



REVIEW ON DISPOSITION EFFECT IN STOCK MARKET

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ABSTRACT

Bias is a human tendency that affects behavior and perspective based on predetermined mental notions and beliefs. Biases appear across many areas of life and are extremely present in investing. Investor behavior deviates from logic and they display many behavior biases that influence their decision-making process. When investors act on a bias they don't explore full issue and can be ignorant to evidence that contradicts their initial opinions. This prevent investors from taking rational decisions. Studies have proven the fact that psychological factors have relationships and impacts on the decision making of investors in stock market.

One such bias is Disposition effect. It is a kind of anomaly found in Behavioural Finance. It refers to the tendency of investors to keep assets that have decreased value and to sell assets that have increased value. The effect was identified by Hersh Shefrin and Meir Statman in 1985. Investors sell stocks that have risen value and keep the stocks that have decreased value. This study aims to find the extent to which the behavioral biases affect individual investor's investment decisions, the various factors that affects and also to find whether the behavioral biases decrease when investor sophistication increases from individual investors to institutional investors.

KEYWORDS: *Disposition, behavioural biases, investor sophistication*

INTRODUCTION

Traditional finance models assume that investors are rational. The Efficient Market Hypothesis states that the capital market is efficient in processing information. In the words of Elton and Gruber, "when someone refers to efficient capital markets, they mean that security prices fully reflect all available information." A market is said to be efficient, with respect to information, if the price fully reflects that information. (Fama, 1970). Studies that challenge the rationality came up from Behavioural Finance thinkers. Amos Tversky, Daniel Kahneman and Richard Thaler are considered to be the founding fathers of the concept of Behavioural Finance. According to Shefrin, "Behavioural Finance is the application of Psychology to financial behavior- the behavior of investment practitioners." (Shefrin, 2001) It deals with the influence of psychology on the behaviour of individuals and it's subsequent impact on stock markets. It attempts to explain how psychology and emotion affects investments decisions. It's focus is on investor- his behavior and his decisions. It also explains about the abnormalities or market anomalies which Neo classical theories failed to explain. It studies the influence of psychology in investor's behaviour and which makes them to take irrational decisions based on various emotions and errors in thinking process. Past experiences, overconfidence, market trends, familiarity etc will affect the decisions taken by the investors and hence behavioural biases has a major role in investor's decision-making process.

TRADITIONAL FINANCE THEORIES

Expected Utility Theory published by Von Neumann and Morgenstern in the year 1944 states how to be rational when the outcome is unknown i.e. it is an uncertain situation. When faced with different choices one should choose an option that maximizes the expected value of utility which is the sum of products of probability and utility over all possible outcomes.

Modern Portfolio Theory: A rational investor aims at choosing a portfolio which maximizes return at minimum risk. Harry Markowitz in his article titled Portfolio selection, which was published in Journal of Finance in the year 1952, which later won Nobel Prize, provides tools for determining optimum portfolio. In his model he explains about efficient set of portfolios. Efficient portfolio is chosen based on comparisons between risk and return. If two portfolios have same level of risk, then investor should choose one with more return on comparison. These are based on the assumption that the investor is rational and are risk averse and hence will prefer investments in efficient portfolios. To identify efficient portfolios Harry Markowitz used quadratic programming. Using expected return from a security, its risk and covariance estimated for pair of securities, he calculated risk and return for every portfolio. With the help of quadratic programming, he identified the least risk portfolio. Markowitz model has got limitations too. According to this model an investor should collect estimates of return, risk etc to identify the efficient sets and the complexities involved.

Capital Asset Pricing model: Capital Asset Pricing Model is an extension of Portfolio theory of Harry Markowitz. CAPM explains relationship between expected return and systematic



risk of a security. Even a well diversified portfolio is subject to variability and this variability which is undiversifiable is called as market risk or systematic risk. Capital asset Pricing Model gives a way to measure this systematic risk. CAPM also helps in identifying whether securities are underpriced, overpriced or correctly priced. Major limitations with Capital Asset Pricing Model is its unrealistic assumptions.

Random Walk Theory-Efficient Market Hypothesis : A theory came out that questions the assumptions of technical analysis. Technical analysis assumes that stock prices are orderly and not random. Random walk theory questions this assumption of orderly movement of stock prices. As its name says this theory states that stock price movements are random and not orderly. It is based on the assumption that stock markets are efficient. Hence, also called as Efficient Market Hypothesis [EMH].

EMH assumes that capital market is efficient and the securities are correctly priced. In the words of Elton and Gruber, "when someone refers to efficient capital markets, they mean that security prices fully reflect all available information." According to this theory, there is no opportunity for the investors to earn excess returns through fundamental or technical analysis since when a new piece of information is received, prices get adjusted to new levels. There are three forms of market efficiency: Weak form, semi strong form and strong form. Weak form provides information related to past movements of security. New price movements are random which is not affected by historical information. Semi strong form deals with publicly available information and hence when new information about the company is received, stock prices get adjusted to new levels. Strong form deals both public and private information wherein investors are not given any opportunity to earn super profits since current security price reflects both public and private information.

HISTORY OF BEHAVIOURAL FINANCE

Traditional finance models assume that investors are rational. Psychologists Daniel Kahneman and Economist Vernon Smith were first considered the term Behavioural Finance. It attempts to explain how psychology and emotional affects investments decisions. Its focus is on investor: his behavior and his decisions. It tries to explain about the abnormalities also called as the market anomalies which Neo classical theories failed to explain. Amos Tversky and Daniel Kahneman studied three major areas: Risk attitudes, mental accounting, and overconfidence (Litner,1998). Results of the study shows that male predominantly involve in financial markets and there exists relationship between personality traits and psychological biases and the personality traits have an effect on financial risk tolerances.(Bayrakdaroglu et al., 2016)

Traditional Finance vs. Behavioural Finance

Traditional finance consider people as rational who aims to maximize their return, acts on logic and takes decision rationally.. It presupposes that people view and takes decisions on the basis of risk and return. Traditional finance also assumes

that the markets are efficient and follows random walk i.e. prices comes back to equilibrium level though it fluctuates.

Behavioural finance assumes people as irrational who are affected by cognitive and emotional errors while making investment decisions. Their perceptions of risk and return are influenced by various biases and the way information/ decision is framed. There can be differences in market value and fundamental value.

Disposition Effect : Literature Review

It is a kind of anomaly found in Behavioural Finance. It refers to the tendency of investors to keep assets that have decreased value and to sell assets that have increased value. The effect was identified by Hersh Shefrin and Meir Statman in 1985. Investors sell stocks that have risen value and keep the stocks that have decreased value. It is a behavioural tendency that predicts that investors will sell winning stocks too soon and hold losing stocks too long to optimize profits (Garvey & Murphy, 2004). Disposition effect can be described as difference between investor's propensity to realize winner and loser stocks in their portfolio. (Odean et al., 1998).The presence of disposition effect is confirmed at individual investor level.(Odean et al., 1998).Disposition effect is defined as difference in each investor's paper gains realized and paper loss realized. (Dhar & Zhu, 2006).Disposition effect is evident across many investor groups. It affects individual investors, home buyers, futures traders, professional account managers, experimental laboratory subjects, proprietary stock traders, and financial institutions.(Feng & Seasholes, 2005).Disposition effect is found more prevalent in household and retail investors (Kautia, 2010).People are risk averse when facing gains and are risk seeking when facing losses. And hence, they keep losers too long and sell winners too fast. Various Disposition patterns like Disposition Effect, reverse disposition effect and the pattern of symmetry in terms of price changes were spotted.(Kuo & Chen, 2012). The maximum loss an investor tolerates intrigues him to realize a losing stock and the minimum value desired by an investor keeps them from selling the winners with the net profits.(Kuo & Chen, 2012).

Investor Sophistication & Disposition Effect

Investor sophistication is correlated with disposition effect in an unpredictable manner. And investor sophistication reduces but do not end eliminate the disposition effect.(Feng & Seasholes, 2005). Less sophisticated investors makes poorer choices than institutional investors and the extend of biases differ between them. If left unchecked, behavioural biases can damage the performance levels of Financial analysts and portfolio managers.(Baker & Ricciardi, 2014). Disposition effect is found in stocks and reverse disposition effect is significantly found in funds and the difference in disposition effect is driven by difference in investor propensity to sell losses. (Chang et al., 2016).The two sides of Disposition effect i.e. holding losing stocks and selling winning stocks are not driven by same biases. (Weber and Welfens 2008). 'Self regard' and 'investing confidence' have opposing influence on



Disposition effect. Investors with lower self regard hold losing investments longer than investors with higher self regard and those with higher confidence hold losing investments longer than low confidence investors. (Kadous et al., 2014). Investors delay recognition of losses to defend against the threat to their self image. They trade off financial gain for loss. (Kadous et al., 2014). More sophisticated investors diversify their portfolio right from the start of trading career. (Feng & Seasholes, 2005). Sophistication & trading experience eliminate investor's reluctance to realise losses and it reduces the propensity to realise gains by 37%. Trading experience can reduce the magnitude of Disposition effect. (Feng & Seasholes, 2005). It is based on the reference point that investor calculates gains and losses. Reference point need not be a fixed point. (Garvey & Murphy, 2004). True reference point is difficult to establish for investors with longer holding periods. (Garvey & Murphy, 2004). At the market level where purchase price are unknown, historical prices can be adapted as reference point. (Kliger & Kudryavtsev, 2008) At the market level where purchase price are unknown, historical prices can be adapted as reference point. (Kliger & Kudryavtsev, 2008)

Reasons for disposition effect

Some of the reasons behind selling winning stocks and keeping losing stocks are:

- Mean Reversion: Expecting a rebound on poor performing stocks. Investors keep losing stocks with the expectation that prices will rise in future (Da Costa Jr et al., 2008)
- Another cause of Disposition effect is the misestimation of chances of future price change i.e they may think erroneously that losing stocks may bounce back and there can be a fall in winning stocks. This can be another reason for Disposition effect. (Odean et al., 1998), Weber and Camerer, 1998).
- Rebalancing Portfolios/Avoid higher transaction cost on low priced assets
- Avoiding regret and seeking pride
- Tax Advantage

Reasons for disposition effect can be explained in two ways. First, Usage of purchase price as reference point and are reluctant to realize losses. Thus they keep stocks that have lost its value and sell stocks that has gained value. And the subjects misperceive probabilities of future price changes. They might think winning stocks will fail and losing stocks will bounce back. The link between Prospect theory and Disposition effect remains unsolved. (Kuo & Chen, 2012). Evidence of disposition effect is uniform across many investor groups (Feng & Seasholes, 2005). Disposition effect is economically and statistically significant in each group tested i.e more sophisticated investors are less prone to Disposition effect than the average investor. Combination of trading experience and sophistication eliminates investor's reluctance to realize losses while these won't eliminate investor's propensity to realize gains. (Feng & Seasholes, 2005). The convexity of the value function implies that when investors will not realize losses

expecting rise in price of losing stock. And the concavity implies that they would realize gains immediately when asset prices appreciate over cost. (Kuo & Chen, 2012). Trading experience reduces but does not eliminate Disposition effect. Sophistication and trading experience (Feng & Seasholes, 2005).

What happens to disposed investors?

Studies have proven that inexperienced investors are more prone to Disposition effect. They end up accumulating losses (Odean et al., 1998). Selling winners results in tax cost and holding losers implies forgoing tax benefits. (Prosad et al., 2018). Fewer studies have done in Indian context.

CONCLUSION

What prevents investors from taking rational decisions? Here comes the relevance of Behavioural Finance which proposes psychology based theories that explains about the anomalies in stock market. Behavioural finance is the study of how psychology affects financial decisions making and financial markets (Shefrin, 2001). It explains about the reasons behind the market anomalies. One such anomaly called as bubble and the famous Tulipmania which crashed stock market is an incident which questions rationality of investors. Better awareness of disposition effect can motivate investors to sell their losers earlier, deduct trading loss in tax filing and improve after tax portfolio performance. Trading frequency helps investors become more willing to sell losers thereby reducing Disposition effect. (Dhar & Zhu, 2006). More studies in Indian context are to be done in this area.

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