

Investment Madness

**How Psychology Affects Your
Investing...and What to Do About It**

**FOR PUBLIC
RELEASE**

CHAPTER

1

Your Behavior Matters!

Milestones

- Why Haven't I Heard of This Before?
- Behavioral Finance
- The Investment Environment

If you are tempted to answer **Should I read this book now, or later?** “Later,” then you should consider reading Chapter 14, “Self-Control, or the Lack of It,” first. As humans, we are prone to specific psychological biases—procrastination is a good example—that can cause us to behave in ways that reduce our wealth. These biases also cause us to delay taking actions that would maximize our wealth. Consider the following choices many people have. How many times will they choose the delayed actions?

- Should I start contributing to my 401(k) plan now, or later?
- Should I invest the extra money that’s in my savings account now, or later?
- Should I change the bonds and CDs I inherited to stocks now, or later?

In each of these cases, it is better to get the money invested sooner. The longer your money is invested, the larger your portfolio will grow.

However, a bias toward procrastination causes employees to delay making 401(k) pension plan decisions—often losing time and employer contributions. People’s bias toward the status quo allows substantial money to build up in savings accounts before it is transferred to investment accounts; therefore they lose the higher returns an investment account offers. We also have a bias toward keeping the securities we inherit instead of investing them in vehicles that are more appropriate to our needs (the *endowment effect*).

Not only does our psychology cause us to delay some actions, it also can cause us to act too soon, too often, and too badly in some cases. In investing, sometimes we act too soon and sometimes we delay too long. Is this a paradox? Probably, but that is because we are human.

WHY HAVEN'T I HEARD OF THIS BEFORE?

Much of the education for investors originates with the work of financial economists in the nation's universities. However, these financial economists have traditionally dismissed the idea that people's own psychology can work against them when it comes to making good investment decisions. For the past three decades, the field of finance has evolved on two basic assumptions:

- People make rational decisions.
- People are unbiased in their predictions about the future.

However, psychologists have known for a long time that these are bad assumptions. People often act in a seemingly irrational manner and make predictable errors in their forecasts.

Financial economists are now realizing that investors can be irrational. Indeed, predictable errors by investors can affect the function of the markets. But, most important to you, your reasoning errors affect your investing, and ultimately your wealth!

It is my opinion that you could completely understand all the information in a modern investment text but could still fail as an investor if you let your psychological biases control your decisions. This book

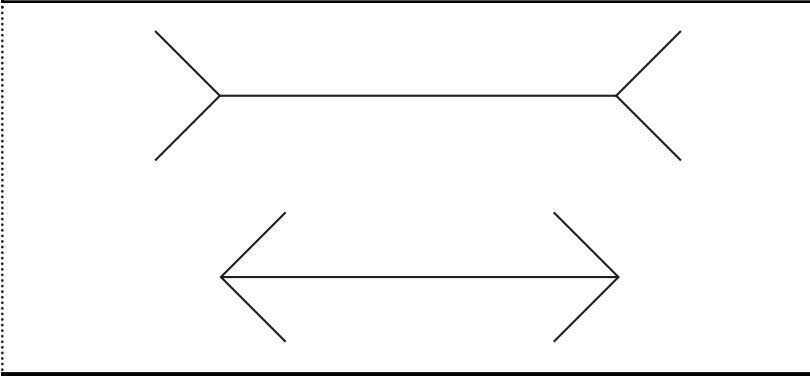
- Explains many psychological biases that affect decision making
- Shows how these biases can affect your investment decisions
- Helps you see how these decisions can reduce your wealth
- Teaches you how to recognize and avoid these biases in your own life

The rest of this chapter is dedicated to illustrating that these psychological problems are real. The arguments will be far more convincing if you participate in the demonstrations in the following two sections.

A Simple Illustration

One example of the reasoning mistakes caused by the brain is the visual illusion. Consider the optical illusion in Figure 1.1. Of the two horizontal lines, which looks longer?

In fact, both lines are the same length. Look again. Although you

OPTICAL ILLUSION**Figure
1.1**

know that the horizontal lines are equal in length, the top line still *looks* longer. Just knowing about the illusion does not eliminate it. However, if you had to make some decision based on these lines, knowing that it is an illusion would help you avoid a mistake.

Prediction

The brain does not work like a computer. Instead, it frequently processes information through shortcuts and emotional filters to shorten the analysis time. The decision arrived at through this process is often not the same decision you would make without these filters. I refer to these filters and shortcuts as psychological biases. Knowing about these psychological biases is the first step toward avoiding them. One common problem is overestimating the precision and importance of information. This demonstration illustrates this problem.

Let's face it, investing is difficult. You must make decisions based on information that may be inadequate or inaccurate. Additionally, you must be able to effectively understand and analyze the information. Unfortunately, people make predictable errors in their forecasts.

Consider the 10 questions in Figure 1.2.¹ Although you probably do not know the answers to these questions, enter a range in which you think the answer lies. Specifically, give your best low guess and your best high guess so that you are 90% sure the answer lies between the two. Don't make the range so wide that the answer is guaranteed to lie within, but also don't make the range too narrow. If you consistently make a range so that you are 90% sure the answer lies within, then you should expect to get 9 of the 10 questions correct.

DIFFICULTY OF PROCESSING AND EVALUATING INFORMATION— A DEMONSTRATION

**Figure
1.2**

Enter the range (minimum and maximum) within which you are 90% certain the answer lies.

	Min	Max
1. What is the average weight of the adult blue whale, in pounds?	_____	_____
2. In what year was the Mona Lisa painted by Leonardo da Vinci?	_____	_____
3. How many independent countries were there at the end of 2000?	_____	_____
4. What is the air distance, in miles, between Paris, France, and Sydney, Australia?	_____	_____
5. How many bones are in the human body?	_____	_____
6. How many total combatants were killed in World War I?	_____	_____
7. How many books were in the Library of Congress at the end of 2000?	_____	_____
8. How long, in miles, is the Amazon River?	_____	_____
9. How fast does the earth spin (miles per hour) at the equator?	_____	_____
10. How many transistors are in the Pentium III computer processor?	_____	_____

If you have no idea of the answer to a question, then your range should be large in order to be 90% confident. On the other hand, if you think you can give a good educated guess, then you can choose a smaller range and still be 90% confident. Go ahead now—give it your best shot.

Most people miss five or more questions. However, if you are 90% sure of your range, then you should have missed only one. The fact is that we are too certain about our answers, even when we have no information or knowledge about the topic. Even being educated in probability and statistics is no help. Most finance professors miss at least five of the questions too!

This demonstration illustrates that people have difficulty effectively processing and evaluating information.

Now let's check the answers. They are (1) 250,000 pounds; (2) 1513; (3) 191 countries; (4) 10,543 miles; (5) 206 bones; (6) 8.3 million; (7) 18 million; (8) 4,000 miles; (9) 1,044 miles per hour; and (10) 9.5 million. Count your response correct if the answer lies between your low and high guesses. How many did you get right?

Now that I have shown you the difficulty, let's try another one. Since this book relates psychology to investing, consider the following question:

In 1896 the Dow Jones Industrial Average (DJIA) was 40. At the end of 1998, the DJIA was 9,181. The DJIA is a price-weighted average. Dividends are omitted from the index. What would the DJIA average be at the end of 1998 if the dividends were reinvested each year?

Notice that Figure 1.2 has room for your DJIA minimum and maximum guesses. Again, pick a range in which you are 90% sure the answer lies. You should get this one correct. Ready for the answer?

If dividends were reinvested in the DJIA, the average would have been 652,230 at the end of 1998.² Does this surprise you? It surprises most people. Even after learning that most people set too narrow a range in their predictions, and even after experiencing the problem firsthand, most people continue to make the same mistake!

Long Term Capital Management Hedge Fund Even Nobel prize winners in economics are prone to overestimating the precision of their knowledge. Consider the plight of the hedge fund Long Term Capital Management (LTCM). The partners of the fund included John Meriwether, the famed bond trader from Salomon Brothers; David Mullins, a former vice chairman of the Federal Reserve Board; and Nobel prize winners Myron Scholes and Robert Merton. The firm employed 24 people with Ph.D.s.

The hedge fund began in 1994 and enjoyed stellar returns. In the beginning of 1998, LTCM had \$4 billion in equity. It had also borrowed \$100 billion to leverage its positions for higher returns. Its original strategy was to find arbitrage opportunities in the bond market. These are low-risk strategies that usually garner low returns. However, since they were so highly leveraged, the low returns were magnified into high returns. After several years of great success, LTCM found fewer arbitrage opportunities. At that point, the hedge fund began entering into riskier positions. The risk was compounded by the high leverage from borrowing.

In August of 1998, Russia devalued its currency and defaulted on some of its debt. This action started a chain of events over the next four weeks that led to devaluation in many emerging countries. Bond and stock markets around the world declined. The prices of U.S. Treasury securities skyrocketed as investors fled to the safest investments.

These events caused the equity in the LTCM portfolio to fall from \$4 billion to \$0.6 billion in one month. The Federal Reserve Bank feared that a margin call on LTCM would force it to liquidate its \$100 billion worth of positions. The selling of these positions during this precarious time might precipitate a crisis that could endanger the financial system. By late September, a consortium of leading investment and commercial banks injected \$3.5 billion into the fund in exchange for 90% of the equity.

How could a hedge fund with such brainpower lose 90% of its equity in one month? Apparently, in designing their models, the fund's masterminds did not think that so many things could go wrong at the same time. Doesn't this sound like their range of possible outcomes was too narrow?

BEHAVIORAL FINANCE

All people (even smart ones) are affected by psychological biases. However, traditional finance has considered this irrelevant. Traditional finance assumes that people are rational and tells us how people should behave in order to maximize their wealth. These ideas have brought us arbitrage theory, portfolio theory, asset pricing theory, and option pricing theory.

Alternatively, behavioral finance studies how people actually behave in a financial setting. Specifically, it is the study of how psychology affects financial decisions, corporations, and the financial markets. This book focuses on a subset of these issues—how psychological biases affect investors.

THE INVESTMENT ENVIRONMENT

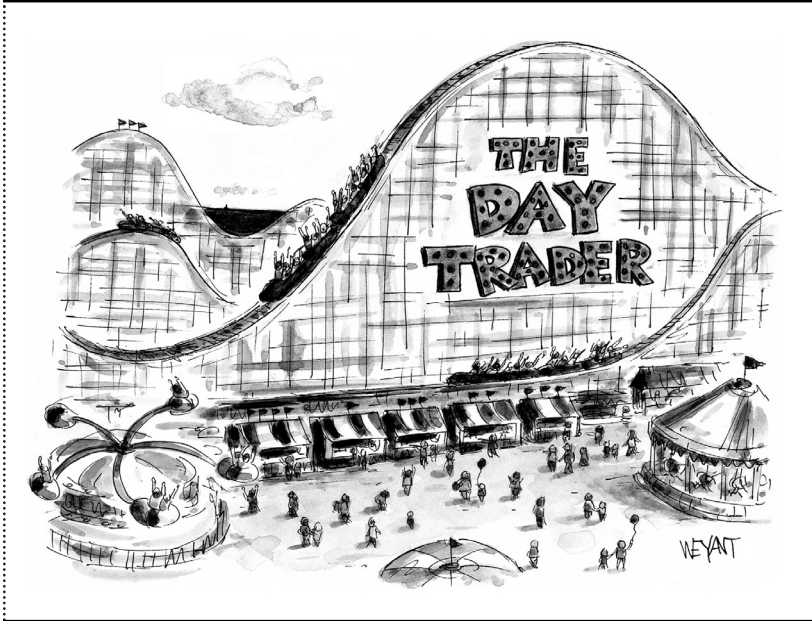
This information is very timely because the current investment environment magnifies our psychological biases. Several powerful forces have affected investors recently. First, a strong and extended economy has created the disposable income for millions of new investors to enter the investment world. Most of these new investors have little or no formal education in finance. Second, this economy has spurred

one of the longest and strongest bull markets in history. These new investors could have mistakenly attributed their high investment returns to their own capabilities instead of being a consequence of investing during a bull market. Finally, the rise of the Internet has led to increased investor participation in the investment process, allowing investors to trade, research, and chat online. These three factors have helped our psychological biases to flourish.

These ideas are well demonstrated by the cartoon in Figure 1.3 in which a roller coaster represents the modern investment environment. This roller coaster, like our stock market, has dramatic highs and lows. We go from a high to a low and back again these days at what seems like frightening speeds. Remember how you felt after your first roller coaster ride? The roller coaster causes strong emotions. Some people feel terrified while others are exuberant. Some people never ride another roller coaster, while others become addicted and wish to ride over and over again. Our new investment environment can also elicit emotions and enhance our natural psychological biases. These attributes usually lead to bad decisions. The rest of this book demonstrates these problems.

THE DAY TRADER.

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**Figure
1.3**

ENDNOTES

1. This exercise is similar to that of Hersh Shefrin, 2000, *Beyond Greed and Fear*, Boston, Massachusetts: Harvard Business School Press.
2. Roger Clarke and Meir Statman, 2000, "The DJIA Crossed 652,230," *Journal of Portfolio Management*, Winter: 89–93.