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A Study on Analysis of Stock Future and Option Derivatives Trading in Chennai

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ABSTRACT

This study examines the stock futures and options derivatives trading in Chennai and highlighting their crucial role in risk management and speculation. It focuses on UGP Engineering Private Limited in the manufacturing sector, exploring risk management, liquidity dynamics, and investor behavior. The study investigates risk and return in Chennai's stock derivatives and macroeconomic influences on pricing and trading volumes, aiming to enhance market dynamics and operational efficiency. Using descriptive research methodology, data is collected from both primary and secondary sources with a sample size of 138 through convenience sampling. Non-parametric tests such as Mann Whitney, Spearman Rank Correlation and Kruskal-Wallis are used for analysis, revealing significant implications for market stability and decision-making processes.

Keywords: Derivatives, Stock Future and Option, Market Dynamics, Investors Behavior, Risk Management, Macroeconomic Influence and Trading.

INTRODUCTION

Derivatives, valuable risk management tools, derive their worth from underlying assets such as bullion, indexes, shares, bonds, currencies, and interest rates, enabling banks, securities firms, companies, and investors to hedge risks, access cheaper money, and make profits through contracts specifying payment conditions based on dates, asset values, and notional amounts. Chennai's derivatives market has evolved significantly, playing a vital role in India's financial sector with products including futures and options on various assets. Driven by globalization, investor preferences, economic expansion, and supportive regulations, India's derivatives market thrives, with participants utilizing quantitative analysis and mathematical models to navigate market complexities. Regulatory frameworks ensure market integrity, while technological advancements enhance efficiency and accessibility, attracting diverse participants.

REVIEW OF LITERATURE

- **Sujata Singh (2023):** This study finds that options provide higher returns and lower risk than futures, beneficial for stock market investments.
- **Priti Jain Vilas (2023):** Analyzing the derivatives market in Fashion, Retail, Financial Services, and IT sectors, this study reveals a gap between market potential and investor awareness, emphasizing the need for increased understanding and utilization of derivatives.
- **Parizad Phiroze Dungore et al. (2022) & Banikanta Mishra et al. (2017):** Analysis of Nifty Index futures and options indicates high volatility driven by individual traders and suggests employing minimum-variance unbiased estimators for accurate volatility assessment. Both studies suggest reduced spot market volatility post-derivatives introduction.
- **Fei Ren et al. (2022), Saurabh Singh and Dr. L.K. Tripathi (2016) & Abhilash S. Nair (2006):** Using the GARCH model, these studies conclude that stock index futures reduce spot market volatility in both the Shanghai and Shenzhen 300 stock index futures markets and the SENSEX, benefiting market stability and efficiency.
- **Seena K.R. and Dr. Keerthi (2021), Dr. Venkatesha R. (2021), Devis J S and Palathra Yadukrishnan V. (2020), and MS. Narasimhan and Shalu Kalra (2014):** These studies emphasize the role of derivatives in risk management, highlighting their acceptance and challenges in India, the need for SEBI to enhance investor awareness, and the impact of derivatives trading on liquidity in the cash market.
- **Manda Sebastian et al. (2019), Toopalli Sirisha and Dr. NallaBala Kalyan (2019), and Abhinandan Chougule (2015):** These studies analyze the profitability and strategic use of futures and options for hedging and managing risk, offering significant returns and reducing market risk. Strategies for call options are also suggested based on market conditions.

- **S.T.P. Raghavan (2018) & Dr. Mahammadrafique Meman (2017):** Reveals that retail investors dominate the equity derivatives market in India, with significant engagement but also hesitance due to a need for deeper knowledge.
- **Divya Verma Gakhar (2016), Verma Brindha (2016), and Shruthi B.C. and Dr. N. Suresh (2013):** These studies assess the impact of derivatives on market volatility and investor perceptions, highlighting the need for regulatory measures, training programs, and stricter regulations to protect investors.
- **Ruchika Gahlot et al. (2010), Dr. Gurcharan Singh and Salony Kansal (2010), and S.V. Ramana Rao and Naliniprava Tripathy (2009):** Using GARCH and ARCH models, these studies find that derivatives trading decreases stock market volatility by increasing liquidity and attracting more traders, with no structural changes in Nifty's conditional volatility but improved market efficiency.
- **S. Bhaumik et al. (2008) & Sugato Chakravarthy et al. (2004):** These studies find that futures trading reduces spot volatility, while options trading decreases volume but supports price discovery, accounting for 17% of price discovery.
- **Mohammad G. Robbani and Rafiqul Bhuyan (2004) & Sandeep Srivastava (2003):** These studies find increased volatility and trading volume in stocks post-futures and options introduction, with open interest being a significant predictor of underlying share prices.
- **Ashutosh Vashishtha and Satish Kumar (2010):** Highlights the rapid growth of the derivatives market in India, surpassing the equity market turnover.
- **P. Sakthivel (2002):** Shows that index futures trading reduces stock market volatility, enhancing market efficiency through structural changes.

OBJECTIVES OF THE STUDY

- To analyze risk and return in Chennai's stock derivatives, and focusing on their implications for investors and market stability.
- To explore the behavior of stock futures and options traders, with a focus on decision making patterns.
- To investigate the influence of macroeconomic factors on stock futures & options pricing and trading volumes.
- To assess how stock futures and options trading shapes the market dynamics and influence on participants behavior in financial landscape.
- To analyze the operational efficiency of futures & options.

NEED OF THE STUDY

The study aims to understand the impact of stock futures and options on Chennai's financial market, focusing on their role in managing financial risk for investors and businesses. It will examine the liquidity dynamics of derivative instruments and their influence on investor performance evaluation. Additionally, the study will analyze how derivatives trading affects investor behavior and decision-making, investigate various hedging strategies employed using stock futures and options, and evaluate the role of derivatives in enhancing the efficiency of Chennai's capital market.

SCOPE OF THE STUDY

This study benefits investors and traders by providing insights into market trends and risk characteristics for better strategizing. Financial institutions gain risk management strategies and liquidity insights, while regulatory bodies can refine policies. Academic researchers find a valuable resource for further study, and businesses gain practical insights for financial planning. Government agencies can use the findings for economic planning, and market analysts obtain rich input for forecasts. Consultants benefit in financial advisory services, and the general public gains awareness of stock derivatives' impact on the economy.

RESEARCH METHODOLOGY

This study employs a **Descriptive research design** to understand the current situation of stock futures and options trading in Chennai, focusing on its impact on market performance. Data collection involves both primary and secondary sources. The population consists of an unknown group of individuals with shared characteristics, with a sample size of 138 determined through statistical formulas based on a pilot study. **Convenience Sampling,** a type of **Non-Probability Sampling Technique** is used to select participants. A pilot study ensured the reliability and validity of survey instruments. The normality test indicated non-normal distribution, leading to the use of non-parametric tests such as Mann-Whitney U-Test, Spearman Rank Correlation, Kruskal-Wallis H-Test, Chi-Square Test, and percentage analysis for data analysis.

MANN WHITNEY (U-TEST)

NULL HYPOTHESIS (H_0): There is no significant difference between mean ranks of gender with their respective Market dynamics, Risk management, Macroeconomic influence, Investors behavior and Operational efficiency.

ALTERNATIVE HYPOTHESIS (H_1): There is a significant difference between mean ranks gender with their respective Market dynamics, Risk management, Macroeconomic influence, Investors behavior and Operational efficiency.

Ranks

	Gender	N	Mean Rank	Sum of Ranks
Market Dynamics	Male	86	70.78	6087.00
	Female	52	67.38	3504.00
	Total	138		
Risk Management	Male	86	67.73	5824.50
	Female	52	72.43	3766.50
	Total	138		
Macroeconomic influence	Male	86	75.02	6451.50
	Female	52	60.38	3139.50
	Total	138		
Investors behavior	Male	86	70.63	6074.50
	Female	52	67.62	3516.50
	Total	138		
Operational efficiency	Male	86	69.31	5960.50
	Female	52	69.82	3630.50
	Total	138		

INFERENCE: The **P(sig) > 0.05, So Accept Null Hypothesis,** for the dimensions of Market dynamics, Risk management, Investor behavior and Operational efficiency and it states that there is no significant difference between gender and the dimensions. The **P(sig) < 0.05, So Reject Null Hypothesis,** for the dimension of Macroeconomic influence and its indicate that there is a significant difference between gender and the dimension.

SPEARMAN'S RANK CORRELATION

Test Statistics[a]

	Market Dynamics	Risk Management	Macroeconomic influence	Investors behavior	Operational efficiency
Mann-Whitney U	2126.000	2083.500	1761.500	2138.500	2219.500
Wilcoxon W	3504.000	5824.500	3139.500	3516.500	5960.500
Z	-.494	-.797	-2.182	-.448	-.077
Asymp. Sig. (2-tailed)	.621	.425	.029	.654	.939

a. Grouping Variable: Gender

NULL HYPOTHESIS (H_0): There is no relationship between Market dynamics, Risk management, Macroeconomic influence, Investors behavior and Operational efficiency.

ALTERNATIVE HYPOTHESIS (H_1): There is a relationship between Market dynamics, Risk management, Macroeconomic influence, Investors behavior and Operational efficiency.

Correlations

			Market Dynamics	Risk Management	Macroeconomic influence	Investors behavior	Operational efficiency
Spearman's rho	Market Dynamics	Correlation Coefficient	1.000	.572**	.600**	.502**	.515**
		Sig. (2-tailed)	.	.000	.000	.000	.000
		N	138	138	138	138	138
	Risk Management	Correlation Coefficient	.572**	1.000	.653**	.767**	.781**
		Sig. (2-tailed)	.000	.	.000	.000	.000
		N	138	138	138	138	138
	Macroeconomic influence	Correlation Coefficient	.600**	.653**	1.000	.792**	.799**
		Sig. (2-tailed)	.000	.000	.	.000	.000
		N	138	138	138	138	138
	Investors behavior	Correlation Coefficient	.502**	.767**	.792**	1.000	.855**
		Sig. (2-tailed)	.000	.000	.000	.	.000
		N	138	138	138	138	138
	Operational efficiency	Correlation Coefficient	.515**	.781**	.799**	.855**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000	.
		N	138	138	138	138	138

**. Correlation is significant at the 0.01 level (2-tailed).

INFERENCE: Market Dynamics is Highly Correlated (0.600) with Macroeconomic Influence, Risk Management is Highly Correlated (0.781) with Operational Efficiency, Macroeconomic Influence is Highly Correlated (0.799) with Operational Efficiency, Investors Behavior is Highly Correlated (0.855) with Operational Efficiency and Operational Efficiency is Highly Correlated (0.855) with Investors Behavior.

SUMMARY OF FINDINGS

The study reveals various insights into stock futures and options trading in Chennai. It indicates that changes in market volatility significantly influence trading volume, with a majority of respondents attributing investor sentiment as a key driver. Political elections and short-selling maneuvers are identified as primary factors impacting trading behavior. Additionally, the majority of traders utilize clearing houses for transactions and monitor macroeconomic indicators to manage systematic risk. The study highlights the importance of efficient order execution and personalized customer support in enhancing operational efficiency. Furthermore, correlations among market dynamics, risk management, macroeconomic influence, investor behavior, and operational efficiency suggest interdependencies within the trading environment. While age shows significant differences concerning market dynamics,

gender differences are notable in macroeconomic influence perception. Moreover, educational background influences traders' risk management strategies through macroeconomic indicators.

SUGGESTIONS

Conducting empirical research on derivatives trading in Chennai's markets to analyze its impact on market efficiency metrics like liquidity, price discovery, and volatility. Comparing Chennai's market efficiency with other financial centers globally, exploring factors contributing to differences. Investigating regulatory changes' effects on market efficiency and investor protection, understanding microstructure dynamics, behavioral biases, high-frequency trading impact, risk management practices, market integration, and specific trading strategies' effects on efficiency.

CONCLUSION

The pivotal role of stock futures and options derivatives trading in Chennai provides valuable insights into the city's financial landscape, highlighting their significant contribution to the economy and reflecting the evolving economic dynamics. Understanding local market conditions and regulatory frameworks is crucial for effective participation, offering avenues for risk management and speculation. Continuous learning and staying updated with market trends are emphasized, as the derivatives market in Chennai presents both opportunities and challenges, requiring informed decision-making for successful trading outcomes.

REFERENCES

Books Referred

1. Research methodology & technology, C.R. Kothari, Wishwa Prakshan, New Delhi, 2002.
2. Research Design: Qualitative, Quantitative and Mixed methods, John W. Creswell, Canada, 2017.
3. Futures & Options, A. N. Sridhar, Bihar, 2006.
4. Financial Derivatives: Forwards, Futures, Options and Swaps, Chandra Sekhar, Uttar Pradesh, 2018.

Journals Referred

1. Sujata Singh, Journal of Research in International Business and Management, An Investigation into the Indian Derivatives Market, (7 August, 2023), Vol.6, ISSN: 2141-5875, pp.89 – 96.
2. Priti Jain Vilas, An International Journal, A study of derivatives market with reference to future and options, (14 June, 2023), Vol.1, ISSN: 5679-6244, pp.54.
3. Parizad Phiroze Dungore, Kulbir Singh and Rajesh Pai, Indian Stream Research Journal, An analytical study of equity derivatives traded on the NSE of India, (23 March, 2022), Vol.9, ISSN: 3456-7654, pp.235-352.
4. Fei Ren, Mei-Ling Cai, Sai-Ping Li, Xiong Xiong, Zhang-HangJian Chen, Educational Research Journal, A Multi-market Comparison of the Intraday Lead–Lag relations Among Stock Index-Based Spot, Futures and Options, (28 May, 2022), Vol.4, ISSN: 2785-9876, pp.135-139.
5. Seena.K.R, Dr. Keerthi, Indian Research Journal, Derivative Market in India: The Purposes and Issues, (12 September, 2022), Vol.8, ISSN: 7577-3556, pp.43-56.
6. Dr.Venkatesha.R, Indian Research Journal, A study on analysis of stock future and option derivatives trading in india, (3 January, 2021), Vol.6, ISSN: 5367-7466, pp.53-75.
7. Devis J S, Palathra, Yadukrishnan V, IJCRT Journal, A Study on Recent Trends In Derivative Markets In India, (22 October, 2020), Vol.1, ISSN:1327-8976, pp.36.
8. Manda Sebastian, Ms. Joseph Mary, Dr. Vara Lakshmi, Research Gate Journal, Study on Financial Derivatives (future and options), (9 April, 2019), Vol.5, ISSN: 9848-4644, pp.67-89.
9. Toopalli Sirisha, Dr. NallaBala Kalyan, EPRA Journals, A Study on the Derivatives Market in India, (12 December, 2019), Vol.9, ISSN: 2446-6544, pp.37.
10. S. T. P. Raghavan, Indian Research Journals, A Study on Financial Derivatives (Futures & Options) and Development of Financial Derivatives Market in India, (25 July, 2018), Vol.3, ISSN: 5356-8688, pp.55.
11. Dr. Mahammadrafique Meman, Worl Wide Journals, A Study On Future & Option Market In India And Its Awareness Level, (20 November, 2017), Vol.2, ISSN: 9876-3446, pp.92-130.
12. Banikanta Mishra, Sarat Malik, Laltu Pore, EPRA Journals, Increased Derivatives Trading in India: Impact on the Price Discovery Process, (18 August, 2017), Vol.8, ISSN: 7656-7788, pp.78.

13. Divya Verma Gakhar, International Journal of Advanced Research, Indian Derivatives Market: A Study of Impact on Volatility and Investor Perception, (2 October, 2016), Vol.6, ISSN: 4678-8767, pp.53-75.
14. Saurabh Singh, Dr. L.K Tripathi, World Wide Journals, The Impact of Derivatives on Stock Market Volatility: A Study of the Sensex Index, (27 March, 2016), Vol.10, ISSN: 2445-8689, pp.66.
15. Verma Brindha, Research Gate Journals, Indian Derivatives Market: A Study of Impact on Volatility and Investor Perception, (7 May, 2016), Vol.1, ISSN: 4356-9899, pp.197-200.
16. Abhinandan Chougule, Research in International Business and Management Journals, An Analytical Study of Derivatives in Futures, (8 February, 2015), Vol.3, ISSN: 8765-7547, pp.205
17. L. Backiya, World Wide Journals, A study in risk and return analysis of stock future and options derivatives trading in India, (8 February, 2015), Vol.5, ISSN: 8588-2456, pp.154-170.
18. MS. Narasimhan, Shalu Kalra, IJCRT Journals, The impact of Derivatives Trading on the Liquidity of stocks, (15 March, 2014), Vol.4, ISSN: 5363-8767, pp.197.
19. Shruthi B.C, Dr. N. Suresh, World Wide Journals, Indian Derivatives Market Evolution and Challenges, (8 September, 2013), Vol.1, ISSN: 6474-4526, pp.265.
20. Ruchika Gahlot, Saroj K. Datta, Sheeba Kapil, Indian Research Journals, Impact of Derivative Trading On Stock market Volatility in India, (30 December, 2010), Vol.8, ISSN: 3469-4567, pp.134-198.
21. Dr. Gurcharan Singh, Salony Kansal, EPRA Journals, Impact of Derivative Trading on Stock Market Volatility during Pre and Post F&O Period, (6 July, 2010), Vol.4, ISSN: 2562-8577, pp.167.
22. Ashutosh Vashishtha, Satish Kumar, Indian Research of Advanced Journals, A study on Development of Financial Derivatives Market in India, (23 July, 2010), Vol.6, ISSN: 1789-3776, pp.67-75.
23. S. V. Ramana Rao, Naliniprava Tripathy, World Wide Journals, Impact Of Index Derivatives On Indian Stock Market Volatility-An Application Of Arch And Garch Model, (19 November, 2009), Vol.4, ISSN: 6778-2346, pp.83.
24. S. Bhaumiky, M. Karanasosy, A. Kartsaklas, Indian Research Journals, Analysis of Derivatives Trading and the Volume-Volatility Link in the Indian Stock Market, (15 July, 2008), Vol.2, ISSN: 7666-6668, pp.32-67.
25. Abhilash S. Nair, IJCRT Journals, Impact of Derivative Trading on Volatility of the Underlying: Evidence from Indian Stock Market, (4 May, 2006), Vol.7, ISSN: 4788-2457, pp.35.
26. Sugato Chakravarthy, Huseyin Gulen, Stewart Meyhew, World Wide Journals, Informed Trading in Stock and Options Markets, (24 August, 2004), Vol.9, ISSN: 3656-3777, pp.188-213.
27. Mohammad G. Robbani, Rafiqul Bhuyan, IJCRT Journals, Introduction of futures and options on a stockindex and their impact on the trading volume and volatility: Empirical evidence from theDJIA components, (20 September, 2004), Vol.3, ISSN: 6378-2557, pp.244-308
28. Sandeep Srivastava, Indian Research Journals, An Empirical Study of Stock Option market in India, (9 October, 2003), Vol.8, ISSN: 5363-2556, pp.325.
29. P.Sathivel, Research Gate Journals, The effect of future trading on the underlying volatility: Evidence from the Indian Stock market, (25 May, 2002), Vol.6, ISSN: 2887-6667, pp.245-300.