

CHAPTER – V

FINDINGS, SUGGESTIONS AND CONCLUSION

The derivative market is a crucial component of the global financial landscape, providing investors with opportunities for risk management, speculation, and portfolio diversification. Within this market, retail investors play a significant role, contributing to liquidity and market dynamics. Understanding the determinants of trading behaviour among retail investors in the derivative market is of paramount importance for market participants, regulators, and policymakers alike. Trading behaviour in the derivative market is shaped by a wide array of factors, including individual traits, market dynamics, and broader economic trends (Singh and Kansal, 2010). Exploring these determinants sheds light on the motivations, decision-making processes, and strategies employed by retail investors in this complex financial domain. Individual characteristics, such as risk tolerance, investment experience, and financial literacy, exert a substantial influence on trading behaviour (Yuliani and Nurwulandari, 2023). Investors with higher risk tolerance exhibit a propensity for more aggressive trading strategies, while those with limited investment experience or lower financial literacy engage in behaviour driven by sentiment or herding instincts (Yang et al., 2021). Market conditions, including volatility, liquidity, and information asymmetry, also shape trading behaviour (Mortazian, 2021). Heightened volatility attracts speculative traders seeking short-term opportunities, while low liquidity or information asymmetry can lead to cautious or hesitant trading activity among retail investors.

Regulatory measures aimed at investor protection, market transparency, and risk management influence investor sentiment and behaviour. Additionally, the accessibility and efficiency of trading platforms, as well as transaction costs, impact the ease and frequency of trading among retail investors. Understanding the factors influencing the trading behaviour of retail investors in the derivative market has implications for market efficiency, investor welfare, and regulatory policy. By identifying factors that drive trading decisions, market participants can develop targeted interventions, educational initiatives, and risk management strategies to enhance market transparency, stability, and investor protection.

The research intends to investigate the factors that influence trading behaviour among retail investors in the derivative market empirically. By employing advanced statistical tools and leveraging comprehensive results, the researcher seeks to uncover the underlying drivers of trading activity and their implications for market dynamics and investor welfare. The findings

contribute to the existing literature on financial markets and inform policymakers, regulators, and market participants in their efforts to promote a sound and resilient derivative market ecosystem. While many studies have focused on single-dimensional aspects of investor behaviour, these studies fail to capture the full complexity of decision-making processes. Investors do not exhibit behaviour in a one-dimensional manner, as their decisions are influenced by multiple factors. Therefore, this study incorporates multiple dimensions of investor behaviour is essential to provide a more accurate and comprehensive understanding of the factors that drive investment decisions. The study “Determinants of Trading Behaviour of Retail Investors in Derivative Market – A Multidimensional Approach” is carried out with the following objectives:

- ❖ To know the preferences of retail investors in Derivative Market
- ❖ To analyse the awareness of retail investors in derivative trading
- ❖ To evaluate the satisfaction gained and challenges faced by retail investors in derivative trading
- ❖ To assess the Attitude, Personality Traits, Behavioural Biases, Financial Literacy and Self – Efficacy of the retail investors on the trading behaviour and
- ❖ To examine the effect of Attitude, Personality Traits and Behavioural Biases on the derivative trading of retail investors with the moderating role of Financial Literacy and Self-Efficacy

The principal findings and conclusions from the study are briefly summarised in this chapter. It presents a condensed overview of the research's main discoveries, highlighting significant findings, patterns, and trends observed during the investigation. This section serves as a comprehensive yet concise synthesis of the study's results, providing a clear understanding of the implications and contributions of the research to the field.

5.1 SOCIO-ECONOMIC AND INVESTMENT PROFILE OF THE RETAIL INVESTORS

5.1.1 Types of Investors

The largest segment, comprising 44.5 per cent (171 individuals), identifies as Hedgers, adopting a more risk-averse approach, utilising trading to safeguard against price fluctuations in commodities or financial instruments. Hedger investors are predominant in this result set because the primary motive of hedging is to eliminate risk and hedge against a fluctuating commodity price or any kind of financial instrument. This risk-averse approach is often more appealing than speculative or arbitrage strategies, especially for participants who prioritize

stability and downside protection over short-term profits. Additionally, hedging is a common and accessible strategy, making it a natural choice for a broad range of investors. In highly volatile markets, more investors might be attracted towards hedging for such certainty, thereby increasing the number of investors who employ this strategy. The diversity in these classifications underscores the varied investment objectives, risk appetites, and trading strategies prevalent among investors, reflecting the dynamic nature of the financial markets and the distinct preferences within the surveyed investor population. Another category of investors found in the study area is speculators. Speculation, by nature, thrives on taking calculated risks to capitalize on price movements, but not all investors are willing to engage in such high-risk, high-reward strategies. This difference in risk tolerance and investment goals likely explains why hedgers are more than speculators. Margin trading is generally more suited to experienced investors with higher risk tolerance, further limiting its appeal to a smaller subset of the investor population.

5.1.2 Socio-economic Landscape of Retail Investors

The socio-economic profile of the investors provides a comprehensive classification of investors across different variables such as gender, age, educational qualification, marital status, and annual income. It categorizes investors into four groups: Hedgers, Speculators, Arbitrageurs, and Margin Buyers. The analysis reveals gender-based participation, with males being the most represented, followed by females and a smaller representation of transgender individuals. Age-wise, middle-aged groups dominate the investment space, with lower participation from younger and older ages. Educational qualifications highlight that graduates form the largest investor group, while individuals with professional degrees have the least representation. Marital status indicates that married individuals are the predominant investors, significantly outnumbering singles and separated individuals. Regarding annual income, the majority of investors are within the middle-income groups, with relatively fewer participants from the highest-income group. These insights offer a detailed understanding of the demographic and financial profiles of various investor types in the study area.

5.1.3 Proportion of Savings from Income

The results outline the allocation of investments among investors across five percentage ranges. It reveals that nearly half of the investors allocate a moderate proportion of their resources within the mid-range, reflecting a balanced investment approach. A smaller but notable group allocates their resources at lower percentages, suggesting a conservative investment strategy. Meanwhile, fewer investors allocate a higher proportion of their resources,

indicating a limited inclination toward aggressive investment behaviour. Overall, the distribution highlights a predominant tendency toward moderate allocation levels, with fewer instances of either very high or very low investment commitments.

5.1.4 Percentage of Savings Invested in Derivative Market

The majority of investors (49.4%) allocate only 6%-10% of their savings to the derivative market suggests a cautious approach to this high-risk investment class. Derivatives, by their nature, are more complex and volatile than traditional investments like stocks or bonds, and many investors prefer to limit their exposure to such instruments. The relatively modest allocation indicates that while investors are willing to engage in the derivative market, they are doing so in a controlled and conservative manner, likely to balance risk and return. For many, derivatives serve as a tool for diversification or hedging, rather than as a primary investment strategy, which explains why a larger portion of their portfolio remains allocated to safer, more traditional assets. The 6%-10% range may reflect a comfort zone for investors who are looking to explore the potential of derivatives while maintaining the stability of their overall investment strategy.

5.1.5 Objectives for Investing in the Derivative Market

The analysis of different investor types—Hedgers, Speculators, Arbitrageurs, and Margin Buyers—reveals varied preferences and objectives across multiple dimensions. Hedgers and Margin Buyers tend to prioritize risk management and the potential for higher returns, indicating a focus on stability and growth. Speculators exhibit a strong inclination towards speculative profit and market efficiency, highlighting their pursuit of short-term gains and efficient market conditions. Arbitrageurs show a balanced approach towards market efficiency and diversification and arbitrage, reflecting their strategy of capitalizing on price discrepancies. The mean values, along with the skewness and kurtosis metrics, indicate a diversity of investment behaviours and risk appetites among these groups, with generally moderate levels of dispersion and asymmetry in their responses. Overall, the result suggests distinct, yet overlapping investment objectives, driven by each group's unique risk-return profile and strategic priorities.

5.1.5 Techniques Applied to Invest in Derivative Market

A significant portion of investors prefer using a combination of approaches, including fundamental and technical analysis along with expert advice, indicating a comprehensive strategy. Expert advice emerges as the most popular standalone method, highlighting the reliance on professional guidance. Technical analysis also holds a substantial share, reflecting

its appeal to a considerable number of investors. Fewer participants rely solely on fundamental analysis or a mix of the two analytical approaches. Overall, the result demonstrates a preference for multifaceted strategies and expert opinions in investment decision-making. Hence, while investing in the derivative market an investor must carefully undergo all these analyses to make a fruitful investment which leads to a profitable return.

5.1.6 Features Influencing the Investors in Derivative Trading

The findings evaluate various factors influencing investor preferences, ranked based on their mean scores. The result highlights that hedging risk is the most significant factor, followed closely by reliability and transparency, indicating investors prioritize strategies that manage risk and offer dependability. Ease of use also ranks high, showcasing the importance of simplicity in investment tools. Features such as the nature of underlying assets, affordable lot prices, and convenience hold moderate influence, while safety and flexibility are slightly less prioritized. The return rate ranks the lowest, suggesting it is a secondary consideration compared to other aspects. Overall, the rankings would give a very strong value on risk management, reliability, and clarity in which the investment choice would be made. This hierarchy indicates a prioritization of factors that mitigate risk and enhance reliability and transparency, over those related to flexibility and potential returns.

5.2 PREFERENCE OF RETAIL INVESTORS IN THE DERIVATIVE MARKET

Market players and policymakers depend heavily on the choices of individual investors in the derivative market. Retail investors, often seek opportunities for enhanced returns or portfolio diversification and exhibit varied inclinations towards derivative instruments. Factors such as risk tolerance, investment horizon, and familiarity with derivatives play pivotal roles in shaping these preferences.

5.2.1 Preference to invest in products of the Derivative Market

- **Equity Products**

The result reveals that Index Futures attract the highest number of investors across different categories, particularly among Hedgers and Arbitrageurs, indicating a strong preference for these products in managing or exploiting market movements. Stock Options and Put Options also see substantial involvement, particularly from Speculators, while Option Writing and Call Options draw relatively fewer investors. Overall, it highlights the diverse interest in equity derivatives, with certain products like Stock Futures and Index Futures being more favoured by different types of investors, preferred primarily due to their broad market exposure, high liquidity, and lower risk compared to individual stock derivatives.

- **Commodity Products**

It reveals that Crude Oil is the most popular commodity among all investor types, attracting the highest number of participants, particularly Speculators and Arbitrageurs. Gold also seeks significant involvement, with a balanced distribution across different investor categories, while Silver and Natural Gas are preferred by fewer investors in the study area. Speculators dominate most of the commodity derivative markets, while Hedgers and Arbitrageurs are more active in certain commodities like Crude Oil and Gold. The result highlights a strong interest in Crude Oil, followed by a varied interest in other commodities, with relatively limited participation from Margin Buyers. Crude oil derivatives are highly preferred due to their global economic significance, liquidity, and volatility, which provide ample opportunities for profit-making and risk management. Additionally, the pervasive use of crude oil in various industries ensures continuous demand, making it a core commodity for both hedging and speculative purposes.

- **Currency Products**

The USD-JNR currency derivative has the highest overall number of investors, particularly among Speculators, with a presence of Margin Buyers. The USD-JPY and USD-GBP pairs also attract significant investor interest, especially from Speculators and Arbitrageurs. Hedgers are more concentrated in the USD-JPY derivative, while Margin Buyers are less prevalent across all categories. The result reflects a general tendency for Speculators to dominate currency derivative markets, with varying levels of participation from other investor types depending on the specific currency pair. The US Dollar to Japanese Yen (USD-JPY) currency pair is highly preferred due to its status as a major global trading pair, reflecting two of the largest economies. Moreover, the USD-JPY is often used as a safe-haven trade during market volatility, appealing to investors.

5.2.2 Preferred Exchange for Derivative Trading

The National Stock Exchange (NSE) emerges as the predominant choice, capturing 48.6% of respondents (187 individuals), signifying a substantial inclination towards this exchange for trading or investment activities. The National Stock Exchange (NSE) attracts the highest number of investors, with a broad mix of Hedgers, Speculators, and Margin Buyers, indicating its strong appeal among various investor groups. The Bombay Stock Exchange (BSE) also sees significant participation, though with a slightly lower overall representation compared to the NSE. The Multi Commodity Exchange (MCX) has the smallest share of investors, primarily attracting a smaller number of Speculators and Hedgers. Overall, the result highlights a strong preference for the NSE.

5.2.3 Reason to Trade through Particular Exchange

It highlights that the primary reason for choosing an exchange is the legacy of high-speed trading, with the NSE being the most favoured due to its well-established reputation. Investors also consider factors such as higher trading volume, offering greater liquidity, and the visibility of high earnings, especially in the context of bullion and energy futures. Fair and orderly trading, along with efficient price dissemination, is another significant factor, though slightly less influential. Overall, the result shows that the NSE is the most preferred exchange for its speed and liquidity, while the BSE is chosen for its earnings visibility and competitive advantage in specific markets. The MCX attracts fewer investors, likely due to its focus on commodities.

5.2.4 Preferred Sectors by the Retail Investors in the Derivative Market

Investors preference to invest in the Banking, Agricultural, and IT sectors which reflected the highest mean scores, indicating a stronger preference for these sectors across different investor categories. In contrast, sectors such as Pharma, Energy, and Healthcare receive lower ratings, reflecting relatively less interest in investing. The standard deviations across all sectors suggest that there is some variation in investor opinions, particularly in sectors with lower ratings, where there is greater divergence in preferences. Hence, it highlights that sectors such as Banking and Agriculture attract more consistent and favourable views from investors due to often receiving policy backing, subsidies, or regulatory frameworks that enhance their stability and long-term growth potential, making them reliable choices for investors, while sectors like Pharma and Energy both sectors require substantial capital investment and are subject to stringent regulations, deterring investors who prefer more stable and predictable returns.

5.3 AWARENESS TOWARDS DERIVATIVE MARKET

Awareness of derivative market terminologies is essential for investors and financial professionals alike, facilitating informed decision-making and risk management strategies. Overall, a solid grasp of derivative market terminologies equips individuals with the knowledge needed to navigate the intricacies of financial markets and optimize investment strategies. The ANOVA technique was used to assess the association between awareness and socio-economic factors.

5.3.1 Sources of Awareness about the Derivative Market

Professional advisors are the most commonly consulted source, highlighting the importance of expert guidance in investment decisions. Business TV news also plays a significant role, reflecting the influence of media in shaping investor perceptions. Other sources

like official websites, family and friends, and magazines/newspapers are moderately used, indicating that investors combine different channels for information. Books, however, are the least consulted source, suggesting that written material not be as influential compared to real-time updates or personal advice. Overall, the result emphasizes a strong reliance on professional advice and media for investment decisions. This diverse array of sources highlights the multifaceted nature of information acquisition in the business domain, with individuals drawing on a mix of media, personal connections, and professional advice to stay well-informed.

5.3.2 Awareness Towards Derivative Market Terminologies

"Long position" and "Short position" are generally well understood, as they have higher mean scores, indicating greater familiarity among investors. Similarly, terms related to market strategies, such as "In the money" and "At the money," also show a relatively high level of understanding. On the other hand, terms like "Expiration," "Bid-ask spread," and "Spot contract" have lower mean scores, suggesting that investors are less familiar with these concepts. The standard deviations for most terminologies reflect a moderate degree of variation in responses, suggesting that while some terms are generally well-understood, others show a wider spectrum of familiarity. Overall, the result reflects a varied understanding of different financial terms, with core concepts like positions and market conditions being more familiar to investors than more technical or nuanced terms.

5.3.2.1 Gender and Awareness Towards Derivative Market Terminologies

Gender is not a significant factor affecting the awareness level of the given financial terminologies among the respondents. This suggests that both male and female respondents have similar levels of familiarity and understanding when it comes to these financial terms, as observed from the lack of statistical significance in gender differences. Since both males and females are investing, there has been no significant change in the awareness of investment terminologies.

5.3.2.2 Age Income and Awareness Towards Derivative Market Terminologies

The results indicate that age significantly impacts the understanding of several derivative market terminologies. As evidenced by p-values less than 0.05, terms such as short position, spot contract, expiry, market maker, bid-ask spread, at the money, in the money, time decay, and spotless exhibit variations in awareness among age groups. The variability in understanding suggests that different age groups have differing levels of exposure, education,

or experience with these financial concepts, highlighting the need for age-targeted educational initiatives to enhance financial literacy across all demographics.

5.3.2.3 Education Qualification and Awareness Towards Derivative Market Terminologies

The result exhibits that higher educational qualification is likely to correlate with greater awareness and understanding of derivative market terminologies. The finding underscores the importance of education in fostering broader awareness.

5.3.2.4 Annual Income and Awareness Towards Derivative Market Terminologies

The majority of terminologies reveal no significant differences in understanding across income levels, as evidenced by the high p-values. This uniformity suggests that financial literacy regarding derivative market terminologies is relatively consistent across different income groups, likely due to widespread access to financial education and resources. Thus, the findings suggest that individuals across various incomes exhibit similar levels of awareness irrespective of their earnings. While income can influence investment decisions it is not the determining factor in awareness of derivative market concept.

5.3.3 Trading Approaches Towards Derivative Market

The results indicate distinct patterns in demographic and socio-economic factors among hedgers, arbitrageurs, speculators, and margin buyers. Gender differences do not show significant variation across groups. Age differences are significant for arbitrageurs and speculators, indicating variations in investment strategies across age groups, particularly in the 30-39 and 60+ age ranges. Education level significantly impacts all groups except margin buyers, with higher education levels correlating with differing investment behaviours, especially among hedgers and arbitrageurs. Annual income shows significant differences for hedgers and arbitrageurs, suggesting that income levels influence investment strategies for these groups. Overall, these factors collectively shape the investment behaviours of different market participants.

5.4 SATISFACTION AND CHALLENGES TOWARDS DERIVATIVE MARKET

Satisfaction in the derivative market is paramount as it underpins investor confidence and market stability (Cervellati et al., 2024). High level of satisfaction arises from transparent and efficient market operations, which ensure fair pricing, liquidity, and the ability to execute trades seamlessly (Fornell et al., 2006). When investors are satisfied, they are more likely to participate actively, contributing to a robust market ecosystem. Moreover, satisfaction stems

from effective risk management tools and clear regulatory frameworks that protect participants from undue losses.

5.4.1 Satisfaction in the Derivative Market

Satisfaction in the derivative market varies across different investor types, including Hedgers, Speculators, Arbitrageurs, and Margin Buyers. Each group expresses varying levels of contentment based on their specific objectives. Overall, satisfaction in the derivative market centres on achieving individualized goals aligned with risk tolerance, market conditions, and strategic objectives.

5.4.1.1 Investors and Satisfaction in the Derivative Market

The results indicate that there are statistically significant differences in the Investors across the groups defined by the satisfaction in the derivative market have significant thresholds, leading to the conclusion that the groups differ significantly on the combined set of satisfaction in the derivative market. These results suggest that investors have a significant effect on satisfaction in the derivative market.

5.4.1.2 Gender and Satisfaction in the Derivative Market

The results of the MANOVA indicate significant multivariate effects of gender on the dependent variables. This suggests that gender has a significant overall effect on satisfaction in the derivative market. The effect size varies slightly across the different multivariate tests, but collectively they indicate that gender differences are important and should be considered when analysing the satisfaction in the derivative market in this study.

5.4.1.3 Age and Satisfaction in the Derivative Market

The MANOVA results for age indicate significant multivariate effects on the dependent variables. This suggests that age has a significant overall effect on satisfaction in the derivative market. The effect sizes vary slightly across the different multivariate tests, but collectively they underscore the importance of age in influencing the outcomes of interest in the study. The significant Roy's Largest Root further confirms that age is a significant determinant of satisfaction in the derivative market, emphasizing its role in shaping the overall pattern of results.

5.4.1.4 Educational Qualification and Satisfaction in the Derivative Market

The results of the MANOVA reveal significant multivariate effects of educational qualification on the dependent variables under study. This suggests that educational qualification significantly impacts the satisfaction in derivative market. The variation in effect sizes across the different multivariate tests underscores the robustness of this relationship,

highlighting the importance of educational background in measuring the satisfaction of the investors.

5.4.1.5 Marital Status and Satisfaction in Derivative Market

The results show that marital status does not have a statistically significant effect on satisfaction levels in the derivative market. The high p-values across all tests suggest that any observed differences in satisfaction measures between different marital status groups are likely due to chance rather than a systematic effect of marital status.

5.4.1.5 Annual Income and Satisfaction in Derivative Market

The MANOVA results for annual income reveal that the multivariate effects on the dependent variables are not statistically significant. The p-value is greater than the conventional threshold of 0.05. This indicates that there is no significant overall effect of annual income on the satisfaction in derivative market. Therefore, annual income does not significantly influence the satisfaction level of investors trading in derivative markets.

5.4.2 Challenges in Derivative Market

The result reveals that the most significant issue the investors face is the complexity of the instrument, highlighting the challenges associated with understanding and navigating certain investment products. Following closely, the lack of timely information and misleading information from brokers also emerge as prominent concerns, reflecting the impact of external factors on investment decision-making. Issues like the requirement to maintain margin money, high speculation, and huge volatility are also notable, but they rank lower in comparison to other challenges. The problem of unfamiliarity with the market is also a key challenge but ranks somewhat less critical than the more immediate concerns related to information and complexity. Overall, it emphasizes that investors face various challenges, with information-related issues and product complexity being the most pressing.

5.5 ASSESSMENT OF ATTITUDE, PERSONALITY TRAITS, BEHAVIOURAL BIASES, FINANCIAL LITERACY AND SELF-EFFICACY

The finding presents a detailed analysis of various psychological and behavioural factors influencing investment decisions, particularly in the derivative market. It covers a range of traits, such as openness, conscientiousness, extraversion, agreeableness, neuroticism, risk tolerance, and mental accounting, among others. Each trait is measured through multiple statements, with respondents indicating their level of agreement. Key observations show that investors generally lean toward cautious decision-making, relying on professional advice and the potential for high returns, though they also tend to avoid losses and take calculated risks.

Financial literacy and self-efficacy are also highlighted as important factors, suggesting that investors with higher knowledge and confidence in managing finances are most likely to make informed investment choices. The intention to invest in derivatives is also positively skewed, with respondents indicating a reasonable level of interest in this type of investment channel. Overall, the result reflects a complex interplay of personality traits, financial knowledge, and risk preferences that guide investor behaviour in the derivative market.

5.5 Personality Traits of Derivative Retail Investors

The results of the personality traits and their corresponding investment behaviours reveal distinct patterns. Openness ranks highest indicating a strong tendency among respondents to plan carefully and seek professional advice, while also being influenced by the low investment requirements of derivatives. Agreeableness is ranked second, highlighting trust in received information and a tendency to take risks based on liquidity and underlying exposure. Conscientiousness is ranked third, showing that respondents pay attention to detail, rely on their theoretical knowledge, and analyse past experiences before trading. Extraversion ranks fourth, suggesting that respondents are somewhat inclined to invest in innovative products and manage risk for returns, but they are less comfortable making independent decisions. Neuroticism ranked fifth, reflects a tendency to rely on financial advisors, experience carelessness, and become risk-averse after losses. These findings suggest that while openness and agreeableness are prominent traits influencing investment behaviour, neuroticism is less influential among the respondents.

5.5.1 Analysis of the Dimensions of Personality Traits

The confirmatory factor analysis (CFA) assesses the alignment of specific items with the constructs of Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Overall, the CFA results indicate which items effectively represent their respective constructs, aiding in the evaluation of the measurement model's validity.

5.5.2 Impact of Personality Traits on the Trading Behaviour of Retail Investors

The results of a regression analysis examining the relationship between various personality traits (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) with trading behaviour. Overall, the analysis indicates that personality traits such as Extraversion, and Neuroticism are each contributing more than the other traits. Openness and neuroticism contribute more to trading behaviour because they influence key psychological traits that drive investment decisions. Individuals high in openness tend to be more willing to embrace new ideas, take risks, and explore unconventional strategies, which are critical for trading. On the

other hand, neuroticism, which is associated with emotional instability and sensitivity to stress, may lead to heightened reactions to market fluctuations, influencing trading decisions more frequently. Both traits play a significant role in shaping an individual's approach to risk, uncertainty, and decision-making in the trading environment. The equation for the result is

$$Y = 0.165 + 0.301x_1 + 0.199x_2 + 0.435x_3 + 0.386x_4 + 0.424x_5$$

The analysis reveals that all five personality traits—openness, conscientiousness, extraversion, agreeableness, and neuroticism—significantly influence trading behaviour. Each trait shows a positive relationship with trading behaviour, with individuals exhibiting higher levels of openness, conscientiousness, agreeableness, and neuroticism being more inclined to engage in trading activities. Extraversion also plays a role, though to a slightly lesser extent. These findings suggest that personality traits significantly shape an individual's approach to trading, highlighting the psychological factors that drive investor behaviour.

5.6 Attitude of Derivative Retail Investors

Assessing attitude involves evaluating individuals' feelings, beliefs, and behavioural tendencies towards a particular object, person, or situation. It typically entails observing verbal and non-verbal cues, conducting surveys or interviews, and analysing behavioural responses to gauge attitudes accurately. By examining these components, one can gain insights into how attitudes influence perceptions and behaviours, which is crucial in fields like psychology, marketing, and social sciences for understanding human motivations and decision-making processes.

5.6.1 Analysis of the Dimensions of Attitude

The confirmatory factor analysis (CFA) assesses the alignment of specific items with the constructs of Risk Attitude and Money Attitude. Overall, the CFA results indicate which items effectively represent their respective constructs, aiding in the evaluation of the measurement model's validity.

5.6.2 Impact of Attitude on the Trading Behaviour of Retail Investors

The analysis indicates that both risk tolerance and money management significantly influence trading behaviour, with money management having a stronger impact. Individuals with a higher focus on money management tend to be more disciplined and strategic in their trading decisions, prioritizing long-term gains and minimizing losses. On the other hand, risk tolerance also plays a crucial role, as individuals willing to take on more risk are more likely to engage in active trading. However, money management strategies are more decisive in shaping consistent and calculated trading behaviours. The equation for the result is

$$Y = 0.143 + 0.360x_1 + 0.365x_2$$

The findings suggest that both risk attitude and money attitude significantly influence trading behaviour. A positive risk attitude, indicating a willingness to accept risk, leads to more active engagement in trading. Similarly, a favourable money attitude, characterized by an understanding and management of financial resources, also promotes trading behaviour. Both factors contribute to shaping an individual's approach to investment, with their attitudes towards risk and money playing crucial roles in determining their trading decisions.

5.7 Behavioural Biases of Derivative Retail Investors

Assessing behavioural biases involves identifying and evaluating systematic patterns in decision-making that deviate from rationality or optimal behaviour. These biases often stem from cognitive shortcuts, emotional influences, or social pressures that lead individuals to make predictable yet irrational choices.

The analysis indicates that psychological biases such as herding behaviour, heuristics, overconfidence, mental accounting, and loss aversion significantly influence trading behaviour. Among these, herding behaviour and overconfidence have the most substantial impact, as they drive traders to follow market trends or overestimate their abilities, leading to more active trading decisions. As a result, traders are more likely to make decisions based on the crowd's movements rather than independent analysis, amplifying market swings and driving collective market sentiment. This psychological bias plays a major role in shaping trading behaviour, particularly during times of market uncertainty. The equation for the result is

$$Y = 0.121 + 0.337x_1 + 0.295x_2 + 0.296x_3 + 0.293x_4 + 0.289x_5$$

The findings indicate that all five psychological biases—herding behaviour, heuristics, overconfidence, mental accounting, and loss aversion—significantly influence trading behaviour. Among these, heuristics and overconfidence have a slightly stronger impact, driving traders to simplify decision-making and overestimate their abilities. Herding behaviour also plays a major role, as individuals tend to follow market trends. Mental accounting and loss aversion contribute to traders' decision-making by influencing their evaluation of gains and losses, affecting how they react to financial outcomes. These cognitive biases collectively shape traders' strategies and actions in the market.

5.8 MULTIDIMENSIONAL BEHAVIOUR OF RETAIL INVESTORS IN THE DERIVATIVE MARKET

The study incorporates various multidimensional factors of behavioural finance, encompassing psychological, financial, and social dimensions. Within the psychological dimension, the model includes variables such as attitude, behavioural biases, and personality traits, which collectively shape how individuals make financial decisions. The finance dimension focuses on financial literacy and self-efficacy, highlighting the importance of knowledge and confidence in managing investments. The social dimension examines factors like satisfaction, investment intentions, and trading behaviour, reflecting the influence of external and social factors on investment decisions. Together, these dimensions provide a comprehensive framework for understanding the complex drivers of investor behaviour.

- **Reliability and Validity Measures for Key Constructs of Trading Behaviour**

The reliability and validity of the various constructs in the study are assessed using measures such as Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE). The Cronbach's Alpha values for the constructs typically fall within a moderate to high range, demonstrating strong internal consistency. Composite reliability also confirms this, with most constructs showing values above the recommended threshold, indicating that the items within each construct consistently measure the same underlying concept. AVE values are also reported, and many constructs demonstrate adequate convergent validity, as the AVE values exceed the recommended threshold. Constructs such as Trading Behaviour and Intention have particularly high AVE values, indicating strong convergent validity. Overall, the results suggest that the measurement model for all constructs is reliable and valid for further analysis.

- **Direct Effects of Psychological and Financial Dimensions on Social Dimensions**

The results of direct effects in the study, where the relationships between various psychological traits, financial literacy, satisfaction, intention, and trading behaviour are assessed. All direct effects show statistically significant results with p-values below 0.05, indicating that each proposed relationship is supported by the result. Traits like Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism all have significant positive impacts on financial literacy. Similarly, factors such as Risk, Money, Herd Behaviour, Heuristics, Overconfidence, Mental Accounting, Loss Aversion, and Self-Efficacy positively influence satisfaction. Satisfaction, in turn, significantly affects intention, which ultimately has a strong effect on trading behaviour. These findings suggest that the psychological traits and

cognitive factors examined play a crucial role in shaping financial literacy, satisfaction, intention, and trading behaviour, all of which are interconnected in the study model.

- **Moderating Effects of Financial Dimensions on Social Dimensions**

The moderation effects between various constructs and satisfaction, highlight how financial literacy and self-efficacy interact with different factors to influence satisfaction. Significant moderation effects were found in all the relationships tested, with p-values consistently below 0.05, confirming the robustness of these effects. The interactions between financial literacy and factors such as Risk, Money, Herd Behaviour, Heuristics, Mental Accounting, and Loss Aversion showed strong moderation effects, with several showing high levels of moderation. In addition, self-efficacy's interaction with Risk, Money, Herd Behaviour, Heuristics, Overconfidence, Mental Accounting, and Loss Aversion also demonstrated significant moderation, with many of these effects classified as high moderation. These findings suggest that both financial literacy and self-efficacy significantly moderate the influence of various psychological and cognitive factors on satisfaction, indicating their critical roles in shaping individuals' financial behaviours and decisions.

- **Relationship between Psychological, Financial Dimensions and Social Dimensions of Derivative Market**

The correlation matrix between various psychological and behavioural constructs related to financial decision-making. It shows significant positive relationships between many variables, indicating that these constructs are interrelated. For instance, traits like Agreeability, Loss Aversion, Herding Behaviour, Heuristics, Mental Accounting, and Overconfidence all exhibit moderate to strong correlations with each other. Financial literacy is positively correlated with traits such as Conscientiousness, Extraversion, and Openness, suggesting that individuals who score higher on these traits have better financial knowledge. It also shows correlations between behavioural factors like Intention, Trading Behaviour, and Satisfaction, with self-efficacy and satisfaction demonstrating strong correlations as well. Additionally, neuroticism and risk attitudes show some correlations with financial behaviours, though the relationships are generally weaker. Overall, the result suggests that psychological factors such as personality traits and cognitive biases play a significant role in shaping financial literacy, behaviour, and outcomes.

- **Interdependency of Factors Influencing the Trading Behaviour**

The Variance Inflation Factor (VIF) values provide insights into the multicollinearity among different indicators used in the study. Generally, VIF values below 5 indicate acceptable

levels of multicollinearity, suggesting that the variables are relatively independent of each other. In this context, most indicators exhibit low to moderate VIF values, indicating that they can be included in regression models without significant concerns about multicollinearity. This suggests that the indicators are distinct enough to contribute unique information to the analysis of factors influencing investment decisions, particularly in the context of derivatives and financial markets.

- **Impact of Factors on Satisfaction Towards Derivative Market**

The results indicate that financial literacy, satisfaction, intention to invest, and trading behaviour collectively explain a substantial proportion of variance in the dependent variable. The adjusted R-square values (ranging from 0.600 to 0.700) suggest that these factors provide a robust explanation for the observed outcomes beyond chance. Financial literacy appears particularly influential, explaining 63.7% of the variance, followed closely by satisfaction and trading behaviour, each contributing significantly to the model's predictive power. These findings underscore the importance of these factors in understanding and predicting behaviours related to financial decision-making and investment activities.

- **Multidimensional Behaviour of Retail Investors in Derivative market**

The inclination of investors to invest in derivative markets is highly moderated by financial literacy, with a value of 0.637 per cent. The derivative market is very different in terms of both performance and operations. As a result, trading in the derivative market is more influenced by financial literacy among regular investors. A positive correlation exists between the variables. Investors' actions in the derivatives market are influenced by behavioural biases, although the herding bias has a greater effect than the others. Personality traits positively affect the financial literacy of the investors in the derivative market especially the influence of extraversion traits towards financial literacy more than other traits and the Attitude of the retail investors affects the satisfaction in the derivative market. Risk attitude is more effective than the money attitude of the investors. While self-efficacy is a significant factor in retail investors' investing decisions, it has less of a moderating influence than financial literacy.

The multidimensional factors encompass psychological, financial, and social dimensions. For the psychological dimension, attitude, the risk attitude is high compared to the money attitude. Investors with a high-risk attitude are more likely to engage in trading activities, as they are willing to take on uncertainty for potential rewards. While money attitude also plays a role in guiding financial discipline and decision-making, it is the willingness to embrace risk that primarily drives active participation in trading markets. Extraversion and neuroticism

exhibit a higher influence on trading behaviour due to their contrasting psychological impacts. Extraverted individuals are naturally inclined toward social interaction, risk-taking, and dynamic decision-making, making them active participants in trading. Conversely, neurotic individuals, driven by emotional responses and sensitivity to stress, may trade more frequently in reaction to market volatility. Among behavioural biases, herding behaviour exerts the most influence as traders often follow crowd trends, believing others have superior knowledge or insights. This collective mindset amplifies market movements and significantly shapes individual trading decisions. The financial dimension focuses on financial literacy and self-efficacy, highlighting that financial literacy has a high moderating effect when compared to self-efficacy. Financial literacy demonstrates a higher moderating effect compared to self-efficacy because it equips investors with the necessary knowledge to understand complex financial instruments, assess risks, and make informed decisions.

5.8.1 Analysis of Combined Effect of Factors Affecting Trading Behaviour

The results highlight the impact of various factors on investor behaviour, comparing individual effects with combined effects. When personality traits, attitudes, and behavioural biases are considered together, the combined effect generally shows a stronger influence on trading behaviour. Individuals with high openness, conscientiousness, agreeableness, and extraversion are more likely to engage in trading, while those with low neuroticism are also more likely to be active traders. In terms of attitudes, high risk and money orientation drive more trading activity. Behavioural biases such as herding, heuristics, and mental accounting, when combined, further influence trading decisions, while overconfidence and loss aversion, when present at low levels, can reduce trading involvement. Overall, the combination of these psychological and behavioural factors significantly shapes an investor's trading behaviour.

5.9 Suggestions from the Study

The suggestions outlined in the study have been categorized to address the specific needs of various stakeholders, including investors, policymakers, stockbroking firms, and industry professionals:

For Investors

- Among the distribution of retail investors speculators stand highest after hedgers. However, it is important to emphasize that the primary purpose of the derivatives market is risk management through hedging rather than speculative trading. Therefore, investors are advised to focus on hedging strategies that align with the market's intended

purpose, ensuring a more stable and balanced trading environment while safeguarding their investments.

- Arbitrageurs form a significant group of participants, leveraging price discrepancies across markets to earn risk-free profits. While their role enhances market efficiency, arbitrageurs need to recognize the importance of hedging to safeguard their positions. Arbitrage opportunities are not devoid of risk, particularly in volatile markets or during execution delays. By employing hedging strategies, arbitrageurs can minimize potential losses arising from unexpected price movements or other operational risks.
- The margin buyers constitute a smaller segment of participants in derivative trading. While trading on margin offers the advantage of leveraging positions with relatively lower initial capital, it also amplifies risks due to potential losses exceeding the invested amount. For margin buyers, it is crucial to adopt disciplined risk management practices. They should carefully assess their risk tolerance, set strict stop-loss orders, and avoid over-leveraging their positions. Furthermore, margin buyers are advised to consider using hedging strategies, such as offsetting their positions with options or futures, to mitigate the impact of adverse price movements.
- Most investors exhibit a heuristic bias that favours familiar investments over potentially more profitable opportunities in other sectors it is suggested that the investors must diversify their portfolios.
- Most of these investors are the victim of many of the biases. Knowledge of various behavioural biases will help them understand the market to which they are likely to be influenced by biases while making investment decisions in uncertain situations. Familiarity of behavioural biases and its relevance in the investment decision-making process will certainly upsurge rationality.
- The investors mainly depend on financial advisors to make investment decisions, but investors must seek diverse and reputed sources of financial news, data, and analysis from reliable platforms to have timely updates.
- Investors demonstrate a balanced saving approach, allocating 16–20% of their income to savings, their derivative market investments remain limited to 6–10%. Increasing investment in derivatives can offer significant benefits, such as enhanced portfolio diversification, risk management through hedging, and the potential for higher returns in volatile markets. However, this shift requires a cautious and informed approach, emphasizing the need for robust investor education to address the complexity and

perceived risks of derivatives. Financial advisors should guide investors in identifying appropriate derivative instruments aligned with their risk tolerance and financial goals. By strategically increasing derivative investments, investors can optimize their portfolios, leveraging the unique advantages of this asset class without compromising overall stability.

- Investors must have stable and informed decision-making, undervaluing the return rate could limit the potential for maximizing portfolio growth. Investors should recognize that a higher return rate, when balanced with adequate risk management strategies, is essential for long-term financial success. Investors are recommended to seek knowledge on risk-taking and improved returns, emphasizing the focus solely on safety that hinders the overall portfolio performance.
- In equity products, option writing can be a good investment strategy due to its potential for generating consistent income. By selling options, investors can collect premiums, which provide immediate cash flow. Additionally, option writing can serve as a hedging mechanism, offering protection against market downturns while enhancing portfolio returns. However, it requires a strong understanding of market conditions and risk management, as the seller is exposed to unlimited loss if the market moves significantly against the position. Educating investors about the risk-reward dynamics of option writing can help increase its appeal as a strategic tool in equity derivatives.
- Most of the investors invest in precious metals like gold but there is less preference towards silver commodity. Silver can be a good investment in commodity products due to its dual role as both a precious metal and an industrial commodity. Unlike gold, which is often viewed primarily as a store of value, silver has significant industrial demand, especially in sectors like electronics, solar energy, and manufacturing. This makes silver more versatile, with the potential for price appreciation driven by both investment demand and industrial usage. Additionally, silver is often considered a more affordable entry point for investors seeking exposure to precious metals, providing a hedge against inflation and economic uncertainty at a lower cost than gold. Investors should consider silver as a diversifying asset in commodity portfolios, balancing its risks and rewards based on market conditions and industrial trends.
- USD-GBP can be a good investment in currency products due to the strong and consistent economic relationships between the United States and the United Kingdom. The USD-GBP pair is highly liquid, making it an attractive option for investors seeking

stability and ease of transaction. The relatively lower frequency of investment in USD-GBP compared to other currency pairs could also present a unique opportunity for investors to explore less crowded markets with the potential for more favourable price movements. Investors should consider this pair for its liquidity, economic fundamentals, and diversification potential within a currency portfolio.

- The Multi Commodity Exchange (MCX) can be a good investment exchange due to its specialized focus on commodity derivatives, offering a diverse range of products such as metals, energy, and agricultural commodities. While it has a smaller share of investor participation compared to the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE), MCX presents unique opportunities for diversification within the commodity market. It allows investors to hedge against inflation, currency fluctuations, and market volatility, which are especially important in times of economic uncertainty. The lower frequency of investment also indicates growth potential, making it an attractive option for investors seeking to capitalize on emerging trends in the commodity markets. Additionally, MCX's comprehensive trading infrastructure and regulatory framework provide a secure environment for commodity trading, further enhancing its appeal as a strategic investment exchange.
- The Pharma and FMCG sectors, despite receiving less preference from investors, can be considered good investment opportunities due to their stability, resilience, and consistent demand. The Pharma sector, although showing lower investor interest, plays a crucial role in the global healthcare system, with growth driven by an aged population, innovations in medicine, and increasing health awareness.

For Stock Brokers and Financial Advisors

- Offering customized services based on investors' age, financial literacy, and investment is required to make investments in derivative products. Aggressive investment is suitable for younger investors with high risk tolerance levels, but the elderly investors who are looking for retirement benefits, a conservative investment strategy is more applicable.
- Educate the risk management strategy associated with the derivative market to the investors. They should teach the investors, how a derivative instrument protects their portfolio from market volatility by using it as a hedging tool rather than a speculative trading instrument.

- Emphasize the importance of diversification and rational investment strategies to direct the investors away from investing in a single asset.
- Ensure transparent communication and not misleading information. Advisors must help investors understand the risk involved in derivative products and avoid making assumptions about guaranteed returns.

For Policymakers

- To safeguard the interests of investors, policymakers should implement licensing and qualification requirements for participants in the derivative market, as the majority of respondents in the study rely on brokers and advisors for making investment decisions in this market.
- Awareness about derivative products is found to be moderate in the study area; hence, the Government, SEBI, and stock exchanges should invest in a nationwide financial literacy campaign to attract investors to complex financial products like derivatives.
- The authorities should establish laws with mandatory risk disclosures which would help the investors mitigate the complexities and unpremeditated consequences of poorly understood derivative investments from misleading information
- Although SEBI is offering financial literacy programs for investors there is a need for customized financial literacy programs designed to educate investors about derivative market terminologies, risk-return dynamics, and trading behaviour. Introducing these programs at the school level can help students build foundational knowledge of the derivative market and able to build an investment habit at an early age.
- Investors should be provided with hands-on training about the derivative market, complemented by the development of app-based platforms exclusively designed for trading and learning about derivatives.

5.10 Implications and Future Scope

The findings of this study have significant implications for both retail investors and financial institutions involved in the derivative market. For retail investors, understanding the psychological, sociological, and financial factors—such as self-efficacy, financial literacy, personality traits, and behavioural biases—can help enhance decision-making and improve trading outcomes. Financial institutions and policymakers can leverage these insights to design investor education programs and financial products tailored to boost investor confidence and satisfaction. The study also highlights the importance of promoting financial literacy and self-

efficacy, which can serve as important levers to encourage more informed and rational participation in the derivative market.

In terms of future research, there is scope to explore the trading behaviour of institutional investors, as they often have different motivations, risk tolerances, and access to resources compared to retail investors. Additionally, incorporating external and social factors—such as macroeconomic conditions, market sentiment, and social influence—could provide a more comprehensive understanding of investor behaviour in the derivative market. Expanding the scope to include these dimensions could further enrich the field of behavioural finance and contribute to more effective policy and market strategies.

5.11 Conclusion

Investment in the financial market has experienced a notable shift from static to dynamic with more emphasis on behavioural finance (Shukla et al., 2022). In the current scenario, contemporary finance has gradually replaced conventional finance, which has less psychological influence over investors (Madaan & Sinh, 2019) by incorporating behavioural consideration, which recognises the psychological, financial, and social dimensions that shape investment decisions. Over the years the derivative market emerged along with behavioural finance. Due to the rising number of investors engaging in derivatives trading, the market has undergone a significant change with the emergence of market anomalies and behaviours exhibited by investors. In this context, understanding the factors that affect the retail investor's behaviour in the derivative market is crucial. Prior studies have often focused on the isolated factors affecting investment behaviour. However, the current study employs a comprehensive approach by evaluating the interplay of psychological and financial factors on the trading behaviour of retail investors in the derivative market.

The findings of the study reveal that retail investors tend to view the derivative market as an attractive investment avenue because it offers potential hedging strategies, along with a wide range of financial products. The features of the derivative market attract more investors who are seeking flexibility and control. The study reveals that factors within the financial dimension, such as financial literacy and self-efficacy, play a moderating role in influencing investors' intention to trade in the derivative market. Investors with higher financial literacy and self-confidence are better equipped to comprehend the complexities of the derivative market, enabling them to make more informed and effective decisions. In the psychological dimension, personality traits, behavioural biases, and attitudes are strongly associated with investor satisfaction, which in turn significantly impacts trading behaviour (social dimension)

in the derivative market. Collectively, these multidimensional factors are crucial in shaping the trading behaviour of retail investors. Understanding this intricate combination of influences is essential for policymakers, brokers, financial advisors, and educators in crafting strategies, policies, and educational programs that support retail investors in making sound investment decisions.