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A STUDY ON RETAIL INVESTOR BEHAVIOR IN DERIVATIVES MARKETS: ANALYSING MOTIVATIONS, OBJECTIVES, AND THE EFFICACY OF FUTURES AND OPTIONS TRADING

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Abstract:
Investor is the king of derivative market. The motivations, investment goals, and perceived effectiveness of futures and options (F&O) trading are the main topics of this study, which investigates how retail investors behave in the derivatives market. Primary data was gathered using structured questionnaires from 105 retail investors who were actively involved in derivatives trading as part of a quantitative research design. To determine how these elements affect participation and decision-making in F&O markets, the study examines important variables like risk tolerance, return expectations, financial literacy, and trading experience. To find important patterns and relationships, statistical tools were employed. The majority of retail investors, with differing levels of awareness regarding related risks and market volatility, trade derivatives for short-term gains and portfolio hedging, according to the findings. It is revealed that speculative motives dominate retail participation, while financial literacy and strategic risk management remain limited. Futures are often perceived as high-risk, high-reward instruments, whereas options are preferred for their flexibility and defined downside. The study also finds that there is a knowledge gap regarding complicated financial instruments, which frequently results in less-than-ideal investment decisions. The findings are intended to provide guidance to brokers, legislators, and educational institutions in order to improve investor protection and knowledgeable involvement in India's expanding derivatives market.

Keywords: Retail Investors, Derivatives, Futures and Options, Investment Behaviour, Financial Literacy, Risk Perception

1. Introduction:

Investor is the king in the derivative market. The investment landscape has changed dramatically as a result of India's financial markets' explosive growth, with both institutional and individual investors now favoring the derivatives market, especially futures and options (F&O). Increased financial literacy, digital trading platforms, low-cost brokerage services, and a growing desire for speculative returns have all contributed to the unprecedented increase in retail participation in the derivatives market in recent years (Sarkar & Ghosh, 2022). In contrast to conventional equity or mutual fund investments, derivatives offer leveraged gains, arbitrage, and hedging opportunities. But they also come with a lot of risk and complexity, which many retail participants might not fully comprehend. A wide range of factors, such as retail investors' entry motivations, investment goals, trading experience, and risk perception, influence their behavior in this market (Kumar et al., 2021). Designing efficient regulatory frameworks and investor education initiatives that maintain market stability and shield gullible participants from taking on excessive risk requires an understanding of these behavioral aspects.

Even though retail investors are becoming more involved in F&O markets, there isn't much empirical research that uses primary data to systematically analyze their behavioral tendencies, particularly in the Indian context. The majority of existing literature has ignored the practical and psychological factors that influence individual retail investors in favor of institutional investment strategies or macro-level market trends (Choudhary & Kapur, 2023). The purpose of this study is to close that gap by performing a quantitative, primary data-driven study with 105 retail investors to find out what

drives them to trade derivatives, what kind of returns they anticipate, and how well they believe F&O instruments help them reach their financial objectives. Because these factors have a direct impact on decision-making and market outcomes, the study also takes into account the investors' degree of financial awareness and trading discipline. Understanding the micro-level behavior of retail participants is crucial for ensuring informed participation and reducing systemic risk as India's derivatives market grows, especially on platforms like the NSE and BSE (Rao & Mishra, 2020). This study offers insightful information that can help financial educators, brokers, and legislators create a derivatives ecosystem that is more inclusive and resilient.

2. Objectives of the Study:

- To examine the key motivations and investment objectives driving retail investors to participate in derivatives trading, particularly in futures and options markets
- To examine the perceptions of investors towards F&O instruments while achieving financial goals, financial literacy and trading

3. Literature Review:

- **The involvement of retail investors in derivatives markets**

Both opportunities and regulatory concerns have been brought about by the increase in the activity of retail investors in derivatives markets. To evaluate the behavioral patterns of Indian retail investors in the F&O market, Kumar et al. (2021) carried out an empirical analysis. According to their findings, a lot of investors are motivated more by gut feelings than by well-informed financial strategies. According to the study, individual investors generally don't understand the risk-return framework of derivatives. Even though these tools are complicated, access has been made easier by mobile app-based platforms, which has led to impulsive trading. It was also discovered that social media and internet advice were very important to retail traders. To find relationships between trading frequency, profit sustainability, and financial literacy, the researchers employed regression analysis and survey data. The results emphasize the need for more stringent digital advisory standards and investor education initiatives. This study highlights the vulnerabilities brought about by growing retail participation in high-risk segments and provides a basis for understanding why inexperienced retail traders frequently perform poorly.

- **Motivating Elements Affecting Trading in Derivatives**

A behavioral framework for comprehending the motivations of retail investors to engage in derivatives trading is offered by Choudhary and Kapur (2023). Their mixed-method study, which included structured surveys and interviews, demonstrates that the primary motivation is speculation. Instead of having a sound financial plan, investors often enter the F&O market hoping for quick profits and peer approval. Hedging and arbitrage are secondary goals, mostly for more seasoned or institutionally exposed investors. The researchers contend that rather than being financial tools for risk mitigation, retail investors frequently misunderstand the true purpose of derivatives and mistake them for high-yield instruments. One of the main factors influencing trading decisions was identified as peer influence, especially through social media. The authors found that gamification in trading apps has increased inexperienced investors' impulsive behavior. According to their findings, traders must be motivationally profiled in order to lower behavioral risks. They come to the conclusion that market access, required educational programs, and usage restrictions for high-risk instruments must all be balanced by regulators.

- **Futures and Options' Effectiveness and Perception of Risk**

Retail investors' perceptions of the risk and utility of derivatives, like futures and options, are evaluated by Singh and Malhotra (2020). Their study, which was based on a survey of more than 200 investors, reveals a notable discrepancy between perceived efficacy and actual financial results. The majority of investors think that F&O instruments are useful instruments for generating short-term wealth. Only a small percentage of people, nevertheless, are aware of the concepts of leverage, margin

risk, and time decay in options trading. Poor trading discipline, misaligned expectations, and recurrent losses are the outcomes of conceptual ambiguity. Most traders followed their instincts or recommendations from others, but seasoned traders used protective techniques like hedging and stop-loss orders. The researchers emphasize that the depth of investor knowledge is not keeping up with the current rate of market participation. The study suggests stricter onboarding protocols and increased due diligence by brokers. In order to help close the gap between intention and actual efficacy in derivatives trading, the authors contend that platforms ought to incorporate risk alerts and real-time guidance.

- **Behavioral Prejudices in Trading Derivatives**

The cognitive distortions that influence the decisions of retail investors in derivatives markets are examined by Suresh and Iyer (2022). According to their survey-based research, the disposition effect, herd behaviour, and overconfidence are the main behavioural biases. Despite previous failures, overconfident traders frequently make more trades than are necessary because they have faith in their ability to forecast. The study also reveals a strong herd mentality, where investors copy well-liked trading strategies from online influencers without doing their own research, particularly during times of market volatility. Across all demographics, traders exhibited the disposition effect, which occurs when they hang onto losing trades and prematurely exit profitable ones. The study emphasizes how behavioural biases raise systemic risk and result in sustained underperformance. It suggests using investor awareness programs to provide behavioural training and incorporating psychological screening into investor profiling. Addressing biases can greatly enhance investor outcomes and market efficiency in the F&O segment, according to the study, which also confirms the applicability of behavioural finance in comprehending trading anomalies.

- **How Technology and Financial Literacy Affect Retail Derivatives Trading**

Sarkar and Ghosh (2022) examine the dual impact of digital trading tools and financial literacy on derivatives trading behaviour. The study finds that although technology has democratized access, it has also accelerated speculative behaviour, particularly among younger, first-time traders. Investors with low financial literacy are more prone to misinterpret charts, over-leverage their trades, and depend heavily on algorithm-based bots or social media tips. In contrast, literate investors use stop-loss mechanisms and portfolio risk balancing strategies. The research highlights that mobile apps, despite their ease, often lack contextual warnings or educational interfaces. While algorithmic and AI-driven tools are becoming popular, the lack of interpretative training results in misuse. The authors advocate for digital investor education embedded within trading platforms. Their study concludes that without simultaneous improvements in investor knowledge, technology can exacerbate financial vulnerabilities rather than resolving them. It offers strategic guidance to fintech platforms and regulators for bridging the gap between access and safe investing behaviour.

4. Research Methodology:

Research Design: The present study adopts a quantitative research design to examine retail investor behaviour in the Indian derivatives market, specifically focusing on futures and options (F&O) trading. The study is empirical in nature and is structured to test the relationships between various investor characteristics—such as risk tolerance, financial literacy, and trading experience—and their motivations and perceptions regarding derivatives. This approach allows for the systematic collection and numerical analysis of data to identify patterns, correlations, and trends.

3.2 Population and Sample: The target population includes retail investors actively engaged in derivatives trading across India. The sample comprises 105 respondents selected based on their active participation in F&O trading. A non-probability purposive sampling method was employed to select individuals who have sufficient exposure to derivatives instruments. This ensured that the respondents had relevant experience to provide insights on trading motivations, decision-making, and efficacy perceptions.

3.3 Data Collection Method: Primary data was collected through a structured questionnaire administered via online survey tools. The questionnaire was divided into multiple sections covering demographic details, trading experience, risk appetite, financial knowledge, motivation for trading, and perceptions about F&O efficacy. All questions were multiple-choice or based on a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." The instrument was pre-tested for clarity and refined to ensure reliability. Secondary Data: Secondary data was sourced from academic journals, SEBI, NSE and BSE publications, research reports, and credible online financial platforms. These sources provided contextual understanding of the evolution of derivatives markets in India, Retail investor participation trends, Regulatory frameworks, Behavioural finance literature relevant to investment decision-making.

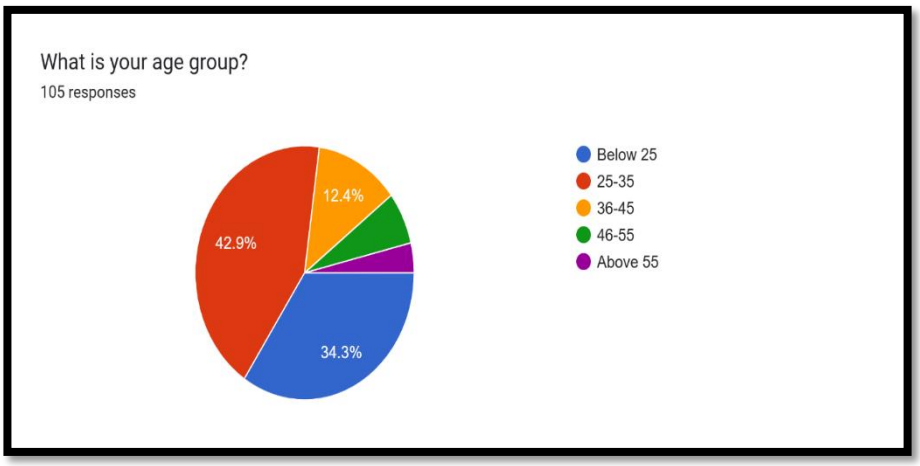
3.4 Tools and Techniques of Research: The following tools and techniques were employed to analyze the data. Descriptive Statistics: Used to summarize the demographic profile of respondents, trading experience, and risk preferences. Frequency and Percentage Analysis: Applied to interpret the distribution of responses across different categories (e.g., trading motivations, risk perception). Cross-tabulation: Conducted to examine the relationship between variables such as age and investment objectives, or income level and risk appetite. Comparative Analysis: Futures and options were compared based on respondents' perceived effectiveness for risk management and return generation. The data analysis was primarily quantitative and conducted using Microsoft Excel for tabulation and visualization. Where appropriate, statistical interpretation supported the identification of significant patterns in behavior and perceptions.

3.5 Scope of the Study

This research focuses on understanding the behavioral dimensions of retail investors participating in derivatives markets, specifically in futures and options trading. The scope is defined as follows: The study primarily targets retail investors from Mumbai Region, with a focus on participants trading in derivatives. The study investigates key areas such as: Investment motivations (e.g., speculation, hedging, diversification), Objectives and expectations from derivatives, Challenges like volatility, limited financial knowledge, and emotional decision-making; Effectiveness of derivatives in meeting financial goals. The study considers only retail investors—excluding institutional investors, portfolio managers, or proprietary traders—to maintain the focus on individual investor behaviour.

4. Data Analysis:

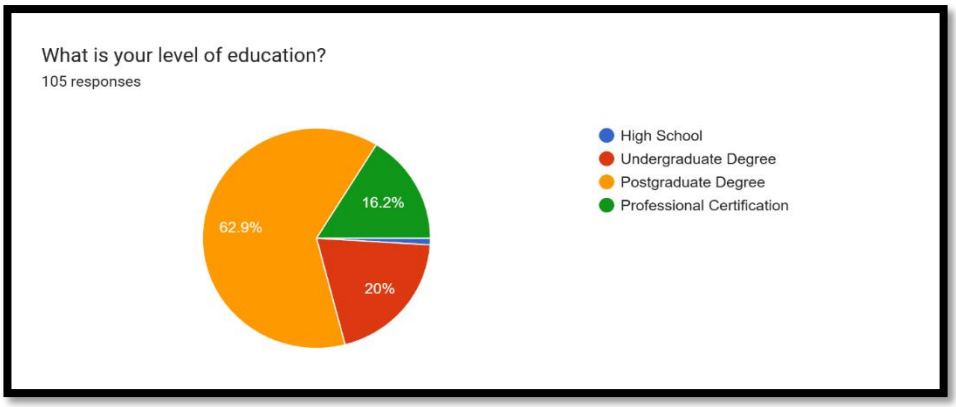
Chart 1: Age Group



The pie chart illustrates the age distribution of 105 respondents. The largest group of respondents (42.9%) falls within the 25–35 age bracket, indicating a strong presence of young adults. The second-largest group, making up 34.3%, is below 25 years of age, suggesting a significant representation of youth or students. The 36–45 age group accounts for 12.4%, while the 46–55 group and the above 55

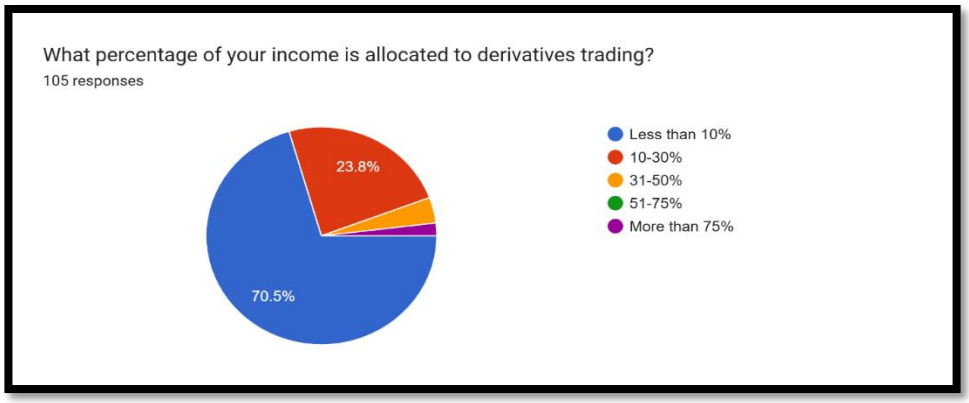
group represent the smallest proportions, with 6.7% and 3.8% respectively. This distribution shows that over three-quarters of the respondents are aged 35 or below, highlighting a predominantly younger demographic participating in the survey.

Chart 2: Education



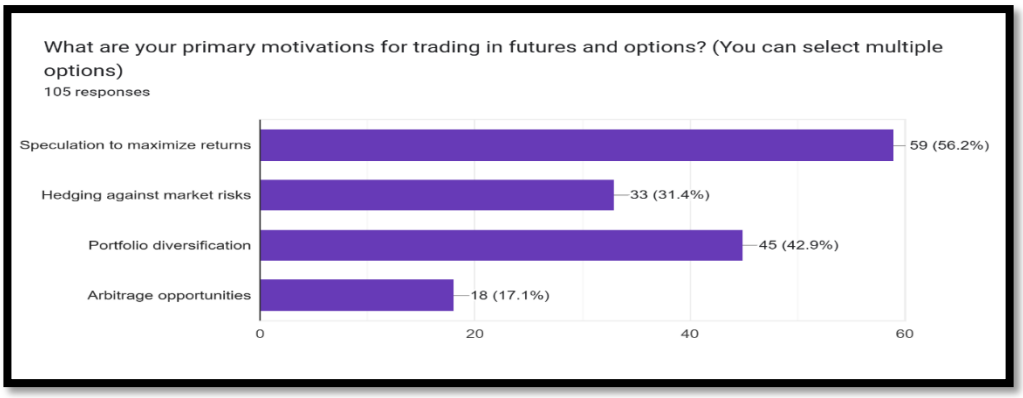
The chart indicates the educational qualifications of 105 respondents. A dominant majority, 62.9%, hold a postgraduate degree, reflecting a highly educated sample population. Undergraduate degree holders make up 20% of the respondents, while 16.2% have attained professional certification. Only a minimal portion, less than 1% (not clearly labeled but represented by the smallest visible segment), have completed only high school. This data suggests that the survey primarily reached individuals with advanced education, which may influence their perspectives and decision-making patterns in the context being studied.

Chart 3: Income Vs. Trading



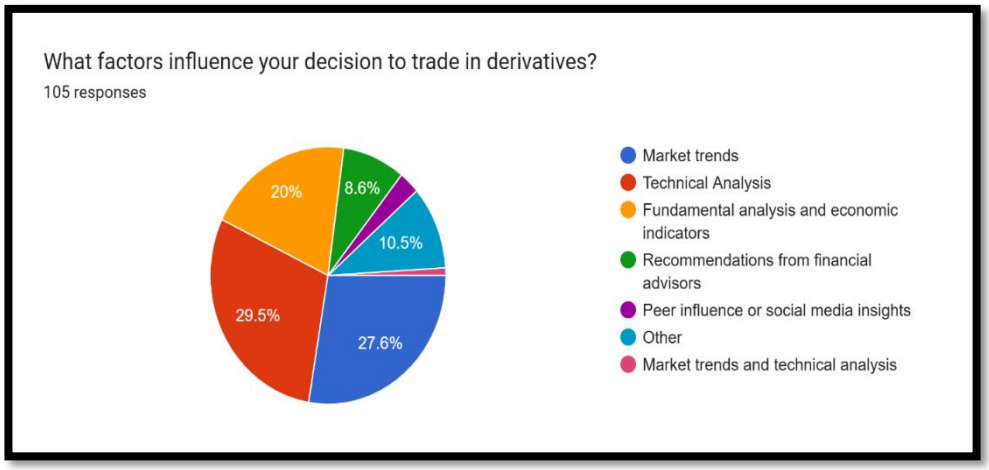
The pie chart presents the percentage of income respondents allocate to derivatives trading, based on 105 responses. A substantial majority, 70.5%, allocate less than 10% of their income to derivatives, indicating a cautious or supplementary trading approach. Another 23.8% of participants dedicate between 10% and 30% of their income, suggesting moderate engagement. Very few respondents allocate a significant portion of their income: only a small fraction invest between 31% and 50%, and even fewer fall into the 51%–75% and more than 75% categories, each barely visible in the chart. This pattern implies that while interest in derivatives exists, most retail investors treat it as a limited or diversified investment strategy rather than a primary income allocation.

Graph 1: Primary Motivation for Trading in F&O



The bar chart highlights the primary motivations of 105 respondents for engaging in futures and options trading, allowing multiple selections. The most common motivation, cited by 56.2% of participants, is speculation to maximize returns, reflecting a dominant interest in profit-driven strategies. Portfolio diversification follows with 42.9%, indicating that many traders view derivatives as a tool to balance risk across their investments. Hedging against market risks was selected by 31.4% of respondents, showing a considerable portion uses derivatives for risk management. Meanwhile, arbitrage opportunities were the least selected motivation, with only 17.1% acknowledging it. These findings suggest that while speculative and diversification goals are prominent, more complex or technical strategies like arbitrage are less commonly pursued by retail investors.

Chart 4: Factors Influencing Trading Decisions

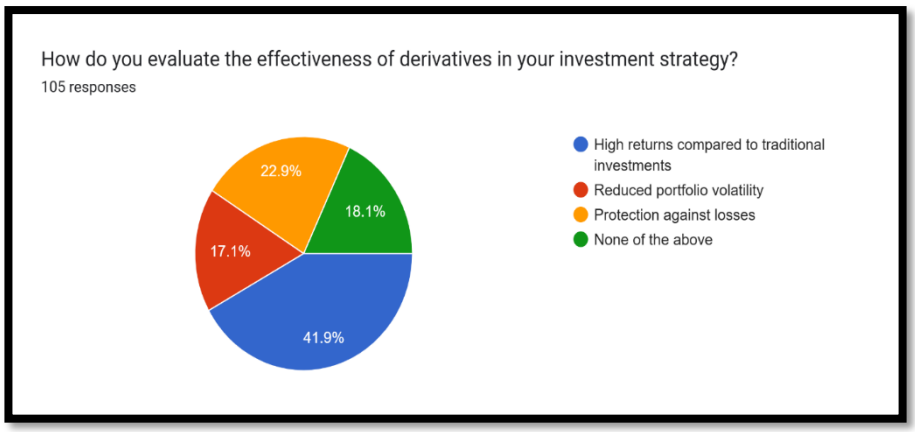


The pie chart depicts the factors influencing respondents' decisions to trade in derivatives, based on 105 responses. The most influential factor is technical analysis, selected by 29.5% of respondents, indicating that chart patterns and indicators are key tools for decision-making. Market trends follow closely at 27.6%, showing that overall market direction plays a critical role. Fundamental analysis and economic indicators account for 20%, suggesting that a significant portion of investors also consider macroeconomic conditions. Meanwhile, 10.5% rely on recommendations from financial advisors, and 8.6% are influenced by peer or social media insights. Only a minimal portion chose "Other" or the combined factor of "Market trends and technical analysis", indicating less frequent or ambiguous influences. Overall, the data reveals a preference for data-driven, analytical methods (technical and fundamental) among most derivatives traders, while social or advisory influences play a secondary role.

Chart 5: F&O with Financial Goals

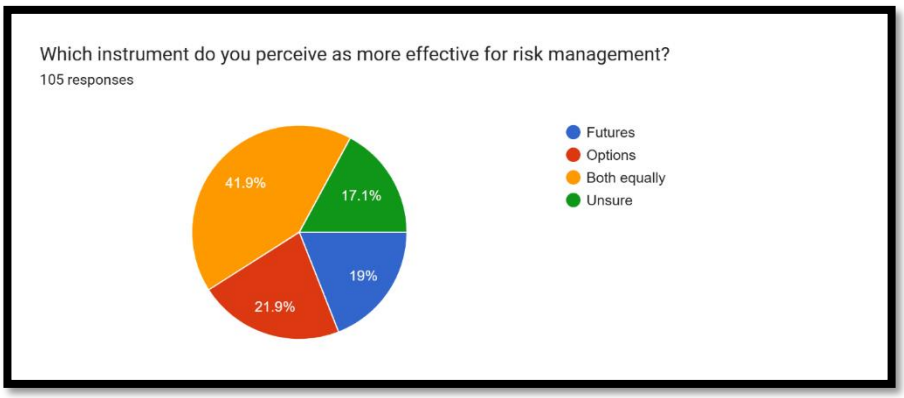
The above chart displays the respondents' perceptions of whether futures and options trading has helped them achieve their financial goals. Out of 105 respondents, the largest group (45.7%) stated that it has helped them only to some extent, reflecting partial satisfaction with their trading outcomes. A smaller yet notable portion, 21.9%, are unsure of the impact, indicating a degree of ambiguity or lack of clear financial assessment. Meanwhile, 16.2% believe that derivatives trading has significantly contributed to achieving their goals, whereas another 16.2% feel that it has not been effective. This distribution suggests a mixed sentiment among traders, with a tendency toward cautious optimism but not overwhelming success. The high percentage of partial success and uncertainty also points to the complex, and often unpredictable, nature of derivatives trading outcomes for retail investors.

Chart 6: Effectiveness of Derivatives



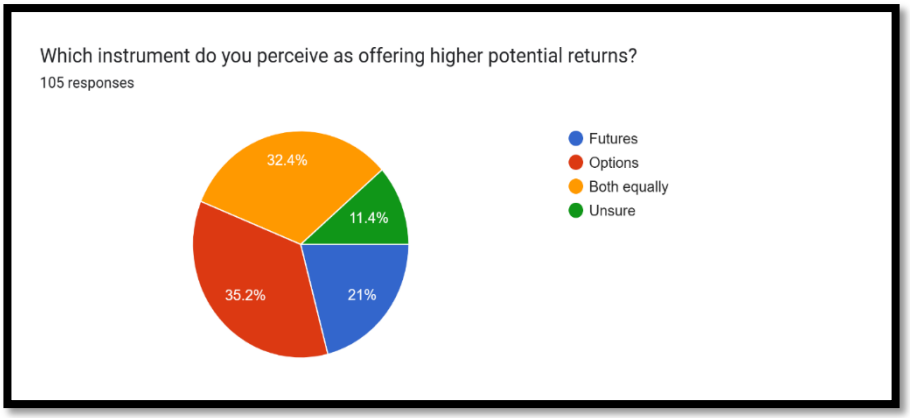
The pie chart evaluates how respondents perceive the effectiveness of derivatives within their investment strategies, based on 105 responses. The largest segment, 41.9%, believes derivatives offer high returns compared to traditional investments, underscoring their appeal as a profit-oriented tool. 22.9% of respondents see derivatives as a means of protection against losses, while 17.1% recognize their role in reducing portfolio volatility, highlighting their use as risk management instruments. Interestingly, 18.1% chose "None of the above", suggesting a segment of participants either does not see clear benefits or remains uncertain about derivatives' value in strategy execution.

Chart 7: Investors' Perceptions towards Instrument



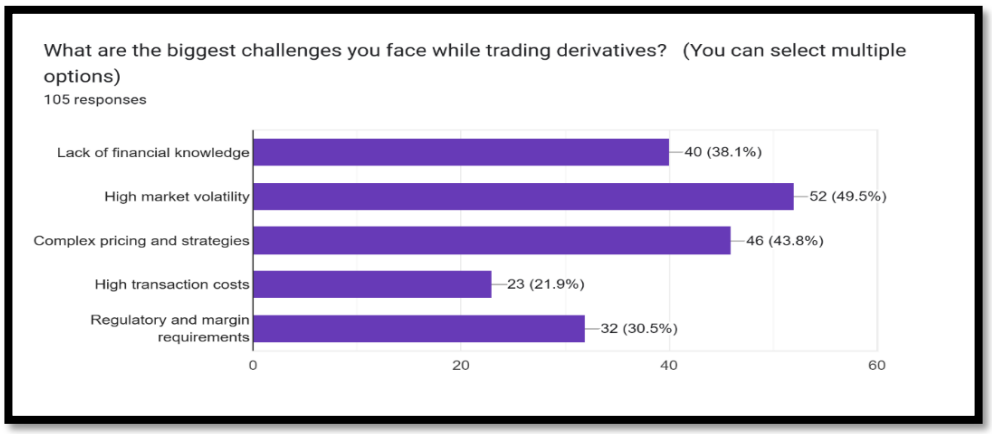
The pie chart represents investor perceptions regarding the effectiveness of futures and options in risk management, based on 105 responses. A plurality of respondents, 41.9%, believe that both instruments are equally effective, suggesting a balanced understanding of the unique benefits offered by each. 21.9% consider options to be more effective, likely due to their flexibility and limited risk exposure. Meanwhile, 19% favor futures, which may reflect confidence in their straightforward structure and liquidity. However, 17.1% of participants are unsure, indicating a knowledge gap or lack of experience in differentiating between these financial tools.

Chart 8: Investors' Perceptions towards Potential Returns



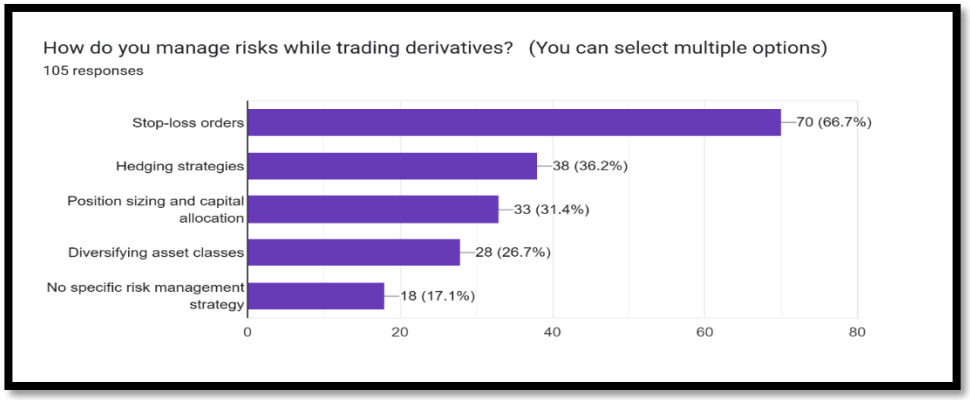
The pie chart presents the perceptions of 105 respondents regarding which derivative instrument offers higher potential returns. Options are viewed most favorably, with 35.2% of participants considering them to offer superior return potential, possibly due to their asymmetric payoff structure and leverage opportunities. 32.4% believe both futures and options offer equal return potential, indicating an appreciation for the profit-making abilities of each, depending on strategy and market conditions. 21% perceive futures as offering higher returns, likely reflecting their direct exposure to price movements. A smaller portion, 11.4%, remain unsure, suggesting a gap in understanding or experience.

Chart 9: Major Challenges while Trading



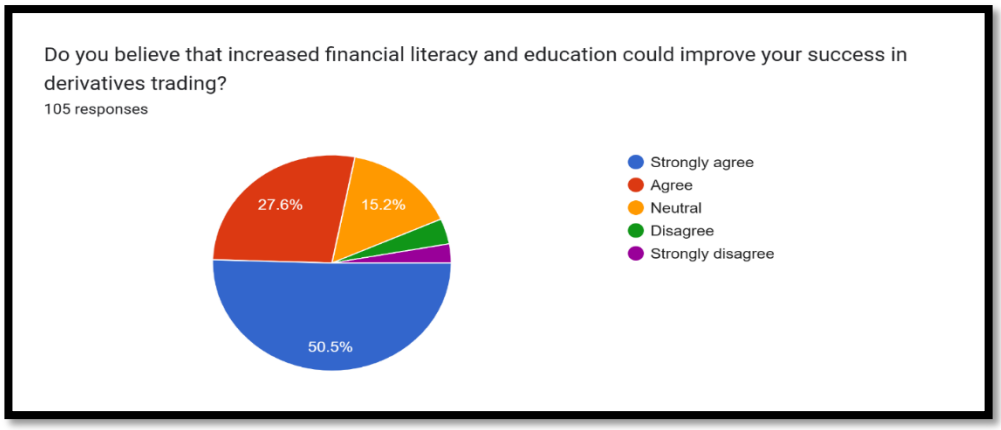
The bar chart identifies the primary challenges faced by 105 respondents in derivatives trading, with multiple options allowed. The most frequently cited issue is high market volatility, mentioned by 49.5%, highlighting the uncertainty and rapid price movements that deter many traders. Complex pricing and strategies are another significant hurdle, reported by 43.8%, reflecting the advanced knowledge required for effective derivatives use. Lack of financial knowledge was identified by 38.1%, indicating a substantial need for education and awareness among retail participants. Regulatory and margin requirements pose difficulties for 30.5%, suggesting that compliance and capital obligations add to the perceived complexity. High transaction costs were noted by 21.9%, the lowest among the listed challenges, but still a concern for nearly a quarter of respondents.

Chart 10: Risk Management while trading



The bar chart illustrates the various risk management strategies adopted by 105 respondents while trading in derivatives, with multiple responses allowed. Stop-loss orders are the most commonly used tool, employed by 66.7% of respondents, reflecting their widespread acceptance as a basic risk control mechanism to limit losses. Hedging strategies are the second most preferred method, utilized by 36.2%, indicating that a significant portion of traders use offsetting positions to manage exposure. Position sizing and capital allocation is adopted by 31.4%, highlighting the importance of managing trade volume relative to account size. Diversifying asset classes is used by 26.7%, pointing to a strategy of spreading investments to reduce risk concentration. Notably, 17.1% of respondents report having no specific risk management strategy, which may expose them to heightened losses.

Chart 11: Financial Literacy and Success in Derivative Trading



The pie chart explores the perceived impact of financial literacy and education on success in derivatives trading, based on 105 responses. A significant 50.5% of respondents strongly agree that enhanced financial knowledge could improve their trading outcomes, while another 27.6% agree, reflecting a broad consensus on the importance of education in navigating complex financial instruments. 15.2% remain neutral, possibly indicating uncertainty or a lack of experience to judge. A small minority (3.8%) disagree and (2.9%) strongly disagree, suggesting skepticism or confidence in existing skills. Overall, over three-fourths of respondents (78.1%) acknowledge the value of financial literacy, highlighting the urgent need for targeted educational initiatives and capacity-building programs to empower retail investors in the derivatives market.

5. Findings of Study:

- **Speculation is the Dominant Motive**: A majority of retail investors use derivatives, particularly futures and options, primarily for speculative purposes rather than for risk management or diversification.
- **Lack of Financial Literacy is a Key Challenge**: Many investors lack in-depth knowledge of how derivatives function, especially concerning leverage, margin, and risk exposure.
- **High Return Expectations Influence Trading Behavior**: The allure of quick profits drives most participants toward risky trading without adequate risk assessment.
- **Mixed Perceptions of Futures vs. Options**: Futures are often seen as riskier but potentially more rewarding, while options are chosen for their limited downside risk.
- **Limited Goal Achievement**: Only a small proportion of investors consistently meet their financial goals through derivatives trading, pointing to inefficiencies in strategy and execution.
- **Risk Management Practices are Weak**: Many investors do not employ robust risk mitigation techniques, often resulting in losses, especially during volatile market conditions.

6. Conclusion:

Retail investors are increasingly active in India's derivatives markets, primarily driven by speculative motives and the prospect of high returns. However, the study finds that limited financial literacy, underutilization of risk management tools, and overreliance on leverage contribute to suboptimal outcomes. Although derivatives offer mechanisms for hedging and diversification, they are often misunderstood or misapplied by retail participants. This highlights a significant need for investor education, the adoption of effective risk mitigation strategies, and stronger regulatory frameworks to ensure sustainable participation. Future research should adopt longitudinal approaches to better understand behaviour across market cycles.

7. Suggestions:

Regulators and brokers should promote structured training programs on derivatives, focusing on practical aspects of risk, return, and strategy. One should encourage the use of stop-loss orders, portfolio margining, and risk calculators to aid informed decision-making. Regulators could introduce checks on overleveraging by setting stricter margin requirements for retail investors. Investors should be encouraged to trade based on long-term strategies rather than short-term speculation, including hedging and diversification. Brokerage platforms should provide clear insights into trading risks and personalized analytics to guide retail investors. Simulated trading can help new investors understand market dynamics without financial risk.

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