

Behavioural Finance A Contemporary Way Of Decision Making

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Abstract

There are mainly two type of analysis in financial market - Traditional Finance and Behavioural Finance. The Traditional Theory believes that investors are rational, knowledgeable and they are not diverted by their feelings or emotions, they act quickly in financial markets and they have perfect information. On the other hand, Behavioral finance is a new concept that helps in studying the behavior of investors within the financial market and the factors that manipulate their psychological behavior and the resulting decisions that are carried out by an individual investor, while carrying out their purchase and sale of stocks within the market. Behavioural Finance give importance to the psychological aspects which helps in understanding whether investor is making rational or irrational decision. In this paper an attempt has been made to highlight shortcomings of the traditional finance, various behavioural biases and significance of behavioural financial in contemporary world therefore, the decision-making regarding finance.

Key Words – Behavioural Finance, Traditional Finance

Introduction

Change is a universal truth which is inevitable in every form of science. In last two centuries the world had gone through various industrial revolutions by making multicultural innovations and upgrading their investment patterns to meet the need and want of human civilization from the era of first steam engine to semiconductor vacuum computer and adaptation of Augmented reality. Every field of economy require not just investment but strategic one as well which take in consider human element. With the industrial revolution

in various sectors of the economy which was run and controlled by traditional market investment one factor of production was given priority and creates artificial market for stock market price regulated by niche regulators of controlled strategies resulting in affecting the investment decision for general investors but with the changing dynamics of investment and introduction of various self-awareness tools empowered the local investor to make their own investing decisions and affects all sectors of the economy primary, secondary and tertiary. Hence it became critically important to analyse and consider the behaviour pattern of individual investor and work according to the diverse flow of market. Traditionally market used to be a place where large number of buyers and selective number of sellers used to perform trade practices. similarly in the stock market the price in the demand was controlled, created and captured buy selective major investors and rest of the industry used to follow them but with the increase in the number of investors there was a pressure on the stock market controllers to attract mass to invest in their ideas hence it became generic feature of modern investment to study the verticals of various behavioural trends of individual investor before providing with them with best suitable investment options.

Now over decades over almost 100 to 200 years we have seen classical finance in very different frame. There have been theories in accountancy, we deal with profit and loss account, Balance Sheet, financial management theories, capital structure theories given by various researcher and authors, Dividend policy model, MM Model and various other approaches are there.

All of these financial models and economic theories which have been given, all of them talk about certain assumptions. So, the whole of finance and the theories which have developed in finance and economics they are drawn upon certain assumptions and one basic assumption all of these theories are that man is an economic man, a man is Rational man. He takes decision based on the maximizing his utility. But in actual practice in real life scenario none of the decision makers are rational, many times they are rational but many times they are affected by various biases. So that is what we want to understand that how these Traditional Finance theories are not being able to deliver us the answers of various questions or of various models which are given by these theories. so just recap of what are the Traditional Finance theories which we have seen or which have been developed over all these years. like all of us understand that those who understand are the students of investments. They know that there is a Capital Asset pricing model ,arbitrage pricing theory,

Efficient market hypothesis , expected utility theory and theories from economics diminishing marginal utility theory,, agency theory bounded rationality given by Herbert Simon, Modigliani Miller approach ,modern portfolio theory .so all of these Traditional Finance theory or classical theories they would usually talk about that man is rational man ,then there is a perfect competition in the market so only in perfect competitive market where there are large number of buyers, large number of sellers, there are no taxes, information is available freely. so, most of these theories are based on these underlying assumptions and then they are proving true or then their values can be calculated while making some calculations.

Objective of the Study

1. To develop the conceptual framework of Behavioural Finance and its Biasness.
2. To map the point of difference between Behavioural Finance and Traditional Finance.
3. To highlight the shortcomings of traditional finance in real world cases/ bubble bursts.

History and Foundation of Behavioural Finance

The major contributors in the area of Behavioural finance who have developed the subject are **Amos Tversky and Daniel Kahnemangot** Nobel Prize in 2002 for giving the foundation of behavioural finance by proposing prospect theory. Both of them have published around 200 paper in collaboration since 1960. In 1972 they gave prospect theory and later on they have developed lot of other theories and concepts related to behavioural finance. Since then lot of research has taken place in the subject area in countries across the world. In India the subject is new. At lot of places at graduation level at BCOM, BBA level and at the post-graduation level with various PGDM and MBA Institute this subject has been recently introduced.

Daniel Kahneman and Amos Tversky (1979) are considered as the fathers of Behavioural Finance “*Behavioural finance is a field of finance that proposes psychology-based theories to explain stock market anomalies such as severe rises or falls in stock price. Within*

behavioural finance, it is assumed the information structure and the characteristics of market participants systematically influence individuals' investment decisions as well as market outcomes."

Robert Shiller (2000) wrote a book "irrational exuberance" which predicted that there is an IT bubble which is going to crash and the markets are going to be affected and later on in his revised edition for the same book irrational exuberance in 2005 he talked about the real estate Bubble Which is going to burst in 2007 and His prediction was true and he is the one who is using behavioural finance theories to prove all that .Robert Shiller is one of the few who has foreseen the bursting of dotcom bubble and also the US global financial crisis.He has also written a book on "Finance in good society" which is about the benefits of financial innovation.

Richard Thaler (1999) is another big contributor. He got Nobel prize in this area of behavioural finance in 2017 for propounding Nudge Theory. He also has given mental accounting concept, loss aversion concept in 1999 in behavioural Finance. So, US government has already implementing this Nudge theory as propounded by Richard Thaler and he works as a professor in University of Chicago booth school of business.

So, anybody who has some interest in investment in stock market can feel that this subject is going to be very important for them because it has all the role of Finance it has been understood the whole of finance being managed by human beings so understanding their behaviour is very important.

Next biggest question arises while making the investment decision is "how do you invest your money?"

Your money is being invested by yourself, by your family members or by investment consultant who all are humans. So, there is a requirement that your understanding of human behaviour and psychology and other aspects of decision making has to be considered. So, this is one subject which throws light on what goes in the mind of an investor what goes in the mind of a person before he is investing his money. That is what we are going to discuss about finance.

Finance as a whole all of us understand is very dry subject we are dealing with numbers all the day and we are looking at the financial statements, the balance sheet, profit and loss account and then talking about taking financial decisions related to companies but over

years it was felt that it lacks some human characteristics. the decision makers like CEO, CFO, all the Managing directors, so all of them are human beings they are affected by various biases, they are affected by their behaviour, personality, attitude towards life, towards taking decisions. All of these things also affect the corporate decision-making behaviour of these managers and the top management who sitting in the big companies.

Need of Behavioural Finance

Meir Statman (2008) provides one of the best explanations that why this world needs behaviour Finance: he says *“people in Traditional Finance are rational. They are not confused by frames, they not affected by cognitive errors, they do not know the pain of regret, and they have no lapses of self-control. People in behavioural finance may not always be rational but they are always normal. Normal people are often Confused by frames, affected by cognitive errors and know the pain of regret and difficulty of self-control.”* this definition is so comprehensive it explains lot of things about human decision-making characteristics or human behaviour.

After the Dot com bubble which happened in year 2000 it was realised that there is something with these Traditional Finance theories are not able to identify and these Bubbles tends to crash as they happen in the stock market and whole economy is affected by going into depression or going into a slowdown and we can say that everything is badly affected. *(Briefly explain later in case study)*

After that there was global finance crisis which affected US market in 2007 and it was identified that traditional finance model has failed to predict such type of financial bubble or crushes or problems which affect the economy. so, there was a need at that time many researchers realised and governments also realise that is something else which we need to understand so that we are able to predict such kind of crashes and problems which economy faces. So it was found out that behavioural finance can give the answer to this theory. So Behavioural finance covers individual and group emotions and behaviour in the market.

So, this is the field which collaborates various subject areas like Personality, Cognitive Psychology, Psychiatry, Organisation Behaviour, Accounting, Sociology, Economics, Anthropology, Behavioural Economics and so combining that we have come up with the

field call Behavioural Finance. Behavioural Finance suggests that the characteristics of participants of market and structure of Information can play an important role in decision making of investor as well as overall outcome of the market.

The importance of Behavioural Finance after identifying that behavioural finance has a capability to identify that why these crashes happen, why economy goes into a depression or why there is a slowdown in the economy. So behavioural finance was identified as a significant field, Behavioural finance is about making right decision which are free from biases and error. It helps understand investor behaviour better. It helps improve financial capability of individuals because people cannot better return if you understand that what are the biases which are affecting their decision making and they can take better decisions. It helps in designing Wealth Management strategies, it is very useful for portfolio managers, mutual fund companies, investment consultants who are guiding people to how to invest their money. This subject covers individual biases, emotions, group behaviour in the market and it brings together all academic fields of study for the purpose of Decision making.

Conceptual framework of Behavioral Finance

Behavioural Finance is a field of study that studies individual and group emotions, and the impact of their behaviour on the financial markets. This is a multidisciplinary field that includes clinical psychology, psychiatry, organizational behaviour, behavioural economics, accounting, management and the art of judgement. it is very much related or drive from various other disciplines so while talking about behaviour finance concept you will find there are traces of psychology, concepts related to Sociology, social psychology, finance, behavioural accounting, investing economics and behavioural economics which will be talking about in and using their references in between.

Stephen Wendel (2019) *“Behavioural finance is an interdisciplinary field that studies of how people make financial decisions in the real world. One of the core focuses of behavioural finance is to identify the shortcuts (heuristics) and other mental quirks (biases)*

that affect people’s financial decisions, and how they can often go astray.”

W. Forbes (2009)- *“behavioral finance as a science regarding how psychology influences financial market. This view emphasizes that the individuals are affected by psychological factors like cognitive biases in their decision-making, rather than being rational and wealth maximizing.”*

behavioural finance as a subject is classified into two categories -Behavioural Finance Micro and Behavioural FinanceMacro.

1. Behavioural FinanceMicro is basically the study of individual human being and it revolves around the individual personality and individual behaviour and concepts related to that.
2. Behavioural FinanceMacro relates with the whole economy, the behaviour of the whole market, how market behave or how group behaviour of individual investors or individual decision makers or board of directors, how it happens and what are the factors that affected all those concepts having discussed in Behavioural Finance Macro concepts.

The Classification of BehaviouralBiases

<u>Behaviour Biases</u>	<u>Given By</u>	<u>Meaning</u>
Denial	Hirshleifer and Subrahmanyam (1998), Barber and Odean (2000), Gervais and Odean (2001)	Most of the times investors do not want to believe that the stock they hold become under-performing or they need to sell it off. They are in a constant state of denial. Even through the asset brings the overall return of the portfolio down, investors are hesitant to part with it.
Emotions	Baker, H. K., & Nofsinger, J. R. (2002).	Emotional Bias influence by feeling and emotions. Emotions generally arise when people are trying to avoid pain or produce pleasure. People make decisions on the basis of Misconceptions, misinterpretations, past experiences and overconfidence.
Loss Aversion	Kahneman and Tversky (1979), Coval, J., Hirshleifer, D., & Shumway, T. (2003), Berkelaar and Kouwenberg (2009), Hwang and Satchell	Investors prefer avoiding losses over achieving gain. The risk-taking ability of each investor is different. Some are risk lover, and some are risk averse. investors miss out on quite a few fruitful investments because of loss aversion.

	(2010)	
Herd mentality	Scharfstein and Stein (1990), Lakonishok, J., Shleifer, A., & Vishny, R. W. (1991), Christie and Huang (1995)	Herding play a vital role in decision making of an individual. it's the phenomenon where large number of buyers and sellers in the stock market influence the individual mindset as the result the important of individual decisions get faded through the general buying & selling. With this mentality large number of buys and sett off take place within the stock market related to the pool of companies. Hence, impacting the market flow and overall profitability of the entire sector of an economy
Framing	Shefrin (2000), Barberis and Huang (2009), Liu and Wang (2010)	Framing is nothing but self-evaluating a given situation and coming to the final conclusion for it. For example, A and B had similar options but framed in such way that in context with A there is 10% chance of loss where as in B there is 90% chance of gain. As the result most the investors tend to prefer option B instead of A.
Anchoring	Tversky and Kahneman (1974), Campbell and Sharpe (2009)	Many time investors hold on to a particular belief like paying more attention to information that supports their opinions while ignore the rest. With this investor strongly supports the motion in which they feel comfortable with and ignore the other information with could be useful.
Disposition Effect Bias	Shefrin and Statman (1985), Odean (1998), Grinblatt and Keloharju (2001), Kumar (2009)	This refers to a tendency to label investments as winners or losers. Disposition effect bias can lead an investor to hold onto an investment that no longer has adequate market value. This is harmful because it can increase capital gains taxes and can reduce returns even before taxes.
Hindsight Bias	Roese, N. J., & Vohs, K. D. (2012)	Hindsight is the situation in which investor observe the occurrence of an event as predictable one and always perform the same activity on regular basis .If investor have loss on particular stock then too, they will pretend as if they knew it earlier that they will loss, as a result of this they don't learn lessons from their wrong decisions .
Familiarity Bias	Fox and Tversky's (1995)	Its the situation where an investor tends to prefer certain familiar set of stock in the market from which he is more comfortable with and ignore the opportunity to earn more

		profits with diversification.
Self-attribution Bias	Hoffmann, A. O., & Post, T. (2014)	When investor give credit to his own conscious decision over a successful outcome and criticize the external factors for an unsuccessful outcome which tends to give negative impact on the overall buying and selling decision of an individual.
Trend-chasing Bias	Soe and Luo (2012)	A situation where investor always analysis and demonstrate there trading action based on certain historical events and try to predict the future of it without considering the events which helped certain stock to gain the popularity in past but will not going persist in near future.
Information processing errors	Beck, Emery & Greenberg, 1985; Williams Watts, MacLeod, & Mathews, 1988	It arises because people process information incorrectly, this can happen because of memory error or faulty reasoning. Generally, people use the simplest approach to solve a problem rather than depending on logical reasoning. Simplification can be harmful to the investing decisions. These are also called statistical errors.
Worry	Ricciardi (2011)	How a person might react towards a specific situation or decision that causes fear, anxiety, or unhappiness is known as worry. It is natural emotion. It alters an investor's perception about personal finances. Anxiety and fear increase perceived risk and lowers the level of risk tolerance.
Overconfidence	Odean (1998)	An Unwarranted faith in once ability by creating self-illusory world of knowledge resulting excessive trading, high probability of success in certain stock within the investor, stock brokers and asset management companies and trade unions
Representativeness	Tversky and Kahneman (1974), Dhar and Kumar (2001), Kaestner (2005)	When an individual takes decision based on past events and exercise new information into over optimisation, representing the small sample as whole universe and invest in the companies which showed success in the past events.
Cognitive Dissonance	Shiller, 1999	Cognitive Dissonance occurs when investors are presented with evidence that their assumptions are wrong. As a result

		of this, the investor ignores new information that contradicts known beliefs and decision. This behaviour leads to reduction in investor ability to make rational and fair investments
Mental Accounting	Thaler (1999), Barberis and Huang (2001)	Mental Accounting is treating one sum of money different from other like on the basis of current income, assets, present value of future income. On the basis of this variety of reasons, investor take decisions. This led to no diversification or very less diversification of investment.
Availability Bias	Tversky and Kahneman (1973, 1974), Kliger and Kudryavtsev (2010)	The Availability Bias occurs when investor give high weight on easily available information. Sometimes investors influence by advertising and take decisions. If investor have recently seen huge loss in one investment avenue then he will not invest in that avenue. Investors are more likely to be fearful of stock market if they have recently seen any stock market crisis.
Conservatism	Glaser, M., Nöth, M., & Weber, M. (2004), Oechssler, J., Roider, A., & Schmitz, P. W. (2009)	Conservatism represents that the investor made views on the basis of past information and under react to new information and take decisions accordingly. Investors hold past winning stock for long time even when that stock is losing.
Status quo bias	Samuelson, & Zeckhauser, 1988	Status quo bias occur when investor prefer things to stay the same by doing nothing or stick to the same rather than making a change. Investors trade infrequently and hold securities even if return is low and risk is high.

How Traditional Finance theory is different from behavioural finance?

As we have seen on various criteria's we can identify the difference between the Traditional Finance Theories and the Behavioural Finance Theory.

Basis	Traditional Finance	Behavioural Finance
Risk	Traditional Finance theory is considered risk as objective term that risk can be quantified, risk can be calculated as Beta, the risk can be calculated from standard deviation	behavioural finance theory says risk is subjective. one person can have a different level of risk-taking capacity as compared to another person and it cannot be objectively measured.

Return	Traditional Finance assume that risk and return have a linear relationship. if risk increase, return also increase	in behavioural finance there is a inverse relationship between perceive risk and perceived return. We are not talking about actual Risk and actual return because it is subjective risk, so the risk is perceived risk and perceived return and there is a inverse relationship exists between the two.
Rationality	Traditional Finance theories says that man is the Rational man. The decisions in Traditional Finance that given input $2 + 2$ is equal to 4. That is the theory which we assume that it is a consistent behaviour and consistent result which we will get.	in Behavioural finance theories they say that man is not rational. They are irrational or Normal. in behavioural finance we assume that decision would be inconsistent because there will be attitude of the person or personality of the human being will affect or will intervene while taking decisions.
Utility Theory	Standards Finance theories are based on maximizing utility so every person will try to maximize satisfaction on maximizes utility whichever he can derived from any decision he is taking.	Behavioural finance assume that people do not try to maximize their utility. They try to satisfy or to reach a level of satisfaction so not everybody would like to maximize utility while taking all decisions.
Arbitrage	Traditional Finance assume that arbitrage is possible arbitrages the process where in a free market people buy and sell or they make transactions without any loss of money or Without any risk. Traditional Finance theories and models say that we can predict the stock market.	behavioural finance say that it is very difficult to predict the stock market
Perfect Knowledge or Information	Traditional theories based on assumption that investor have perfect knowledge or complete information related to market	Behavioural finance theories say that people don't have complete information and even if they have complete information, they don't know how to use it.

Behavioural finance help in develop trust and confidence in client advisor relationship and will also not affected by the ups and downs of the market. Now various Bubbles which have been affecting various countries and the market and the economy is at various time periods .so all of these Bubbles are affected by because group of people they behave in a certain manner, suddenly this start buying certain things or discuss selling certain things so it is a kind of herd mentality that goes on when a bubble is built and when the bubble is burst.

Case Studies related to situations when Traditional Theories Failed.

A. DOT COM Bubble (in year 2000)

In atmosphere of euphoria was created in 1990s due to skyrocketing success of the internet. Many internet companies known as “dot com” were came in USA. Investors purchased their stock blindly in anticipation of booking huge profit.

The stock prices that were going up at an inflated rate, were to be sold at some point of time. Just when this market bubble was at its peak, several companies like Dell and Cisco started selling their shares. This created panic among the investors and to evade any possible loss to them, started withdrawing all their money. Within few weeks the stock market suffered 10% decline in the value and then market fall rapidly from 10% to 90%.

The herd mentality was bound to fail and stock prices of new established companies crashed badly in year 2001 which led to market crash. (beside the attack on the Twin-Tower).

Company like Pets dot. com was reduced to zero within few weeks. Some popular companies that were able to survive this, were Amazon (although its stocks fell by more than 90%), Qualcomm, eBay, Cisco etc.

By 2002, market capitalisation of millions of dollars in these companies were reduced to no worth.

B. Japan's Bubble Economy of the 1980s

Okina, K., Shirakawa, M., & Shiratsuka, S. (2001).

It's a nationwide financial economic phenomenon happen in Japan Bank in 1980, it also known as the Japanese asset price bubble, it related to some terms such as currency war, monetary easing, credit expansion and Euphoria.

In the 1970 Japan was very successful in its electronic industry, they even expand their business into worldwide, dominating the Global market of electronic products such as pocket radio, recorder and Walkman, which is nearly everything except CPU chip that was still dominated by Americans.

As it also acted as the major role in video game market, Japan was crowned as "the king of the Global electronic industry".

Due to good economic environment the living standard of the country rose to the top of the world. This period was called the economic miracle.

The graph of economic growth looked so nice and strong that people became very optimistic about the economy, taking Japan in euphoria, which started a trend of investing.

In 1985, Americans were aware of their own currency being too high which lowered their competitiveness. The Americans announced that they decided to interfere the currency market by signing the Plaza Accord with Germany, England, France and Japan. Japanese yen started to increase its values in rocket speed turning from \$1 to 220 yen to \$1 to 150 yen in a short period of time. The great change of exchange rate also led to American government Bond deficit. Investor got panic and leave the American market and turned to Japan.

A large amount of capital has flown to Japan's market to stay away from the crisis. With the high rising yen value, the net export has fallen which forced the bank of Japan to use low interest rate policy and monetary easing. This action further stimulates the investing motivation in Japan, which triggered the formation of the bubble. Stock market and land value started to thrive. More investment was made. And with the people believing that land will not devalue. The sum of land price in only Tokyo can buy the whole terrain of America. Banks wanted to make more money so they lend more money to people who owned a piece of land.

People and institution had aggressive behaviour without adequate risk management. This cycle has sustained for 4 years until it reaches the maximum which the land value

cannot rise anymore. One day the government realised that the country has a big asset bubble they called the bank of Japan to do something. the bank of Japan decided to tighten the monetary policy and not a while after the bubble crashed.

The Nikkei index fall from the vertex point to less than half of it in less than a year. The land value then followed to jump off the cliff together. Loans with credit to land that were given to people become bad loans, which seriously damaged the banking system and the economy in Japan. People become panic and the motivation of investing has gone. Everyone just wanted to withdraw themselves from the market. Companies either went bankruptcy or can just survive rely on government subsidy becoming Zombie companies. The amount of money that put into the market might already be more than the money they can earn throughout their lives. Family tragedy has resulted and all most of the people became loses in the economic event the bursting of the bubble contribute to what it is called The Lost decade the Japanese government claimed to use about 10 years to recover the economy

C. “Tulipomania” of 1634-1637

Dash, M. (2001), The Tulip Mania of 1630 the time in Amsterdam where everybody you know started going to buy tulip flower which was cheap at that time. The group of people started buy and the price of any commodity is determined by the demand and supply, so when certainly demand of Tulip started increasing everybody thought that it's going to be a good product and we can sell it at a higher price. Suddenly the price of Tulip increased to 10 to 100 times and even the farmers in that area were growing tulips and later on one day that Bubble Burst and suddenly there was no takers of Tulip and suddenly the price fall to very low level and that is what you know how Bubbles burst.

so why Bubbles happen because there is uncertainty in the market ,there is leverage which means when you are borrowing money and using that money for investment or for buying your Assets and later on you have to pay back and then you are not able to pay back so suddenly the supply of those things increase and in last, greed. It is an important factor because of which Bubbles will take place.

Conclusion

Thus, it can be concluded that behavioural finance is the most emerging aspect of financial industry. It proves its creditability in discovering various errors related to traditional finance mechanism and uncover the serious limitations of traditional financial management. It further can be summed up as it opens a wider perspective of behavioural finance toward understanding finance with a help of psychology in it. Further, to sum up, behavioural finance give an edge to new thinking and paradigm shift in the field of investment and finance.

Bibliography

- Baker, H. K., & Nofsinger, J. R. (2002). Psychological biases of investors. *Financial services review*, 11(2), 97.
- Barber, B. M., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment performance of individual investors. *The Journal of Finance*, 55(2), 773-806.
- Barber, B., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment performance of individual investors. *The Journal of Finance*, 55(2), 773–806. doi:10.1111/00221082.00226
- Barber, B., & Odean, T. (2001). Boys will be boys: Gender, overconfidence and common stock investment. *The Quarterly Journal of Economics*, 116(1), 261–292. doi:10.1162/003355301556400
- Barberis, N. C., & Huang, M. (2001). Mental Accounting, Loss Aversion and Individual Stock Returns. *The Journal of Finance*, 56(4), 1247–1292. doi:10.1111/0022-1082.00367
- Barberis, N., & Huang, M. (2009). Preferences with frames: a new utility specification that allows for the framing of risks. *Journal of Economic Dynamics and Control*, 33(8), 1555-1576.
- Beck, A. T., Emery, G., & Greenberg, R. (1985). Anxiety and phobias: A cognitive approach.
- Berkelaar, A., & Kouwenberg, R. (2009). From boom ‘til bust: how loss aversion affects asset prices. *Journal of Banking & Finance*, 33(6), 1005-1013.
- Campbell, S., & Sharpe, S. (2007). Anchoring Bias in Consensus Forecasts and its Effect on Market Prices (Staff Working Paper). Finance and Economic Discussion Series. Washington, DC: Federal Reserve Board.
- Christie, W. G., & Huang, R. D. (1995). Following the pied piper: Do individual returns herd around the market? *Financial Analysts Journal*, 51(4), 31-37.

- Coval, J., Hirshleifer, D., & Shumway, T. (2003). Can individual investors beat the market? Harvard Business School. working paper.
- Daniel, K., Hirshleifer, D., & Subrahmanyam, A. (1998). Investor psychology and security market under- and overreactions. *the Journal of Finance*, 53(6), 1839-1885.
- Dash, M. (2001). *Tulipomania: The story of world's most coveted flower and the extraordinary passions it aroused* (2nd ed.). New York: Three Rivers Press.
- Dhar, R., & Kumar, A. (2001). A non-random walk down the main street: Impact of price trends on trading decisions of individual investors. Yale International Center for Finance. Working Paper.
- Fox, C. R., & Tversky, A. (1995). Ambiguity aversion and comparative ignorance. *Quarterly Journal of Economics*, 110(3), 585–603.
- Gervais, S., & Odean, T. (2001). Learning to be overconfident. *The Review of Financial Studies*, 14(1), 1-27.
- Grinblatt, M., & Keloharju, M. (2001). How distance, language, and culture influence stockholdings and trades. *The Journal of Finance*, 56(3), 1053-1073.
- Hoffmann, A. O., & Post, T. (2014). Self-attribution bias in consumer financial decision-making: How investment returns affect individuals' belief in skill. *Journal of Behavioral and Experimental Economics*, 52, 23-28.
- Hwang, S., & Satchell, S. E. (2010). How loss averse are investors in financial markets? *Journal of Banking & Finance*, 34(10), 2425-2438.
- Hwang, S., & Satchell, S. E. (2010, 19 February). How loss averse are investors in financial markets?
- Kaestner, M. (2005, March). Anomalous price behavior following earnings surprises: Does representativeness cause overreaction? (Working Paper). Université Montpellier II.
- Kahneman, D. (2011) *Thinking, fast and slow*. New York, Farrar, Straus and Giroux
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–292. doi:10.2307/1914185
- Kliger, D., & Kudryavtsev, A. (2010). The availability heuristic and investors' reaction to company specific events. *Journal of Behavioral Finance*, 11(1), 50–65. doi:10.1080/15427561003591116
- Kumar, A. (2009). Hard-to-value stocks, behavioral biases, and informed trading. *Journal of Financial and Quantitative Analysis*, 44(6), 1375–1401. doi:10.1017/S0022109009990342
- Lakonishok, J., Shleifer, A., & Vishny, R. W. (1991). Do institutional investors destabilize stock prices? Evidence on herding and feedback trading (No. w3846). National bureau of economic research.

- Liu, Y. J., Wang, M. C., & Zhao, L. (2010). Narrow framing: Professions, sophistication, and experience. *Journal of Futures Markets: Futures, Options, and Other Derivative Products*, 30(3), 203-229.
- Odean, T. (1998). Are investors reluctant to realize their losses? *The Journal of finance*, 53(5), 1775-1798.
- Oechssler, J., Roider, A., & Schmitz, P. W. (2009). Cognitive abilities and behavioral biases. *Journal of Economic Behavior & Organization*, 72(1), 147-152.
- Okina, K., Shirakawa, M., & Shiratsuka, S. (2001). The asset price bubble and monetary policy: Japan's experience in the late 1980s and the lessons. *Monetary and Economic Studies (Special Edition)*, 19(2), 395-450.
- Ricciardi, V. (2011, September). The financial judgment and decision-making process of women: The role of negative feelings. In Third Annual Meeting of the Academy of Behavioral Finance & Economics.
- Roese, N. J., & Vohs, K. D. (2012). Hindsight bias. *Perspectives on psychological science*, 7(5), 411-426.
- Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1(1), 7-59. doi:10.1007/BF00055564
- Scharfstein, D. S., & Stein, J. C. (1990). Herd behavior and investment. *American Economic Review*, 80(3), 465-479.
- Sewell, M. (2010, April). *Behavioral Finance (Revised)*. University of Cambridge
- Shefrin, H., & Statman, M. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. *The Journal of finance*, 40(3), 777-790.
- Shefrin, H., & Statman, M. (2000). Behavioral portfolio theory. *Journal of financial and quantitative analysis*, 35(2), 127-151.
- Shiller, R. J. (1999). Human behavior and the efficiency of the financial system. *Handbook of macroeconomics*, 1, 1305-1340.
- Shiller, R. C. (2000). Irrational exuberance. *Philosophy and Public Policy Quarterly*, 20(1), 18-23.
- Shiller, R. (2005) *Irrational Exuberance*, Second Edition, Princeton University Press, USA.
- Soe, A. M., & Luo, F. (2012). Does Past Performance Matter? S&P Persistence Scorecard. S&P Persistence Scorecard (June 7, 2012).
- Statman, M. (1999). Behavioral Finance: Past Battles and Future Engagements. *Financial Analysts Journal*, 55(6), 18-27. doi:10.2469/faj.v55.n6.2311
- Statman, M. (2008). What is behavioral finance? In *Handbook of Finance (Vol. II)*. New Jersey: John Wiley & Sons, Inc.

- Thaler, R. (1999). Mental accounting matters. *Journal of Behavioral Decision Making*, 12(3), 183–206. doi:10.1002/ (SICI)1099-0771(199909)12:3<183: AIDBDM318>3.0.CO;2-F
- Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 5(2), 207–232. doi:10.1016/0010-0285(73)90033-9
- Tversky, Amos, and Daniel Kahneman (1974). Judgement under uncertainty: Heuristics and biases. *Science* 185:4157, 1124-1131
- W.Forbes (2009), *Behavioral Finance*, Publisher John Wiley and Sons Ltd , ISBN10 0470028041
- Williams, J. M. G., Watts, F. N., MacLeod, C., & Mathews, A. (1988). *Cognitive psychology and emotional disorders*. John Wiley & Sons.