chapter one

INTRODUCTION
Mean Markets and Lizard Brains

Where Should We Invest Our Money?

"Where should I invest my money?" So asked Adam, a former Harvard Business School student of mine. Soon after getting his MBA, Adam was working as an investment banker. His detailed knowledge of debt-laden companies had made him a bit gloomy about the economic situation. After hearing Adam's views, I asked where he had invested his money. Given his dour outlook, I expressed surprise when Adam said he had 60% of his wealth invested in stocks. In response to my shocked look, he asked for my advice.

Clearly, Adam thought he was being conservative with only 60% of his wealth in stocks. Hasn't it been proven—over hundreds of years—that stocks provide the greatest long-term return? Shouldn't a patient investor, particularly a young one, put almost everything in stocks?

Maybe. Maybe not. Conventional approaches to answering Adam's question are based on the old-school assumption that people are cool-headed decision makers and that financial markets are rational. Recently, a new school has arisen that embraces hot-blooded human emotions as a core feature of our world. The reality is that financial markets have always oscillated between manias and panics, but people have not been terrifically adept at identifying them in advance. The new "science of irrationality" provides a novel way to model the future and offers investors powerful tools for growing and protecting their wealth.

Moving beyond simply describing financial irrationality, we find an underlying logic for costly behavior in what I label the "lizard brain"—an ancient, often unconscious thought process that exerts a powerful influence on us. This lizard brain has helped us reproduce, find food, and flourish, but it tends not to work so well when dealing with financial markets. The result? Mean markets that wreak havoc with our finances.

We will use the new science of irrationality and an understanding of the lizard brain to evaluate bonds, stocks, and real estate. We will find that the current situation is almost a perfect storm designed to frustrate our financial plans, and this will lead to surprising answers to Adam's question. In addition to learning *where* to invest, we will produce novel suggestions on *how* to invest. Beyond simply making more money, a goal of *Mean Markets and Lizard Brains* is to increase confidence and reduce financial stress.

The Conventional Wisdom: Bonds Are for Wimps

Adam works for a famous Wall Street investment bank. If he were to look to Wall Street for guidance on where to invest, he would find some simple advice. Buy stocks. Figure 1.1 shows the consensus of the leading Wall Street investment firms.

Wall Street says to invest the bulk of our money into stocks. In addition, economists trumpet the high return on stocks. ("Bonds are for wimps" is a quotation of Harvard Professor Greg Mankiw, head of President Bush's Council of Economic Advisors.[1]) Those of us who live on Main Street have heard the "buy stocks" message loudly and clearly. While only 5.7%

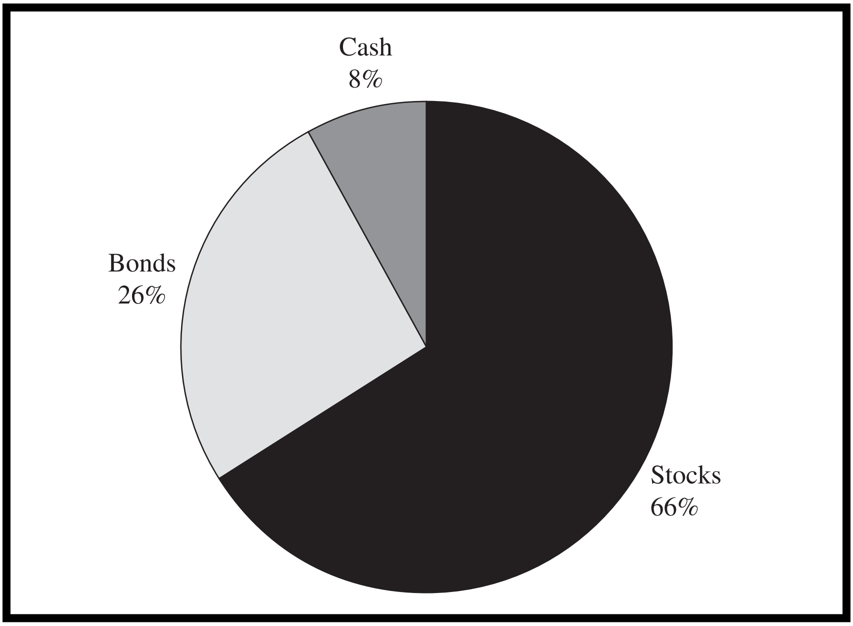

FIGURE 1.1 Bonds Are for Wimps (Wall Street's Investment Advice)
***Source: Dow Jones Newswires, Wall Street financial strategists*[2]**

of households owned mutual funds near the stock market bottom in 1980, the figure now sits near an all-time high of 50%.[3] Furthermore, the most recent Federal Reserve Survey of Consumer Finances reports that stocks represent 56% of all Americans' financial assets—a record high.[4]

So Adam's decision to invest most of his money into stocks reflects both the conventional wisdom and common practice. But should we continue to buy stocks and confidently expect high rates of return?

Wax On: The Science of Irrationality

In *The Karate Kid,* Daniel (played by Ralph Macchio) moves to California and earns the hatred of a pack of teenage bullies. In self-defense, he seeks to learn karate from Mr. Miyagi, the apartment custodian. Daniel is puzzled, however, when his training consists of performing household chores. For example, he spends many hours polishing Mr. Miyagi's cars using a particular "wax on, wax off" technique. In a frustrated confrontation with Mr. Miyagi, Daniel is surprised to find that the cleaning techniques are actually karate moves.

Similarly, we answer Adam's question by first addressing core principles and later applying them to bonds, stocks, and real estate. The conventional wisdom is based on a view that people are nearly perfect decision makers. Sane investors, the rational view suggests, would buy risky stocks only at prices low enough to promise a high return. Thus, the standard advice to buy stocks is based on the assumption that market prices are rational. If markets are crazy, however, then the "buy stocks for the long run" message might be wrong. To know where to invest, therefore, the first step is to investigate rationality.

Are people really cool-headed robots who calmly evaluate financial opportunities according to the maximizing rules of calculus? There is one place in the world where people do act this way; that place is economic theory. The standard assumption in economics is that people make such good decisions that our choices are labeled as "optimal." Conventional investment advice is based on this underlying belief that people and financial markets are rational.

In the real world, however, people are far from rational. Perhaps my own most poignant lesson came in a battle with a wedding photographer. After taking the pictures of our wedding, Juli the photographer would not give us our pictures. I appealed to Juli's morality and to her self-interest with a variety of sophisticated tactics to get our photos. I even offered to pay additional money. To all these rational tactics, she never responded. After Juli spent some time in jail, however, she relented and gave us our negatives. Was her behavior rational? No. She gained nothing from her obstinacy and suffered severe penalties. Is such irrational behavior common? Yes.

People are crazy. While we all know this, the investigation of the economic implications of irrationality began in earnest only in the late 1970s. Professor Daniel Kahneman, along with the deceased Professor

Amos Tversky, began the rigorous documentation of human decision-making errors. In 2002, Professor Kahneman shared the Nobel Prize in Economics for this new scientific approach to irrationality with my graduate school advisor, Professor Vernon Smith.

Investment advice has not kept up with cutting-edge intellectual developments. While the science of irrationality has grown up, the conventional wisdom still provides investment advice based on outdated theories of sane people and rational markets.

Wax Off: Meet the Lizard Brain

Behavioral economists have proven that our financial decisions are often irrational. The obvious question is, why have we been built to be so bad at such important tasks? To find the underlying rationale for irrational behavior (which turns out not to be so crazy in some respects), we have to look beyond standard behavioral approaches to some groundbreaking work in other fields.

An important source of our troubles lies in the discord between our modern world and that of our ancestors. We are built to solve ancestral problems, and sometimes this gets us into trouble. Some of the most compelling examples of these insights come from medicine.

Consider that babies who breast-feed exclusively need to take vitamin D supplements or risk serious health consequences.[5] Nothing would seem to be more natural than to feed mother's milk to a baby. Why are we built to cause sickness in our children? The answer is that we (both as adults and as babies) manufacture vitamin D when we are hit by sunlight. People who spend a lot of time outdoors, particularly in places with strong sunlight, make plenty of vitamin D. The babies of our ancestors got enough outdoor sunlight to be healthy. Many babies (and their moms) today, however, stay indoors or out of direct sunlight to avoid skin cancer, so our natural-born system doesn't work. Thus, our babies get sick because we live differently from our ancestors.

A similar logic is found in the prevention of heart disease. Men, in particular, are told to take an aspirin a day to thin blood, reducing the risk of heart attacks.[6] Why don't we produce blood that has the correct viscosity? The answer is that "thick" blood heals wounds rapidly. Our ancestors had frequent wounds, and most died too young to worry about heart disease. Thus, our blood is too thick for us because it is built to protect us from the ravages of an ancient world where people were often wounded and died young.

So what does all this have to do with our financial decisions? Our brains, like our bodies, reflect the world of our ancestors. In particular, our lizard brains are pattern-seeking, backward-looking systems that allowed us to forage successfully for food and repeat successful behaviors. This system helped our ancestors survive and reproduce, but financial markets punish such backward-looking decisions. Consequently, our lizard brains tend to make us buy at market tops and sell at market bottoms.

In *Pitch Black,* a sci-fi film featuring Vin Diesel, a group of intergalactic travelers crash on an ominous planet. They soon learn that the interior of the planet is filled with vicious creatures. The good news is that the creatures cannot arise in daylight, and because the planet has multiple suns, eclipses are many years apart. The bad news is that the next eclipse, with its consequent destruction, is coming in just a few hours.

Similarly, there is good news and bad news for the role of the lizard brain in our financial decisions. The good news is that the lizard brain's influence on our financial decisions is disastrous only in some particular and rare circumstances. The bad news is that we are living in one of those dangerous environments today. For the last several decades, we have enjoyed the benefits of several powerful, but unsustainable, financial trends. Our backward-looking lizard brain is most likely to impoverish us in precisely these sorts of environments. In a sense, we now face the meanest of financial markets, almost cruelly set up to frustrate and to cost us money.

Just as we can live longer by understanding the basis of our medical problems, we can make more money by understanding and taming the lizard brain.

How to Profit from the New Science of Irrationality

In *The Karate Kid,* our hero soon stops waxing cars and begins competing. Similarly, the focus of this book starts with irrationality, but then quickly applies the lessons to the most important issues facing investors—the health of the economy, budget deficits, productivity, savings, inflation, the trade deficit, bonds, mortgages, stocks, and real estate.

The first section summarizes the key findings of the science of irrationality. We review the evidence that even the smartest of people make systematic mistakes. These individual quirks create manias and panics, and markets that are far from rational.

The second section is a primer on the economy, inflation, and the value of the U.S. dollar. Will U.S. budget deficits hurt the economy? Can the productivity revolution allow us to be richer and lead better lives? How will the decline in the U.S. dollar affect investors? When will the dollar decline end? Is the Federal Reserve creating inflation? Why would anyone be worried by prices being too low?

In the third section, we apply our analysis to the most important investment decisions we face. Are interest rates going to rise substantially? Has the bull market in stocks returned, or is the early twenty-first century stock market rally a trap? Is there a housing bubble?

Our analysis culminates in the final section that provides specific investment advice. An understanding of the lizard brain provides a timeless blueprint for effective and low-stress investing. Furthermore, we reach a timely and unexpected answer to Adam's question on where to invest.

The lizard brain will be a leading character throughout our journey. Are there really $100 bills on the financial sidewalk? The answer is yes, but they are found in financial blind spots created by the lizard brain. The new science of irrationality shows us how to see into those blind spots so we can grab those $100 bills and improve our investment returns with less stress.