Chapter 1 Financial Behavior: An Overview

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INTRODUCTION

Two major branches in finance are the well-established traditional finance also called standard finance and the more recent behavioral finance. *Traditional finance* is based on the premise of rational agents making unbiased judgments and maximizing their self-interests. In contrast, behavioral finance studies the psychological influences of the decision-making process for individuals, groups, organizations, and markets. Both schools of thought play an important role in understanding both investor and market behavior. Ackert (2014) provides a comparison of traditional and behavioral finance.

Traditional finance theory assumes normative principles to model how investors, markets, and others should act. In traditional finance theory, investors are supposed to act rationally. Additionally, this normative approach assumes that investors have access to perfect information, process that information without cognitive or emotional biases, act in a self-interested manner, and be risk-averse. According to Bloomfield (2010, p. 23), traditional finance

> … sees financial settings populated not by the error-prone and emotional *Homo sapiens*, but by the awesome *Homo economicus*. The latter makes perfectly rational decisions, applies unlimited processing power to any available information, and holds preferences well-described by standard utility theory.

Traditional finance theory is based on classical decision-making in which investors make economic decisions using utility theory in which they maximize the benefit they receive from an action, subject to constraints. In utility theory, investors are assumed to make decisions consistently and independently of other choices. Utility theory serves as the basis for standard finance theories based on modern portfolio theory and asset pricing models. A major tenet of traditional finance is fundamental analysis incorporating statistical measures of risk and return. A primary aspect of this macro-driven model, which is based on a study of investors within the financial markets, is the underlying assumption of investor *risk aversion* (i.e., investors must be compensated with higher returns in order to take on higher levels of risk). Notable examples in traditional finance include portfolio choice (Markowitz 1952, 1959), the capital asset pricing model (CAPM) (Sharpe 1964), and the efficient market hypothesis (EMH) (Fama 1970).

Modern portfolio theory (MPT) provides a mathematical framework for constructing a portfolio of assets such that the expected return is maximized for a given level of risk, as measured by variance or standard deviation. MPT emphasizes that risk is an inherent part of higher reward. An important insight provided by MPT is that investors should not assess an asset's risk and return in isolation, but by how it contributes to a portfolio's overall risk and return.

Further developments revealed that investors should not be compensated for risk that they can diversify away, which is called unsystematic or diversifiable risk. Instead, they should only be compensated for non-diversifiable risk, also called market or systematic risk. This insight led to the development of the CAPM. This model describes the relation between risk, as measured by market risk or beta, and expected return and is used for pricing of risky securities. Although a cornerstone of modern finance, the CAPM, as a single factor model, cannot pick up other risk

factors. Consequently, the CAPM does not perform well in explaining the cross-section of returns across stocks. Hence, others suggest that returns depend on other factors besides the market. For example, Fama and French (1996) identity two additional factors – firm size and the book-to-market ratio. Carhart (1997) extends the Fama–French three-factor model by including a momentum factor. *Momentum* refers to the tendency for the stock price to continue rising if it is going up and to continue declining if it is going down.

The EMH states that asset prices fully reflect all available information. An implication of this dominant paradigm in traditional finance of the function of markets is that consistently beating the market on a risk-adjusted basis is impossible. Fama (1970) sets forth three versions of the EMH. According to *weak form efficiency*, prices on traded assets reflect all market information such as past prices. The *semi-strong form* of the EMH asserts both that prices reflect all publicly available information. The strong form of the EMH states that current asset prices reflect all information both public and private (insider). Numerous research studies report anomalies, which are situations when a security or group of securities performs contrary to the notion of efficient markets. This stream of research was a driving force leading to the birth and growth of behavioral finance (Ackert 2014).

Although the traditional approach provides many useful insights, it offers an incomplete picture of actual, observed behavior. The normative assumptions of traditional finance do not apply to how most investors make decisions or allocate capital. Normative models often fail because people are irrational and the models are based on false assumptions.

By contrast, behavioral finance is based on insights from other sciences and business disciples to explain individual behavior, market inefficiencies, stock market anomalies, and other research findings that contradict the assumptions of traditional finance. Behavioral finance

examines the decision-making approach of individuals, including cognitive and emotional biases. Behavioral finance makes the premise that a wide range of objective and subjective issues influence the decision-making process. Various laboratory, survey, and market studies in behavioral finance document that individuals are not always rational and apply the descriptive model from the social sciences that documents how people in real life make judgments and decisions. A basis of the descriptive model is that investors are affected by their previous experiences, tastes, cognitive issues, emotional factors, the presentation of information, and the validity of the data. Individuals also make judgments based on bounded rationality. *Bounded rationality* is the premise that a person reduces the number of choices to a selection of smaller shortened steps, even when this oversimplifies the decision-making process. According to bounded rationality, an individual will select a satisfactory outcome rather that the optimal one.

In the 1960s and 1970s, the origin of behavioral finance and financial psychology was founded on seminal research from theorists in cognitive psychology, economics, and finance. During the 1980s, behavioral finance researchers began combining the research methods of psychology and behavioral economics with specific investment and financial subject matter. Since the mid-1990s, behavioral finance has been emerging as an important field in academia. For example, some notable developments in behavioral finance include work on prospect theory (Kahneman and Tversky 1979; Tversky and Kahneman 1974, 1981); framing effects, which are rooted in prospect theory; heuristics and biases (Kahneman, Slovic, and Tversky 2000; Gilovich, Griffin, and Kahneman 2002); and mental accounting (Thaler 1985). Baker and Nofsinger (2010) and Baker and Ricciardi (2014) provide a synthesis of the literature on behavioral finance and investor behavior.

In 2002, Daniel Kahneman and Vernon Smith, behavioral finance pioneers, received the Nobel Memorial Prize in Economics for their research in behavioral economics and psychology from the area of judgment and decision-making. This prestigious award was a major turning point for the discipline because it provided wider acceptance within the financial community. Then, the financial crisis of 2007-2008 demonstrated the weakness of standard finance with behavioral finance subsequently receiving even more attention and acknowledgement by academics and practitioners. In 2013, Robert J. Shiller, a noted behavioral economist, shared the 2013 Nobel Memorial Prize in Economic Sciences for empirical analysis of asset prices.

A FURTHER LOOK AT BEHAVIORAL FINANCE

Behavioral finance is an interdisciplinary subject based on the themes, theories, and research methods from a wide range of decision-making fields such as psychology, behavioral accounting, economics, and neuroscience. In the early 1980s, researchers began to blend the research ideas and methodologies of psychology with specific investment and financial theories (Ricciardi 2006). Behavioral finance focuses on important cognitive factors and emotional influences during the judgment and decision-making process by individuals, groups, organizations, and markets. When individuals make judgments, they must develop, evaluate, and select among a series of choices or options, in which the final decision is based on a degree of risk and uncertainty (Ricciardi 2008a, 2010). In a rational setting, investors select the optimal choice. However, if qualitative and quantitative complexities are too intense, cognitive and emotional biases will influence the final outcome to a satisfactory choice. Behavioral finance is based on the premise that people are often irrational or quasi-rational (known as *bounded rationality*), and individuals make financial decisions based on past experience, values, mental mistakes, cognitive factors, and emotional impulses.

Prospect Theory, Loss Aversion, and the Disposition Effect

Kahneman and Tversky (1979) provide a unique behavioral theory about risk-taking behavior and uncertainty known as *prospect theory* in which, the stated probabilities and the diverse choices are provided. This theory is based on the notion that people do not make decisions based on classical rationality rather they make judgments based on the premise of bounded rationality. A key tenet of prospect theory is people assess choices on an individual basis and then use a reference point or anchor to make their choices, rather than within the context of an overall portfolio. Prospect theory is also based on the principle that individuals are *loss averse* in which they place greater weight on losses than gains. Individuals apply more importance and mental effort to avoiding a loss than to achieving a gain.

Kahneman and Tversky (1979) asked subjects to review a pair of choices and to select one of the options:

Study 1: Consider a decision between these two choices:

Choice A: A sure gain of $7,000 or

Choice B: An 80 percent chance of earning $10,000 and a 20 percent chance of receiving $0.

Question: Which choice would give you the best prospect to increase gains?

Their evidence shows that a solid majority of respondents select Choice A, which is the sure gain. These findings demonstrate most individuals suffer from risk aversion when given the choice of a certain gain and find this outcome satisfactory. Although people tend to prefer Choice A because of the promise of a $7,000 gain, this should be the less favored option. If they select Choice B, their preference is to consider the optimal choice because an overall cumulative increase in wealth of $8,000 occurs. For a traditional finance portfolio, the answer is calculated

by ($10,000 x 0.80) + (0 x 0.20) = $8,000. Most people do not like Choice B because of the 20 percent probability of earning nothing.

Another aspect of Kahneman and Tversky's (1979) study is to investigate the influence of losing in which people assess the following two options:

Choice C: A realized loss of $7,000 or

Choice D: An 80 percent chance of losing $10,000 and a 20 percent chance of losing nothing.

Question: Which option would provide you the best prospect to reduce losses?

Most subjects prefer Choice D. They prefer the 20 percent probably of not losing any money even though this choice has more risk because within a portfolio framework the result would be an $8,000 loss. In other words, Choice C is the rational choice. In the behavioral finance domain, Oberlechner (2004) reports in a comparable study with traders in foreign exchange setting showing that more than 70 percent select the risk-seeking option (or the equivalent of Choice D).

The results of these two experiments demonstrate the concept known as *loss aversion* in which, people assign more importance to a loss than to an equivalent gain. The typical finding is that a gain on the upside of $2,000 is about twice as painful on the downside and feels like a $4,000 loss. This logic is contrary to the premise of traditional finance that equates a $2,000 gain to a $2,000 loss within a diversified portfolio. For example, individuals tend to focus on downside risk when they own common stock. When people suffer an actual loss, they incur not only an objective loss in dollar terms, but also a subjective loss in terms of an "emotional loss." This feeling can remain for a long time. Many investors who realize major losses during a market downturn subsequently avoid riskier asset classes such as stocks.

Another important aspect of loss aversion is that an "individual is less likely to sell an investment at a loss than to sell an investment that has increased in value even if expected returns are held constant" (Ricciardi 2008b, pp. 99−100) based on the disposition effect. The *disposition effect* refers to the tendency of selling securities that have appreciated in value over the original investment cost too early (or winners) and holding on to losing securities too long (or losers). This bias is detrimental to the wealth of individuals because it can increase their capital gains taxes and can reduce investment returns even before taxes.

Olsen and Troughton (2000) examine the different meaning between uncertainty (ambiguity) and risk attributed to the work of Knight (1921). The study assesses several psychological factors such as familiarity bias and loss aversion behavior. An expert group of more than 300 money managers completed a survey questionnaire about stocks. The two most important aspects of the assessment of risk are (1) downside or *catastrophic risk* (i.e., the probability of realizing a large loss) and (2) the role of *ambiguity* (i.e., the uncertainty about the actual distribution of potential returns in the future).

Heuristics

When individuals face complex judgments, information overload or incomplete information, they often rely on conventional wisdom based on their personal experiences, known as *heuristics,* which reduce the decision to a simpler choice (Tversky and Kahneman 1974). Heuristics are straightforward and basic tools that people use to explain a certain category of choices under a high degree of risk and uncertainty. Heuristics are a "cognitive mechanism" for reducing the time commitment by simplifying the decision-making process for investors. Even though this type of cognitive approach sometimes results in satisfactory outcomes (also known as satisficing) heuristic judgments often result in inferior decisions. *Satisficing* is a decision-

making strategy or cognitive heuristic that entails searching through the available alternatives until an acceptability threshold is met. Plous (1993, p. 109) states:

> For example, it is easier to estimate how likely an outcome is by using a heuristic than by tallying every past occurrence of the outcome and dividing by the total number of times the outcome could have occurred. In most cases, rough approximations are sufficient (just as people often satisfice rather than optimize).

Many stock brokers make fast purchase and sell judgments decisions about equities by using heuristics because they are under strict time restrictions based on the objective of trying to earn large short-term gains within the markets. Under such circumstances, these experts only focus on a narrow amount of information and rely on previous experience to make a final judgment. In many instances, these individuals are unaware they are employing these types of cognitive issues. Within an investment management setting, people use a tool known as the *1/N heuristic* when allocating retirement funds (Benartzi and Thaler 2001, 2007). For instance, an individual with five mutual funds will equally distribute 20 percent of the money invested into each fund for his monthly contribution to a 401k plan. This method is attractive to retirement savers because of its simplicity.

The Availability Heuristic

The *availability heuristic* reveals individuals have an inclination to be biased by information that is easy to recall, widely available, and highly publicized, which results in over-weighting or misinterpreting this information (Tversky and Kahneman 1973). As Schwartz (1998, p. 64) notes, “Biases may arise because the ease which specific instances can be recalled from memory affects judgments about the relative frequency and importance of data.” According to Ricciardi (2008b), the main aspects of the availability heuristic that influence a person’s judgments and decisions are (1) choices that induce affective reactions, (2) activities that are extremely dramatic, and (3) events that occur more recently have a tendency to be more readily available in

an individual's recent memory. For example, investors overrate the importance of recent investment news and discount older information when evaluating a common stock. When a blue chip stock releases quarterly earnings above estimates and this information is reported online or on the financial television news, this may dramatically increase the company's short-term stock price. However, once the news fades from memory of investors, the stock's volatility returns to its historical average.

Overconfidence

Individuals are inclined to be overconfident about their skills, expertise, and intelligence. The subject matter of overconfidence is an important finding in behavioral finance because different categories of investors suffer from this bias. Overconfident investors believe they can influence the final outcome of a decision based on certain superior attributes when compared to the average investor. Many people possess the belief in the domain of finance they are above average in their aptitude, overall decisions, and capability (Ricciardi 2008b). People are highly confident in their judgments formed under the application of heuristics and are inattentive to the actual method used to form their final judgment.

Barber and Odean (2001) explore the trading psychology between men and women for 35,000 accounts for individual investors over a six-year period. The study reveals that men are more overconfident than women about their financial skills and men trade more within their investment accounts. Men are prone to sell common stock at an incorrect point in time and also incur higher trading expenses than women. Women are predisposed to trade less, employing a buy-and-hold approach resulting in lower investment expenses. Men trade 45 percent more frequently than women whereas white single men trade 67 percent more frequently than single women. Trading expenses reduce the net investment performance of men by 2.65 percentage

points a year compared to only 1.72 percentage points for women. In other words, women earned 1 percentage point a year more than men for the six-year period of the study. This finding has even more dramatic consequences if the 1 percentage point yearly difference is applied over a 30- to 40- year time horizon due to the effects of compounding.

Status Quo Bias

Individuals are inclined to experience *status quo bias* in which they tend to default to the same choice or accept the current decision. People find changing the behavior of procrastination or inertia entails strong incentives. This bias happens when individuals fail to revise their financial plans despite potential benefits from doing so. Rather, retirement savers have the same behavior, such as holding onto an underperforming mutual fund instead of selling it. Employees also delay contributing to their employer retirement plan or procrastinate in seeking the advice of a financial planner to learn about different retirement options. After starting to contribute to a company retirement plan, many employees do not actively monitor their accounts.

For example, Agnew, Balduzzi, and Sunden (2003) evaluate 7,000 retirement accounts between April 1994 and August 1998. The authors report that most asset allocation choices are extreme or possess disproportionate diversification into risky securities (i.e., an individual who has multiple holdings in stocks or invests 100 percent of his assets in stocks) and retirement savers suffer from inertia or status quo bias regarding their asset allocation decisions. The study also finds exceptionally low portfolio turnover rates and asset rebalance transactions in these accounts, which further demonstrate status quo behavior.

PURPOSE

This book provides a synthesis of the theoretical and empirical literature on the financial behavior of major stakeholders, financial services, investment products, and financial markets.

Compared with traditional finance, the book offers a different way of looking at financial and emotional well-being and processing beliefs, emotions, and behaviors related to money. The book provides important insights about cognitive biases and emotional issues that influence various financial decision-makers, services, products, and markets. This volume is a "contributed chapter" book in which noted academic researchers and practitioners write chapters in their areas of expertise. Thus, readers of can gain an in-depth understanding about this topic from experts from around the world.

In today's financial setting, the discipline of behavioral finance is an ever-changing area that continues to evolve at a rapid pace. This book takes readers through not only the core topics and issues but also the latest trends, cutting-edge research developments, and real-world situations. Additionally, discussion of research on various cognitive and emotional issues is covered throughout the book. Thus, this volume covers a breadth of content from theoretical to practical, while attempting to offer a useful balance of detailed and user-friendly coverage. Those interested in a broad survey will benefit as will those searching for more in-depth presentations of specific areas within this field of study. As the seventh book in the Financial Markets and Investment Series, *Financial Behavior – Players, Services, Products, and Markets* offers a fresh looks at the fascinating area of financial behavior.

DISTINGUISHING FEATURES

Financial Behavior – Players, Services, Products, and Markets has several distinguishing features.

- The book examines highly relevant and timely aspects of financial behavior and blends the contributions of noted academics and practitioners. The contributors' varied backgrounds provide differing perspectives. The book also reflects the latest trends and research from a

unique perspective because the content is organized by major players, financial services, investment products, and markets. By contrast, other books in behavioral finance and investor psychology often organize chapters by a specific subject matter or topic area such as a cognitive issue, emotional bias, or theory.

- The book follows a consistent format and style despite having many authors. Thus, it represents much more than a collection of chapters from different authors.
- The results of empirical studies are presented in a user-friendly manner to make them understandable to readers with different backgrounds.
- The book provides discussion questions and answers to help to reinforce key concepts.

INTENDED AUDIENCE

The book's content and distinctive features should be of interest to a wide range of groups including academics, researchers, professionals, investors, students, and others interested in financial behavior. Academics can use this book not only as an integral part of their undergraduate and graduate finance courses but also as a way of understanding the various aspects of research emerging from this area. The book can help professionals navigate through the key areas in financial behavior. Individuals and financial planners can use the book to expand their knowledge base and can apply the concepts to managing the entire financial planning process. The book can serve as an introduction to students interested in these topics.

STRUCTURE OF THE BOOK

The remaining 29 chapters consist of seven parts. A brief summary of each part and chapter follows.

Part One Financial Behavior and Psychology

Besides Chapter 1, the first part has a chapter providing an enhanced discussion of financial psychology.

Chapter 2 The Financial Psychology of Players, Services, and Products (Victor Ricciardi)

This chapter provides an overview of the emerging cognitive and emotional themes of behavioral finance that influence individual behavior. The behavioral finance perspective of risk incorporates both qualitative (subjective) and quantitative (objective) of the decision-making process. An emerging subject of research interest and investigation in behavioral finance is an inverse (negative) relation between perceived risk and expected return (perceived return). The chapter highlights important topics such as representativeness, framing, anchoring, mental accounting, control issues, familiarity bias, trust, worry, and regret theory. It also examines the role of negative affective reactions on financial decisions. Financial worries and negative emotions influence all types of individuals including children, investors, and financial professionals. A host of biases that depend on specific aspects of the financial product or investment service influence the judgment and decision-making process of financial players.

Part Two The Financial Behavior of Major Players

The second part consists of seven chapters involving the behavior of various players in financial markets: (1) individuals, (2) institutional investors, (3) corporate executives, directors, and boards, (4) financial planners and advisors, (5) financial analysts, (6) portfolio managers, and (7) financial psychopaths.

Chapter 3 Individual Investors (Henrik Cronqvist and Danling Jiang)

Traditional finance explains individual investors' behavior and financial decision-making based on economic incentives and rationality. Modern finance, however, takes a holistic view and searches for not only economic but also biological, psychological, and social factors that shape

decision-making and investor behavior. In this new approach, genetics, life experiences, psychological traits, social norms, peer influences, as well as her beliefs, values and culture in general determine stock market participation decision, share of equity holding, frequency of trading, extent of diversification, and preferences for investment styles of an individual investor. The collective preferences and actions of individual investors exert an impact on asset pricing and corporate decisions.

Chapter 4 Institutional Investors (Alexandre Skiba and Hilla Skiba)

A large body of behavioral finance literature focuses on the behavioral biases of individual investors in their trading choices. Research also shows that sophistication is related to the level at which behavioral biases influence investors' trading choices. This chapter reviews the literature on institutional investors' trading behavior and finds that, consistent with the level of investor sophistication, institutional investors are less subject to the common behavioral biases. However, some behavioral biases are present in institutional trading and more so among less sophisticated investor types. Evidence also shows that institutional investors engage in some trading choices such as herding, momentum trading, and under diversification, which could be symptoms of behavioral biases. Based on the reviewed research, these trading behaviors are not value reducing. Overall, evidence indicates that institutional investors are less subject to behavioral biases making markets more efficient.

Chapter 5 Corporate Executives, Directors, and Boards (John R. Nofsinger and Pattanaporn Chatjuthamard)

This chapter assesses the behavior of corporate managers and the board of directors within the framework of agency theory, stewardship theory, and psychological biases. In agency theory, a

chief executive officer (CEO) is motivated to act in his own best interest rather than that of the shareholders. Stewardship theory posits that a CEO is a self-actualizing individual seeking to grow and reach a higher level of achievement through leading an organization. A CEO exhibits self-interested behavior in managing the firm. He also exhibits optimism, overconfidence, and risk aversion behaviors that are not optimal for the firm. In the context of agency theory, the board of directors should enact incentive structures and monitoring to control these behaviors. However, directors also suffer from self-interests and cognitive biases. Specifically, boards may suffer from group dynamic problems such as social loafing, poor information sharing, and groupthink.

Chapter 6 Financial Planners and Advisors (Benjamin F. Cummings)

An increasing number of households use financial planners or advisors. This chapter seeks to provide insight about these professionals, their potential motivations, and their interactions with clients. The various regulatory regimes of financial planners and advisors are discussed including the most common types of firms: registered investment advisers, broker-dealers, and insurance firms. Agency costs associated with employing a financial planner are also discussed with emphasis on the potential conflicts of interest that can arise from the various compensation structures that advisory firms typically use. Common areas of consumer confusion are highlighted. The chapter also discusses the empirical evidence on the use and value of financial advice. It concludes with some recommendations for consumers about selecting a financial planner or advisor.

Chapter 7 Financial Analysts (Susan M. Young)

Financial analysts are important players in the market place. Analysts' reports, which include forecasts of earnings and stock recommendations, move market prices. Investors, both large and small, rely on the information in reports when forming their investment decisions. Given the relevance of financial analysts' research, understanding whether their reports are biased is important because relying on them could harm investors using the information in these reports to inform their decisions. Despite an increase in market regulation, evidence suggests that analysts' reports are biased, even post-regulation put in place to reduce this optimism. Research also finds that analysts' bias increases when information uncertainty is high. Thus, investors should understand the possible dangers in blindly relying on research by financial analysts.

Chapter 8 Portfolio Managers (Erik Devos, Andrew C. Spieler, and Joseph M. Tenaglia)

In the oversight of most funds, the portfolio manager holds the key decision-making power. Often regarded as the foundation of the investment process, a few select managers can attract billions of dollars from investors giving the managers increased prominence, credibility, and compensation. Despite their stature, portfolio managers are not immune from the same behavioral biases as other investors, which can distort the portfolio management process. This chapter offers an overview of portfolio management and compares characteristics of different fund types that portfolio managers oversee. It also reviews several important behavioral biases that portfolio managers display, as well as the consequences that each has on portfolio construction: overconfidence, herd mentality, risk-taking behavior, and the disposition effect. The chapter also contrasts the gender differences of portfolio managers and reviews the ramifications on their respective portfolios.

Chapter 9 Financial Psychopaths (Deborah W. Gregory)

The term *financial psychopath* emerged after the financial crisis of 2007−2008. Its media usage appears to have been intended as a term of derision employed to negatively label financial professionals, rather than to describe an actual clinical profile. The expression succinctly conveys the post-2008 widespread public anger and resentment toward those in the finance profession, particularly on Wall Street, responsible for damaging the world economy and destroying the personal wealth of many people globally. In the decades before the financial crisis, multiple factors had come together to change the operating structure of the financial landscape. This new environment was conducive to investment professionals engaging in transactions bearing the hallmarks of psychopathic behavior, raising the critical question: What defines a financial psychopath? Does it lie in the individual's personality traits, the behavioral edicts dictated by the environment within which he or she works, or a combination of both? This chapter attempts to answer these questions.

Part Three Financial and Investor Psychology of Specific Players

The third part contains five chapters on the financial and investor psychology of specialized players, including, high net worth individuals, traders, women, and Millennials.

Chapter 10 The Psychology of High Net Worth Individuals (Rebecca Li-Huang)

This chapter takes an economic view of the investment behavior of high net worth individuals (HNWIs), including: the psychological aspects of private wealth and the practice of wealth management, the current trends affecting the players and markets, and highlights empirical findings on wealth creation and distribution that have fueled policy debates. Wealth concentrations and scarcity of skills have attributed to institutional advantages for HNWIs and the highly skilled, including higher returns on physical and human capital investments. Besides

achieving financial returns, HNWIs want to use their private wealth to have a social impact. Wealth managers respond to the attitude and behavior of HNWIs by shifting the focus from investment products and transactions to holistic investing and goal-based wealth management.

Chapter 11 The Psychology of Traders (Duccio Martelli)

In recent decades, trading has become very popular among retail investors, mainly due to a widespread use of technology and a reduction in transaction costs. However, the growing amount of information available to individuals and the higher complexity of financial markets have led investors to make psychological mistakes more easily. The objective of this chapter is to describe the main types of behavioral bias that affect individual investors, especially retail traders who frequently churn their portfolios. The chapter compares momentum and contrarian trading strategies used by such traders. It also discusses the impact of new information on market sentiment and its effect on trader psychology. Finally, the chapter examines the main behaviors of novice traders, followed by a summary of various studies that analyze the conduct of novice investors in the course of investment challenges and trading simulations.

Chapter 12 A Closer Look at Frequent Traders (Michal Strahivevitz)

This chapter examines the phenomenon of frequent stock trading. Specifically, it covers the ample research demonstrating the negative effects of frequent trading on investor returns, as well as several possible underlying causes for this irrational behavior. Possible causes of frequent trading discussed include overconfidence, risk seeking, gambling addiction, frequency of negative emotions, and emotional instability. The chapter also examines gender differences. Although the body of research showing that frequent trading is bad for returns is vast, many investors continue to trade too often for their own good. Therefore, besides discussing potential

causes of frequent stock trading, this chapter also stresses the need for future research to identify effective methods of helping investors reduce this financially harmful behavior.

Chapter 13 The Psychology of Women Investors (Marguerita M. Cheng, and Sameer S. Somal)

The role of financial decision maker in a household has evolved over time. Decades ago, women held traditional general roles of caregiver, housekeeper, and wife. Today, more women are pursuing higher education and female professionals and entrepreneurs are making great strides in business. Women are taking on more responsibility such as managing family life, careers, and education. Understanding what women customers' value helps to bridge the gap between financial literacy and application. Training and mentoring women should be a priority agenda for every financial institution. Women expect customized service and clear communication from financial experts. This chapter discusses the financial, psychological, and personal needs of women clients. It also explains how financial advisors should communicate with women to create favorable client experience.

Chapter 14 The Financial Psychology of Millennials (April Rudin and Catherine McBreen)

This chapter focuses on the financial mindset and behaviors of Millennials, and how they interact with financial advisors. Millennials have surpassed Baby Boomers as the most prolific generation and are projected to be the wealthiest. At 80 million strong, Millennials are poised to leave their imprint on the financial services industry, which will have to adapt if it wants to engage a generation that communicates and invests differently than their forebears. Millennials are identified with unflattering and stereotypical media portrayals, but financial advisors ignore them at their peril. Advisors and service providers can engage this generation, which currently is more apt to conduct its financial and investment affairs, by ignoring the stereotypes. Millennials

have a stake in the American Dream and are laying the groundwork now for a secure financial future.

Part Four The Psychology of Financial Services

The fourth part consists of five chapters on the psychological aspects of financial planning, financial advisory services, insurance and risk management, estate planning, and retirement planning and wealth management.

Chapter 15 Psychological Aspects of Financial Planning (Dave Yeske and Elissa Buie)

This chapter discusses personal financial planning, which is an interdisciplinary practice that employs a six-step process to develop integrated strategies for individuals and families to efficiently mobilize their human and financial capital to achieve their life goals. Financial planning draws from various disciplines including counseling, psychology, finance, economics, and law. Financial planning includes budgeting and cash flow planning, risk management, insurance planning, investment planning, retirement and employee benefits planning, tax planning, and estate planning. The strategic process whereby financial planners develop integrated strategies that draw from all these fields in pursuit of client goals is the profession's unique domain. Heuristics and mental biases to which clients may be prone overlay the entire financial planning process. Financial planners should understand and consider these issues in order to develop recommendations that are uniquely suited to each client, maximizing the probability that the client will embrace and implement the recommended strategies.

Chapter 16 Financial Advisory Services (Jeroen Nieboer, Paul Dolan, and Ivo Vlaev)

Evidence from the behavioral sciences, notably economics and psychology, has profoundly changed the way policy makers and practitioners view expert advice to consumers. This chapter

examines the behavioral science evidence on financial advice and explores its implications for the financial advisory profession. It explains how consumers of retail financial advice respond to certain aspects of the advice process in predictable ways, sometimes exhibiting behavioral biases or following certain conventions in their decision-making. By recognizing and anticipating these responses, financial advisors can offer a more complete service, offering benefits beyond the strictly financial return to advice. But the behavioral needs of consumers may also provide advisors with incentives that are not strictly aligned with their clients' financial interests. Finally, the increasing role of technology will also play an important role in shaping the financial advisory services of the future.

Chapter 17 Insurance and Risk Management (James M. Moten, Jr. and C. W. Copeland)

According to modern portfolio theory (MPT), rational market participants make most decisions and seek to be compensated for additional risk. However, investors sometimes behave irrationally due to preconceived notions and biases based on past experiences. Behavioral finance offers an alternative view to MPT suggesting that individuals often make irrational decisions. This chapter explores how individuals make decisions to buy different types of insurance even when faced with predicable outcomes involving the frequency and severity of the loss. Individuals appear to buy insurance only when the frequency of loss is low and the severity of loss is high, otherwise they self-insure.

Chapter 18 Psychological Factors in Estate Planning (John Guerin and L. Paul Hood)

As an area of behavioral finance, estate planning is less focused on systematic, cognitive errors than on a core, emotional ambivalence about mortality. The chapter explores the dynamics of the professional/client relationship in financial planning and estate planning, as well as the emotional

conflicts around mortality in light of research about mortality salience and terror management theory. The inclusion of marital, family, and family business issues introduces inherent complications to efforts at planning. These added dimensions may in turn affect succession planning, inheritance, heir preparation, and family dynamics going forward. Recent developments in assessing financial style/personality may enhance progress in estate planning. Tools for facilitating the process are discussed, along with observations for further development in the field. Models in other areas of psychotherapy practice show potential to inform this area of practice.

Chapter 19 Individual Biases in Retirement Planning and Wealth Management (James E. Brewer, Jr., and Charles Self, III)

Around the globe, the gradual move from defined benefit pensions to defined contribution pensions has increased the need for individual retirement planning. Examples of this need include U.S. savings rates being at historical lows, headlines within various developed countries highlighting the poor retirement prospects for their citizens, and DALBAR, Inc. regularly featuring the disparaging gap between investor returns and market returns. Research indicates that individuals working with a financial advisor generally receive better results than those who do not. Working with a Certified Financial Planner™ professional (CFP®) gives an added level of security because a CFP® takes an oath to keep the client's interests ahead of his own business interests. This chapter puts forth nudges to help individuals close the savings, investing, and behavior gaps to improve their total wealth and wealth transfer picture.

Part Five The Behavioral Aspects of Investment Products and Markets

The fifth part consists of four chapters focusing on the behavioral aspects of traditional securities, pooled investment vehicles, international mergers and acquisitions, and art and collectibles.

Chapter 20 Traditional Asset Allocation Securities: Stocks, Bonds, Real Estate, and Cash (Christopher Milliken, Ehsan Nikbakht, and Andrew Spieler)

Asset allocation models have evolved in complexity since the development of modern portfolio theory but continue to operate under the assumption of investor rationality in addition to other assumptions that do not hold in the real world. For this reason, academics and industry professionals make efforts to understand the behavioral biases of decision makers and the implications these biases have on asset allocation strategies. This chapter reviews the building blocks of asset allocation involving stocks, bonds, real estate, and cash. It also examines the history and theory behind two of the most popular portfolio management strategies: mean-variance optimization and the Black-Litterman model. Finally, the chapter examines five common behavioral biases that have direct implications on asset allocation: familiarity, status quo, framing, mental accounting and overconfidence. Each behavioral bias discussion contains examples, warning signs and steps to correct the emotional or cognitive errors in decision-making.

Chapter 21 Behavioral Aspects of Mutual Funds, Exchange-Traded Funds, Hedge Funds, and Pension Funds (Nathan Mauck)

Investors are inextricably linked to financial institutions, money managers, and the products they market. Mutual funds, exchange-traded funds (ETFs), hedge funds, and pension fund manage or hold roughly $55 trillion in combined wealth. This chapter examines these topics with a

behavioral finance approach focusing on two main themes. First, the chapter reviews the performance and rationality of each group. Second, the chapter examines the behavioral biases that relate to individuals' selection of particular investments within each group. Research indicates that actively managed mutual funds and hedge funds underperform passive investments. Pension funds generate alpha of roughly zero on a risk-adjusted basis. The fees involved in investing in such funds exacerbate the observed underperformance in mutual funds and hedge funds. Behavioral biases provide one perspective on sources of underperformance. Further, individuals exhibit a wide range of behavioral biases that may lead to sub-optimal asset allocation including the selection of mutual funds, ETFs, and hedge funds.

Chapter 22 Current Trends in Successful International Mergers and Acquisitions (Nancy Hubbard)

The worldwide landscape of merger and acquisition (M&A) activity has changed dramatically in the past decade. Acquirers, acquisition trends, and strategies behind those transactions now differ dramatically. Acquisition success rates also appear to be different with recent research indicating that international acquisitions are more successful than they were previously. Successful acquiring is a complicated combination of melding systems and employees in an environment of cultural contrasts. Successful acquisitions on an international level require financial rigor and discipline combined with an understanding of human behavior and motivation. This chapter examines both the changing trends and key success factors for M&As in terms of financial inputs and behavioral elements to better understand the complex M&A process and indicators for future success.

Chapter 23 Art and Collectibles (Peter J. May)

This chapter examines different psychological biases issues of art and collectibles, which are part of every client's world to some degree. Wealth management has a tradition of management by silo, and each silo is guided by its own revenue stream to the exclusion of the other silos. In a changing world guided by disrupting evolution due to the availability big data, yesterday's knowledge and information are today's commodities. This evolution has escalated as information is now accessible globally by almost anyone with a mobile device. Wealth management must adjust its current client service model to leverage the informational commodity of art and incorporate this commodity into daily conversations. With the proliferation of social media and web-based resources, art and collectibles are now more accessible as an asset class option.

Part Six Market Efficiency Issues

Part six consists of four chapters exploring the behavioral finance market hypothesis, stock market anomalies, speculative behavior, and high frequency trading.

Chapter 24 Behavioral Finance Market Hypothesis (Alex Plastun)

Although the efficient market hypothesis (EMH) is the leading theory describing the behavior of financial markets, researchers have increasingly questioned its efficacy since the 1980s because of its inconsistencies with empirical evidence. This challenge to EMH has resulted in the development of new concepts and theories. These new concepts reject the assumption of investor rationality. The most promising and convincing among these include the adaptive markets hypothesis, overreaction hypothesis, underreaction hypothesis, noisy market hypothesis, functional fixation hypothesis, and fractal market hypothesis. This chapter provides a brief description of these theories and proposes using a behavioral perspective to analyze financial markets.

Chapter 25 Stock Market Anomalies (Steve Fan and Linda Yu)

Stock market anomalies representing the predictability of cross-sectional stock returns are one of most controversial topics in financial economic research. This chapter reviews several well-documented and pervasive anomalies in the literature, including investment-related anomalies, value anomalies, momentum and long-term reversal, size, and accruals. Although anomalies are widely accepted, much disagreement exists on the underlying reasons for the predictability. This chapter surveys two competing theories that attempt to explain the presence of stock market anomalies: rational and behavioral explanations. The rational explanation focuses on the improvement of the existing asset pricing models and/or searching for additional risk factors to explain the existence of anomalies. By contrast, the behavioral explanation attributes the predictability to human behavioral biases in collecting and processing financial information as well as in making investment decisions.

Chapter 26 The Psychology of Speculation in Financial Markets (Victor Ricciardi)W

This chapter provides a discussion of the role of speculation within financial markets that influences individual and group behavior in the form of bubbles and crashes. The chapter highlights behavioral finance issues associated with bubbles such as overconfidence, herding, group polarization, groupthink effect, representativeness bias, familiarity issues, grandiosity, excitement, and the overreaction and underreaction of prices in markets. These issues are important for understanding past financial mistakes because history often repeat itself. The chapter also examines the aftermath of the financial crisis of 2007-2008 on investor psychology including the impact of a severe financial downturn, anchoring effect, recency bias, worry, loss averse behavior, status quo bias, and trust. The aftermath of the financial crisis might have

negative long-term effects on investor psychology in which some investors remain overly risk averse resulting in under-investment in stocks and over-investment in cash and bonds.

Chapter 27 Can Humans Dance with Machines? Institutional Investors, High Frequency Trading, and Modern Markets Dynamics (Irene Aldridge)

This chapter examines high-frequency trading (HFT) including core groups of strategies and resulting impacts. Using order-by-order market data analysis, the chapter shows that much of what is often construed to be useless noise of order cancellations actually represents meaningful order revisions, part of the real-time market bargaining. The chapter further shows that a small fraction of the order cancellations are a product of purely toxic liquidity. Market participants of different frequencies tend to react differently to such toxic orders, with higher-frequency traders largely ignoring and lower-frequency investors interacting with toxic liquidity.

Part Seven The Application and Future of Behavioral Finance

Part seven consists of three chapters exploring applications of client behavior, implementing behavioral finance, and the future of finance.

Chapter 28 Applications of Client Behavior: A Practitioner's Perspective (Harold Evensky)

The purpose of this chapter is to discuss various behavioral concepts and strategies to help clients avoid behavioral errors with the result of increasing the probability of a successful plan design and implementation. The chapter discusses how the concepts introduced by research in behavioral finance have become integrated throughout Evensky & Katz/Foldes Financial's practice. The chapter begins with framing for new clients, which is part of the firm's approach to retirement planning called "anchoring on the efficient frontier." Anchoring refers to the intersection of the client's return requirement as determined by a capital needs analysis and the

client's risk tolerance. Framing is introduced as a powerful behavioral management tool for the practitioner. Behavioral finance lessons are integrated in the risk tolerance and return discussions as well as the reporting process.

Chapter 29 Practical Challenges of Implementing Behavioral Finance: Reflections from the Field (Greg B. Davies and Peter Brooks)

Behavioral finance is only useful if it can be applied to help people make better decisions. This chapter offers reflections of the good, bad, and ugly of practical applications of behavioral finance in a commercial banking setting. It explores the difficulties of non-experts experimenting with behavioral finance, and how effective applications require a unique mix of expert knowledge and the ability to effect change through a business. Principles of good applications of behavioral finance are also presented with information on how to start using behavioral finance within an organization. The importance of senior management acknowledging that behavioral finance practitioners do not necessarily know the correct answer and that they will need to use randomized control trials to learn is also discussed.

Chapter 30 The Future of Behavioral Finance (Michael Dowling and Brian Lucey)

The future of behavioral finance necessitates that the research areas of behavioral corporate finance and investor psychology develop richer models of financial decision-making behavior. Behavioral corporate finance requires expanding the focus from chief executive officer characteristics to those of the entire top management team, and also involves greater understanding of organizational theory. A greater focus on cross-cultural factors needs to occur and how these factors interact with behavioral influences. Investor psychology needs a more comprehensive theory of the drivers of investor behavior and better data. This need is strong for investor sentiment research, which might offer the most potential to advance understanding of

psychological influences on asset pricing. This chapter expands on these ideas and discusses an overall context of the future philosophical development of behavioral finance and the inevitable push for greater openness, replicability, and reliability in research.

SUMMARY AND CONCLUSIONS

Traditional finance assumes that investors make rational decisions. Behavioral finance acknowledges the contributions of traditional finance, but also recognizes cognitive and emotional biases that result in a decision-making process that contradicts assumptions of standard finance. Behavioral finance examines the decision-making approach of individuals, including cognitive and emotional biases. *Financial Behavior – Players, Services, Products, and Markets* seeks to interweave the contributions of both academics and practitioners into a single review of important but selective topics related to behavioral finance.

Behavioral finance affects the investment process on both micro and macro levels. The presence of investors who are influenced by behavioral biases can result in security and market pricing that deviates substantially from intrinsic values based on traditional finance. Such decision-making frameworks can also affect financial professionals and professional – client relationships. By better understanding financial behavior, readers can distinguish the contributions of investor psychology and the role investor behavior has on influencing the types of products and services offered and the impact such behavior has on market efficiency.

REFERENCES

Ackert, Lucy F. 2014. “Traditional and Behavioral Finance.” In H. Kent Baker and Victor Ricciardi (eds.), *Investor Behavior – The Psychology of Financial Planning and Investing*, 25-41. Hoboken, NJ: John Wiley & Sons, Inc.

Agnew, Julie, Pierluigi Balduzzi, and Annika Sunden. 2003. “Portfolio Choice and Trading in a Large 401(k) Plan.” *American Economic Review* 93:1, 193−215.

Baker, H. Kent, and John R. Nofsinger (eds.). 2010. *Behavioral Finance – Investors, Corporations, and Markets*. Hoboken, NJ: John Wiley & Sons, Inc.

Baker, H. Kent, and Victor Ricciardi (eds.) 2014. *Investor Behavior – The Psychology of Financial Planning and Investing*. Hoboken, NJ: John Wiley & Sons, Inc.

Barber, Brad M., and Terrance Odean. 2001. “Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment.” *Quarterly Journal of Economics* 116:1, 261−292.

Benartzi, Shlomo, and Richard H. Thaler. 2001. “Naıve Diversification Strategies in Defined Contribution Savings Plans.” *American Economic Review* 91:1, 79– 98.

Benartzi, Shlomo, and Richard H. Thaler. 2007. “Heuristics and Biases in Retirement Savings Behavior.” *Journal of Economic Perspectives* 21:3, 81−104.

Bloomfield, Robert. 2010. “Traditional Versus Behavioral Finance.” In H. Kent Baker and John R. Nofsinger (eds.), *Behavioral Finance – Investors, Corporations, and Markets*, 23–38. Hoboken, NJ: John Wiley & Sons, Inc.

Carhart, Mark M. 1997. "On Persistence in Mutual Fund Performance." *Journal of Finance* 52:1, 57–82.

Fama, Eugene F. 1970. “Efficient Capital Markets: A Review of Theory and Empirical Work.” *Journal of Finance* 31:1, 383–417.

Fama, Eugene F., and Kenneth R. French. 1996. “Multifactor Explanations of Asset Pricing Anomalies.” *Journal of Finance* 51:1, 55–84.

Gilovich, Thomas, Dale Griffin, and Daniel Kahneman (eds.). 2002. Heuristics and Biases: The Psychology of Intuitive Judgment. New York and Cambridge: Cambridge University Press.

Kahneman, Daniel, Paul, and Amos Tversky (eds.). 1982. Judgment under Uncertainty: Heuristics and Biases. New York and Cambridge: Cambridge University Press.

Kahneman, Daniel, and Amos Tversky. 1979. "Prospect Theory: An Analysis of Decisions under Risk." *Econometrica* 47:2, 263–291**.**

Knight, Frank. 1921. *Risk, Uncertainty, and Profit*. Chicago, IL: University of Chicago Press.

Markowitz, Harry. 1952. "Portfolio Selection." Journal of Finance 7:1, 77–91.

Markowitz. Harry M. 1959. *Portfolio Selection: Efficient Diversification of Investments*. New Haven, CT: Yale University Press.

Oberlechner, Thomas. 2004. *The Psychology of the Foreign Exchange Market*. Chichester, UK: John Wiley & Sons, Ltd.

Olsen, Robert A., and George H. Troughton. 2000. "Are Risk Premium Anomalies Caused by Ambiguity?" *Financial Analysts Journal* 56:2, 24−31.

Plous, Scott. 1993. *The Psychology of Judgment and Decision Making*. New York: McGraw-Hill.

Ricciardi, Victor. 2006. "A Research Starting Point for the New Scholar: A Unique Perspective of Behavioral Finance." *ICFAI Journal of Behavioral Finance* 3:3, 6–23. Available at http://ssrn.com/abstract=928251.

Ricciardi, Victor. 2008a. "Risk: Traditional Finance versus Behavioral Finance." In Frank J. Fabozzi (ed.), *The Handbook of Finance, Volume* 3*: Valuation, Financial Modeling, and Quantitative Tools*, 11–38. Hoboken, NJ: John Wiley & Sons, Inc.

Ricciardi, Victor. 2008b. "The Psychology of Risk: The Behavioral Finance Perspective." In Frank J. Fabozzi, (ed.), *The Handbook of Finance, Volume 2: Investment Management and Financial Management*, 85–111. Hoboken, NJ: John Wiley & Sons, Inc.

Ricciardi, Victor. 2010. “The Psychology of Risk.” In H. Kent Baker and John R. Nofsinger (eds.), *Behavioral Finance: Investors, Corporations, and Markets*, 131–149. Hoboken, NJ: John Wiley & Sons, Inc.

Schwartz, Hugh. 1998. *Rationality Gone Awry? Decision Making Inconsistent with Economic and Financial Theory*. Westport, CT: Greenwood Publishing Group, Inc.

Sharpe, William F. 1964. “Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk.” *Journal of Finance* 19:3, 425–442.

Thaler, Richard. 1985. “Mental Accounting and Consumer Choice.” Marketing Science 4:3, 199–214.

Tversky, Amos, and Daniel Kahneman. 1973. “Availability: A Heuristic for Judging Frequency and Probability.” *Cognitive Psychology* 5:2, 207–232.

Tversky. Amos, and Daniel Kahneman. 1974. “Judgment under Uncertainty: Heuristics and Biases.” *Science*, 185:4157, 1124–1131.

Tversky, Amos, and Daniel Kahneman. 1981. “The Framing of Decisions and the Psychology of Choice.” *Science* 211:4481, 453–458.