

The History of Behavioral Finance Micro

If you go into what I call a “bubble boom,” every bubble bursts.
—Margaret Thatcher, British Prime Minister

This chapter traces the development of behavioral finance micro (BFMI). There are far too many authors, papers, and disciplines that touch on various aspects of behavioral finance (behavioral science, investor psychology, cognitive psychology, behavioral economics, experimental economics, and cognitive science) to examine every formative influence in one chapter. Instead, the emphasis will be on major milestones of the past 250 years. The focus is, in particular, on recent developments that have shaped applications of behavioral finance in private-client situations.

HISTORICAL PERSPECTIVE ON THE LINK BETWEEN PSYCHOLOGY AND ECONOMICS

Historical Roots

Investor irrationality has existed as long as the markets themselves have. Perhaps the best-known historical example of irrational investor behavior dates back to the *early modern* or *mercantilist* period during the sixteenth century. A man named Conrad Guestner transported tulip bulbs from Constantinople, introducing them to Holland. Beautiful and difficult to obtain, tulips were a consumer sensation and an instant status symbol for the Dutch elite. Although most early buyers sought the flowers simply because they adored them, speculators soon joined the fray to make a profit. Trading

activity escalated and, eventually, tulip bulbs were placed onto the local market exchanges.

The obsession with owning tulips trickled down to the Dutch middle class. People were selling everything they owned—including homes, livestock, and other essentials—so they could acquire tulips, based on the expectation that the bulbs' value would continue to grow. At the peak of the tulip frenzy, a single bulb would have sold for about the equivalent of several tons of grain, a major item of furniture, a team of oxen, or a breeding stock of pigs. Basically, consumers valued tulips about as highly as they valued pricey, indispensable, durable goods. By 1636, tulip bulbs had been established on the Amsterdam stock exchange, as well as exchanges in Rotterdam, Harlem, and other locations in Europe. They became such a prominent commodity that tulip notaries were hired to record transactions, and public laws and regulations developed to oversee the tulip trade. Can you imagine? Later that year, however, the first speculators began to liquidate their tulip holdings. Tulip prices weakened slowly at first and then plunged; within a month, the bulbs lost 90 percent of their value. Many investors, forced to default on their tulip contracts, incurred huge losses. Do we notice any parallels to the economic events of 1929 or 2000, or similar bubbles?

It wasn't until the mid-eighteenth-century onset of the classical period in economics, however, that people began to study the human side of economic decision making, which subsequently laid the groundwork for BFMI. At this time, the concept of utility was introduced to measure the satisfaction associated with consuming a good or a service. Scholars linked economic utility with human psychology and even morality, giving it a much broader meaning than it would take on later, during neoclassicism, when it survived chiefly as a principle underlying laws of supply and demand.

Many people think that the legendary *Wealth of Nations* (1776) was what made Adam Smith (Figure 2.1) famous; in fact, Smith's crowning composition focused far more on individual psychology than on production of wealth in markets. Published in 1759, *The Theory of Moral Sentiments* described the mental and emotional underpinnings of human interaction, including economic interaction. In Smith's time, some believed that people's behavior could be modeled in completely rational, almost mathematical terms. Others, like Smith, felt that each human was born possessing an intrinsic moral compass, a source of influence superseding externalities like logic or law. Smith argued that this "invisible hand" guided both social and economic conduct. The prospect of "perfectly rational" economic decision making never entered into Smith's analysis. Instead, even when addressing financial matters, *The Theory of Moral Sentiments* focused on elements like pride, shame, insecurity, and egotism:



FIGURE 2.1 Adam Smith

It is the vanity, not the ease, or the pleasure, which interests us. But vanity is always founded upon the belief of our being the object of attention and approbation. The rich man glories in his riches, because he feels that they naturally draw upon him the attention of the world, and that mankind are disposed to go along with him in all those agreeable emotions with which the advantages of his situation so readily inspire him. At the thought of this, his heart seems to swell and dilate itself within him, and he is fonder of his wealth, upon this account, than for all the other advantages it procures him. The poor man, on the contrary, is ashamed of his poverty. He feels that it either places him out of the sight of mankind, or, that if they take any notice of him, they have, however, scarce any fellow-feeling with the misery and distress which he suffers. He is mortified upon both accounts. For though to be overlooked, and to be disapproved of, are things entirely different, yet as obscurity covers us from the daylight of honour and approbation, to feel that we are taken no notice of, necessarily damps the most agreeable hope, and disappoints the most ardent desire, of human nature.¹

The topic of this passage is money; yet humanity and emotion play huge roles, reflecting the classical-era view on economic reasoning by individuals. Another famous thinker of the time, Jeremy Bentham, wrote extensively on the psychological aspects of economic utility. Bentham asserted that “the principle of utility is that principle which approves or disapproves of every action whatsoever, according to the tendency which it appears to have to augment or diminish the happiness of the party whose interest is in question: or, what is the same thing in other words, to promote or to

oppose that happiness.”² For Bentham, “every action whatsoever” seeks to maximize utility. Happiness, a subjective experience, is the ultimate human concern—rendering impossible any moral or economic calculation entirely devoid of emotion.

Smith, Bentham, and others recognized the role of psychological idiosyncrasies in economic behavior, but their consensus lost ground over the course of the next century. By the 1870s, three famous economists began to introduce the revolutionary neoclassical framework. William Stanley Jevons’s *Theory of Political Economy* (1871), Carl Menger’s *Principles of Economics* (1871), and Leon Walras’s *Elements of Pure Economics* (1874 to 1877) defined economics as the study of the allocation of scarce resources among competing forces. Neoclassical theory sought equilibrium solutions whereby individuals maximized marginal utility, subject to situational constraints. Regularities in economies derived from the uniform, simultaneous behavior of individuals optimizing their marginal gains; and large-scale economic phenomena could be explained by simply aggregating the behavior of these individuals. Neoclassical economists distanced themselves from psychology, reframing their discipline as a quantitative science that deduced explanations of economic behavior from assumptions regarding the nature of economic agents.

Pursuing a simple model suited to the neoclassical focus on profit maximization, economists of this period conceived *Homo economicus*, or rational economic man, to serve as a mathematical representation of an individual economic actor. Based on the assumption that individuals make perfectly rational economic decisions, *Homo economicus* ignores important aspects of human reasoning.

Rational Economic Man

Rational economic man (REM) describes a simple model of human behavior. REM strives to maximize his economic well-being, selecting strategies that are contingent on predetermined, utility-optimizing goals, on the information that REM possesses, and on any other postulated constraints. The amount of utility that REM associates with any given outcome is represented by the output of his algebraic utility function. Basically, REM is an individual who tries to achieve discretely specified goals to the most comprehensive, consistent extent possible while minimizing economic costs. REM’s choices are dictated by his utility function. Often, predicting how REM will negotiate complex trade-offs, such as the pursuit of wages versus leisure, simply entails computing a derivative. REM ignores social values, unless adhering to them gives him pleasure (i.e., registers as a term expressed in his utility function).

The validity of Homo economicus has been the subject of much debate since the model's introduction. As was shown in the previous chapter, those who challenge Homo economicus do so by attacking the basic assumptions of perfect information, perfect rationality, and perfect self-interest. Economists Thorstein Veblen, John Maynard Keynes, and many others criticize Homo economicus, contending that no human can be fully informed of "all circumstances and maximize his expected utility by determining his complete, reflexive, transitive, and continuous preferences over alternative bundles of consumption goods at all times."³ They posit, instead, "bounded rationality," which relaxes the assumptions of standard expected utility theory in order to more realistically represent human economic decision making. Bounded rationality assumes that individuals' choices are rational but subject to limitations of knowledge and cognitive capacity. Bounded rationality is concerned with ways in which final decisions are shaped by the decision-making process itself.

Some psychological researchers argue that Homo economicus disregards inner conflicts that real people face. For instance, Homo economicus does not account for the fact that people have difficulty prioritizing short-term versus long-term goals (e.g., spending versus saving) or reconciling inconsistencies between individual goals and societal values. Such conflicts, these researchers argue, can lead to "irrational" behavior.

MODERN BEHAVIORAL FINANCE

By the early twentieth century, neoclassical economics had largely displaced psychology as an influence in economic discourse. In the 1930s and 1950s, however, a number of important events laid the groundwork for the renaissance of behavioral economics. First, the growing field of *experimental economics* examined theories of individual choice, questioning the theoretical underpinnings of Homo economicus. Some very useful early experiments generated insights that would later inspire key elements of contemporary behavioral finance.

Twentieth-Century Experimental Economics: Modeling Individual Choice

In order to understand why economists began experimenting with actual people to assess the validity of rational economic theories, it is necessary to understand *indifference curves*. The aim of indifference curve analysis is to demonstrate, mathematically, the basis on which a rational consumer substitutes certain quantities of one good for another. One classic example

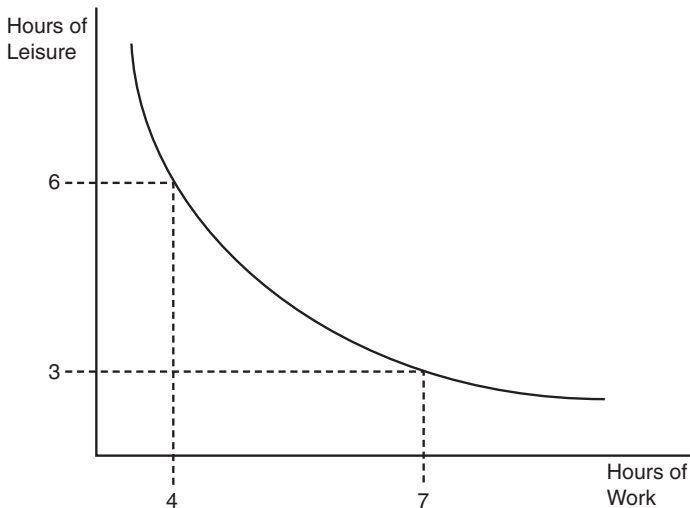


FIGURE 2.2 Indifference Curves Model Consumer Trade-Offs

models the effects of a wage adjustment on a worker's allocation of hours to work versus leisure. Indifference curve analysis also incorporates budget lines (constraints), which signify restrictions on consumption that stem from resource scarcity. In the work-versus-leisure model, for example, workers may not allocate any sum exceeding 24 hours per day.

An indifference curve is a line that depicts all of the possible combinations of two goods between which a person is indifferent; that is, consuming any bundle on the indifference curve yields the same level of utility.

Figure 2.2 maps an exemplary indifference curve. This consumer could consume four hours of work and six hours of leisure—or seven hours of work and three hours of leisure—and achieve equal satisfaction.

With this concept in mind, consider an experiment performed by Louis Leon Thurstone in 1931 on individuals' actual indifference curves.⁴ Thurstone reported an experiment in which each subject was asked to make a large number of hypothetical choices between commodity bundles consisting of hats and coats, hats and shoes, or shoes and coats. For example, would an individual prefer a bundle consisting of eight hats and eight pairs of shoes or one consisting of six hats and nine pairs of shoes? Thurstone found that it was possible to estimate a curve that fit fairly closely to the data collected for choices involving shoes and coats and other subsets of the experiment. Thurstone concluded that choice data could be adequately represented by indifference curves, and that it was practical to estimate them this way.

Although some researchers felt that Thurston's experiment was too hypothetical, it was still considered important. In the 1940s, two researchers named Stephen W. Rousseas and Albert G. Hart performed some experiments on indifference curves designed to follow up on Thurstone's experiment and to respond to some of the experiment's critics. They constructed what they viewed as a more concrete and realistic choice situation by having subjects select among possible breakfast menus, with each potential breakfast consisting of a specified number of eggs and a specified quantity of bacon strips. They required that "each individual was obliged to eat all of what he chose; i.e., he could not save any part of the offerings for a future time."⁵

In this experiment, individual subjects made only a single choice (repeated subsequently a month later); and, in addition to selecting among available combinations, each was asked to state an ideal combination of bacon and eggs. While this experiment did not ask its subjects to make too many choices of the same type (i.e., different combinations of two goods), thereby averting a common criticism of Thurstone, it left Rousseas and Hart with the problem of trying to aggregate individual choice data collected from multiple individuals. They attempted to ascertain whether choices made by separate individuals stating similar "ideal" breakfast combinations could be pieced together to form consistent indifference curves. This last step presented complications, but overall the project was considered a success and led to further experiments in the same vein.

Also inspired by Thurstone, Frederick Mosteller and Phillip Noguee sought in 1951 to test expected utility theory by experimentally constructing utility curves.⁶ Mosteller and Noguee tested subjects' willingness to accept lotteries with given stakes at varying payoff probabilities. They concluded, in general, that it was possible to construct subjects' utility functions experimentally and that the predictions derived from these utility functions were "not so good as might be hoped, but their general direction [was] correct." This is a conclusion that many experimental economists would still affirm, with differing degrees of emphasis.

As these types of experiments continued, various violations of expected utility were beginning to be observed. Perhaps the most famous of violations of expected utility was exposed by another Nobel Prize winner in Economic Sciences in 1988.

Maurice Allais (Figure 2.3), Memorial Prize in Economic Sciences winner (1988), made distinguished, pioneering, and highly original contributions in many areas of economic research. Outside of a rather small circle of economists, he is perhaps best known for his studies of risk theory and the so-called Allais paradox. He showed that the theory of maximization of expected utility, which had been accepted for many decades, did not apply



FIGURE 2.3 Maurice Allais,
Prize winner in Economic
Sciences (1988).
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to certain empirically realistic decisions under risk and uncertainty. In the Allais paradox, Allais asked subjects to make two hypothetical choices. The first choice was between alternatives “A” and “B,” defined as:

A — Certainty of receiving 100 million (francs).

B — Probability 0.1 of receiving 500 million.

Probability 0.89 of receiving 100 million.

Probability 0.01 of receiving zero.

The second choice was between alternatives “C” and “D,” defined as:

C — Probability 0.11 of earning 100 million.

Probability 0.89 of earning zero.

D — Probability 0.1 of earning 500 million.

Probability 0.9 of earning zero.⁷

It is not difficult to show that an expected utility maximizer who prefers A to B must also prefer C to D. However, Allais reported that A was commonly preferred over B, with D preferred over C. Note that although Allais’s choices were hypothetical, the phenomenon he reported has subsequently been reproduced in experiments offering real—albeit much smaller—quantities of money.

As the 1950s concluded and the 1960s progressed, the field of experimental economics expanded, with numerous researchers publishing volumes of data. Their important experiments brought to light new aspects of human economic decision making and drew intellectual attention to the field. Concurrently, two more intellectual disciplines were emerging that would contribute to the genesis of behavioral finance: cognitive psychology and decision theory. Researchers in these subjects would build on concepts learned in experimental economics to further refine the concepts of modern behavioral finance.

Cognitive Psychology

Many scholars of contemporary behavioral finance feel that the field's most direct roots are in cognitive psychology. *Cognitive psychology* is the scientific study of cognition, or the mental processes that are believed to drive human behavior. Research in cognitive psychology investigates a variety of topics, including memory, attention, perception, knowledge representation, reasoning, creativity, and problem solving.

Cognitive psychology is a relatively recent development in the history of psychological research, emerging only in the late 1950s and early 1960s. The term *cognitive psychology* was coined by Ulrich Neisser in 1967, when he published a book with that title. The cognitive approach was actually brought to prominence, however, by Donald Broadbent, who published *Perception and Communication* in 1958.⁸ Broadbent promulgated the information processing archetype of cognition that, to this day, serves as the dominant cognitive psychological model. Broadbent's approach treats mental processes like software running on a computer (the brain). Cognitive psychology commonly describes human thought in terms of input, representation, computation or processing, and output.

As will be discussed later in this chapter, psychologists Amos Tversky and Daniel Kahneman would eventually create a theory—prospect theory—that is viewed as the intellectual foundation of BFMI. Tversky and Kahneman examined mental processes as they directly relate to decision making under conditions of uncertainty. We will look at this topic now, and then review the groundbreaking work behind prospect theory.

Decision Making under Uncertainty

Each day, people have little difficulty making hundreds of decisions. This is because the best course of action is often obvious and because many decisions do not determine outcomes significant enough to merit a great deal of attention. On occasion, however, many potential decision paths emanate,

and the correct course is unclear. Sometimes, our decisions have significant consequences. These situations demand substantial time and effort to try to devise a systematic approach to analyzing various courses of action.

Even in a perfect world, when a decision maker must choose one among a number of possible actions, the ultimate consequences of most, if not every, available action will depend on uncertainties to be resolved in the future. When deciding under uncertainty, there are generally accepted guidelines that a decision maker should follow:

1. Take an inventory of all viable options available for obtaining information, for experimentation, and for action.
2. List the events that may occur.
3. Arrange pertinent information and choices/assumptions.
4. Rank the consequences resulting from the various courses of action.
5. Determine the probability of an uncertain event occurring.

Unfortunately, facing uncertainty, most people cannot and do not systematically describe problems, record all the necessary data, or synthesize information to create rules for making decisions. Instead, most people venture down somewhat more subjective, less ideal paths of reasoning in an attempt to determine the course of action consistent with their basic judgments and preferences. How, then, can decision making be faithfully modeled?

Raiffa In 1968, in *Decision Analysis: Introductory Lectures on Choices under Uncertainty*,⁹ decision theorist Howard Raiffa introduced to the analysis of decisions three approaches that provide a more accurate view of a “real” person’s thought process:

1. *Normative* analysis is concerned with the rational solution to the problem at hand. It defines an ideal that actual decisions should strive to approximate.
2. *Descriptive* analysis is concerned with the manner in which real people actually make decisions.
3. *Prescriptive* analysis is concerned with practical advice and tools that might help people achieve results more closely approximating those of normative analysis.

Raiffa’s contribution laid the foundation for a significant work in the field of BFMI, an article by Daniel Kahneman and Mark Riepe entitled “Aspects of Investor Psychology: Beliefs, Preferences, and Biases Investment Advisors Should Know About.” This work was the first to tie together decision theory and financial advising. According to Kahneman and Riepe,

“to advise effectively, advisors must be guided by an accurate picture of the cognitive and emotional weaknesses of investors that relate to making investment decisions: their occasionally faulty assessment of their own interests and true wishes, the relevant facts that they tend to ignore, and the limits of their ability to accept advice and to live with the decisions they make.”¹⁰

Kahnemann and Tversky At approximately the same time that Howard Raiffa published his work on decision theory, two relatively unknown cognitive psychologists, Amos Tversky and Daniel Kahneman, began research on decision making under uncertainty. This work ultimately produced a very important book published in 1982 entitled *Judgment under Uncertainty: Heuristics and Biases*.¹¹

In an interview conducted by a publication called Current Contents of ISI in April 1983, Tversky and Kahneman discussed their findings with respect to mainstream investors’ thinking:

*The research was sparked by the realization that intuitive predictions and judgments under uncertainty do not follow the laws of probability or the principles of statistics. These hypotheses were formulated very early in conversations between us, but it took many years of research and thousands of subject hours to study the role of representativeness, availability, and anchoring, and to explore the biases to which they are prone. The approach to the study of judgment that is reflected in the paper is characterized by (1) a comparison of intuitive judgment to normative principles of probability and statistics, (2) a search for heuristics of judgment and the biases to which they are prone, and (3) an attempt to explore the theoretical and practical implications of the discrepancy between the psychology of judgment and the theory of rational belief.*¹²

Essentially, Tversky and Kahneman brought to light the incidence, causes, and effects of human error in economic reasoning. Building on the success of their 1974 paper, the two researchers published in 1979 what is now considered the seminal work in behavioral finance: “Prospect Theory: An Analysis of Decision under Risk.” The following is the abstract of the paper.

This paper presents a critique of expected utility theory as a descriptive model of decision making under risk, and develops an alternative model, called prospect theory. Choices among risky prospects exhibit several pervasive effects that are inconsistent with the basic

tenets of utility theory. In particular, people underweight outcomes that are merely probable in comparison with outcomes that are obtained with certainty. This tendency, called the certainty effect, contributes to risk aversion in choices involving sure gains and to risk seeking in choices involving sure losses. In addition, people generally discard components that are shared by all prospects under consideration. This tendency, called the isolation effect, leads to inconsistent preferences when the same choice is presented in different forms. An alternative theory of choice is developed, in which value is assigned to gains and losses rather than to final assets and in which probabilities are replaced by decision weights. The value function is normally concave for gains, commonly convex for losses, and is generally steeper for losses than for gains. Decision weights are generally lower than the corresponding probabilities, except in the range of low probabilities. Overweighting of low probabilities may contribute to the attractiveness of both insurance and gambling.¹³

Prospect theory, in essence, describes how individuals evaluate gains and losses. The theory names two specific thought processes: editing and evaluation. During the editing state, alternatives are ranked according to a basic “rule of thumb” (heuristic), which contrasts with the elaborate algorithm in the previous section. Then, during the evaluation phase, some reference point that provides a relative basis for appraising gains and losses is designated. A value function, passing through this reference point and assigning a “value” to each positive or negative outcome, is S shaped and asymmetrical in order to reflect loss aversion (i.e., the tendency to feel the impact of losses more than gains). This can also be thought of as risk seeking in domain losses (the reflection effect). Figure 2.4 depicts a value function, as typically diagrammed in prospect theory.

It is important to note that prospect theory also observes how people mentally “frame” predicted outcomes, often in very subjective terms; this accordingly affects expected utility. An exemplary instance of framing is given by the experimental data cited in the 1979 article by Kahneman and Tversky, where they reported that they presented groups of subjects with a number of problems.¹⁴ One group was presented with this problem:

1. In addition to whatever you own, you have been given \$1,000. You are now asked to choose between:
 - A. A sure gain of \$500.
 - B. A 50 percent chance to gain \$1,000 and a 50 percent chance to gain nothing.

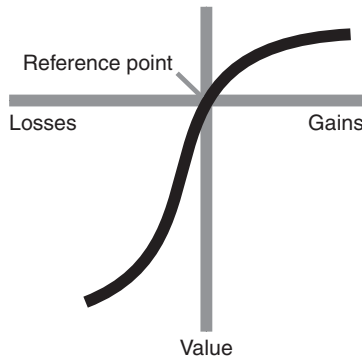


FIGURE 2.4 The Value Function—
a Key Tenet of Prospect Theory
Source: The Econometric Society.

Another group of subjects was presented with a different problem:

1. In addition to whatever you own, you have been given \$2,000. You are now asked to choose between:
 - A. A sure loss of \$500.
 - B. A 50 percent chance to lose \$1,000 and a 50 percent chance to lose nothing.

In the first group, 84 percent of participants chose A. In the second group, the majority, 69 percent, opted for B. The net expected value of the two prospective prizes was, in each instance, identical. However, the phrasing of the question caused the problems to be interpreted differently.

Kahnemann and Riepe One of the next significant steps in the evolution of BFMI also involves Daniel Kahneman. Along with Mark Riepe, Kahneman wrote a paper entitled “Aspects of Investor Psychology: Beliefs, Preferences, and Biases Investment Advisors Should Know About.”¹⁵ This work leveraged the decision theory work of Howard Raiffa, categorizing behavioral biases on three grounds: (1) *biases of judgment*, (2) *errors of preference*, and (3) *biases associated with living with the consequences of decisions*. Kahneman and Riepe also provide examples of each type of bias in practice.

Biases of judgment include overconfidence, optimism, hindsight, and overreaction to chance events. Errors of preference include nonlinear weighting of probabilities; the tendency of people to value changes, not states; the

value of gains and losses as a function; the shape and attractiveness of gambles; the use of purchase price as a reference point; narrow framing; tendencies related to repeated gambles and risk policies; and the adoption of short versus long views. Living with the consequences of decisions gives rise to regrets of omission and commission, and also has implications regarding the relationship between regret and risk taking.¹⁶

One of the reasons that this paper is so important from the practical application perspective is that it was the first scholarly work to really challenge financial advisors to examine their practice from a behavioral standpoint. Moreover, the authors encapsulate their challenge in the form of a detailed “Checklist for Financial Advisors.”

PSYCHOGRAPHIC MODELS USED IN BEHAVIORAL FINANCE

Psychographic models are designed to classify individuals according to certain characteristics, tendencies, or behaviors. Psychographic classifications are particularly relevant with regard to individual strategy and risk tolerance. An investor's background and past experiences can play a significant role in decisions made during the asset allocation process. If investors fitting specific psychographic profiles are more likely to exhibit specific investor biases, then practitioners can attempt to recognize the relevant telltale behavioral tendencies before investment decisions are made. Hopefully, resulting considerations would yield better investment outcomes.

Two studies—Barnewall (1987) and Bailard, Biehl, and Kaiser (1986)—apply useful models of investor psychographics.

Barnewall Two-Way Model

One of the oldest and most prevalent psychographic investor models, based on the work of Marilyn MacGruder Barnewall, was intended to help investment advisors interface with clients. Barnewall distinguished between two relatively simple investor types: passive investors and active investors. Barnewall noted:

“Passive investors” are defined as those investors who have become wealthy passively—for example, by inheritance or by risking the capital of others rather than risking their own capital. Passive investors have a greater need for security than they have tolerance for risk. Occupational groups that tend to have passive investors

include corporate executives, lawyers with large regional firms, certified public accountants with large CPA firms, medical and dental non-surgeons, individuals with inherited wealth, small business owners who inherited the business, politicians, bankers, and journalists. The smaller the economic resources an investor has, the more likely the person is to be a passive investor. The lack of resources gives individuals a higher security need and a lower tolerance for risk. Thus, a large percentage of the middle and lower socioeconomic classes are passive investors as well.

“Active investors” are defined as those individuals who have earned their own wealth in their lifetimes. They have been actively involved in the wealth creation, and they have risked their own capital in achieving their wealth objectives. Active investors have a higher tolerance for risk than they have need for security. Related to their high risk tolerance is the fact that active investors prefer to maintain control of their own investments. If they become involved in an aggressive investment of which they are not in control, their risk tolerance drops quickly. Their tolerance for risk is high because they believe in themselves. They get very involved in their own investments to the point that they gather tremendous amounts of information about the investments and tend to drive their investment managers crazy. By their involvement and control, they feel that they reduce risk to an acceptable level.¹⁷

Barnewall’s work suggests that a simple, noninvasive overview of an investor’s personal history and career record could signal potential pitfalls to guard against in establishing an advisory relationship. Her analysis also indicates that a quick, biographic glance at a client could provide an important context for portfolio design.

Bailard, Biehl, and Kaiser Five-Way Model

The Bailard, Biehl, and Kaiser (BB&K) model features some principles of the Barnewall model; but by classifying investor personalities along two axes—level of confidence and method of action—it introduces an additional dimension of analysis. Thomas Bailard, David Biehl, and Ronald Kaiser provided a graphic representation of their model (Figure 2.5) and explain:

The first aspect of personality deals with how confidently the investor approaches life, regardless of whether it is his approach to his career, his health, his money. These are important emotional

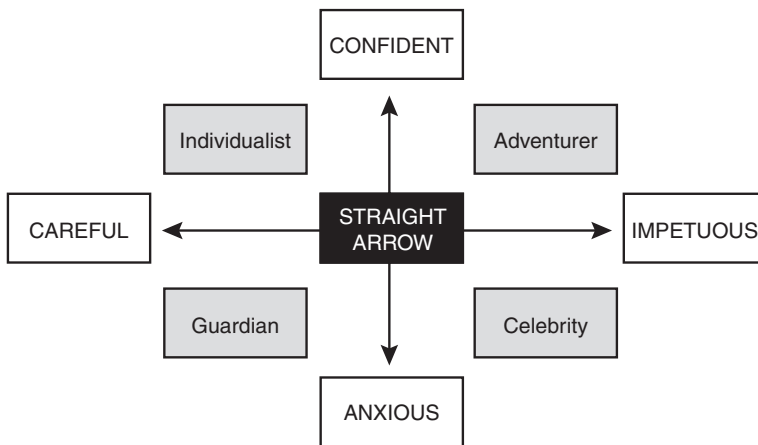


FIGURE 2.5 BB&K Five-Way Model: Graphic Representation

Source: Thomas Bailard, David Biehl, and Ronald Kaiser. *Personal Money Management*, 5th ed. (Chicago: Science Research Associates, 1986).

choices, and they are dictated by how confident the investor is about some things or how much he tends to worry about them. The second element deals with whether the investor is methodical, careful, and analytical in his approach to life or whether he is emotional, intuitive, and impetuous. These two elements can be thought of as two “axes” of individual psychology; one axis is called “confident-anxious” and the other is called the “careful-impetuous” axis.¹⁸

The following inset includes BB&K’s descriptions of each of the five investor personality types that the model generates. The authors also suggest approaches to advising each type of client.¹⁹

In the past five to ten years, there have been some new and exciting developments in the practical application of BFMI. Specifically, there is some very thoughtful work being done in the field of brain research that is attempting to demonstrate how the brain works when making financial decisions. Additionally, research is also conducted on how various personality types behave when it comes to making financial decisions. Later in this book, a chapter is devoted to each of several of these new, exciting topics. For now, however, basic strategies for incorporating behavioral finance into the asset allocation decision are introduced in Chapter 3.

BB&K FIVE INVESTOR PERSONALITY TYPES

The Adventurer. People who are willing to put it all on one bet and go for it because they have confidence. They are difficult to advise because they have their own ideas about investing. They are willing to take risks, and they are volatile clients from an investment counsel point of view.

The Celebrity. These people like to be where the action is. They are afraid of being left out. They really do not have their own ideas about investments. They may have their own ideas about other things in life, but not investing. As a result they are the best prey for maximum broker turnover.

The Individualist. These people tend to go their own way and are typified by the small businessperson or an independent professional, such as a lawyer, certified public accountant (CPA), or engineer. These are people who are trying to make their own decisions in life, carefully going about things, having a certain degree of confidence about them, but also being careful, methodical, and analytical. These are clients whom everyone is looking for—rational investors with whom the portfolio manager can talk sense.

The Guardian. Typically, as people get older and begin considering retirement, they approach this personality profile. They are careful and a little bit worried about their money. They recognize that they face a limited earning time span and have to preserve their assets. They are definitely not interested in volatility or excitement. Guardians lack confidence in their ability to forecast the future or to understand where to put money, so they look for guidance.

The Straight Arrow. These people are so well balanced, they cannot be placed in any specific quadrant, so they fall near the center. On average, this group of clients is the average investor, a relatively balanced composite of each of the other four investor types, and by implication a group willing to be exposed to medium amounts of risk.

Source: Thomas Bailard, David Biehl, and Ronald Kaiser, *Personal Money Management*, 5th ed. (Chicago: Science Research Associates, 1986).

Behavioral Investor Types

Building on the idea of classifying investors by their psychographic characteristics, as did the works of BB&K and Barnewall, I have identified four behavioral investor types (BITs) which I will review in detail in Chapter 26 using a process called behavioral alpha (BA). The objective of the BIT categorization scheme, similar to that of BB&K and Barnewall's work, is to assist advisors and investors in better understanding their behaviors in an effort to make better investment decisions.

This section will review the basics of this process, building on key concepts in previous articles published in the *Journal of Financial Planning* and the first edition of this book. These early works outlined a method of applying behavioral finance to private clients in a way that I now refer to as "bottom-up." This means that for advisors or investors to diagnose and treat behavioral biases, they must first test for all behavioral biases in the client (listed in this book), and then determine which ones apply before creating a behaviorally modified investment plan such as those presented in the first reading. Using the BA method, advisors and investors can simplify this process by testing for the behavioral biases they are likely to encounter, based on the psychological profile of clients, and then considering how to correct for or adapt to the biases.

The reason that I created the BA method is that it is easier to implement. In one of my early papers,²⁰ I explain how to plot the bias type and wealth level information on a chart to create a "best practical allocation" or "best behaviorally modified allocation" for the client. However, some advisors may find this bottom-up approach too time consuming or complex. BA is a simpler, more efficient approach to bias identification that is "top-down," a shortcut if you will, that makes bias identification more efficient for the purpose of determining which type of bias a client might have. Efficiency is essential for advisors and investors to be able to apply behavioral finance in practice.

This introduction will hopefully whet your appetite for learning more about behavioral investor types. We will now move on to incorporating investor behavior into the asset allocation process in Chapter 3. For a more complete review of BITs, please turn to Chapter 26

NOTES

1. Adam Smith, *The Theory of Moral Sentiments* (1759).
2. Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (1789).

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