identical to the original $500, we do not think of it in the same way. But treating gains differently than your original investments can lead to taking unnecessary risks that result in avoidable losses.

Beyond just creating two mental accounts for capital and gains, investors often create separate mental accounts for each of the stocks or investment funds in their portfolios. However, the key to effective diversification is understanding how the individual investments in a portfolio behave in relation to each other for the benefit of the portfolio as a whole. Mental accounting makes this difficult and causes investors to build portfolios by making decisions about each investment individually, increasing the risk that the portfolio is inadequately diversified.

Overconfidence

Confidence can be a good thing: It makes us feel optimistic and gives us the courage to act. Confidence in the economy leads to consumer spending and greater investment, which makes the economy stronger and leads to greater confidence. It is a virtuous cycle.

Overconfidence, on the other hand, can lead to unrealistic expectations. The extreme confidence that we experienced in 2007 just before the Global Financial Crisis is a good example. That period was characterized by excessive optimism and the belief that prices—especially for real estate—could only go up. Our overconfidence prevented us from objectively assessing the escalating financial risks.

One of the challenges with investing is that we often swing from too much confidence to too little, as shown in the diagram below. Emotional cycles take us from euphoria to despondency.

Confidence and the market cycle of emotions

Source: "Understanding Market Cycles & Maximizing Returns." Elphos Capital Advisors. Published: 21, October 2018. Referenced: 19, March 2019. https://welphoscapital.com/blog/understanding-market-cycles-maximizing-returns

We see these swings in emotion due to a **recency** bias. We give more weight to recent events than to past events. When things are going well, we tend to believe they will continue to go well. When things are going badly, we believe that they will continue to go badly or potentially get worse. We need to realize that overconfidence during up markets tends to increase our optimism about the upside and decreases our recognition of risk. The flip-side is also true: When markets have fallen, all we see is risk, and it is hard to take advantage of opportunities that exist.

The Pervasiveness of Overconfidence

A number of psychological experiments have confirmed that people are overconfident in a wide range of areas, including their driving abilities, business acumen, and academic abilities. Most people think they are above average in each of these areas—a mathematical impossibility.

There are two primary drivers of overconfidence:

- The first is success. As we experience success, we are inclined to attribute that success to our ability and not to luck (self-attribution bias). For example, because high stock returns boost investors' confidence in their abilities, investors trade more in bull markets than in bear markets.
- Another source of overconfidence is knowledge or the illusion of knowledge. The more facts we know, the more confidence we have. We believe it is critical to recognize that information should not be equated with knowledge. Today, anyone with an Internet connection has access to an almost unlimited amount of information. The self-service financial industry stokes investor confidence by providing access to more information and research than most investors will ever need. That leaves them with significant fundamental problems: What does an investor do with all of this information? How should it be used? More importantly, how does an investor not misuse it?

Overconfidence in the Information Age

Having more information may not always be productive.

Example: Overconfidence—the Hot Hand Fallacy

If you flip a coin, what are the odds that it turns out to be heads? If you had already flipped six heads in a row, what are the chances that the next toss is heads? Some would say the next coin toss is more likely to be heads, and others might say that it's less likely. Either way, the answer is wrong, because the odds are the same: 50/50.

While the additional information about previous coin flips may have been accurate, it is useless in helping us determine the future outcome of the coin toss. The additional information may even have actually distorted our ability to predict the outcome.

Our minds are pattern-seeking: We want to easily make sense of complicated information. So when our mind detects a pattern, it is quick to latch onto it—even if it leads us to the wrong conclusion.

We have a tendency to believe that when things are going well, they will continue to go well. When things are going badly, we believe that they will continue to go badly or potentially get worse.

Investors often chase after the investment manager with the best three-year track record, confident that they have found a pattern that will lead to success. All too often they are surprised and disappointed when that manager goes to the bottom of the list soon after they invest.

This does not mean that investors should not seek to be well informed. On the contrary, it is important for investors to be knowledgeable and inquisitive. But too much confidence can lead to:

- Unfounded beliefs in our own ability
- Excessive trading
- Underestimating downside risks
- Poor diversification

Any one of the biases we've described, occurring individually, can lead to investing errors. But, collectively they can add up to whole range of classic mistakes that may cause you to fall short of achieving your personal financial goals.

The table below provides a summary of the biases we've discussed and the potential implications they can have on your portfolio.

Biases	Implications
Loss Aversion	• Hold on to losing investments too long—excessive risk • Sell winning positions too quickly—missed opportunities • Prepay/overpay taxes—taking enough risk
Fear of Regret	• Not taking enough risk • Lack of conviction for getting back in the market after a loss • Hold on to losing investments too long
Mental Accounting	• Treat losses in different accounts differently • Ignore interaction between mental accounts • Leads to poor diversification
Overconfidence	• Excessive trading • Underestimate downside risks • Concentration risk from poor diversification

3. How can investors address the causes of sub-optimal decision-making?

While there is no silver bullet, you can take steps to become a better investor by avoiding mistakes arising from misbehavior.

Focus on What You Can Control

First and foremost, there is so much noise in the markets—especially now in our 24/7 news cycle—it is essential for investors to focus on the things they can control and that matter most. The most important thing investors are in total control of is their investment policy. An investment policy statement is your blueprint that:

- Defines your overall investment objectives
- Calibrates the overall risk of the portfolio by constraining the portfolio's asset mix and allowable investments
- Defines any constraints that relate to time horizon, liquidity requirements, tax considerations, or unique circumstances

While developing an investment policy statement is an essential first step, sticking to it is the long-term key to success. If investors make one classic mistake, it is to stray from their investment policy during difficult or extremely good times.

When markets become turbulent, emotional and behavioral biases frequently cause us to second guess our long-term plan.

Work with a Professional

Investing can be difficult enough as it is, let alone doing it on your own. A seasoned investment advisor can help ensure that decisions are fact-based and consistent with your goals and long-term plan. When selecting an investment advisor, it is important to:

- Find someone who understands your emotions but does not pander to them. A good advisor is attuned to a client's aspirations and fears, and adds value by reassuring you when you are overly anxious and by dampening your overconfidence when markets are ebullient.
- Give great consideration to selecting an advisor who adheres to the fiduciary standard. That means the advisor will unfailingly put your interests first and ensure that his/her interests are fully aligned with yours.

- **Ensure that the advisor has a well-established investment approach.** This includes solid research, a sound investment philosophy, a disciplined investment process, and prudent risk management.
- **Employ a diverse, team-based advisory approach.** Having a team-based approach minimizes the risk that any one individual person's biases are overly affecting investment recommendations.

For more information on how Key Private Bank can help you develop and execute an investment strategy that avoids behavioral biases, contact your Key Private Bank Advisor.

About the Author

Joe Calabrese is an Executive Vice President at Key Private Bank, where he serves as National Head of Investment, Fiduciary and Banking Services. He is responsible for overseeing the development and integrated delivery of a full range of investment management, trust and banking capabilities for Key's private and institutional clients.

Joe has 25 years of experience in the financial services industry. He joined Key in 2016, and lends his knowledge and expertise to affluent individuals, families, business owners, and institutions.

Before joining Key, he held a wide range of executive roles including President and CEO of Geller Family Office Services, a New York based RIA and multi-family office; and President of Harris myCFO, which focused on serving clients with a net worth in excess of $100 million.

Joe graduated from McGill University in Montreal, Canada with a joint honors degree in Economics and Finance and also holds a Chartered Accountant designation. Joe is past President of the Goodman Theatre Board of Trustees in Chicago and also served as Chairman of the board of overseers for Lewis College of Human Sciences of the Illinois Institute of Technology. Joe also actively serves on the advisory board of the Gaples Institute for Integrative Cardiology.

He currently resides in Bronxville, NY with his wife and three children.

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