Management Dynamics

Volume 19 | Number 1 Article 5

June 2019

Investor Characteristics and Effect of Disposition Bias

Mansi Gupta
JIM

Sayyed Zuhair Ali
JIM

Neelabh Barua
JIM

Maulin Kumar
JIM

Nidhi Singh
JIM

Recommended Citation

Gupta, Mansi; Ali, Sayyed Zuhair; Barua, Neelabh; Kumar, Maulin; and Singh, Nidhi (2019) "Investor Characteristics and Effect of Disposition Bias," *Management Dynamics*: Vol. 19: No. 1, Article 5.
DOI: https://doi.org/10.57198/2583-4932.1286
Available at: https://managementdynamics.researchcommons.org/journal/vol19/iss1/5

Investor Characteristics and Effect of Disposition Bias

Submitted by:

Mansi Gupta (mansi.gupta.22l@jaipuria.ac.in)

Sayyed Zuhair Ali (zuhair.ali.22l@jaipuria.ac.in)

Neelabh Barua (neelabh.barua.22n@jaipuria.ac.in)

Maulin Kumar (maulin.ramoliya.22j@jaipuria.ac.in)

Nidhi Singh (nidhi.singh@jaipuria.ac.in)

INTRODUCTION

Behavioural finance has evolved as a new topic in recent decades, including the important role of psychology in finance. This new subject has attracted the interest of practitioners and scholars looking for solutions for current unsolved challenges in the mainstream finance paradigm. The whole value investing idea is founded on behavioural finance concepts. Value investing is based on the assumption that markets are inefficient in the short run. Greed and fear take over, causing individuals to make foolish judgments. As a result, if a person pays attention to behavioural finance, they may detect and comprehend these triggers. Behavioral finance prevents people from slipping into basic psychological pitfalls. Instead, it allows them to profit from market overvaluations and undervaluation since a huge majority of investors make judgments based on emotion.

Behavioural finance investigates the impact of psychology on the behaviour of financial practitioners and the resultant effect on markets in order to explain why and how markets may be inefficient (Sewell, 2007). This field uses social cognitive and emotional biases to analyse economic decisions, specifically how such decisions impact market pricing, returns, and resource allocation. It is largely concerned with the rationality assumption of economic actors, given that investors make mistakes owing to the presence of emotions in their financial decisions, as well as the mistakes of others (Chandra,2008).

One of these biases is the disposition effect, which can drastically reduce an investor's return (Odean, 1998). As a result, it is widely explored in behavioural finance. The bias highlights a pattern in which investors are hesitant to recognise capital losses while selling capital profits rapidly (Shefrin and Statman, 1985). Prospect theory (Kahneman and Tversky, 1979), Mental Accounting (TWoodford, 2012), and emotions all give explanations (Shefrin and Statman, 1985). Duxbury (2015) show that emotional reactions such as remorse are required for disposition effects to occur. The impact has been proven for individual investors (Odean, 1998; Dhar and Zhu, 2006), professional traders (Garvey and Murphy, 2004), home owners (Genesove and Mayer, 2001), and students (Genesove and Mayer, 2001).

The disposition effect is a behavioral economic theory that states that investors tend to sell wins fast while holding on to losers for a longer amount of time. Prospect theory or loss aversion can explain this behaviour. The investor who is concerned that the winner's value may begin to decline in the future sells it immediately. At the same time, unwilling to accept the loss produced by the loser stock, the investor remains on to it in the belief that its value will rise in the future. The effect of disposition effect can be realized by testing the frequency with which investors sell winners and losers relative to their opportunities to sell each. Realized gains/losses: value of stocks sold at higher/lower prices than their average purchase prices respectively. Similarly, Paper gains/losses: value of stocks in the portfolio with higher/lower end-of-period prices than their average purchase prices respectively.

INDIAN STOCK EXCHANGE OVERVIEW:

The National Stock Exchange of India Limited (NSE) is India's main stock exchange, with headquarters in Mumbai, Maharashtra. The NSE was established in 1992 as the country's first dematerialized electronic exchange. The NSE was the first exchange in the nation to provide a sophisticated, fully automated screen-based electronic trading system that offered easy trading services to investors throughout the country. The National Stock Exchange has a total market value of more than US$3.4 trillion as of August 2021, making it the world's tenth-largest stock exchange. The NSE's flagship index, the NIFTY 50, a 50-stock index, is widely used as an indicator of the Indian capital market by investors in India and throughout the globe. In 1996, the NSE launched the NIFTY 50 index.

This study is based on primary research, and the data from the survey is used to examine the disposition impact on investors who invest in the stock market, as well as to quantify their behaviour and how much they are influenced by the disposition effect. In this study, we would examine the disposition influence on stock market traders and how they behave when there are gains and losses. Individual investors have lost a lot of money in stock markets due to investors' inclination to sell assets where they have made money and keep assets where they have lost money, as well as overconfidence.

LITERATURE REVIEW

(Shefrin, 2010) surveyed the highlights of the disposition effect literature that are of special interest to investment professionals. Recent research concludes that the disposition effect impacts investment professionals, both directly and indirectly. The direct effect involves investment professionals tending to sell their winners too quickly and/or riding their losers too long. The indirect effect involves momentum in pricing that in part stems from some investors behaving in accordance with the disposition effect. Notably, the disposition effect and momentum are key determinants in the separation of outperforming investors from underperforming investors (Vollan, 2010). They found that many investment professionals are susceptible to the disposition effect. That disposition appears to impact prices, contributing to momentum in stock returns. Historically, aggregate disposition among fund managers is associated with abnormal returns (Sevdalis and Harvey, 2007). The disposition effect and momentum appear to differentiate outperforming investors from underperforming investors. Currency and commodity traders who lack discipline achieve lower risk-adjusted performance than traders who are more disciplined. In the aggregate, fund managers who are adept at exploiting momentum outperform fund managers who are less adept (Sonsino, et al. 2020). Many of the most-successful outperforming funds use new cash inflows to invest in new momentum stocks. Some underperforming funds ride their losers instead of exchanging those losers for new momentum stocks. In the aggregate, institutional investors tend to trade on momentum. As a general matter, underperforming institutional investors tend to hold momentum stocks too long, thereby failing to exploit the potential that momentum offers in generating positive alpha (Vo and Phan, 2019)

Tehseen et al. (2017) examined the disposition effect in the Karachi Stock Exchange (KSE) and investigates its role in asset pricing in the same market. The result showed that disposition effect is dominant in KSE and beta of excess market returns is positively related with expected returns while the disposition effect is negatively related to expected stock return. Thus, the disposition effect decreases the real earnings. Also, they focused on the importance of understanding of psychology in asset pricing and divulges that investor expected returns are decreased by the disposition effect

(Zahera & Bansal, 2019) studied about the disposition effect that is exhibited by the investors through the review of research articles in the area of behavioral finance. When the investors are hesitant to realize the losses and quick to realize the gains, this phenomenon is known as the disposition effect. This paper explained various theories, which have been evolved over the years that has explained the phenomenon of disposition effect. It included the behavior of individual investors, institutional investors and mutual fund managers. They found that the disposition effect is caused because of a variety of factors like prospect theory, mental accounting, overconfidence, regret aversion, tax-motivated selling, etc. Different investors are faced with different amount of disposition effect based on their respective demographic characteristics. By attaining a high level of the understanding of the financial markets, the investors could acquaint themselves with the probable effects of the financial decisions and reduce it appropriately. This requires a conscious decision both on the part of the individual investors, the institutional investors and the mutual funds. The actual market conditions are far different from the ideal market conditions. A reduction in the disposition effect can potentially reduce the uneven changes in the equity prices and can enhance the efficiency of the stock market. Though, only seeking knowledge of the disposition effect alone cannot reduce its effects completely, but it can help to reduce its potential effects which might arise in the future. This is a rapid indication for all the investors to be well-coordinated and balanced before investing in any security. The requisite consideration of the disposition effect can be put to use while taking investment decisions in the stock markets. The solutions to the behavioral puzzles can be found out properly if the changes in the stock markets are viewed from a wider perspective. This could desirably have positive implications in the long run

(Oreng, Yoshinaga, & Junior, 2021) investigated the association of demographic characteristics, market conditions and risk taking with the disposition effect using data on Brazilian individual investors. They found evidence that risk averse investors and investors with a higher number of trades are more prone to the disposition effect and demonstrate that male subjects are less prone to this cognitive bias and that age is not associated with the disposition effect. Compared with empirical findings in the literature, they observed that individuals with large portfolios and sophisticated investors are more prone to selling winning assets and holding on to losing assets. Finally, they observed that the tendency to incur the disposition effect decreases during bull markets but increases during bear markets. These findings indicated that market conditions can impact the willingness to engage in risk exposure in the Brazilian economy. The results demonstrated that the disposition effect is prevalent even among wealthier and more educated investors with diversified portfolios

(Trejos, Deemen, Rodríguez, & Gómez, 2019) contributed to the literature about overconfidence and its relationship with the disposition effect, using a simulation model which is often named micro world. This represented an artificial financial stock market. They proposed a methodology combining qualitative (QCA) and quantitative (Logistic Regression) techniques to correlate transactions' outcomes with investors' characteristics. Results suggested that overconfidence is explained by gender, career and education level, while age, nationality, and profits are not significant variables. They also confirmed that investors exhibiting disposition effect are more prone to be overconfident.

RESEARCH METHODOLOGY AND DATA COLLECTION

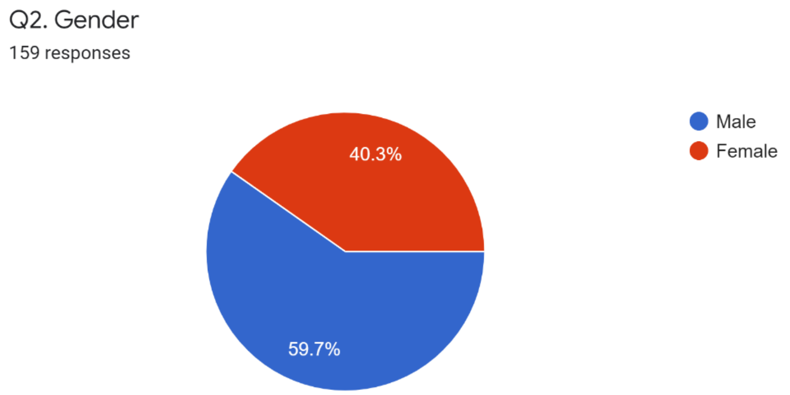
Our research is based on primary data. We made a Questionnaire and circulated it to aur respondents, our respondents are nearly 60% male and 40% female, also we collected data from different age groups, different experiences different geographical areas, and occupations to maintain the diversity. We have got a total of 159 valid responses after data cleaning, with the help of which we have done our analysis using excel and SPSS.

Objectives of the Study:

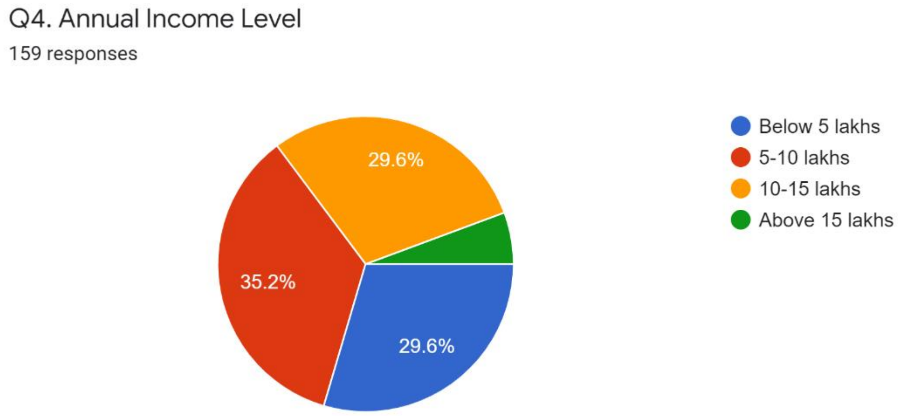
- To understand the Level of disposition effect based on gender.
- Level of disposition effect among the different age groups

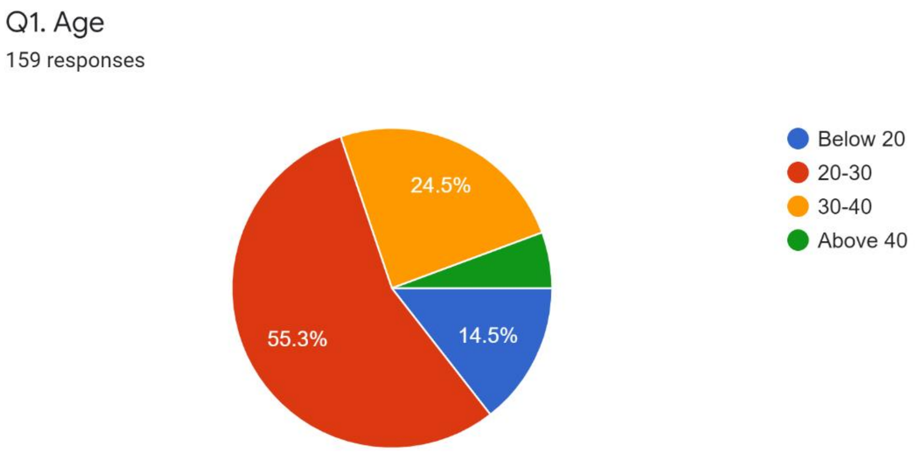
- The level of disposition effect is based on experience in the market.
- The level of disposition effect is based on the portfolio of investors.
- Loss aversion among different age groups.
- Investor’s understanding of the Time Value of the money.

ANALYSIS AND DISCUSSION



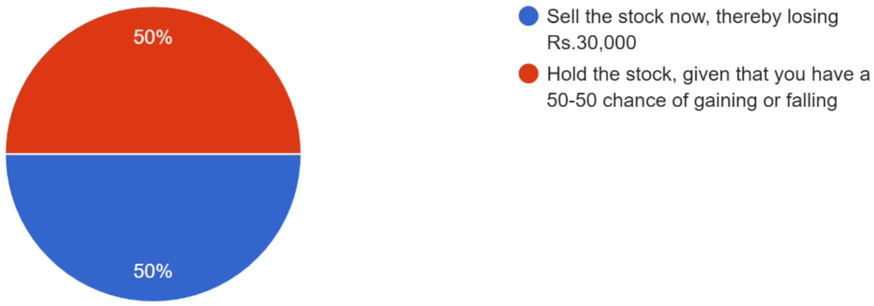
Intepretation- Our respondents are nearly 40% are Female and 60% are male.





Intepretation- Majority of our respondents having age 20-30 followed by 30-40.

Q11. Suppose you purchase stock X for Rs.1,00,000 which plunges to Rs.70,000. There is an equal probability of the stock gaining or falling by Rs....months. which of the two options would you choose?
152 responses

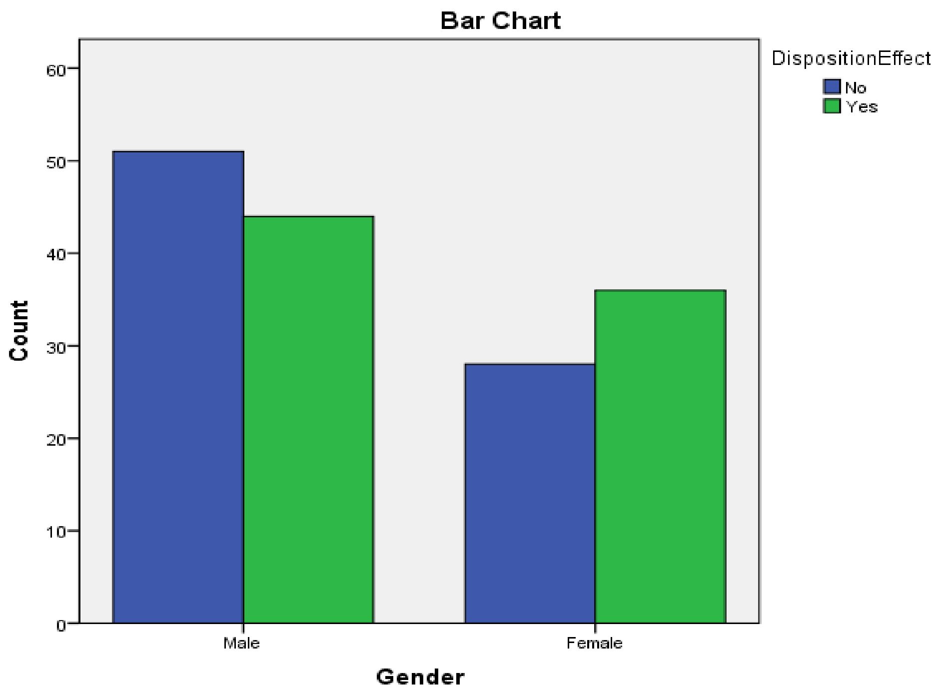


Intepretation- Half of our respondents are suffering from disposition effect.

Gender * Disposition Effect Crosstabulation

Count

		Disposition Effect		Total
		No	Yes	
Gender	Male	51	44	95
	Female	28	36	64
Total		79	80	159



When we Asked

“Suppose you purchase stock X for Rs.1,00,000 which plunges to Rs. 70,000. There is an equal probability of the stock gaining or falling by Rs. 50,000 within 12 months. which of the two options would you choose?”

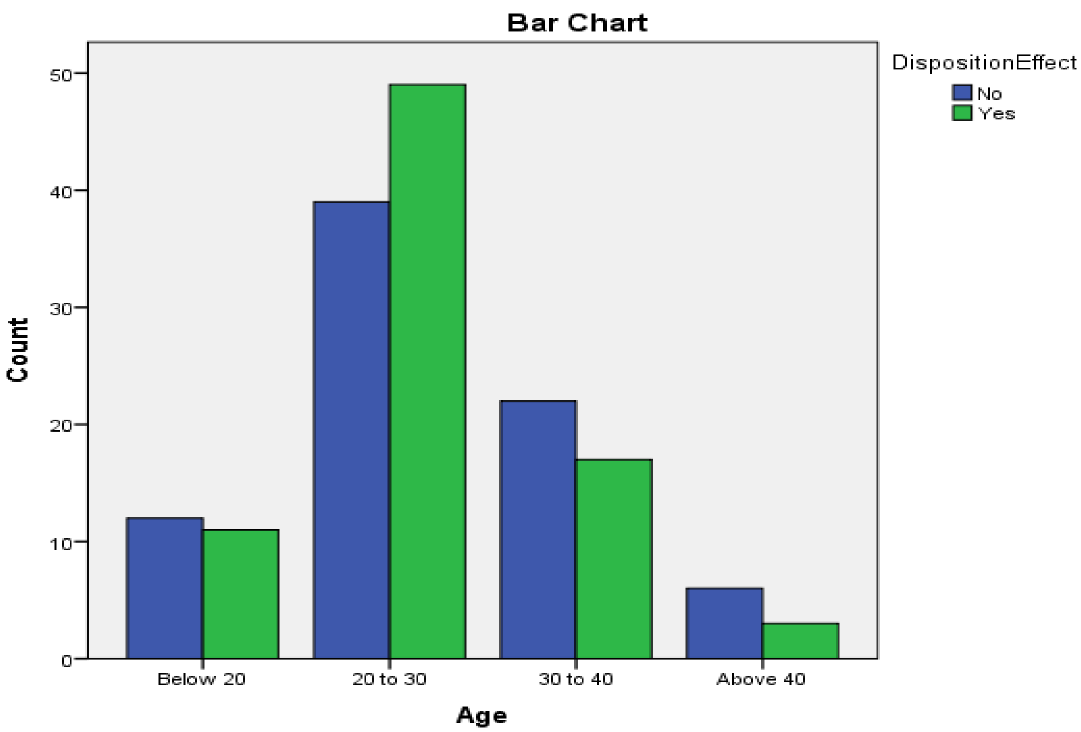
Sell the stock now, thereby losing Rs. 30,000 (No Disposition Effect)

Hold the stock, given that you have a 50-50 chance of gaining or falling (Disposition effect)

From the above Table and chart, we can see that Female having more Disposition effect as compared to male

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * Disposition Effect	159	100.0%	0	0.0%	159	100.0%



When we analysed the effect of disposition effect by different age group by same question:

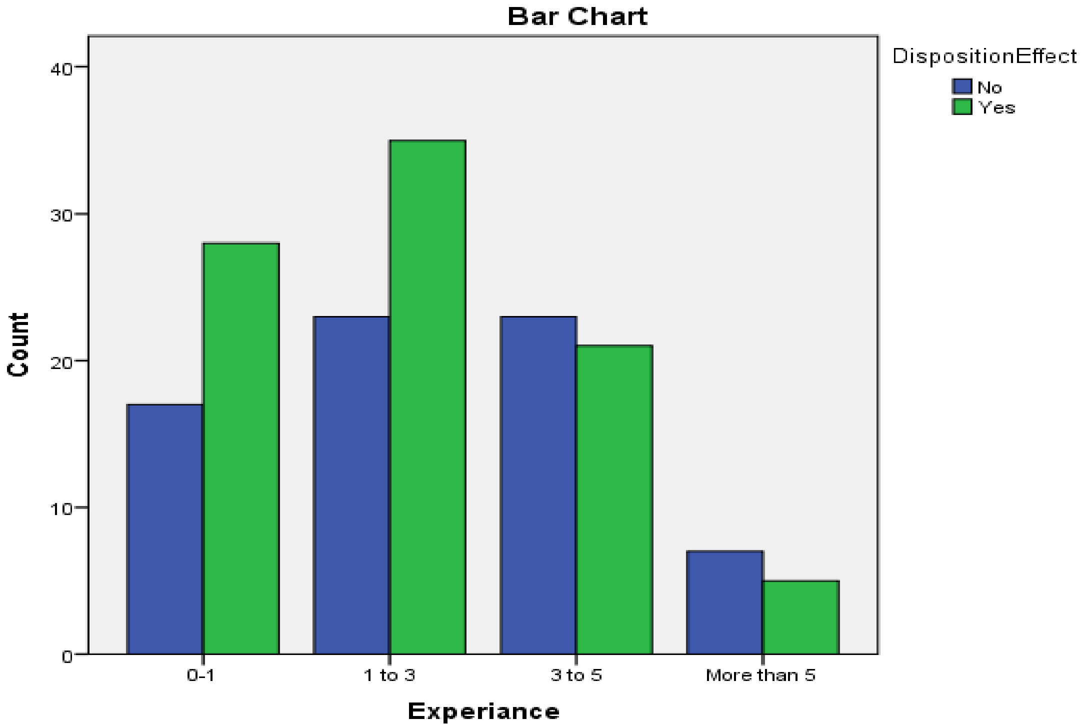
“Suppose you purchase stock X for Rs.1,00,000 which plunges to Rs. 70,000. There is an equal probability of the stock gaining or falling by Rs. 50,000 within 12 months. which of the two options would you choose?”

Sell the stock now, thereby losing Rs. 30,000 (No Disposition Effect)
Hold the stock, given that you have a 50-50 chance of gaining or falling (Disposition effect)

We found that young investors having more disposition effect as compared to old investor, we can see it from above graph.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Experience * Disposition Effect	159	100.0%	0	0.0%	159	100.0%



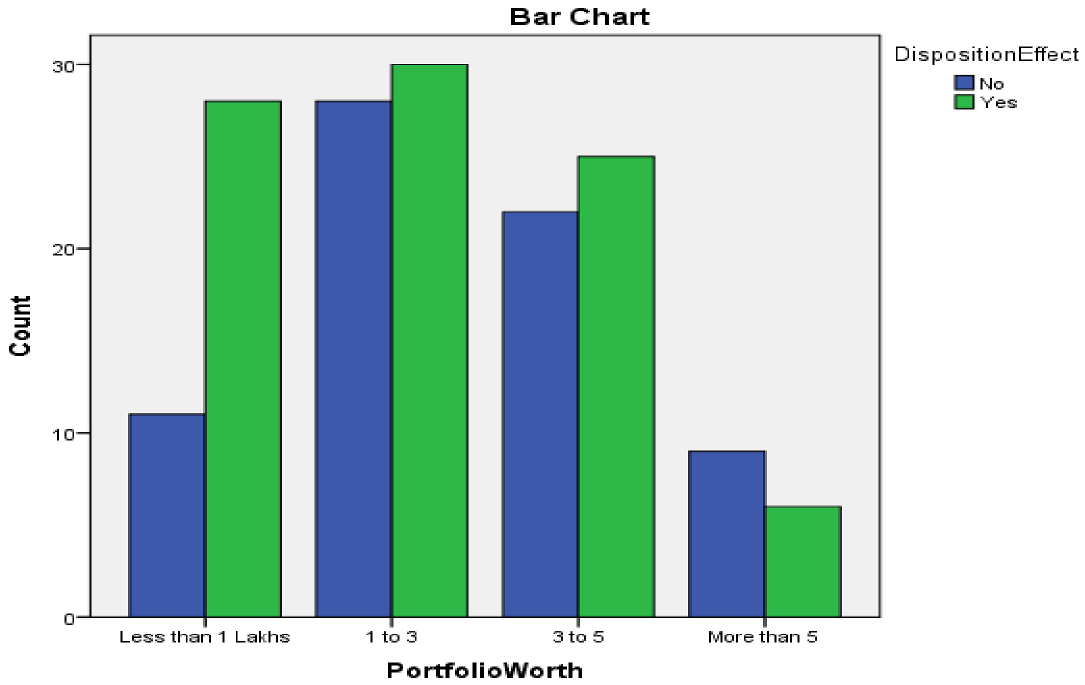
When we analysed the effect of disposition effect by Experience (From how many years they are investing/Trading in stock market) by same question:

We found that people having less exposure of stock market, suffering more from disposition effect, we can see it from above graph.

Case Processing Summary

	Cases		
	Valid	Missing	Total

	N	Percent	N	Percent	N	Percent
Portfolio Worth * Disposition Effect	159	100.0%	0	0.0%	159	100.0%

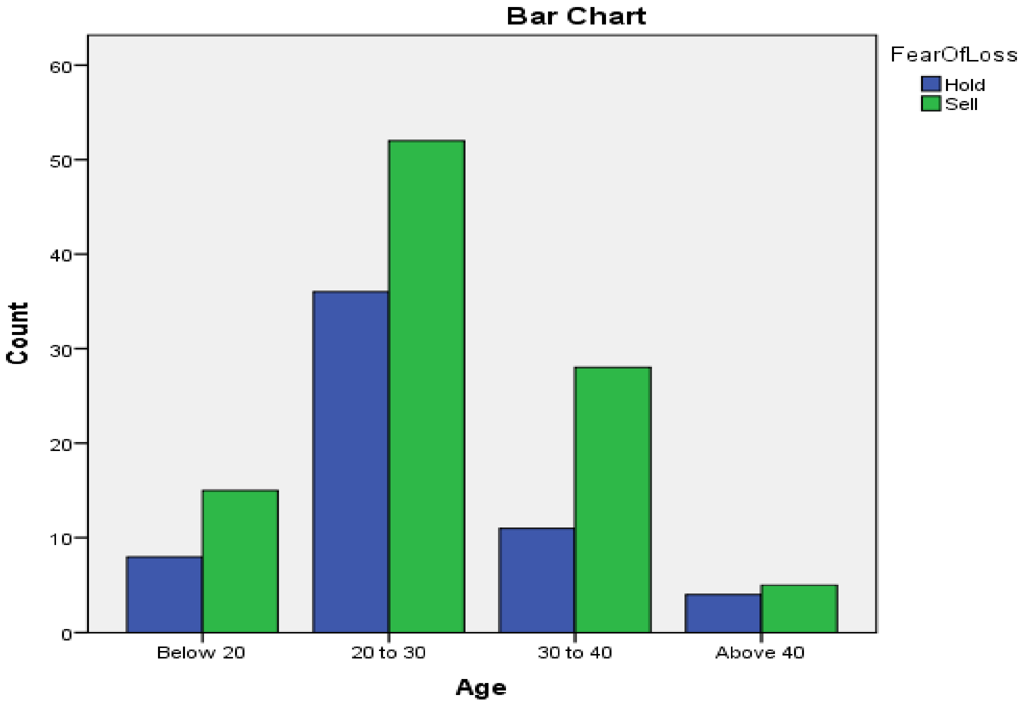


When we analysed the effect of disposition effect by worth of their portfolio by same question:

We found that people having more than 5 lacks in their portfolio having less disposition effect, otherwise all other portfolio group having disposition effect.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * Fear Of Loss	159	100.0%	0	0.0%	159	100.0%



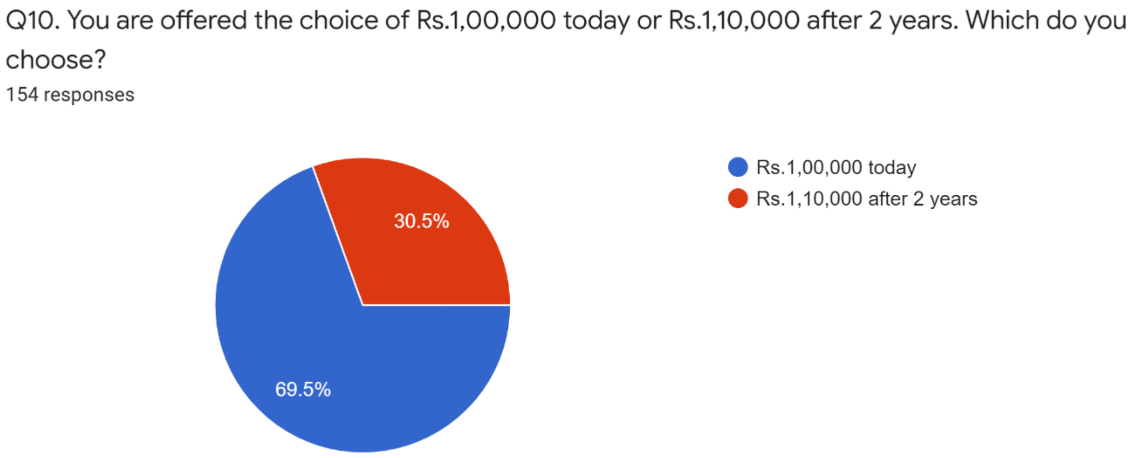
When we asked:

You have purchased a stock @ Rs.1000 and currently it is trading at Rs.1100 so would you

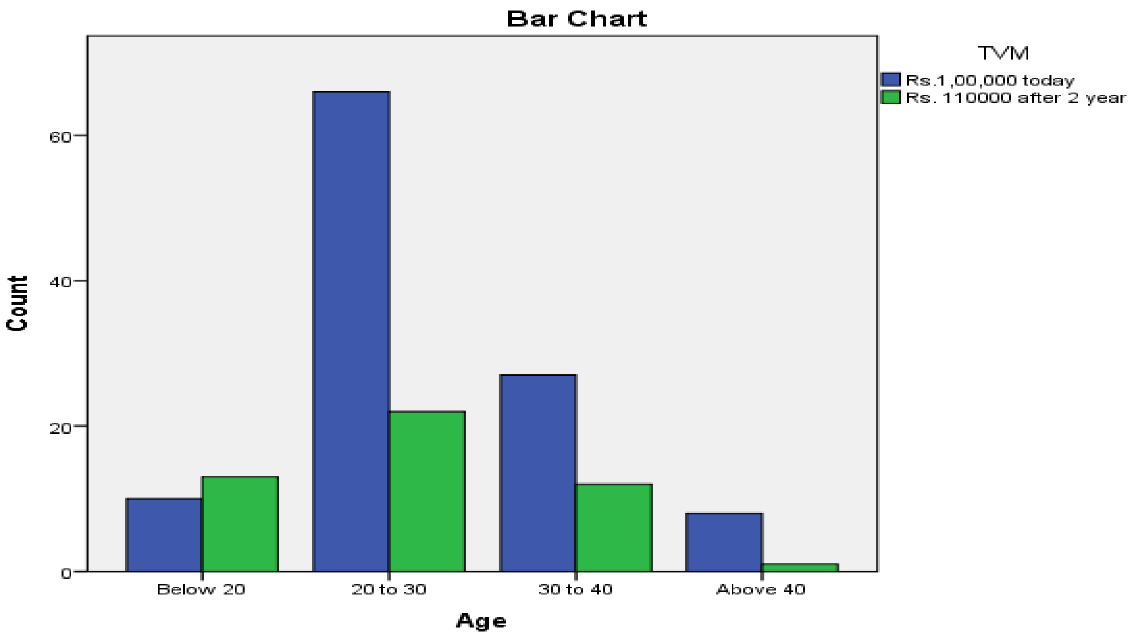
Hold the Stock

Sell the stock immediately

More people responded that they would sell the stock and book profit, but it is less in legend investors who are above 40, which means people being afraid from loss, they want to book the profit as soon as possible it maybe because of loss aversion which is the one of reason of disposition effect.



When we asked a direct question related to the time value of money, nearly 70% of our respondents indicates that they are having an understanding of the time value of money. But still, people are suffering from the disposition effect, which we analysed in above responses.



From the above graph we can say that people having age less than 20 are more ignoring the Time Value of Money.

So, from the above analysis, we got that females are more suffering from the disposition effect, experience investors have less disposition effect as compared to less experience in the market, there is a role of age in the disposition effect, people have the understanding of time value of money but because of their emotions, they are not able to employ it and suffering from disposition effect.

IMPLICATIONS OF THE STUDY

- According to the study, the Half of respondents are suffering from the disposition effect, which means that the individual investor must have lost money in stock markets due to investors' proclivity to sell assets where they have made money and keep assets where they have lost money.
- When we examine this study by gender, we found that females are more impacted by the disposition effect than males, there is a scope of further study that why it is, but the study proved that there is impact of gender, age, experience, psychology of the person in their investments.
- Time Value of Money is also one of the most important factors, people may have the knowledge of it but in their investment somehow, they are ignoring such a big factor of finance which results disposition effect and loss, so it is important for us to don't forget TVM while investing.
- Loss aversion, fear of loss also found in the respondent's majority of people wants to sell and book profit when they see even title bit increase in price of their stock, very less people focus on taking the advantage of price momentum because of the fear of the regret of loss which is one of the reason why people fail to make money from stock market.
- It also relies on the investors' experience, i.e., how long they have been trading in the stock market; and that is the reason why experts suggest that "start investing as soon as possible" because it is the fact that practice makes a person perfect and no one can learn swimming without jumping into the water, So, enter into the market as soon as possible even by less portfolio because it increases the experience of the investor, the learning from the market protect him/her from irrational biases which help him/her to book profit from the market.

References

Chandra, B. (2008). *India since independence*. Penguin UK.

Dhar, R., & Zhu, N. (2006). Up close and personal: Investor sophistication and the disposition effect. *Management Science*, *52*(5), 726-740.

Duxbury, D. (2015). Behavioral finance: insights from experiments II: biases, moods and emotions. *Review of Behavioral Finance*.

Garvey, R., & Murphy, A. (2004). Are professional traders too slow to realize their losses?. *Financial Analysts Journal*, *60*(4), 35-43.

Genesove, D., & Mayer, C. (2001). Loss aversion and seller behavior: Evidence from the housing market. *The quarterly journal of economics*, *116*(4), 1233-1260.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. Econometrica, 47. *Theoretical Research Aspects of the Behaviour of the Insured and their Manifestations in the Lithuanian Life Assurance Market*.

Odean, T. (1998). Are investors reluctant to realize their losses?. *The Journal of finance*, *53*(5), 1775-1798.

Oreng, M., Yoshinaga, C. E., & Eid, W. (2021). Disposition effect, demographics and risk taking. *RAUSP Management Journal*, *56*, 217-233.

Sevdalis, N., & Harvey, N. (2007). "Investing" versus "Investing for a Reason": Context Effects in Investment Decisions. *The Journal of Behavioral Finance*, *8*(3), 172-176.

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.

Sonsino, D., Lahav, Y., & Levkowitz, A. (2020). The conflicting links between forecast-confidence and trading propensity. *Journal of Behavioral Finance*, 1-18.

Tehseen, S., Ramayah, T., & Sajilan, S. (2017). Testing and controlling for common method variance: A review of available methods. *Journal of Management Sciences*, *4*(2), 142-168.

Trejos, C., van Deemen, A., Rodríguez, Y. E., & Gomez, J. M. (2019). Overconfidence and disposition effect in the stock market: A micro world based setting. *Journal of behavioral and experimental finance*, *21*, 61-69.

Vo, X. V., & Phan, D. B. A. (2019). Herding and equity market liquidity in emerging market. Evidence from Vietnam. *Journal of Behavioral and Experimental Finance*, *24*, 100189.

Vollan, M. M. (2010). *The Disposition Effect, a Behavioral Bias in the Financial Market.: A Survey of the Disposition effect* (Master's thesis).

Woodford, M. (2012). Prospect theory as efficient perceptual distortion. *American Economic Review*, *102*(3), 41-46.

Zahera, S. A., & Bansal, R. (2019). A study of prominence for disposition effect: a systematic review. *Qualitative Research in Financial Markets*.

QUESTIONNAIRE

Q1. Age *

Below 20
20-30
30-40
Above 40

Q2. Gender *

Male
Female

Q4. Annual Income Level *

Below 5 lakhs
5-10 lakhs
10-15 lakhs
Above 15 lakhs

Q5. Are you investing in stock market or not? *

Yes
No

Q6. What is the overall worth of your portfolio?

Less than 1 lakhs

1-3

3-5

More than 5 lakhs

Q7. From how many years you are investing in stock market?

0-1

1-3

3-5

More than 5 years

Q8. You have purchased a stock for Rs.1000 and currently it is trading at Rs.1100 so would you

Hold the Stock

Sell the stock immediately

Q9. You have purchased a stock for Rs.1000 and currently it is trading at Rs.900 so would you

Hold the Stock

Sell the stock immediately

Q10. You are offered the choice of Rs.1,00,000 today or Rs.1,10,000 after 2 years. Which do you choose?

Rs.1,00,000 today

Rs.1,10,000 after 2 years

Q11. Suppose you purchase stock X for Rs.1,00,000 which plunges to Rs.70,000. There is an equal probability of the stock gaining or falling by Rs.50,000 within 12 months. which of the two options would you choose?

Sell the stock now, thereby losing Rs.30,000

Hold the stock, given that you have a 50-50 chance of gaining or falling