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Awareness of Cognitive Biases and Behavioural Finance Among Non-Resident Indians

Dr Chabi Gupta
Professor
New Delhi Institute of Management
IP University

ABSTRACT

Behavioral theories are viewed as a relatively new phenomenon in the security markets. Therefore, examining the subject is essential in order to understand the changing world of investments. Current technology enhances fast trade between individual investors. The concept of investing is seen as trendy. Therefore, people tend to make illogical decisions not based on true knowledge or information of a certain investment object. These decisions are explained via several behavioral finance theories. The outcome of poor knowledge is that investors allow these theories to effect on their decision-making process, thus resulting in major losses. The behavioral models can affect on individuals' decision-making whether actual investments are conducted via professionals or not. The concept of investing is extensive as it can include all the aspects of purchasing items expected to gain more value in the future (art, antique, securities etc.). Therefore, it has been decided to narrow down the subject to concentrate on stock trading and the impact of behavioral finance on individual portfolio investors.

This research paper attempts to highlight a new perspective on the study of behavioural finance. In this study, the aim is to establish the existence of such fundamental issues, driven by various psychological biases, in the investment decision-making process among non-resident Indians. Behavioral economists firmly believe that psychological factors influence investment decisions. They argue that today's investment decisions demand a better understanding of individual investors' behavioral biases. However, many economists believe completely in the application of traditional theories in the decision-making process and hence do not consider the concept of irrational behavior. Behavioral finance therefore studies the influence of psychology on the behavior of portfolio investors and their consequent reactions in stock market investing. In this context, it seems relevant to check whether the non-resident Indians are aware about the cognitive biases and the study of behavioural finance that may affect their portfolio investment decision making. A questionnaire will be formulated and distributed among the non-resident Indians who regularly invest in stock markets and their awareness of behaviour factors will be studied. The focus is on individual investors as they are more likely to have limited knowledge about application of traditional theories in decision-making and hence are prone to making psychological mistakes. The primary analysis would be focused on determining whether the non-

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resident Indians understand cognitive biases and the study of behavioral finance that may affect their decision making.

Keywords: **Behavioural Finance, Stock Markets, Biases, Cognitive Errors, Rational Investor, Psychology**

INTRODUCTION

The volume of empirical and theoretical research in the field of Behavioural Finance has grown over the recent years. This specialized field merges the concepts of finance, economics, and psychology to understand the implications of human behavior in the financial markets, to form long term winning investment strategies. Behavioural finance is the study of the influence of psychology on the behavior of financial practitioners and the subsequent effect on markets. The principal objective of an investment is to make money. We usually assume that investors always act in a manner that maximizes their return rationally. The Efficient Market Hypothesis (EMH), the central proposition of finance for the last thirty-five years rests on an assumption of rationality. But it has been proved that people are ruled as much by emotion as by cold logic and selfishness.

While the emotions such as fear and greed often play an important role in poor decisions, there are other effects like cognitive biases, heuristics (shortcuts) that take investors to incorrectly analyze new information about a stock or currency and thus overreact or under react while making portfolio investment decisions. Behavioural Finance is the study of how these psychological and mental errors or emotions can cause stocks or currency to be overvalued or undervalued, and therefore aim to create such investment strategies that give a winning edge over the other portfolio investors.

BACKGROUND

Let us understand the behaviour of a rational or a logical investor. This rational investor is assumed to act rationally in the following ways:

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- He makes decisions to maximize the expected utility.
- He is fully informed with unbiased information.
- There is the absence of any distortion of judgment based on emotions.

The Modern Portfolio Theory (MPT), Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT) are the quantitative models that underpin the rational expectations-based theories. Unfortunately, there is a large amount of research, which could not confirm this theory in the available investment data. For example, Fama and French, (1993, 1996) and others have shown that the basic facts about the aggregate stock market, the cross-section average returns and individual trading behavior are not easily understood in this framework. The behavioral finance paradigm has emerged in the response to the difficulties faced by the traditional paradigm.

It must also be considered that the risk resides not only in the price movements of dollars, gold, oil, commodities, companies, and bonds but also lurks inside us – in the way we misinterpret information, fool ourselves into thinking we know more than we do, and overreact to market swings. Information is useless if we misinterpret it or let emotions sway our judgment. Human beings are irrational about investing. Correct behavior patterns are therefore important to successful long run investing – so to be financially successful one has to overcome these biased tendencies, if we can recognize these destructive urges, we can avoid them. Behavioural Finance combines the disciplines of economics and psychology specifically to study this phenomenon.

FINANCIAL BUBBLES IN STOCK MARKETS

A speculative market bubble occurs when the actions by market participants' results in stock prices to deviate from their fundamental valuation over a prolonged period of time. Speculative bubbles are difficult to explain by rational trading behavior, and theories have been put forward to explain market psychology through behavioural finance. They propose that when the significant proportion of trading activity in the market is characterized by positive feedback behavior, it may result in asset prices to shift away from their fundamental valuation. This price deviation encourages rational investors to trade in the same direction.

Speculative trades are based upon investors' private information held today and are designed to provide investors with higher returns in the next period when that private information is fully revealed to the market. This implies a positive correlation in returns as market incorporate the information into prices. Trades due to portfolio rebalancing, or hedging, is not information based

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and occurs when a trader may increase (or decrease) his stock holding by buying (or selling) a portion of his stock holding. This will be accomplished by increasing (or decreasing) the stock price to induce the opposite side of the trade.

INVESTING IRRATIONALITIES OF A PORTFOLIO INVESTOR

Besides the cognitive factors, emotions can have a large effect on preferences too. Indeed, a number of studies show that emotions substantially influences decisions in a way that differs substantially from the 'homo-economicus' (Loewenstein, Weber, Hsee, and Welch, 2001, and Loewenstein and Lerner, 2003). For example, emotions like fear have a strong (increasing) impact on loss aversion and the sensitivity to previous gains and losses (Shiv, Loewenstein, Bechara, Damasio and Damasio, 2005). In addition, emotional outcomes strengthen probability weighting (Rottenstreich and Hsee, 2001), making especially preferences over the extreme outcomes more misaligned with that of the 'homo-economicus'. Moreover, fear unrelated to the decision situation increases people's reluctance to take risk, whereas anger does the opposite (Lerner and Keltner, 2001, Lerner, Small and Loewenstein, 2004). Hence, sudden increases in fear (or decreases in anger) tend to increase risk aversion.

Often turbulence in the market isn't linked to any perceivable event but to investor psychology and cognitive biases. A fair amount of portfolio losses can be traced back to real time investor choices and their reasons for making them. Our time and cognitive resources are limited implying that we cannot optimally analyze all information needed for fully rational decisions. Unlike the 'homo-economicus' we are often not able to solve complex problems and rely on heuristics instead. Moreover, we use mental accounting practices, where we consider decision problems one at a time, bracket decisions narrowly, evaluate decisions too frequently, and use different mental accounts for different decisions. In many situations, these heuristics and practices yield optimal behavior, but in some situations they do not, yielding consequential biases in financial markets. For example, they may cause higher returns on stocks with higher measures of fundamental over market value, and they cause different amounts invested in equities or fixed income instruments depending on the frequency or horizon with which we evaluate outcomes and decisions.

The distinction between cognitive and emotional biases is critical when assessing risk tolerance. Advisors often need to adapt to client behaviors caused by emotional biases because it is hard to

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transform the way people feel and act. With cognitive biases, however, advisors have an opportunity to modify or transform a clients' thinking and to also moderate their investment behaviors.

TRADITIONAL FINANCE AND BEHAVIOURAL FINANCE

The portfolio investor is a human being and to err is just natural. Extreme volatility has plagued financial markets worldwide since the 2008 Global Crisis. Investor sentiment has been one of the key determinants of market movements. In this context, studying the role played by emotions like fear, greed and anticipation, in shaping up investment decisions seemed important. Traditional finance assumes investors always behave rationally and they can process new information quickly and accurately, whereas the evolving field of behavioral finance assumes that investors suffer from cognitive and emotional biases which may lead to irrational and unexplained financial decision making. All too many investors are completely unaware of the mental pitfalls that await them. Even once they are aware of their cognitive biases, it must also be recognized that knowledge does not equal behavior. Huge amount of information is readily available and it is upon the investor to differentiate and select. Traditional finance describes how people should behave whereas behavioral finance indicates how people actually behave. The key objective of behavioral finance however, has not been to prove any of the exiting theories obsolete, because if those theories were not able to explain puzzling scenarios successfully to a good extent, they, in all possibility, would have ceased to exist. So, what behavioral finance essentially tries to achieve is to supplement the traditional finance theories by merging it with cognitive psychology in an attempt to create a more complete model of human behavior in the process of decision making. (Thaler, 2005). It combines social and psychological theory with financial theory as a means of understanding the reasons for price movement that occur independent of any corporate actions.

Responding to how the academic community regards his investment approach, multi-billionaire Warren Buffet remarked, "Well, it may be all right in practice, but it will never work in theory."

Much of the economic and financial theories presume that individuals act rationally in the process of decision making, by considering all available information. But there is evidence to show repeated patterns of irrationality in the way humans arrive at decisions and choices when

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faced with uncertainty. Behavioral finance, a study of the market that draws on psychology, throws light on why people buy or sell stocks and why sometimes do not buy or sell at all. The most crucial challenge faced by the investor is in investment decisions. The profit made, or losses incurred by an investor can be attributed mainly to his decision-making abilities. The fact that even the most prominent and well-educated investors were affected by the collapse of the speculative bubble in the 2008 subprime crisis proved that something was fundamentally missing in the traditional models of rational market behavior.

CHALLENGES TO THIS PERSPECTIVE

Under the paradigm of traditional financial economics, portfolio investment decision makers are considered to be rational and utility maximizing. The assumption of rational expectations is simply an assumption – an assumption that could very well not be true in the real sense.

Behavioural finance as a study, has enough potential to be a valuable supplement to the traditional and standard financial theories in making portfolio investment decisions. The following fundamentals of behavioural finance highlight the challenges which need to be observed and addressed.

- Hubris hypothesis: it is the tendency to be over-optimistic. It results from a psychological cognitive bias. The investor gets swayed by the momentum that is generated in the markets in the recent past.
- Sheep theory: It is a phenomenon where all the investors are running towards the same direction. They follow the herd – not voluntarily, but to avoid being trampled and left behind.
- Loss aversion: According to this bias the portfolio investors take more risk when threatened with a loss. Thus, the mental penalty associated with a given loss is greater than the mental reward from the gain of the same size.
- Anchoring: This causes investors to under-react to available new information. This can lead to portfolio investors to expect a company's earning to be in line with their historical trends, leading to possible under reaction to any changes in trend.
- Framing: The way people behave depends on the way their decision problem is framed. Even when the same problem that is framed in different ways can cause people to make different investment choices.

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- Overconfidence: This leads people to think that they know more than they actually do. It leads portfolio investors to overestimate their market predictive skills and believe they can time the market considerably well.

So, it is not that successful investors do not have these mental errors, it is just that they understand the importance of emotions in trading, and train their mind not to mix emotions with decisions by following a two-step process:

(i) understand one's own emotional and psychological weaknesses by studying various identified anomalies or 'biases' and determine whether he/she has committed these mistakes in the past or if there is a tendency to commit this in future; and

(ii) after achieving objectives in previous step, understand the irrational behavior of others and benefit from their mistakes (Parikh, 2011). Behavioral finance proposes psychology-based theories to explain stock market anomalies such as drastic increase or decrease of prices.

RELEVANCE OF COGNITIVE BIASES AND BEHAVIOURAL FINANCE

Investors, including the likes of Warren Buffett,("Here's What Warren Buffet Thinks About The Efficient Market Hypothesis")and researchers have disputed the efficient-market hypothesis both empirically and theoretically. Behavioral economists attribute the imperfections in financial markets to a combination of cognitive biases such as overconfidence, overreaction, representative bias, information bias, and various other predictable human errors in reasoning and information processing. These have been researched by psychologists such as Daniel Kahneman, Amos Tversky, Richard Thaler, and Paul Slovic. These errors in reasoning lead most investors to avoid value stocks and buy growth stocks at expensive prices, which allow those who reason correctly to profit from bargains in neglected value stocks and the overreacted selling of growth stocks. Investors prefer riskier funds in spring and safer funds in autumn. The study showed that the beta difference required to save the EMH is just not there. It is important to note, however, that these studies were compiled in the mid-1980s and may not be reflective of more modern trends of efficiency, which often rely around extensive internet and computer-based information analytics.

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In the 1970s EMH became sensational and a lot of research work centered on why the hypothesis should hold- developed supported by immense theoretical and empirical success. The theoretical foundation of EMH is based on three key arguments (i) investors are rational and value securities rationally (ii) in case some investors are irrational, their trades are random and cancel each other out without affecting prices (iii) rational arbitrageurs eliminate the influence of irrational investors on market. The fact that Efficient Market Hypothesis was not purely based on rationality alone but also predicted efficient markets in cases where rationality did not exist, gave the theory a lot of credibility. The empirical evidence from the 1970s, which only strengthened the cause, fell into two main categories (i) any fresh news about a security should be reflected in its price promptly and completely and (ii) prices should not move as long as there is no new information about the company, since it must be exactly equal to the value of the security. Cognitive biases arise because of filtering of available information by the brain. To avoid having to deal with two different and conflicting things, the brain filters the information in relation to the person's memories. Also referred to as cognitive dissonance, it is the inconsistent mental state that precedes the adjustment process. People tend to deliberately overlook, ignore, not act upon the information that is inconsistent to their past beliefs.

Inside the arena of 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. The efficient market hypothesis had proposed that at any given time in a liquid market, prices reflect all available information and the market demand and supply are of extreme importance. There have been many studies, however, that document long-term historical phenomena in securities markets that contradict the efficient market hypothesis and cannot be captured plausibly in models based on perfect investor rationality. Many traditional models are based on the belief market participants always act in a rational and self-bettering, or wealth-maximizing, manner, severely limiting these models' ability to make accurate or detailed predictions.

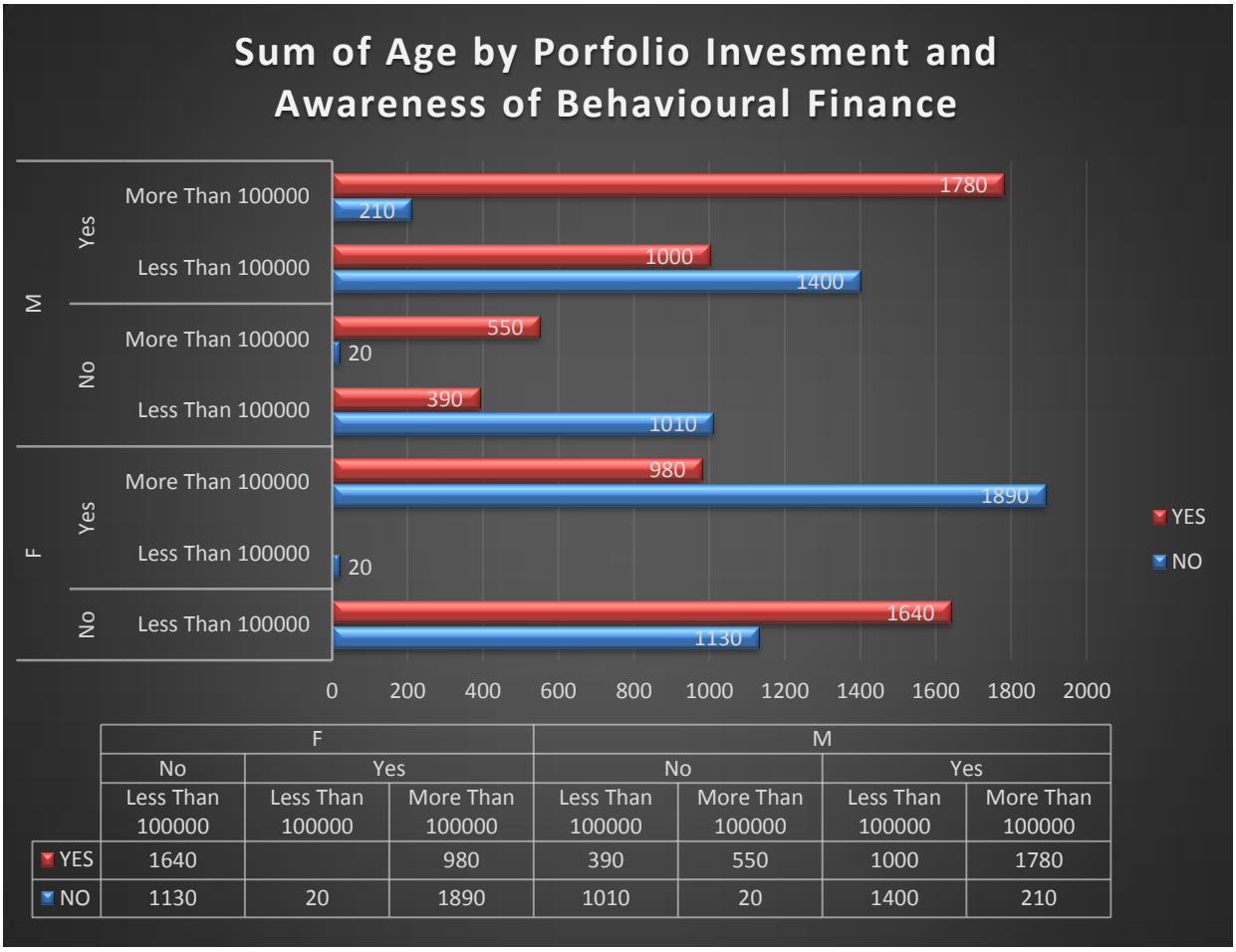
Therefore, classic finance theories may give a bad description of financial behavior. In fact, several studies confirm this suggestion in the aggregate behavior of financial markets, the trading behavior of individual investors and the behavior of managers. For example, numerous evidence shows that the most important traditional asset pricing theory, the Capital Asset Pricing Model (CAPM), is inconsistent with many empirical regularities found in cross-sectional asset pricing

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data, showing that one group of stocks earn higher (risk-adjusted) returns than another. Moreover, stock and bond returns are predictable based on various macro-economic variables, as well as investor's sentiment measures (Fama and French, 1988, 1989, Whitelaw, 1994, Cremers, 2002, Avramov, 2004, Baker and Wurgler, 2007). Hence, not all information is correctly included in market prices. Another traditional finance anomaly is the equity premium puzzle, which says that stocks outperform bonds over long horizons by a difference that is too large to explain by any rational asset pricing theory (Mehra and Prescott, 1985). Furthermore, many individual investors hold investment portfolios that are insufficiently diversified or non-preferred (Benartzi, 2001 and Benartzi and Thaler, 2002) and that under-perform benchmarks due to excessive trading (Barber and Odean, 2000).

RESEARCH CHARTS



	F			M			
	No	Yes		No		Yes	
	Less Than 100000	Less Than 100000	More Than 100000	Less Than 100000	More Than 100000	Less Than 100000	More Than 100000
YES	1640		980	390	550	1000	1780
NO	1130	20	1890	1010	20	1400	210

The awareness of non-resident Indians as to the cognitive biases and the study of behavioural finance that affects their decision making in the long run, is depicted in the charts based on the

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data collected during this research study. The data pertains to 400 non-resident Indians who belong to the age group 20-40 with experience in investing in stock markets of over 10 years or so. This data is relevant as it focusses on non-resident Indians only as the sample. The data is as shown above in the research chart. It establishes relationship between age of the non-resident investor, portfolio investment more or less than 100,000 dollars, gender, awareness of behavioural finance as a study and awareness of cognitive biases that may affect their individual investment decision making process. The investors are only a sample data and therefore the limitation of this study is that the research may yield different results when compared with countries specifically or different age groups, or income levels, or nature of their investment.

CONCLUSION

Knowing the heuristics will support these sample data investors to which they are usually susceptible and this will help them in neutralizing and avoiding to some extent the distortions in the mental perception and assimilation of information. This will, in turn, help the non-resident Indian investors to take a rational investment decision and get an edge over the other not-so-rational investors, influenced by cognitive biases.

More research on behavioural finance must deal with not only the asset pricing but also in areas like project appraisal, investment decisions and other areas of corporate finance so that managers and leaders can avoid the mental decision traps. Psychology and irrational behavior become important while studying financial markets. Behavioural finance is therefore relevant in many ways according to the new perspective. It educates portfolio investors about how to avoid cognitive biases, designing long and short-term investment strategies to exploit biases; and being aware that decision-makers in financial markets are human beings influenced by cognitive biases. It must also be realized that an implicit assumption of behavioural finance is that their findings at the individual level are also scalable to market level.

SCOPE FOR FURTHER STUDY

We have seen a powerful market recovery in asset prices in the wake of the global financial crisis 2008. We cannot forget, however, that more than $15 trillion in asset values evaporated in 2008–2009, wiping out considerably the gains earned in the comparable bull markets of the 1990s and early 2000s. During the global financial crisis, portfolio investor clients were horrified and did not know what to do. Of course, in hindsight, the correct thing to do was to ride

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out the storm; some investors sold out and regret it to this day. History has also proved from time to time that markets are cyclical, so another bear market will occur again, it is just a matter of time. When times are good, as they have been for the past eight years, the advisory services may not be relevant because they haven't had to deal with panicky, stressed-out clients. But, knowing that the global stock markets can grow suddenly turbulent, financial advisors must be able to correctly diagnose to a great extent irrational behavior and advise their clients accordingly regarding portfolio investments. That means incorporating behavioural finance into the investment practices. This can all be researched further empirically and country wise separately relevant to the data particular to each geographical location and cognitive biases of portfolio investors. It can also be further studied in terms of developing, developed and emerging market economies and how this factor is of relevance when compared globally on a single platform.

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