A Review of Behavioral Finance

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Abstract

The aim of this paper is to review the available research studies on the subject of behavioral finance. For this paper, specific search terms were used in the Google Scholar search engine and the results were shortlisted according to the year of publication. From the review of available studies, it was highlighted that while making financial decisions, people are under the influence of attributes such as personality, experience, judgment, and special social relations and these can cause behavioral biases. Authors have talked about existing academic research in the investment management field that investor's individual beliefs, opinions and values could impact those of a group, be influenced by social factors and eventually, change outcomes in the markets.

Keywords: Behavioral Finance, Decisions, Social Factors, Herding, Review

Introduction

In the field of Finance, the conventional theories are based on the assumption that people act rationally and consider all available information in their decisions related to investments. Over the last few decades, many irrational errors and behaviors related to investment judgment have been identified which are opposite to the assumptions and theories of conventional finance.

According to Vasile, Sebastian & Radu (2012), "behavioral finance offers complementary points of view, explanations in response to the difficulties faced by the conventional finance, until recently considered to be "proved beyond doubt"". Behavioral corporate finance brings in discussion conventional ideas about corporate finance and compensation strategies. "Behavioral corporate finance argues that in many senses, corporations are natural arbitrageurs" (David Adler – as cited in Vasile, Sebastian & Radu, 2012). According to Sadi, Asl, Rostami, Gholipour & Gholipour (2011), the use of behavioral science in finance is relatively new in financial market studies, even though use of psychology in economics had been propounded by Keynes in 1936, much before behavioral finance was formed. Keynes (1936) argued that sentiment, reflecting unrealistic optimism or pessimism, leads to booms and busts (as cited in Shefrin & Statman, 2011).

Methodology

In this paper, we will review some of the research studies which have been carried out on the subject of behavioral finance. Towards this end, specific search terms were used in Google Scholar search engine, such as "behavioral finance", "behavioral finance and herding", and "behavioral finance and risk taking". The results of these searches were shortlisted as per the year of publication. For the purpose of this study, only studies published after 2010 were used, in order to examine the concept of behavioral finance.

Results & Discussion

According to Khoshnood & Khoshnood (2011), while making financial decisions, people are under the influence of personality, experience, judgment, and special social relations, which can

cause behavioural biases. According to Mitroi & Oproiu (2014), today's unpredictable markets systematically complicate the decision-making process, especially on money management dilemmas. Mitroi & Oproiu (2014) say that human stress hormones, adrenaline and cortisone, "although highly efficient defense mechanism from an evolutionary perspective, can severely impair our ability to make clear-head decisions in the daily fragility and volatility of the stock market".

According to Mitroi & Oproiu (2014), when people are anxious and harassed, their ability to think clear weakens, rendering them more pessimistic, with them losing their ability to think clearly and concisely, and in the end, becoming more impatient. "Increased level of stress, in line with financial, professional and personal high stakes involved in our investment decisions, lead to biased information-processing mistakes, like overtrading, overconfidence or illusion of control" (Mitroi & Oproiu, 2014). The authors say that our behavioral biases have the potential to harm the investment performance of our portfolio and that subjected to stress, our brains would favor action than inaction, thinking and planning.

According to Mitroi & Oproiu (2014), behavioral finance does not eradicate but matches the standard evaluations approaches - fundamental, technical and markets analysis. It "combines the findings of all valuation procedures with the investigation of social, psychological emotional aspects of the market, and relaxes the strict requirement of convergence between price and value". Since markets are always about high financial and social stakes, it is no wonder that most of the time the subjective emotions dominate the objective and logical approach (Mitroi & Oproiu, 2014).

According to De Bondt (2010), behavioral finance uses an opposite approach to the one followed by modern finance, for it does not assume either rational agents or frictionless markets. It proposes that the institutional environment is extremely important. The starting point is bounded rationality. Economic and financial intuition are fragile, and this is more plausible than the assumption that investors, their financial advisors, bankers, and corporate managers know perfectly well what to do (De Bondt, 2010). According to Qawi (2010), behavioral finance is "a field of finance that proposes psychology-based theories to explain stock market anomalies. Within behavioral finance, it is assumed that the information structure and the characteristics of market participants systematically influence individuals' investment decisions as well as market outcomes".

According to Oprean & Tanasescu (2014), behavioral finance examines the facets and interactions in the human brain, faced with the indecision of making economic decisions. The most common human traits of fear, anger, greed, and selflessness, put significant importance on people's decisions about money. Intellect, reason and emotion are all interconnected as they are the wheels behind human decision. The authors say that since human behavior is generally reactive, and not proactive, it is difficult to predict based on narrow rules. Behavioral finance can explain why an individual has made a decision, but it may not be possible to actually quantify the effect that the decision might have on the person (Oprean & Tanasescu, 2014).

According to Victor Ricciardi (2008) "the different behavioral finance theories and concepts that influence an individual's perception of risk for different types of financial services and investment products are heuristics, overconfidence, prospect theory, loss aversion, representativeness, framing, anchoring, familiarity bias, perceived control, expert knowledge, affect (feelings), and worry"(- as cited in Qawi, 2010). Moreover, Hunton et al (2001) stated that

"behavioral finance introduces many aspects of human behavior into traditional finance to improve our understanding of analysts and investors" (- as cited in Qawi, 2010).

Herding

Herding is described as imitation behavior resulting from individual factors and often leading to inefficient outcomes for the market as a whole (Bikhchandani et al. 1992 – as cited in Van Campenhout & Verhestraeten, 2010).

In his 2001 article, Robert Prechter studied human behavior and concluded that it provides a psychological basis for financial market performance. He introduced a very basic human behavior function: herding, based on "impulsive mental activity" and in response to the actions of others (as cited in Qawi, 2010). Prechter said that due to their genetic make-up, humans act emotionally faster that rationally, because of the biological response time within their brains for challenging situations (as cited in Qawi, 2010). The human brain can be divided in three components, the brain stem, the limbic system (or the primitive brain responsible for emotional response) and the neocortex (responsible for rational responses as well as reason). Herding behavior is entrenched in the limbic system and it is impulsive, uncontrollable and immutable (Prechter, 2001 – as cited in Qawi, 2010).

According to Qawi (2010), most investors form their beliefs on information gathered from media, as well as reading industry publications, etc. According to Prechter (2001), thus, the actions they take in the market are driven by emotions or thoughts of others, and not by independent thought (- as cited in Qawi, 2010). The reason behind such herding is a lack of knowledge and a "follow the crowd" mentality amongst the public. Observation of real time investing along with experiments show that the masses commit more funds to investing as markets rise and less as markets fall (Prechter, 2001 – as cited in Qawi, 2010). According to Qawi (2010), many financial professionals follow patterns of herding behavior, primarily due to the human need for consensus and when opinions of analysts unite, the bias increases, making forecasts less accurate. "The herding behavior in "rational" thinkers, highly educated professionals comes as a result of a person's ability to have opposite views concomitantly generated by the rational and primitive brain components" (Qawi, 2010). This creates cognitive dissonance which makes it imperative for financial professionals to explain their choice in order to relieve emotional stress.

According to Baddeley, Burke, Schultz, & Tobler (2012), herding occurs when individuals' private information is overcome by the effect of public information about the decisions of a herd or group. Herding may be a quick decision-making tool via which people copy and imitate the actions of others because they make a qualitative judgement that others know more about the fundamental long-term values of goods and assets (Baddeley, Burke, Schultz, & Tobler, 2012). Also, agreeing with a group may confer a utility that is independent of the information implicit in others' decisions. Sociopsychological factors may also be important if normative influences such as social pressure encourage individuals to follow the decisions of others even in the face of contradictory objective information and individual differences in gender, age and personality may moderate this susceptibility to social influence. The importance of personality traits is consistent with other economic analyses focusing on the role of emotions and affect in economic and financial decision-making (e.g. Elster 1996, 1998; Kamstra et al. 2003; Cohen 2005; Lo et al. 2005; Shiv et al. 2005; DellaVigna 2009; Baddeley 2010 – as cited in Baddeley, Burke, Schultz, & Tobler, 2012 – as cited in Baddeley, Burke, Schultz, & Tobler, 2012).

According to Qawi (2010), people feel uncomfortable being alone and that is why they do not make buy or sell decisions which are against the decisions of their peers, despite their being rational evidence to support their independent actions. The author says that this causes trends in the markets to last longer than they would otherwise exist and to aggravate the result either in a "bubble proliferation or a crashing downturn". As a result, human herding behavior which may be important for survival and preservation of self, is highly fruitless in the financial markets in general.

Financial professionals are a close group, which shares information in real and virtual space, and hence, they get prone to emotional herding (Qawi, 2010). The behavior of analysts is closely observed by others and their opinions influence the investing public.

Motives behind herding behaviour:

a. *Information-based Herding* – According to Van Campenhout & Verhestraeten (2010), information-based herding occurs when analysts lack confidence about their private information and there exists uncertainty about the quality of public information. As a result, analysts leave their private signal (which is required to optimally update the available information), and follow the herd that upholds an inefficient consensus. As such, the analysts' actions are unhelpful to later observers and a cascade arises that 'blocks' the inflow of new information (Hirshleifer & Teoh, 2003 – as cited in Van Campenhout & Verhestraeten, 2010).
b. *Reputation-based Herding* - Analysts carry out reputation-based herding. Scharfstein & Stein (1990), Trueman (1994) and Prendergast & Stole (1996) argue that analysts manipulate their forecasts to get closer to the consensus in order to signal that their information is correlated with their peers (as cited in Van Campenhout & Verhestraeten, 2010). The main idea is that one's reputation doesn't get hit as much if people fail as a group when compared to failing when one is own their own because collective failure may be attributable to uncertainty in the environment and not to a lack of skill. In their study, Van Campenhout & Verhestraeten (2010) say that analysts herd to avoid their own forecasts becoming too distinct from the consensus forecast.
c. *Compensation-based Herding* - Compensation-based herding demonstrates that herding can also arise as a result of payoff externalities (Van Campenhout & Verhestraeten, 2010). Just as in the case with reputation-based herding, analysts also herd to avoid deviant bad forecasts, but here, it is the punishment that analysts face (e.g. job loss) when making such a forecast that triggers the herding behavior. According to Van Campenhout & Verhestraeten (2010), "since the pay-off of dissident forecasts is asymmetric (i.e. a larger negative pay-off in case of a deviant negative forecast compared to the benefits of a bold positive forecast), analysts will play safe and herd". According to Hong et al. (2000), "inexperienced analysts herd more than experienced analysts, because being wrong for an inexperienced analyst, who is at the start of his career, is more costly than for an older analyst, who has built a reputation throughout years of being in the business" (- as cited in Van Campenhout & Verhestraeten, 2010).

According to the literature review study done by Van Campenhout & Verhestraeten (2010), these three basic motives are also often elucidated in terms of behavioral considerations and strategic motives. Hence, as far as behavioral considerations are concerned, herding arises because of a psychological need to comply with the consensus, such as a lack of self-confidence (e.g. Bikhchandani et al. 1992 – as cited in Van Campenhout & Verhestraeten, 2010). In the second

instance, personal incentives like reputation and payoff considerations lead to herding (e.g. Scharfstein & Stein 1990, Trueman 1994, Friesen & Weller 2006 - as cited in Van Campenhout & Verhestraeten, 2010).

Determinants of Herding

According to the study by Van Campenhout & Verhestraeten (2010), extensive research has been carried out to differentiate between the causes of herding behavior. Characteristics which are most commonly linked to herding include analyst experience, analyst ability, complexity of forecasting task, brokerage house size and forecast horizon.

1. As per research, there is evidence of a negative relationship between the degree of herding and analyst experience (e.g. Hong et al. 2000; Clement and Tse 2005; Krishnan et al. 2006 – as cited in Van Campenhout & Verhestraeten, 2010). These findings are commensurable with reputation- and compensation-based herding: younger analysts still have to earn their reputation and have a higher risk of being dismissed.
2. The analyst's ability, usually measured by his/her past performance, has a negative influence on the inclination to herd (Stickel 1990, Cote & Sanders 1997, Graham 1999 - as cited in Van Campenhout & Verhestraeten, 2010).
3. The intricacy of the forecasting job is positively related to herding, because complexity is representative of uncertainty about the company's performance (Olsen 1996 - as cited in Van Campenhout & Verhestraeten, 2010). This is consistent with the first motive of imperfect information.
4. The size of the brokerage house is negatively associated with herding, because it is assumed that larger brokerage houses are more experienced and have better access to information (Clement & Tse 2005 - as cited in Van Campenhout & Verhestraeten, 2010).
5. The forecast horizon has been shown to have a positive impact on herding (Krishnan et al. 2005 - as cited in Van Campenhout & Verhestraeten, 2010). As the forecast horizon decreases, more information becomes available, thereby reducing information uncertainty and herding behavior.

According to Van Campenhout & Verhestraeten (2010), herding or excessive agreement among analysts due to suboptimal use of private and public information, leads to much less informative forecasts.

Risk Taking

According to Qawi (2010), risk taking propensity is a part of human behavior which appears in individual decision making or a group setting. In his 1972 article, Slovic highlighted that people who adopt riskier behavior in some situations, may also be predisposed to undertake more risks in investment management (as cited in Qawi, 2010). Slovic says that risk taking behavior increases in groups (as cited in Qawi, 2010). According to Qawi (2010), "the group provides the individual a distribution of risk among members, thus less responsibility falls on one individual when compared with the same individual making the decision alone". This type of responsibility diffusion among group members has been called "risky shift" (Slovic, 1972 – as cited in Qawi, 2010). Qawi (2010) says that people have a tendency to compare their thinking to that of the group and where the individual investor has made decisions carrying less risk than the group, the individual will typically revise their own decisions to an increased level of risk to follow group thinking.

In his study, Qawi (2010) highlights that risk taking or risk aversion change with reference point. In 1979, Kahneman and Tversky introduced the Prospect Theory which demonstrates the preferences for risky behavior in contradiction with utility maximization function (as cited in Qawi, 2010). The utility theory suggested that investors should be apathetic between choices with equal expected utility (Hunton et al, 2001 – as cited in Qawi, 2010). Kahneman and Tversky's Prospect theory proposes that the utility curve is a concave function in the domain of gains and convex in the domain of losses which means that investors perceive losses and gains of same magnitude differently and are less likely to accept losses of equal absolute value to gains (as cited in Qawi, 2010). The Prospect theory also illustrates that attitudes toward losses and gains change based on reference point (circumstance). According to Qawi (2010), risky behavior is "influenced by recent personal history, either optimism or pessimism felt in relation to investment performance".

Investor Sentiment

According to Qawi (2010), investor sentiment is "the measure associated with positive or negative feelings triggered by large movements in the prices of stock either up or down". After the March 2001 market decline, there were a number of conjectures about long-term investor sentiment changes and "how they may affect future portfolio allocations between stocks and bonds and risk behavior" (Qawi, 2010). Dreman et al found in 2001 that investor sentiment remained constant in the bull market of 1998 and the decline of 2001 (-as cited in Qawi, 2010).The authors' research involves various investor surveys, first taken during 1998, while the stock market was on the rise and then in 2001, when the market was in a rapid decline period; this research was driven by wide spread Wall Street belief that the investors are going through a major change in investment sentiment and that reductions in allocation to stocks in future portfolios were likely (-as cited in Qawi, 2010). These surveys yielded results which were mostly counter-intuitive to this thinking and showed that the investors held similar attitudes towards long-term investing, the asset allocation between stocks and bonds, buying on down markets and views on risk willing to take (Qawi, 2010). According to the author, these results were analyzed by age, gender and income and numerous differences were observed. In the 2001 survey, there were gender differences which showed that men were more likely to monitor portfolio performance daily, weekly or monthly –as compared to women (Dreman et al, 2001 – Qawi, 2010). Men also showed a predisposition to raise the stock holdings percentage in the next 12 months while women took the opposite view. The men surveyed displayed higher confidence in stock performance in the future and more likely to accept larger losses in market value. This data shows that there are risk aversion discrepancies between men and women, with men ranking higher in risk appetite.

The study by Dreman et al. (2001) analysed income levels and highlighted that higher income respondents monitored their portfolios more often than those with income level below $40,000 annually (-as cited in Qawi, 2010). The expectations for future returns for long-term investments were similar across income groups, but higher income investors expected higher returns in the short term. Higher income investors regarded dips in the stock market as opportunities to buy stock on a higher percentage than the lower income investors. Hence, the attitude toward risk varied with lower income respondents being more risk averse (- as cited in Qawi, 2010).

According to Dreman et al. (2001), another analytical division was made by age group and investors responding to the survey were grouped in above or below 60 years of age. As per the survey results, the older group showed less active involvement in portfolio management,

expected lower stock returns in the near future, and planned to increase their allocation to stocks in the future (-as cited in Qawi, 2010). While both age groups showed similar confidence in future performance of US market, the older group was less likely to accept large swings in portfolio value in correlation with their retirement cash flow needs (-as cited in Qawi, 2010).

Conclusion

The purpose of this paper was to review the available research studies on the subject of behavioral finance. From the review of available studies, it was emphasized that while making financial decisions, people are under the influence of attributes such as personality, experience, judgment, and special social relations and these can cause behavioral biases. Authors have identified about existing research in field that investor's individual beliefs, opinions and values could impact those of a group, be influenced by social factors and eventually, change outcomes in the markets. Phenomenon such as herding, risk taking and investor sentiment has also been discussed by academicians.

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