

Standard Finance And Behavioral Finance: A Study On It's Evolution And It's Present Status In India

Anuradha Samal¹ and A K Das Mohapatra²

¹Assistant Professor Department of Business Administration Sambalpur University, Odisha-768019, India

²Professor Department of Business Administration Sambalpur University, Odisha-768019, India

E-mail : ¹samalanu@gmail.com, ²akdm@suniv.ac.in

Abstract

The classical financial theories have been the base of finance since the mid 18th century but in the past two and half decade there has been a paradigm shift in the field of financial from classical finance to a new field of finance named as Behavioral Finance. Behavioral Finance is an improvised form of standard finance models, concepts or theories by taking insights from sociology, neuroscience, law, psychology and organisation behaviour. This paper studies about the evolution of standard finance and behavioral finance and its present status in India.

Keywords: Behavioral Finance, Evolution,

1. INTRODUCTION

The central pillars of the classical finance theories were developed by Modigliani and Miller Arbitrage Principles, Markowitz Portfolio Theory, Sharpe's Capital Asset Pricing Model and Black Scholes Option Pricing theory and Eugene Fama's Efficient Market hypothesis (Dimson,1999). The common assumptions of these theories are: (i) markets are efficient, (ii) investors always take rational decisions, (iii) investor have access to market information (iv) investors have perfect self control. (Tseng, 2006)(Singh et al., 2019). But later these assumptions were challenged by the psychologists who argued that financial decisions are influenced by emotional biases and cognitive errors for which investors act in an irrational manner. (Nofsinger et al., 2007)

The Behavioral Finance approach explains the reason behind the irrational behaviour of investors, especially why their behaviour doesn't match with the classical rationality framework. The below mentioned are few other reasons what classical finance theories couldn't explain which gave impetus for need of Behavioral Finance.

- 1) As per the classical finance theories, if the intrinsic price & market price of stock are almost same then why volatility exist?
- 2) What are the other factors than risk which affect stock return?
- 3) Why the volume of trading in the stock market is extremely high or low in some unexpected days resulting in bubble burst or market crash? (Froot,Obstfeld,1989)

Hence, it has become a promising area as it is the fastest growing area in the field of academic research in finance. With the combination of cognition, finance, psychology and economics, it helps in financial decision making and makes it more accurate. Few definitions given by the renowned contributors of behavioural finance are given below:

2. DEFINITIONS

“A study of how human interprets and act on information to make informed investment decisions” Linter G. (1998)

“Behavioral economics combines the twin disciplines of psychology and economics to explain why and how people make seemingly irrational or illogical decisions when they spend, invest, save, and borrow money.” Belsky and Gilovich(1999)

“A rapidly growing area that deals with the influence of psychology on the behavior of financial practitioners”. Shefrin (2000)

“Behavioral Finance is the study of how psychology affects financial decision making and financial market.” Shefrin (2001)

“Behavioral finance is the study of the influence of psychology on the behaviour of financial practitioners and the subsequent effect on markets. The science deals with theories and experiments focused on what happens when investors make decisions based on hunches or emotions.” Sewell (2007)

Behavioral finance is generally characterized as the use of psychology in finance (Robert J. Shiller, 1997) and it's incorporation with other disciplines like cognitive science, experimental economics, behavioural economics, cognitive psychology & behavioural science. (Angner et al., 2012)

Hence, it is the influence of psychology on the behaviour of investors or financial analyst. It also includes its subsequent effects on the markets. In order to differentiate the study of individual investor behaviour from the study of collective market behaviour or market sentiments. “Behavioral Finance is divided into 2 segments behavioral finance micro (BFMI) & Behavioral finance macro (BFMA) (Sabet et al., 2013). BFMI analyzes behavioral biases that affect individual investors financial decisions. BFMA identifies and describes the irregularities, irrationalities and markets anomalies affecting the economy and the stock market of the nation, that distinguish markets from the efficient markets of traditional finance”. (M. Pompian, 2019.)

Behavioral Finance views investors as normal but being subject to behavioral biases and errors. It tries to understand the impact of these biases on investors and markets. An average investor may neither have the ability nor the time to arrive at most favourable decision. Individuals struggle to make good decisions by simplifying the options available and accept a solution that is “good enough” instead of attempting to find the optimal answer. In doing so, they may unknowingly bias the decision-making process. These biases may lead to irrational decisions. By understanding behavioral biases, investment professionals may be able to improve their economic outcomes.

Standard Finance or Traditional Finance has been built on the pillars of Modigliani and Miller's Arbitrage Principles, Markowitz's Portfolio principles, William Sharpe's Capital Assets Pricing Model (CAPM) and Black & Scholes Option Pricing Theory. The major contributors of standard finance is discussed below.

Standard Finance Contributors

The period of mid 18th century has been considered as the classical period of economics (Pompian, 2011). The utility concept was introduced in this period, utility concept measures the individual satisfaction level gained by utilising a good or a service. (Bernoulli, 1738).

The concept of The Theory of Moral Sentiments was introduced by Adam Smith in 1759 along with the theory of Invisible hand. The invisible hand explains the unintended social benefits earned by an individual (Samuels, 2011). For his significant contribution in the field of economics he is considered as the father of modern economics.

The concept of homo economicus or rational economic man was given by John Stuart Mill in 1844. He tries to define an individual as a rational economic man who tries to optimise his financial benefits given the constraints he faces. The three primary assumptions for the concept of rational economic man is (i) perfect rationality, (ii) possess extreme self-interest & (iii) has complete information. These assumptions later became the base of the traditional financial economics (Pompian, 2011).

There existed two schools of thought in economics in the early 20th century, they were neoclassicists and institutional economist. Neoclassicists school of thought was introduced by Irvin Fischer which focussed on the study of rational individuals who aims at maximising their utility and the other school of thought were institutional economist who focused on the role of institution on economic development whose founder was Wesley Mitchell. They were considered as the building blocks of economics (Chandra,2014).

Later, in 1944 the concept of expected utility theory was introduced by John von Neumann who argued that, 'rational investors always try to optimise their expected utility which is evaluated as the weighted sums of utility values multiplied by their respective probabilities'. It classifies the individuals into risk averse, risk neutral and risk loving individuals according to their utility function. This classification is done on the basis of their risk tolerance level(Leonard, 2015).

The Markowitz Portfolio theory was developed by Harry Markowitz in 1952. This theory assists an investor to achieve the most favorable portfolio position by choosing risk-free assets & several risky securities. It aims at maximizing the expected return of the portfolio for a given amount of risk or minimizing the risk for a given amount of expected return. It helps in 'diversification of the portfolio by selecting securities with the most optimal risk-return opportunity'(Markowitz,2009).

The Modigliani–Miller theorem was introduced by Franco Modigliani and Merton H. Miller in 1958 which became the basis appropriate capital structure. It states that if two firms are alike except for their financial structures then the first (Firm U) is unlevered (financed by equity only) & the other (Firm L) is levered (financed partly by equity, and partly by debt). According to the theory the value of both the firms are the same (Modigliani, Miller, 1958).

The Arrow – Debreu model was developed by Kenneth Arrow and John Debrew in 1959 which suggested a sophisticated version of economic equilibrium(Friesen,1979).

The behavior of stock prices was examined by Kendall, Roberts, and Osborne in 1953 and found that share prices appeared to follow a random walk and gave rise to the concept of Random Walk Theory. A random walk means that successive stock prices are independent and identically distributed (Chen, Deets, 1979).

The Capital Asset Pricing Model (CAPM) was developed by Sharpe (1964), Lintner (1965) and Mossin (1966) explains the relationship between the risk of an asset and its expected return. The simplicity of CAPM makes it the most popular asset pricing models. It says investors are risk-averse & try to maximize utility shaping their preferences (French,2003).

The concept of Efficient Market Hypothesis was give by Eugene Fama which said, "ensure that real market prices which are on the basis of all available information are the best estimates of intrinsic values," He named this concept as "the efficient market." Fama wrote, "In an efficient market, the actions of many competing participants should cause the actual price of a security to wander randomly around its intrinsic value"(Malkiel,1989).

The Black-Scholes option pricing model was developed by Fisher Black and Myron Scholes in 1973. The first index fund was introduced by John Bogle in the year 1974.

Even when the rationalist model was on the rise in the world of economics and finance, the not-so rational aspects of human nature began to find its ways into economics. The major challenges originating from behavioral economics were in the following forms: (i) deviation from rationality; (ii) possibility of beating the market; (iii) deviation between market prices & fundamental values; (iv) pervasiveness of irrational forces; and (v) misleading signals from the market forces. A brief about the contributors of standard finance is given in Table 4.1.

Table 1.1: Standard Finance Contributors

Year	Contributors	Contribution	Concept Given
1759	Adam Smith	Father of modern economics	Develop the theory of Invisible hand
1844	John Stuart Mill	Influential thinkers	Developed the concept of Economic Man or <i>homo economicus</i> .
1738,1944	Bernoulli	Utility Theory	Utility concept measures the individual satisfaction gained by consuming a good or a service.
1906	IRVIN FISCHER	Founder of neo-classical economics.	Explained about rational individual, maximum utility and the concept of equilibrium and developed theories on the basis of deduction.
1913	Wesley Clair Mitchell	Founder of institutionalist.	Develop their findings based on induction. Institutionalists took a broader view and recognised the role of institutions.
1944	Morgenstern & John von Neumann	Expected utility theory	Wrote a paper on mathematics of economic equilibrium.
1952	Harry Markowitz	Markowitz portfolio theory	Developed a model that assist an investor to derive his/her optimal portfolio position.
1958	Franco Modigliani and Merton	Modigliani–Miller theorem	Developed mathematical theories based on rational behaviour and argued that the 'capital structure' policy and the 'dividend' policy of the

	H. Miller		firm did not matter. For which he was awarded noble prize in 1990
1959	Kenneth Arrow and John Debreu	Arrow – Debreu model	Developed a far more logical and sophisticated version of economic equilibrium.
1962, 1964, 1965 and 1966	Treynor, Sharpe, Lintner and Jan Mossin	CAPM	Used to determine a theoretically appropriate required rate of return of an asset, to make decisions about adding assets to a well-diversified portfolio. He also wrote a paper on Capital asset prices: a theory of market equilibrium under conditions of risk.
1970	Eugene Fama	Efficient market hypothesis	Gave the concept of efficient market stating asset prices reflect all available information which was mentioned in his Paper on “filter rules and stock-market trading.”
1970	Stevenson, Richard A. and Robert M. Bear	Commodity futures	Spoke about Commodity futures in his paper titled “Commodity Futures: Trends or Random Walks?”
1973	Black Scholes	Black & Schole option pricing theory	Developed the Black & Scholes model helpful for the valuation of Options.
1974	Meir Statman	Optimizing marginal gains	Focussed on the concept that individual behavior is mostly consistent in nature as their primary focus is on maximizing their marginal gains

Source:Self

Evolution of Behavioral Finance

Finance has been a part of economics until 1890's, when necessity of managing financial resources of firm was realised & the development of financial management as a separate discipline began. Since then, there has been a phenomenal development in this discipline which has been discussed in three phase (Pandey I.M., 2011).

The *initial phase* was named as the traditional phase which lasted upto five decades where the focus was on creating the procedural aspect & dealing with legal aspects of the financial events of the firms in which the approach was descriptive in nature, then the *second phase* was the transitional phase which started from 1940's till 1950's where the emphasis was on the managing day to day activities of firm and the difficulties faced by financial managers of industry. The *modern phase* began in around 1950's and is continuing till date where the focus has shifted from descriptive approach to quantitative & analytical approach & later to behavioral or cognitive approach. This phase has been embarked with significant developments in standard financial theories & later to behavioural finance theories. In 1759, Adam Smith spoke about mental & economic part of financial dynamic in his paper “The Theory of moral sentiments”. But afterwards with the emergence of neo classical framework the economist defined economics as the efficient allocation of scarce resources and focussed on profit maximisation objective while ignoring the important aspects of human reasoning. But psychologist found that irrationality exist among investors in the form of cognitive errors and emotional biases which can cause investors to make wrong decision. At first

conventional analyst were hesitant to acknowledge proposition given by psychologist, they were not convinced with the fact that the effects of human feelings is necessary enough to be considered as an separate area of study until Daniel Kahneman & Vernon Smith won honourable noble prize in 2002 and Richard Thaler in the year 2017 in the field of Behavioral Finance and now this field has become quickest developing area in academic research of finance and economics.

Behavioral Finance contributors

With the development of standard finance theories, a small element of behavioral finance theories also emerged due to some unanswerable portion of standard finance theories like: (i) deviation from rationality, (ii) differences between fundamental price and market price; (iii) pervasiveness of irrational forces; and (iv) misleading signals from the market forces. It has attracted many researchers to work in this field. The pioneer researchers in this field are Herbert Simon, John Muth, Daniel Kahneman, Vernon Smith, Amos Tversky Richard Thaler, Andrei Shleifer and Robert Vishny. The details about their contribution is explained below.

In 1950 Herbert Simon contended against Neumann's and Morgenstern's utility hypothesis and stated that people donot have any time or brain power to make decisions so they take shortcuts and rules. People don't optimise rather satisfice which means satisfy and suffice (Golik, 2016).

John Muth also favoured Simon and argued that even though every individual or financial practitioner need not make rational guesses about the future, rather they make predictions based on the most sophisticated model (Chandra, 2018).

Daniel Kanheman introduced the concept of prospect theory for which he received noble prize in the field of economics along with Vernon Smith. (Conkle, 2008) and is considered as the father of economics.(Madaan, G.2019)

Daniel Kahneman, Vernon Smith and Amos Tversky while working on 'human judgment and decision making under uncertainty' resulted in the formulation of a new branch of economics named the prospect theory in 1979. "The prospect theory describes how people choose between different options (or prospects) and how they estimate (many times in a biased or incorrect way) the perceived likelihood of each of these options"(Harley,2016). According to them individuals mostly depend on a set of heuristic rules or rule of thumb or shortcuts that occasionally work but sometimes doesn't. [reference\Amos Tversky psychologist Britannica.html](#)

Richard Thaler explored how economic decision making is significantly influenced by natural human cognitive limitations and biases for which he was awarded the Nobel Prize in Economics in 2017. [reference\Richard Thaler Biography, Contributions, & Facts Britannica.html](#)

Andrei Shleifer and Robert Vishny introduced the concept "limits to arbitrage". Arbitrage means a costless investment that generates riskless profits, by taking advantage of mispricings. The theory of limits to arbitrage says that these prices may stay in an unbalanced state for a significant period of time due to restrictions on rational traders/ investors. [reference\Limits to arbitrage definition Capital.com.html](#)

Growing recognition of behavioural finance led to some useful practical applications such as SMART, an innovative plan to combat problem of inadequate savings & remaking of 401(k) plan in the U.S. (Mitchell, 2003).

Hence, Behavioral finance is a fast growing discipline which tries to overcome the difficulties faced in classical finance with the contribution of many prominent authors economist psychologist.

Present Scenario of Behavioral Finance in India

Investing ensures today's and tomorrow's financial security. It allows an individual wealth to grow and generate additional income required to fulfil various financial goals. Hence, investment is considered as one of the most important tool in each and every phase of an individual's life. But an investment is mostly driven by his/her emotions and an investor is prone to make cognitive mistakes while making financial decisions. They may be over confident about their capabilities, may lack self control, miscaliberate information, overreact or exhibit herd behavior. These errors can be termed as anomalies and are the reasons for market inefficiencies like financial market bubbles, overreaction and under reaction like 'the dot-com bubble 1990s', (DeLong. J, 2006) and 'the sub prime mortgage crisis of 2007', (Tudor. C, 2009). The dot-com bubble is referred to the internet boom during the period 1997 to 2000. The investors during this phase were so outrageous that companies could increase their share prices by adding just an 'e' or a '.com' term to their title before or after respectively. This bubble collapsed in 2001 when many such companies failed. Even the most stable companies like Cisco and Amazon suffered during this collapse. Similar to the dot-com bubble, increase in speculation in the United States housing market gave rise to the real estate bubble in early 2006. The speculative fever resulted in subprime mortgage and credit crisis which led to its burst in 2007 and was one of the cause of global financial crisis of 2007-2009. The Indian economy was also affected as the Bse Sensex fell by 869 points. Even in the 2015, the Chinese stock market turbulence also affected the sensex with a sudden fall of 1624 points. Hence, the call for the understanding such irregularities and deficiencies in the individual judgment gave rise to a discipline named behavioral finance.

In India, as this field is at its early stage, efforts on creating awareness of behavioral biases among individuals has been done by various financial institution, blogs, research articles, new papers, educational institutions etc. The awareness is needed as it will help the passive investors to know their mistakes and react accordingly to the market events. It may check on the impulse buying or selling behavior of an individual. It will encourage individual to go for value investing. Value investing involves picking stocks that appear to be trading for less than their intrinsic or book value. It will ensure broad asset allocation of the investors portfolio which ensures balanced return. As investment is timeless, so knowledge of behavioral finance is always an advantage to the investors for an efficient fund management.

3. CONCLUSION

Behavioral biases is an important aspect of decision making process, there exist many intricacies which goes on with the financial decision making process. Intricacies includes anomalies, heuristics, biases, social factors, emotional factors and many more which straightforwardly refuse the standard finance theories assumptions of rationality.

References

- [1]. Ising, A. (2007). Pompian, M. (2006): Behavioral Finance and Wealth Management – How to Build Optimal Portfolios That Account for Investor Biases. *Financial Markets and Portfolio Management*, 21(4), ISBN-007-0065-3.
- [2]. Montier, J. (2002). Applied Behavioural Finance: Insights Into Irrational Minds and Markets. *Dresdner Kleinwort*.
- [3]. Field, A. (2009). Discovering Statistics Using Spss, 3rd edition, Sage Publication, ISBN: 9781847879066.
- [4]. Brooks, C. (2008). Introductory Econometrics for Finance, 2nd Edition, Cambridge University Press, ISBN: 9780521873062
- [5]. Hibbert, A.M., Lawrence, E.R. and Prakash, A.J.(2012). Do Finance Professors Invest Like Everyone Else? *Financial Analysts Journal*. 68(5), 95-105.
- [6]. Henker, J. and Paul, D.J.(2012). Retail investors exonerated: the case of the January effect. *Accounting And Finance*, 52(4), 1083-1099.
- [7]. Li, Y. and Yang, L.Y.(2013). Prospect theory, the disposition effect, and asset prices. *Journal of Financial Economics*, 107(3), 715-739.
- [8]. Hwang, S. and Rubesam, A. (2013). A behavioral explanation of the value anomaly based on time-varying return reversals. *Journal of Banking & Finance*, 37(7), 2367-2377.
- [9]. Kuo, W.Y. and Lin, T.C.(2013). Overconfident individual day traders: Evidence from the Taiwan futures market. *Journal Of Banking & Finance*. 37(9), 3548-3561.
- [10]. Bubb, R. and Kaufman, A.(2013). Consumer biases and mutual ownership. *Journal of Public Economics*. 105, 39-57.
- [11]. Cronqvist, H. and Siegel, S.(2014). The genetics of investment biases. *Journal of Financial Economics*. 113(2), 215-234
- [12]. Niehaus, G. and Shriker, D.(2014). Framing and the disposition effect: evidence from mutual fund investor redemption behavior. *Journal of Quantitative Finance*, 14(4), 683-697.
- [13]. Milian, J.A.(2015). Unsophisticated Arbitrageurs and Market Efficiency: Overreacting to a History of Underreaction? *Journal of Accounting Research*. 53(1), 175-220.
- [14]. Lin, H.W. and Lu, H.F.(2015). Elucidating the association of sports lottery bettors' socio-demographics, personality traits, risk tolerance and behavioural biases, *Personality And Individual Differences*. 73, 118-126.
- [15]. Bodnaruk, A. and Simonov, A.(2015). Do financial experts make better investment decisions? *Journal Of Financial Intermediation*. 24(4), 514-536.

- [16]. Cuthbertson, K., Nitzsche, D. and O'Sullivan, N.(2016). A review of behavioural and management effects in mutual fund performance. *International Review of Financial Analysis*.44, 162-176.
- [17]. Kumar, A., Page, J.K. and Spalt, O.G.(2016). Gambling and Comovement. *Journal Of Financial And Quantitative Analysis*. 51(1), 85-111.
- [18]. Axelrad, H., Luski, I. and Malul, M.(2016). Behavioral biases in the labor market, differences between older and younger individuals. *Journal of Behavioral And Experimental Economics*, 60,23-28.
- [19]. Tomiura, E., Ito, B., Mukunoki, H. and Wakasugi, R.(2016). Individual Characteristics, Behavioral Biases, and Trade Policy Preferences: Evidence from a Survey in Japan, *Review of International Economics*, 24(5), 1081-1095.
- [20]. Itzkowitz, J. and Rothbort, S.(2016). ABCs of Trading: Behavioral Biases affect Stock Turnover and Value. *Journal of Review of Finance*. 20(3),663-692.
- [21]. Hoehle, D., Ruenzi, S., Schaub, N. and Schmid, M.(2017). The Impact of Financial Advice on Trade Performance and Behavioral Biases. *Journal of Review of Finance*.21(2), 871-910.
- [22]. Staats, B.R., Kc, D.S. and Gino, F.(2018). Maintaining Beliefs in the Face of Negative News: The Moderating Role of Experience. *Management Science*. 64(2),804-824.
- [23]. Hu, Z.Y. and Nasiry, J.(2018). Are Markets with Loss-Averse Consumers More Sensitive to Losses? *Management Science*.64(3),1384-1395.
- [24]. Corgnet, B., Desantis, M. and Porter, D.(2018). What Makes a Good Trader? On the Role of Intuition and Reflection on Trader Performance. *Journal of Finance*. 73(3), 1113-1137.
- [25]. Mukherjee, S. and De, S.(2019). When Are Investors Rational? *Journal of Behavioral Finance*. 20(1),1-18.
- [26]. Forman, J. and Horton, J. (2019). Overconfidence, position size, and the link to performance. *Journal of Empirical Finance*. 53, 291-309.