THE JOURNAL OF
INVESTING
THEORY & PRACTICE FOR FUND MANAGERS | SPRING 2017 Volume 26 Number 1

Reflections on 25 Years of Behavioral Finance

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It's November 2016, and I have been reading the submissions to the 25th anniversary issue of *The Journal of Investing.* Many authors have been writing wonderful stories. George Frankfurter talks about the impact of a handwritten review of one of his submissions that I sent him in the early days of the journal. Dave Leinweber discusses the early days of financial technology. In reading these articles, I realized that many of the stories of the beginning of behavioral finance in the institutional investment field will be lost if someone doesn't take the time to write them down. Unfortunately, our issue deadline is coming up quickly, and I don't have the time to research the complete story and include everyone. I can, however, tell the parts of the story that I know and lived through during my investment management career. For me, it all began when I joined State Street Asset Management (it wasn't even called State Street Global Advisors yet) in 1990.

THE BEGINNING

I was first introduced to investing using behavioral concepts in 1990 at State Street. I joined at a time when new research was being done to revamp the global forecasting model. In addition to the usual valuation data, the team was starting to look at Institutional Brokers' Estimate System estimates. Estimate data had been successfully integrated into the U.S. active management process the previous year by Lang Wheeler and John Bogle Jr., who soon left to form Numeric Investors. I worked with Doug Stark, who had come with me from the passive investment team, and we built what is likely to have been the first global earnings revision model using the concepts pioneered by Lang and John. Earnings revision models were the first use of behavioral concepts in money management, but it took us another eight years to realize it and understand what behavioral finance was.

The summer of 1992 witnessed the launch of *The Journal of Investing.* I was soon joined by my former State Street colleague, Deborah Trask, who became production coordinator. We started running articles on the use of estimates (starting with an article by Don Peters [1993], "Are Earnings Surprises Predictable?"), which continues to this day. By 1994, I had collected an abundance of articles and created *The Handbook of Corporate Earnings Analysis* (Epstein and Bruce [1994]). *The Handbook* was the first book to address the topic of earnings estimates and included articles from leading thinkers, including a seminal article by State Street alum Lang Wheeler.

THE BUILDING OF A BEHAVIORAL FINANCE COMMUNITY

The Handbook led to many portfolio managers and researchers to desire to hear the

authors in person, which led me and Deborah Trask to create the Corporate Earnings Analysis Seminar (CEAS) series. The first seminar was in Dallas in 1995. It moved to New York in 1996 and continued there for seven more years. CEAS brought together practitioners, academics, and vendors to share information and build a community. Representatives from 168 money management firms, consultants, and plan sponsors attended over the years, including Acadian, Batterymarch, BellSouth, Chase, Dreman Value, Evergreen, Fidelity, Florida State, General Motors, Goldman Sachs, GMO, Harvard, JPMorgan, Martingale, Mellon, Morgan Stanley, Numeric, Ontario Teachers, Putnam, Texas Teachers, TIAA-CREF, UBS, Wellington, and Yale (my apologies to all those I have left out).

One of the speakers at the final CEAS was Mark Bradshaw, an accounting professor from Harvard Business School. After the seminar, Mark and I met and decided that the time was right for a behavioral book that addressed the use of earnings and earnings estimate data in picking stocks. We chronicled the field of using behavioral data in our 2004 publication, *Analysts, Lies and Statistics* (Bruce and Bradshaw [2004]), which went on to become required reading for all new analysts at Morningstar. The book covered popular issues regarding the use of earnings and earnings estimate data in picking stocks. Since then, the number of people using estimate data has grown from a small group of fanatics to the mainstream investment community.

BEHAVIORAL FINANCE GAINS TRACTION

As the seminar was winding down and the book was being written, the field of behavior was starting to gain recognition. In 1998, with seminar speakers David Dreman and Arnie Wood, we formed the Institute of Psychology and Markets (now named the Institute of Behavioral Finance). The Institute of Psychology and Markets was founded to study the impact of psychology on investor decision making. As the new century approached, our understanding of markets was moving beyond the perception that financial market participants are perfectly rational. Behavioralists were beginning to understand that irrationality was the key reason why current paradigms like the efficient market hypothesis did not fully explain asset prices. The Institute was founded on the belief that new research would explore important dynamic processes previously ignored by traditional finance. The Institute studied the ways in which psychology plays a role in understanding how financial markets function. We addressed issues surrounding the integration of many disciplines into the field of investing, including social psychology, group psychology, psychiatry, organizational behavior, accounting, marketing, sociology, anthropology, behavioral economics, finance, and decision making.

The Institute's initial meeting was held in December of 1998 at the Aspen Institute. This initial meeting was limited to 24 participants across many disciplines who had an interest in the field. The group included many of the current leading behavioral luminaries, including a Nobel Prize winner and two people mentioned in the latest Michael Lewis [2016] book *The Undoing Project*. A debt of thanks is owed to David Dreman whose foundation funded the meeting. The following list of participants is taken from the meeting materials and gives participants' affiliations at the time of the meeting:

- David Dreman, Dreman Value Management
- Professor Paul Slovic, University of Oregon
- Professor Vernon Smith, University of Arizona
- Professor Meir Statman, Santa Clara University
- Professor Baruch Fischhoff, Carnegie-Mellon University
- Dr. John Schott, Harvard Medical School
- Dr. Richard Geist, Harvard Medical School
- Dr. Eric Lufkin, Dreman Value Management
- Professor Brian Bruce, Southern Methodist University
- Arnold Wood, Martingale Asset Management
- Professor Robert Olson, California State University
- Professor George Frankfurter, Louisiana State University
- Russell Fuller, RFJ Asset Management
- Professor Terry O'Dean, University of California at Davis
- Professor Fred Renwick, New York University
- Greg Forsythe, Chicago Investment Analytics
- Dr. Van Harlow, Fidelity Investments
- Professor Tim Loughran, University of Iowa
- Professor James Payne, Duke University
- Professor William O'Barr, Duke University
- Jason Zweig, Money Magazine
- Don MacGregor, Decision Research
- Professor Werner DeBondt, University of Wisconsin
- Professor Keith Brown, University of Texas

The main accomplishment of the initial meeting of the Institute was the creation of *The Journal of Psychology and Financial Markets* (now named *The Journal of Behavioral Finance*) in 2000. The journal publishes scholarly research by leading psychologists, psychiatrists, economists, and professional investors to help explain behavior in financial markets. It was the first journal to feature an interdisciplinary emphasis that appealed to economists, psychologists, psychiatrists, private investors, decision theorists, corporate decision makers, pension plan sponsors, and professional investors alike. This started a new trend; in the past, journals had been segregated by academic discipline, and most psychological research on the markets was done by finance professors, not psychologists. As the only member of the group who had experience as a journal editor, I was drafted to be the founding editor of the new journal, a role I continue to this day. The first issue contained papers by future Nobel Prize winner Vernon Smith, financial star Bob Shiller, legendary investor David Dreman, and Duke professor Mack O'Barr, whose field is anthropology—not the usual finance journal contributor. Mack analyzed the effects of culture on the investment of social security in the equity markets, a great example of the interdisciplinary focus of the journal. The journal also contained an editorial about the effect of behavioral finance on asset pricing coauthored by Nobel Laureate Vernon Smith, Paul Slovic, David Dreman, Arnie Wood, and myself (Bruce et al. [2000]).

THE EVOLUTION OF BEHAVIORAL FINANCE

By 2007, behavior was part of the daily lexicon of investors. Many investment firms used behavioral terms in their presentations, but this was window dressing for all but a rare few firms. It's easy to adopt an idea or two from behavior, such as earnings revisions, and think an investment process is behavioral, but if that's all a firm does, it is not a behavioral manager. Being a behavior manager takes a commitment to behavioral philosophy and process. The benefit is that a manager who does this is a true alpha generator.

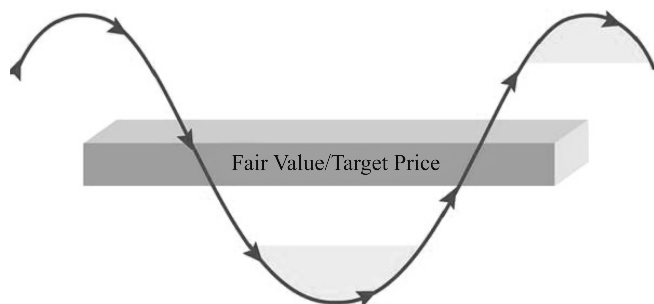
In business school, we all learn the efficient market hypothesis (EMH), which states that all information is in the current price of a stock and that stocks are fairly valued. The EMH led to the creation of the first index fund at Wells Fargo. It made perfect sense: If stocks are fairly valued, you can't pick stocks that are going to outperform, so just buy a group of stocks representative of the market. Once the EMH became the leading theory on stock pricing, academics started to test it. To the surprise of its creators, these academics found many factors that allowed them to form portfolios that outperformed the market. This started a wave of research by academics looking into EMH. Did it apply only to past price and volume information, publicly available information, or all information? What was wrong with the theory? Why weren't stocks priced correctly? There are two explanations. The first explanation is that there is information out there that no one else yet has. Finding this information before anyone else would allow you to outperform when the rest of the world finds this information and it becomes reflected in the stock price. Here is a typical quote from a large investment firm's website (this was on the Web in October 2016):

> We dig deeper and go further to find companies which we believe show the potential for significant, positive change—change that could lead to a strong recovery in their share price. Our dedicated research network allows us to identify these investment opportunities and see the potential others miss.

Versions of this quote can be found from hundreds of institutional mangers; it is how the vast majority of active managers try to add value.

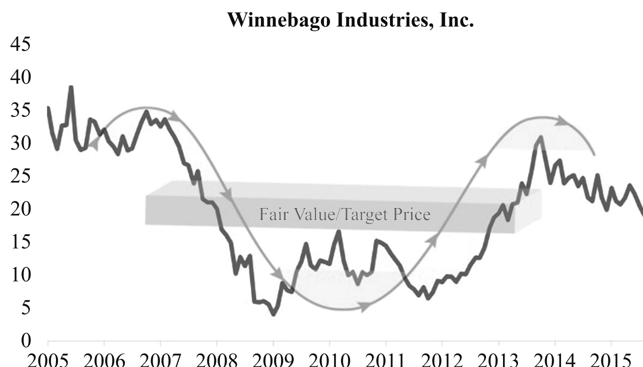
The second explanation is the reason that behavioral finance is the key to consistent alpha generation: Investors need to understand how this information gets into stocks prices. No one seems to ask this question. Stock prices don't suddenly move because companies put out a press release or have conference calls. Stock prices move because investment teams take this new information and make buy, hold, or sell decisions about stocks. Recognizing the importance of investor decisions in pricing highlights a critical but previously overlooked component of stock pricing: Pricing is not just income statement, balance sheet, and company information; the price is also based on the decision process of investors. Once this element is incorporated, you realize that stock prices are also a function of investor's cognitive biases, decision errors, and affect (feelings) about companies. These biases are the key to long-term, consistent alpha generation because they cause stocks to follow the behavioral cycle (Exhibit 1). The behavioral cycle

Exhibit 1
Behavior Cycle



Source: Hillcrest Asset Management.

Exhibit 2
Behavioral Cycle for Winnebago



Source: Hillcrest Asset Management.

follows the economic cycle of a firm. When the economics of a firm are weak, investors overextrapolate and push prices below where they should be. As economics improve, investors' enthusiasm pushes prices above fair value. This is the same phenomenon that causes bear and bull markets.

A BEHAVIORAL CYCLE EXAMPLE

The behavioral cycle can be demonstrated by Winnebago. In 2006, Baby Boomers' portfolios were strong and many were retiring. This drove Winnebago sales to record highs. Investor enthusiasm followed, and valuations (looking at price/book) rose to over 8, almost 3× the valuation of companies in Winnebago's sector. The typical price of a new Class A Winnebago was over $100,000. When 2008 hit and Baby Boomer portfolios fell, one of the easiest purchases to postpone was a $100,000 motor home. This led to a dramatic fall in sales. In 2007, the company sold 9,469 motorhomes. In 2009, sales fell to 2,196. Did investors react rationally? Of course not. They changed from thinking that there would be a Winnebago in every Baby Boomer's driveway to thinking that very few people would ever buy a Winnebago again. Price/book fell to less than 1, one-third of the average valuation in Winnebago's sector. As the economics of the firm improved and Winnebago started to sell recreational vehicles again, valuations rose. In the middle of 2013, the company was again average for its sector. CNBC [2013] ran a story on Winnebago. If markets really were efficient, it should have been about how Winnebago was finally at fair value. Instead, the story was about how sales would soon reach record levels.

In the 12 months after the story ran and Winnebago had reached fair value, it outperformed the Russell 2000 by over 50%. This is the behavioral cycle, which is illustrated for Winnebago (Exhibit 2). This is how investor biases, decision errors, and affect cause the irrational pricing that a behavioral manager can take advantage of by using this irrationality to create alpha.

THE CREATION OF HILLCREST: PROFITING FROM IRRATIONAL ALPHA

Hillcrest was formed to apply what I learned from the early days of behavioral finance and subsequent years of investing. It is nearly impossible for large investment firms to change what they have done for many years to adapt to a new paradigm. Because of that resistance to change, Doug Stark, Deborah Trask, and I left our existing positions in 2007 to form a true behavioral management firm—one that can follow the philosophy of behavior in every part of our investment process. The result is Hillcrest Asset Management. Hillcrest has become a leading firm in behavioral investing and continues to grow as investors become more aware that the best way to obtain consistent alpha is through behavioral investing. Hillcrest profits from the irrational alpha created by investor cognitive biases. We lead the way so that others can follow.

I am pleased to have played a part raising the investment community's awareness of the importance of understanding investor behavior and creating alpha over the past 25 years. My greatest hope is that all investors will understand, appreciate, and profit from behavior well before another 25 years roll by.

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