A Comparative Study On Relationships Of Return On Equity And Standard Deviation With Reference To IT Sector National Stock Exchange

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ABSTRACT

This study delves into the interplay between Return on Equity (ROE) and Standard Deviation, vital metrics in financial analysis. While prior research has individually explored these metrics, a comprehensive comparative analysis is lacking. ROE signifies a company's profitability from shareholders' equity, while Standard Deviation measures the variability in a stock's returns, offering a crucial risk perspective. By focusing on ten National Stock Exchange (NSE) listed IT companies, this study aims to bridge existing gaps in literature and provide sector-specific insights. The IT sector's dynamic nature and global market presence offer a unique context for exploring the relationship between ROE and Standard Deviation. The chosen variables are ROE and Standard Deviation, allowing for a nuanced understanding of historical financial data and uncovering patterns within the selected companies. The study aspires to empower investors and decision-makers with actionable insights for strategic investment decisions in the IT sector, contributing to a more informed and holistic evaluation of risk-return profiles in their portfolios.

Keywords: IT Sector, Return on Equity, Standard Deviation

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1. INTRODUCTION

In the dynamic landscape of financial markets, investors and analysts constantly seek reliable metrics to evaluate the performance and risk associated with investments. Return on Equity (ROE) stands out as a crucial indicator, reflecting a company's ability to generate profits from shareholders' equity. Simultaneously, Standard Deviation serves as a key measure of risk, representing the extent of variability in a stock's returns. Understanding the relationship between ROE and Standard Deviation is imperative for investors aiming to make informed decisions about their portfolios. Prior research has extensively explored individual financial metrics such as ROE and Standard Deviation, but a comprehensive comparative study examining their interplay remains relatively limited. The interdependence between a company's return on equity and the variability of its returns provides valuable insights into the risk-return profile of investments, guiding stakeholders in managing their portfolios more effectively. The rationale for undertaking this study lies in the significance of ROE as an indicator of a company's profitability and its role in shaping investor expectations. The juxtaposition of ROE with Standard Deviation introduces a risk dimension, offering a more holistic perspective on a company's financial performance. This study aims to bridge existing gaps in the literature by conducting a thorough analysis of the relationship between ROE and Standard Deviation for a specific subset of companies.

2. STATEMENT OF PROBLEM

Investors sometimes struggle to decide between making more money or taking less risk. By looking at the risks and potential returns, they can make smarter choices about where to put their money. This study helps investors understand the health sector better. By comparing different health companies' stocks, investors can pick the best options for their investments, considering both risk and return.

3. SCOPE OF THE STUDY

The scope of the study is delimited to the comparative analysis of return on equity and standard deviations over the specified five-year period. While it aims to provide valuable information for stakeholders navigating the IT sector, it does not extend to broader economic factors or company-specific strategies beyond the defined parameters.

This research contributes to the understanding of financial dynamics within the IT sector, offering valuable insights for investors, analysts, and policymakers seeking to optimize their decision-making processes and manage risks effectively in the ever-evolving landscape of the IT sector.

4. OBJECTIVES

- To examine the mean returns of chosen firms' stocks within the healthcare sector.
- To ascertain the level of risk linked with the securities of designated companies in the healthcare sector.

5. LITERATURE REVIEW

(Awalakki M. & Archanna, 2023) This study explores the impact of overconfidence biases on investment portfolios, analysing cognitive and emotional factors influenced by behavioural finance literature. Overconfidence leads to suboptimal choices, including excessive trading, impulsive decisions, and market timing errors. Theoretical foundations include works by Barber, Odean, De Bondt, Thaler, and Gervais. Strategies such as diversification, passive investing, and behavioural coaching are proposed to mitigate these biases, helping investors make informed, rational decisions aligned with long-term financial goal. (Awalakki M. & Archanna, 2023) This article explores the impact of neurotransmitters, specifically dopamine, serotonin, and norepinephrine, on investment decisions and emotions. It delves into the neural processes shaping investor behaviour, emphasizing the role of these biochemical messengers in decision diversification. The compilation underscores the significance of understanding and mitigating biases influenced by emotional, cognitive, and behavioural factors, providing valuable insights into managing investor behaviour within the finance domain. (Awalakki M. S., 2015) This study focuses on the investment behaviour of salaried individuals, emphasizing their desire to earn returns from savings invested for post-retirement livelihood. Recent survey results indicate a comparatively lower increase in investments among salaried employees compared to business persons. The research aims to explore the investment patterns and awareness of salaried employees in Kalaburagi, Karnataka, acknowledging the expanding investment options and increased awareness in the present scenario. (Shamsabadi, Nourani Dargiri, & Rasiah, 2012) This study emphasizes the importance of the risk-return relationship for both investors and organizations, aiming to assist investors in making informed decisions across different industries. By reviewing pricing methods, theories, and empirical studies, particularly focusing on the Capital Asset Pricing Model (CAPM), the research proposes performance measures such as Treynor Index, Sharpe Index, and Jansen Index. The ultimate goal is to develop an enhanced risk-return construct for assessing and comparing industry sector performance. (Awalakki & H.N, 2021) This research investigates the impact of key accounting ratios (ROE, ROA, P/E, P/B, P/S, P/C) from 2005–2020 on stock returns in the National Stock Exchange of India. Utilizing Pooled OLS, Fixed Effect, and Random Effects Models, the study establishes that the random effects model best fits the data, offering significant insights for investors in formulating investment strategies and decision-making based on the relationship between equity returns and accounting information. (AWALAKKI, 2015) This study spanning 2008-09 to 2013-14 analyses the capital structure patterns of five major cement companies in the Indian economy, including ACC, Ultratech, Ambuja, J.K. Cement, and Chettinad. It aims to understand how these companies finance investments, emphasizing the importance of the debt-equity mix for effective investment policies and evaluating the impact of changes in capital structure over time. (Moolbharathi & Sugandi, 2021) This study addresses the need for conscious investing in the highly volatile stock market, especially among millennial investors seeking high returns. Focusing on statistical tools, it measures the risk and return of stocks compared to benchmark indices in sectors such as Automobile, Banking, Finance, FMCG, and IT. Utilizing daily data from 2017-2021, the paper employs standard deviation, beta, and regression analysis to assess index performance, offering insights for investors in making informed decisions based on risk and return

considerations within different sectors. (Hopper, 2015) The proposed approach standardizes risk factor measurements across different scales using appropriate regression techniques, such as OPERA (Odds per Adjusted Standard Deviation), to compare their discriminatory strengths in predicting outcomes like breast cancer. OPERA calculates risk associations based on adjusted standard deviations, facilitating cross-disease and population comparisons, thus offering a unified method for assessing risk factors' predictive power. (GAUTAMI & BALA KALYAN, 2018) The article discusses the Indian stock market, focusing on the Bombay Stock Exchange established in 1875, and its role as a platform for trading existing securities like equities, debentures, and mutual funds. It aims to analyse fluctuations in share prices of selected companies, emphasizing the importance of risk and return analysis for investors in evaluating financial performance and making investment decisions. (P & P, 2017) The study aims to compare stocks from diverse sectors like IT, automobiles, banking, pharmaceuticals, and oil based on risk, return, and liquidity, with the goal of educating investors about sector-specific investment opportunities. Emphasizing the fundamental concept of risk-return trade-off, it utilizes tools like beta, standard deviations, and correlation coefficients to quantify risk and guide decision-making for maximizing benefits while managing risk effectively in financial analysis. (Patjoshi, 2016) The study investigates the correlation between risk and return of the Sensex and banking stocks, focusing on HDFC Bank, ICICI Bank, Axis Bank, and SBI, within the context of the Bombay Stock Exchange (BSE). Using secondary data spanning 15 years from 2001 to 2015, the analysis employs methods such as correlation, regression, descriptive statistics, and t-tests to examine the presence of the risk-return trade-off in Indian equity markets and test hypotheses regarding this relationship. Over the past decade, the Indian mutual fund industry has experienced exponential growth, with assets under management (AUM) increasing from 6.57 trillion rupees in 2010 to 26.85 trillion rupees in 2020. (Komal B & Joshi, 2021) This study evaluates the performance of selected debt, equity, and hybrid mutual fund schemes, utilizing financial tools such as Rate of Return, Standard Deviation, Beta, Sharpe Ratio, Jenson ratio, and Treynor Ratio. Findings indicate that while most funds rank average or below in CRISIL Rank, debt mutual fund schemes perform relatively better, with many funds outperforming in Sharpe, Treynor, and Jenson ratios. (BAHL & RANI, 2012) The paper analyses the performance of 29 open-ended, growth-oriented equity schemes over a six-year period in a transition economy, using monthly NAV data and BSE-Sensex as the market portfolio. Evaluation based on Sharpe, Treynor, and Jensen's measures indicates that 14 schemes outperformed the benchmark return, while some faced diversification issues. The majority of schemes exhibited positive Sharpe ratios, indicating returns exceeding the risk-free rate, and 65.52% displayed positive alpha according to Jensen's measure, suggesting superior performance. (Ahmad Dar & Ahmad Thaku, 2015) The paper evaluates and compares the financial performance of public and private non-life insurance companies in India using the CARAMEL model. It analyses three parameters: Earnings and Profitability, Management Soundness, and Liquidity, employing ratios and statistical tools like mean, standard deviation, and F-test. Results suggest that private insurers exhibit improper risk selection and mismanaged expenditure policies, as evidenced by higher claim and expense ratios, while both sets of companies fall short of the standard benchmark for management soundness. (s, Santhi, & Kumar, 2014) The study examines the risk and return characteristics

of equity, commodity, and currency derivatives in India's futures market. It utilizes average and standard deviation measures to assess risk and return factors, along with correlation analysis to explore relationships among them. Findings suggest that equity and commodity risk premiums are similar, with negative correlations between equity returns and commodity/currency returns, indicating their use for hedging purposes.

6. RESEARCH DESIGN

6.1. SOURCES OF DATA COLLECTION

The research utilized secondary data obtained from various sources such as the NSE website, publications, and journals. The study employs a descriptive research design.

6.2. SAMPLE SIZE

The study consists of NIFTY health sector companies which are listed on NSE.

6.3.STATISTICAL TOOLS AND TECHNIQUES

6.3.1. Standard deviation:

Standard deviation measures the extent of dispersion of a dataset relative to its mean. It is determined by taking the square root of the variance. A stock with high volatility will have a higher standard deviation, while a stable blue-chip stock will have a lower standard deviation. The standard deviation tells you how spread out from the center of the distribution your data is on average, making it a valuable tool for comparing the distributions of different samples and making inferences about the larger populations they came from.

$$\sigma = \sqrt{\frac{\sum_{i=1}^{n} x_i - \overline{x}}{n-1}}$$

σ = Standard deviation

x_i = each of the value of data

$\overline{x}$ = Mean of value

n = number of data value

6.3.2. Return on Equity (ROE):

The Return on Equity (ROE) is a profitability metric that measures a company's ability to generate profits using its shareholder's fund. ROE is calculated by dividing Net Income by Shareholders' Fund. A higher ratio indicates how well the company is utilizing its equity to generate profit. ROE is commonly expressed as a percentage. And it is utilized in all screeners and charts throughout the site.

$$ROE = \frac{Net\ Income}{Shareholder's\ Equity}$$

Table: 1; Showing ROE of IT Companies for 5 years of data:

Sl. No	Company	ROE
1.	ITC	23.736
2.	Coforge Ltd	20.632
3.	HCL TECH	21.824
4.	Infosys	27.138
5.	L & T Tech., Service LTD	25.228
6.	Mphasis Ltd	20.128
7.	Reliance Industry	8.616
8.	TCS	40.148
9.	Tech Mahindra LTD	19.094
10.	Wipro	17.296

Interpretation

The Return on Equity (ROE) reflects the profitability of a company in relation to its shareholders' equity. TCS stands out with an impressive ROE of 40.148%, showcasing robust profitability and efficient use of shareholder funds. Infosys follows closely with a strong ROE of 27.138%, indicating solid financial performance. L&T Tech Services also demonstrates commendable performance with an ROE of 25.228%, reflecting efficient capital utilization. ITC maintains a stable ROE of 23.736%, while Coforge Ltd and Mphasis Ltd exhibit decent performance at 20.632% and 20.128%, respectively. HCL Tech and Tech Mahindra show moderate ROEs of 21.824% and 19.094%, reflecting steady profitability. Wipro's ROE stands at 17.296%, indicating room for improvement. However, Reliance Industries lags behind with a lower ROE of 8.616%, suggesting potential challenges in maximizing shareholder returns and profitability.

Table: 2; showing Standard Deviation of IT companies for 5 years of data:

Sl. No	Company	Standard Deviation
1.	ITC	2.10
2.	Coforge Ltd	3.92
3.	HCL TECH	3.50
4.	Infosys	5.93
5.	L & T Tech Service LTD	5.59
6.	Mphasis Ltd	12.79
7.	Reliance Industry	2.05
8.	TCS	113.65
9.	Tech Mahindra LTD	8.28
10.	Wipro	0.41

Interpretation

The standard deviation measures the volatility or dispersion of a set of values, reflecting the degree of variability from the average. TCS has an exceptionally high standard deviation of 113.65, suggesting significant fluctuations in its performance over the past five years. Mphasis follows with a substantial standard deviation of 12.79, indicating higher volatility compared to other companies. Infosys and L&T Tech Services also exhibit considerable variability with standard deviations of 5.93 and 5.59, respectively. Tech Mahindra and Coforge Ltd display moderate levels of volatility at 8.28 and 3.92, while ITC, HCL Tech, and Reliance Industries demonstrate relatively lower standard deviations. Wipro stands out with the lowest standard deviation of 0.41, implying more stable performance. Overall, the standard deviation

analysis highlights varying levels of volatility among the listed companies, with TCS and Mphasis experiencing higher fluctuations in their historical data.

**Table: 3; showing the correlation between Return on equity and Standard deviation on average of data**

SI. NO	company	SD	ROE
1	ITC	2.10	23.736
2	Coforge Ltd	3.92	20.632
3	HCL TECH	3.50	21.824
4	Infosys	5.93	27.138
5	L & T Tech Service LTD	5.59	25.228
6	Mphasis Ltd	12.79	20.128
7	Reliance Industry	2.05	8.616
8	TCS	113.65	40.148
9	Tech Mahindra LTD	8.28	19.094
10	Wipro	0.41	17.296

Table: 3.1; Correlation of Return on equity and standard deviation

	SD	ROE
SD	1	
ROE	0.787319	1

The data provided shows the correlation between Standard Deviation (SD) and Return on Equity (ROE) for IT sector companies. Standard Deviation is a measure of the dispersion of a set of values, indicating the volatility or variability of the returns. ROE, on the other hand, is a financial metric that measures a company's profitability by revealing how much profit a company generates with the money shareholders have invested. It is calculated by dividing net income by shareholders' equity. From the data, it appears that there is a correlation of 0.787319111 between SD and ROE, indicating a strong positive relationship. This suggests that as the ROE increases, the standard deviation also increases, and vice versa. The correlation coefficient of 1 indicates a perfect positive linear relationship, meaning that for every unit increase in ROE, the standard deviation increases by the same amount.

In summary, the correlation between SD and ROE for IT sector companies is strong and positive, indicating that companies with higher ROE also tend to have higher standard deviation, suggesting greater volatility in their returns. This relationship is consistent with the general understanding that companies with higher profitability (as measured by ROE) may also exhibit greater variability in their returns, which is captured by the standard deviation.

Table: 3.2 ; shows Clustered column for correlation of SD and ROE :

correlation of SD and ROE
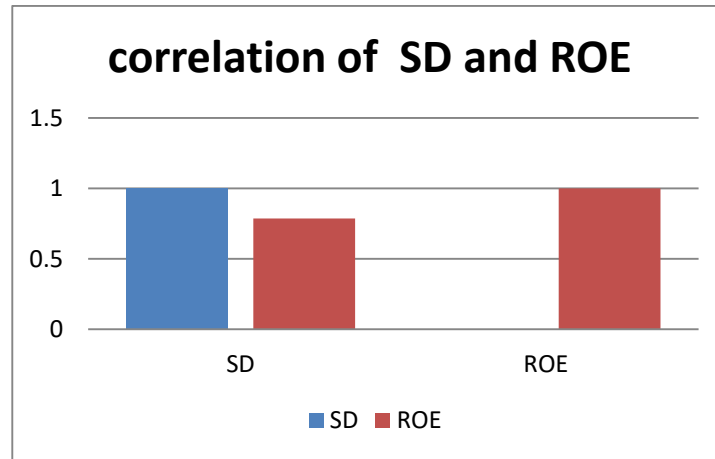
Table

: 4; Descriptive Analysis on Companies ROE and Standard Deviation :

Standard Deviation	Values	Return on Equity	Values
Mean	15.82215	Mean	22.384
Standard Error	10.92755	Standard Error	2.544752
Median	4.753301	Median	21.228
Mode	#N/A	Mode	#N/A
Standard Deviation	34.55595	Standard Deviation	8.047213
Sample Variance	1194.114	Sample Variance	64.75764
Kurtosis	9.707217	Kurtosis	2.786338
Skewness	3.100682	Skewness	0.784723
Range	113.2364	Range	31.532
Minimum	0.409313	Minimum	8.616
Maximum	113.6457	Maximum	40.148
Sum	158.2215	Sum	223.84
Count	10	Count	10
Largest(1)	113.6457	Largest(1)	40.148
Smallest(1)	0.409313	Smallest(1)	8.616
Confidence Level (95.0%)	24.71984	Confidence Level (95.0%)	5.75663

Interpretation

The descriptive statistics for Return on Equity (ROE) and Standard Deviation (SD) present a different picture. The mean ROE remains at 22.384, while the mean SD increases substantially to 15.82215, indicating higher average volatility among the companies. The standard error for ROE (2.544752) and SD (10.92755) suggests notable variability and potential imprecision in the means. The median ROE (21.228) and SD (4.753301) indicate a right-skewed distribution, with a few companies potentially influencing higher ROE and lower volatility. The increased standard deviation (8.047213) and variance (64.75764) for ROE signify continued variability in the companies' profitability. The elevated kurtosis (9.707217) and skewness (3.100682) for ROE suggest a distribution with heavier tails and a rightward skew, emphasizing the presence of outliers with exceptionally high ROE. The widened range of ROE (31.532) and SD (113.2364) underscores the increased diversity in performance among the companies. The minimum ROE (8.616) and SD (0.409313) represent the least profitable and least volatile company, respectively, while the

maximum ROE (40.148) and SD (113.6457) belong to the most profitable (TCS) and most volatile company, respectively. The confidence level of 95.0% for both ROE and SD reflects the precision of the calculated means. Overall, these descriptive statistics reveal a financial landscape with heightened volatility in both profitability and performance, with certain companies exhibiting notable influence on the overall distribution.

4.1 ; The line graph shows the companies ROE and Standard deviation :

Line Pattern of RoE and SD
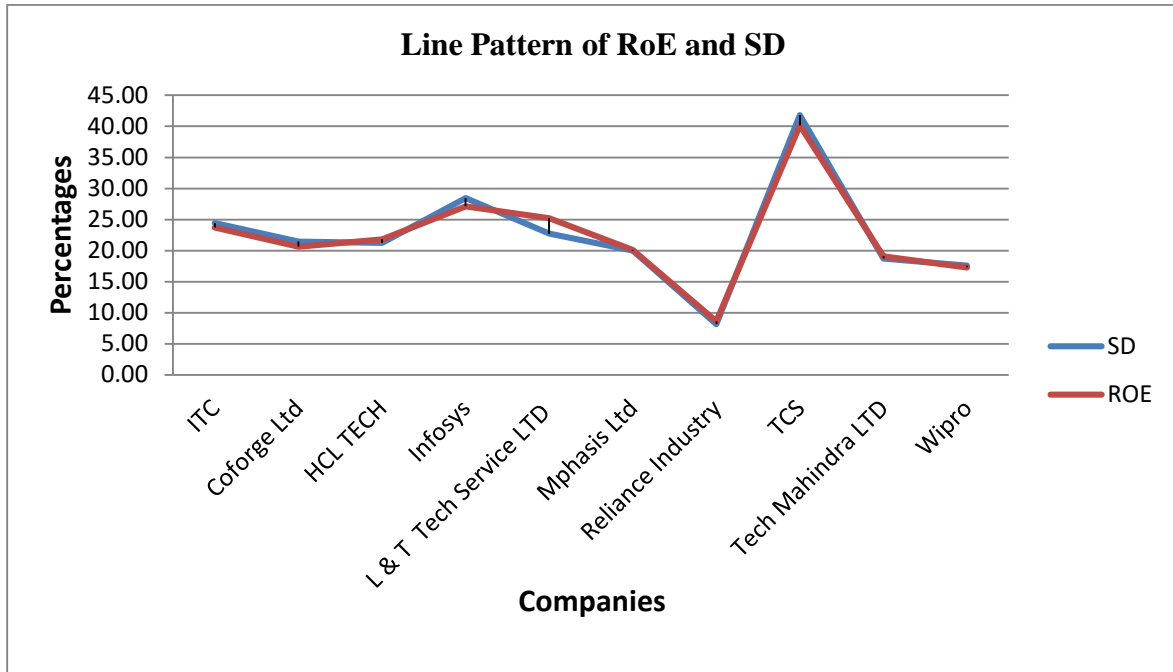
7. FINDINGS

The descriptive statistics reveal noteworthy findings about the Return on Equity (ROE) and Standard Deviation (SD) among the listed companies:

- Volatility Discrepancy: The mean ROE remains relatively stable at 22.384, while the mean SD experiences a substantial increase to 15.82215, indicating a significant rise in the average volatility among the companies.

- Diversity in Performance: The increased standard deviation (8.047213) and variance (64.75764) for ROE highlight continued variability in the companies' profitability. The widened range of both ROE (31.532) and SD (113.2364) underscores the heightened diversity in financial performance.

- Outliers and Skewness: The elevated kurtosis (9.707217) and skewness (3.100682) for ROE suggest a distribution with heavier tails and a rightward skew. This implies the presence of outliers with exceptionally high ROE, potentially influencing the overall distribution.

- Influence of TCS: The maximum ROE (40.148) and SD (113.6457) belong to TCS, indicating its substantial impact on both profitability and volatility, potentially skewing the overall results.

- Implied Risk: The increased mean SD and wider confidence interval (24.71984) for SD suggest a higher level of risk associated with the financial performance of these companies.

- Contrast in Stability: The minimum ROE (8.616) and SD (0.409313) represent the least profitable and least volatile company, offering a contrast to the more dynamic and potentially riskier companies in the dataset.

8. Conclusion

In conclusion, these findings portray a financial landscape characterized by increased volatility, influenced by outliers, and underscore the importance of understanding the risk and variability associated with the financial performance of these companies. TCS emerges as a significant player impacting both profitability and volatility in this diverse set of companies.

9. References

BAHL, D., & RANI, M. (2012). A COMPARATIVE ANALYSIS OF MUTUAL FUND SCHEMES IN INDIA . *International Journal of Marketing, Financial Services & Management Research , 1*(7), 67-79. Retrieved from
https://d1wqtxts1xzle7.cloudfront.net/68186444/6-libre.pdf?1626680439=&response-contentdisposition=inline%3B+filename%3DA_COMPARATIVE_ANALYSIS_OF_MUTUAL_FUND_SC.pdf&Expires=1710240500&Signature=aNFk4-hodPFoC~Ownx0tYaIUWjnPddbDp4BoZInv1Al9Pi1hyTmcm80cmzB-

Komal B, S., & Joshi, D. (2021). A COMPARATIVE STUDY ON PERFORMANCE EVALUATION OF SELECTED DEBT, EQUITY AND HYBRID MUTUAL FUND SCHEMES IN INDIA. *Globally peer-reviewed and open access journal., 4*(2), 34-40. Retrieved from
https://www.researchgate.net/profile/Komal_Sharma40/publication/352372275_A_COMPARATIVE_STUDY_ON_PERFORMANCE_EVALUATION_OF_SELECTED_DEBT_EQUITY_AND_HYBRID_MUTUAL_FUND_SCHEMES_IN_INDIA/links/60c6e8bda6fdcc2e61404e1a/A-COMPARATIVE-STUDY-ON-PERFORMANCE-EVALU

Patjoshi, D. (2016). Comparative Risk Return Analysis of Bombay Stock Market with Selected Banking Stocks in India. *IRA-International Journal of Management & Social Sciences, 04*(01), 192-200. doi: http://dx.doi.org/10.21013/jmss.v4.n1.p18

Ahmad Dar, S., & Ahmad Thaku, I. (2015). A COMPARATIVE ANALYSIS OF FINANCIAL PERFORMANCE OF PUBLIC AND PRIVATE NON LIFE INSURERS IN INDIA. *International Journal of Management (IJM),, 6*(1), 507-526. Retrieved from https://d1wqtxts1xzle7.cloudfront.net/40876209/A_COMPARATIVE_ANALYSIS_OF_FINANCIAL_PERFORMANCE_OF_PUBLIC_AND_PRIVATE_NON_LIFE_INSURERS_IN_INDIA-2-libre.pdf?1451188849=&response-content-disposition=inline%3B+filename%3DA_COMPARATIVE_ANALYSIS_OF_FINANCIAL_P

Awalakki, M. (2022). Neurotransmitters Impact on Emotional Responses and Decision-Making in Investment : A Comprehensive Exploration. *INTERNATIONALJOURNALOFFOODAND NUTRITIONALSCIENCES, 11*(5), 690-708. Retrieved from https://www.ijfans.org/uploads/paper/fb4237bf576c3b3020696d18585588f8.pdf

Awalakki, M. S. (2015). A Study on Investment Patterns and Awareness of Salaried Class Investors. *IJSR - INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH, 4*(8), 348-350. Retrieved from https://www.worldwidejournals.com/international-journal-of-scientific-research-(IJSR)/fileview.php?val=August_2015_1441174222__112.pdf

AWALAKKI, M. S. (2015). FINANCING DECISIONS: A CASE STUDY OF SELECTED CEMENT COMPANIES. *International Journal of Advanced Research, 3*(8), 667-675. Retrieved from https://www.journalijar.com/uploads/701_IJAR-6789.pdf

Awalakki, M., & Archanna. (2023). OVERCONFIDENCE BIAS AND ITS EFFECTS ON PORTFOLIO DECISIONS. *International Journal of Creative Research Thoughts (IJCRT),, 11*(8-Aug-2023), g74-g83. Retrieved from www.ijcrt.org

Awalakki, M., & H.N, D. A. (2021). A Study On Accounting Ratios And Stock Returns With Reference To National Stock Exchange Of India. *Turkish Online Journal of Qualitative Inquiry,, 12*(7), 6858-6888. Retrieved from https://www.tojqi.net/index.php/journal/article/view/4940

GAUTAMI, S., & BALA KALYAN, N. (2018). A Comparative Study on Risk & Return Analysis of Selected Stocks in India. *International Journal of Management and Economics Invention, 4*(5 - 05 - 2018), 1730-1736. Retrieved from https://www.researchgate.net/publication/335029616_International_Journal_of_Management_and_Economics_Invention_A_Comparative_Study_on_Risk_Return_Analysis_of_Selected_Stocks_in_India

Hopper, J. (2015). Odds per Adjusted Standard Deviation: Comparing Strengths of Associations for Risk Factors Measured on Different Scales and Across Diseases and Populations. *American Journal of Epidemiology, 182*(10), 863-867. Retrieved from https://academic.oup.com/aje/article/182/10/863/92948?login=false

Moolbharathi, M. R., & Sugandi, M. (2021). A Comparison Study on Risk and Return Analysis of with Benchmark Index in NSE. *International Journal of Business and Management Invention (IJBMI), 10*(10), 4-13. Retrieved from https://www.ijbmi.org/papers/Vol(10)10/Ser-1/B1010010413.pdf

P, k., & P, K. (2017). A Study on Comparative Analysis of Risk and Return with Reference to Selected Stocks of BSE Sensex Index, India. *The International Journal's Research Journal of Social Science and Research, 01*, 101-114. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2942593

s, R., Santhi, D., & Kumar, T. (2014). A COMPARATIVE STUDY ON EQUITY, COMMODITY, CURRENCY DERIVATIVES IN INDIA - EVIDENCE FROM FUTURE MARKET WITH SPECIAL REFERENCE TO BSE LTD, MUMBAI . *Shanlax International Journal of Management, 1*, 6-14. Retrieved from https://www.shanlax.com/wp-content/uploads/SIJ_Management_V1_N3_002.pdf

Shamsabadi, H. A., Nourani Dargiri, M., & Rasiah, D. (2012). A Review Study of Risk-Return Relationship and Performance Measures Comparing Different Industry Sectors. *Australian Journal of Basic and Applied Sciences,, 6*(12), 14-22. Retrieved from https://www.ajbasweb.com/old/ajbas/2012/Nov%202012/14-22.pdf