Assessing the Long-Term Return Differences Between Small-Cap and Large-Cap Stocks in Indian Market

Atul Oraon[1]
[1]*Research Scholar, Department of Commerce and Business Management Ranchi University, Ranchi, India.*

***Abstract*—This study presents a comparative analysis of the 5-year return performance of large-cap and small-cap stocks, based on a sample of 46 observations from each segment. Key statistical measures such as mean, median, standard deviation, skewness, and kurtosis are used to evaluate and contrast their return distributions. The findings indicate that while both large-cap and small-cap stocks have delivered strong average returns over the period, small-cap stocks exhibit significantly higher volatility and extreme outliers, suggesting a high-risk, high-reward profile. In contrast, large-cap stocks show more stable and consistent performance, with lower variability in returns. The analysis concludes that investment decisions between these two segments should be aligned with individual risk tolerance, financial goals, and investment horizons. The study provides valuable insights for investors aiming to optimize their portfolio allocation by understanding the return behavior and risk characteristics of different market capitalizations.**

***Index Terms*—Financial analysis, Investment strategy, Long-term investment Large-cap stocks, Small-cap stocks.**

I. INTRODUCTION

Investors have long debated the performance differences between small-cap and large-cap stocks, particularly in terms of long-term returns. Small-cap stocks, typically defined as companies with a lower market capitalization, are often associated with higher growth potential but also greater volatility. In contrast, large-cap stocks, which represent well-established firms with substantial market capitalization, tend to offer more stability but may have slower growth rates.

Historically, research suggests that small-cap stocks have outperformed large-cap stocks over extended periods, a phenomenon known as the "size premium." This outperformance is often attributed to factors such as higher risk exposure, inefficiencies in the pricing of smaller companies, and greater growth opportunities. However, the consistency of this trend varies across different market cycles, economic conditions, and geographical regions. Furthermore, factors like liquidity constraints, investor sentiment, and macroeconomic influences can significantly impact the risk-adjusted returns of both small- and large-cap stocks.

This study aims to assess the long-term return differences between small-cap and large-cap stocks, examining their historical performance, risk-return trade-offs, and underlying economic drivers. By analyzing data across multiple market cycles, this research will provide insights into whether small-cap stocks consistently offer superior long-term returns or if large-cap stocks provide better risk-adjusted performance. Understanding these dynamics is crucial for investors seeking to optimize portfolio diversification and asset allocation strategies.

[1] What Are Large-Cap Stocks?

Large-cap companies are well-established businesses with a significant market share, like market caps of ₹20,000 crore or more. These companies dominate the industry and are very stable. They hold themselves well in times of recession or during any other adverse event. Besides, they usually have been functioning for decades and have a good reputation. Large-cap stocks are a good option if you want to invest in a company's stocks by taking less risk. These stocks are less volatile than mid-cap and small-cap stocks, and lower volatility makes them less risky. However, since they come with low risk, the returns here can be relatively lower than mid and small-cap stocks.

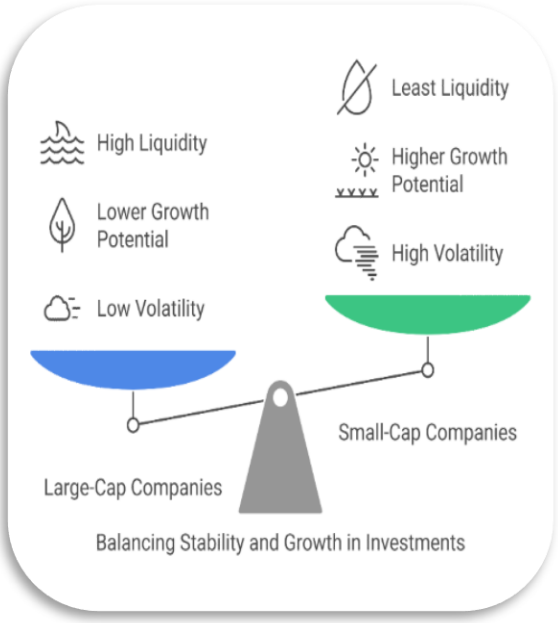
What Are Small-Cap Stocks?

Small-cap companies have a market capitalisation of less than ₹5,000 crores. These companies are

relatively smaller in size and have a significant growth potential. What makes them risky is the low probability that they will be successful over time. This makes the stocks of such company's volatile in nature. Small-cap companies have a long history of underperformance but when an economy emerges from a recession, small-cap stocks often prove to be outperformers.

Difference Between Large-Cap and Small-Cap Companies

Here's a Drawing outlining a quick comparison between the small-cap and large-cap companies based on various important factors.



[2] There is a decided advantage for large caps in terms of liquidity and research coverage. Large-cap offerings have a strong following, and there is an abundance of company financials, independent research, and market data available for investors to review.

Additionally, large caps tend to operate with more market efficiency—trading at prices that reflect the underlying company—also, they trade at higher volumes than their smaller cousins.

Small-cap stocks tend to be more volatile and riskier investments. Small-cap firms generally have less access to capital and, overall, not as many financial resources.

This makes it difficult for smaller companies to obtain the necessary financing to bridge gaps in cash flow, fund new market growth pursuits, or undertake large capital expenditures. This problem can become more severe for small-cap companies during lows in the economic cycle.

II. LITERATURE REVIEW

[3] The study by Sahoo, S., & Kumar, S. (2022) investigates the relationship between Grey Market Premium (GMP) and IPO performance, focusing on investor demand, listing-day price movement, and post-listing stability. While prior research has explored IPO pricing, under-pricing, and aftermarket performance, limited studies have analyzed GMP as a predictive tool for IPO success in the Indian stock market. To bridge this gap, the study employs data from NSE, BSE, and grey market sources for 2024 IPOs, utilizing descriptive statistics, correlation analysis, and Event Study Methodology (ESM) to assess market reactions. The expected outcomes include insights into GMP's predictive power, investment decision guidelines, and regulatory implications. The research primarily examines the Indian stock market but offers potential applicability to other emerging markets with active grey markets.

[4] The study by Ho, K., Ernst, B., & Zhang, Z. (2011) explores the dynamic relationship between small and large firms, assessing their interdependencies in financial markets. The research identifies a gap in understanding how macroeconomic factors, liquidity constraints, and investor behavior differently impact firms of varying sizes. Employing a robust research methodology, the study integrates econometric modeling, time-series analysis, and event study techniques to examine firm performance and market behavior. The expected outcomes highlight potential variations in risk-return trade-offs, investment patterns, and market efficiency dynamics between small and large firms. The study's findings have significant implications for policymakers, investors, and financial analysts, offering insights into market stability, investment strategies, and regulatory frameworks that could enhance financial market efficiency.

[5] The study by Rai, R. S., Raman, T. V., & Shreekant, G. (2014) aims to objectively compare the returns of large-cap and mid-small-cap equity mutual funds in India, identifying performance variations and risk-adjusted returns. A research gap exists in the limited comparative analysis of these segments,

particularly in the Indian market context, where investor preferences and market dynamics differ from global trends. The research methodology involves quantitative analysis using historical return data, risk metrics, and statistical tools to evaluate performance. The expected future outcome includes insights into which category offers superior returns for different risk appetites, aiding investors in decision-making. The study's scope extends to understanding market efficiency, portfolio allocation strategies, and implications for fund managers and policymakers in the evolving Indian mutual fund landscape.

[6] This study by Bauman, W. S., Conover, C. M., & Miller, R. E. (1998) investigates the performance differences between growth and value stocks, as well as large-cap and small-cap stocks, in international markets. Addressing a research gap in understanding the risk-return trade-offs across these asset classes, it examines how different economic conditions and market inefficiencies influence their relative performance. Using empirical analysis and statistical models, including portfolio return comparisons and risk-adjusted performance measures, the study seeks to determine whether these stock categories exhibit persistent advantages over time. The expected findings will provide insights into investment strategies that optimize portfolio returns based on stock characteristics. The broader scope of this research extends to aiding investors, fund managers, and policymakers in making informed asset allocation decisions in global financial markets.

[7] The study by Dalvadi, Y. M., & Shah, S. (2011) aims to analyze the relationship between Grey Market Premium (GMP) and IPO performance, focusing on investor demand, listing-day price behavior, and post-listing stability. Despite extensive research on IPO valuation and aftermarket performance, there is a notable gap in understanding the predictive strength of GMP in determining IPO success, particularly in emerging markets. The study employs a combination of descriptive statistics, correlation analysis, and event study methodology (ESM) using data from NSE, BSE, and grey market sources. The findings are expected to provide insights into the extent to which GMP serves as a reliable indicator of IPO performance, assisting investors in making informed decisions. The research contributes to the broader field of financial markets by offering a framework for assessing pre-listing market sentiment and its implications for IPO pricing and stability.

[8] The study by Switzer (2010) examines the relative performance of small-cap versus large-cap stocks during recessions and recoveries in the U.S. and Canada, challenging the notion that the small-cap anomaly has disappeared. While the research provides empirical evidence of small-cap outperformance post-recession, particularly for value stocks, it identifies gaps in understanding the role of non-business cycle risk factors, such as default and inflation risks, in driving these returns. The methodology employs regression analyses and event studies to assess performance across business cycles, using historical data from 1926 to 2010. However, the study does not fully explore the implications of sector-specific variations or global market integrations beyond Canada and the U.S. Future research could extend this work by incorporating broader international datasets, sectoral analyses, and predictive models for recession turning points, offering deeper insights into portfolio strategies and market efficiency. This would enhance the scope of understanding small-cap performance dynamics in diverse economic and regulatory environments.

[9] The study by Grieb and Reyes (2002) investigate the temporal relationship and information transmission between large- and small-cap stock returns in the UK using a bivariate Logistic EGARCH (LEGARCH) model, highlighting persistent correlation and bidirectional information flows. While the study confirms the impact of large-cap information on small-cap correlations and identifies seasonal effects (January and April), it does not explore sector-specific dynamics or global market interdependencies beyond the UK. The methodology employs time-series analysis with robust diagnostic checks, revealing asymmetric information effects and volatility persistence. Future research could expand this framework to include cross-country comparisons, sectoral analyses, and macroeconomic factors, offering deeper insights into diversification benefits and market efficiency in a globalized context. This would address gaps in understanding how localized findings generalize across markets and economic conditions.

[10] This study by Eun, C. S., Huang, W., & Lai, S. (2008) examines the potential benefits of international diversification using small-cap stocks,

addressing the research gap left by prior literature, which predominantly focuses on large-cap stocks or market indices, overlooking the unique role of small-cap stocks in reducing portfolio risk due to their lower correlations and higher idiosyncratic factors. The research methodology involves forming market cap-based funds (large-, mid-, and small-cap) from 10 developed countries and analyzing their risk-return characteristics, correlations, and mean-variance efficiency through spanning tests and portfolio simulations. The findings reveal that small-cap stocks significantly enhance international diversification by reducing portfolio risk and improving returns, a result robust to transaction costs and accessibility constraints. Future research could explore the performance of existing small-cap international mutual funds and extend the analysis to emerging markets, offering broader implications for global portfolio strategies.

[11] The study by Sharma, K., & Tripathi, S. (2023) aims to analyze and assess the performance and risk associated with Indian mutual funds through Systematic Investment Plans (SIPs), comparing small, mid, and large-cap funds. Despite extensive research on mutual fund performance, there remains a gap in understanding the risk-adjusted returns and long-term stability of different fund categories under varying market conditions. The research employs quantitative methods, including risk-return analysis, Sharpe ratio, Treynor ratio, and Jensen's alpha, using historical data from leading mutual funds. The expected outcomes include identifying the most efficient category of funds for long-term wealth creation and evaluating the resilience of SIPs across market cycles. The study's findings will provide valuable insights for retail investors, fund managers, and policymakers, enhancing investment decision-making and contributing to the development of a more efficient mutual fund industry in India.

[12] The study by Roy, S., & Bhattacharya, R. (2019) aims to examine the homogeneity of small-cap stocks by analyzing their price movements, market trends, and performance characteristics. While extensive research exists on large-cap and mid-cap stocks, a significant gap remains in understanding the uniformity and distinct behavior of small-cap stocks, particularly in emerging markets. To bridge this gap, the study employs a quantitative approach incorporating statistical modeling, clustering techniques, and event study analysis to assess stock similarities. The expected findings will provide valuable insights into small-cap stock classification, assisting investors in portfolio diversification and risk evaluation. The broader scope of this research lies in improving market efficiency by refining investment strategies tailored to the unique attributes of small-cap stocks, benefiting both institutional and retail investors.

Research Gap

Despite growing academic and practical interest in the performance of small-cap and large-cap stocks, the Indian equity market remains underexplored in several critical dimensions. Most existing studies are either outdated or fail to incorporate major post-2010 developments such as the implementation of GST (2017), the economic disruptions caused by the COVID-19 pandemic (2020), and recent SEBI-led market reforms including those affecting liquidity and SME platforms. There is a notable lack of longitudinal research that examines the long-term return differences between small- and large-cap stocks using recent and comprehensive data. Furthermore, existing studies predominantly focus on absolute returns, with limited use of advanced risk-adjusted models such as the Fama-French 3/5 factor or Carhart 4-factor models, which are essential for understanding size-based return anomalies. Behavioral finance aspects, such as investor overconfidence and herding behavior in small-cap investments, are also largely overlooked, despite their potential influence on long-term performance. Additionally, the differential impact of investor composition—retail dominance in small-caps versus institutional control in large-caps—on price discovery, volatility, and performance has received minimal empirical attention. Other critical gaps include the ignored role of liquidity and trading volume, the lack of sectoral and macroeconomic contextualization, and the absence of studies investigating how ESG factors and corporate governance differentially affect small- and large-cap stock returns. These gaps highlight the need for a comprehensive, updated, and multifactorial investigation into long-term return disparities across market capitalizations in the Indian context.

Research Objective

- To evaluate the long-term absolute and risk-adjusted returns of small-cap and large-cap stocks in India.
- To assess the impact of liquidity and trading volume on the performance and risk profile of small-cap versus large-cap stocks.

III. RESEARCH METHODOLOGY

The study will rely exclusively on secondary data, collected from reliable and widely recognized sources. Stock prices and returns will be obtained from NSE/BSE historical data, as well as financial platforms such as Dhan, Investor-gain, and Screener, which offer comprehensive stock-specific information including historical performance and trading activity. For the purpose of market capitalization-based classification, the study will follow the definitions and classifications provided by NSE and BSE, using index constituents such as the [13] Nifty 50 or Nifty 100 to represent large-cap stocks, and the [14] Nifty Small-cap 100 to represent small-cap stocks, as I have taken only those small stocks which their market capitalization in between 4000 to 5000 Cr.

Descriptive statistics will be utilized to provide a comprehensive overview of the performance and risk characteristics of the selected small-cap and large-cap stocks over the five-year study period. Key measures such as mean and median returns will be calculated to understand the central tendency of stock performance, offering insights into average and typical investor outcomes across both categories. To evaluate the variability and risk, standard deviation will be used as a primary measure of volatility, capturing the extent to which returns deviate from the average over time. Additional metrics such as maximum and minimum returns, skewness, and kurtosis may also be examined to understand the distributional properties of returns, identify potential outliers, and assess the symmetry and peakedness of return patterns.

This descriptive analysis will help in identifying observable differences in return behavior and risk profiles between small-cap and large-cap stocks. By summarizing these statistical properties, the study will establish a foundational understanding of how each segment has performed over time, setting the stage for further analysis using inferential techniques. The insights derived from descriptive statistics will play a crucial role in highlighting performance trends, return consistency, and overall risk exposure, contributing meaningfully to the study's broader objective of evaluating long-term investment outcomes across different market capitalizations.

IV. RESULT AND ANALYSIS

Large cap			
		5Yrs return %	
Valid		46	
Median		32.300	
Mean		40.223	
Std. Deviation		32.516	
Skewness		2.677	
Std. Error of Skewness		0.350	
Kurtosis		11.315	
Std. Error of Kurtosis		0.688	
Minimum		5.100	
Maximum		197.720	

The 5-year return data for large-cap stocks, based on a sample of 46 valid observations, reveals a strong overall performance with a median return of 32.30% and a mean return of 40.22%. However, the high standard deviation of 32.52% indicates substantial variability in returns across the sample. The distribution is highly positively skewed (skewness = 2.677), suggesting that while most returns are clustered at the lower end, a few stocks have generated exceptionally high returns, pulling the average upward. This is further supported by the high kurtosis value of 11.315, indicating a distribution with heavy tails and the presence of outliers. The returns range from a minimum of 5.10% to a maximum of 197.72%, reflecting a wide dispersion in performance within the large-cap segment over the five-year period.

Small cap		
	5Yrs return %	
Valid	46	
Median	32.785	
Mean	41.706	
Std. Deviation	57.769	
Skewness	4.366	
Std. Error of Skewness	0.350	
Kurtosis	24.036	
Std. Error of Kurtosis	0.688	
Minimum	-4.530	
Maximum	371.570	

The 5-year return data for small-cap stocks, based on 46 valid observations, shows a median return of 32.79% and a mean return of 41.71%, indicating strong average performance. However, the very high standard deviation of 57.77% points to significant volatility within the segment. The distribution is highly positively skewed (skewness = 4.366), suggesting that while many stocks yielded moderate returns, a few delivered extremely high gains, which lifted the average. The pronounced kurtosis of 24.036 further reflects the presence of extreme outliers and heavy tails in the distribution. Returns range from a slight negative of -4.53% to a remarkable 371.57%, highlighting the wide disparity in performance and the high-risk, high-reward nature of small-cap investments over the five-year period.

V. COMPARISON

When comparing the 5-year return performance between large-cap and small-cap stocks, several key differences emerge in terms of returns, risk, and distribution characteristics. Both segments exhibit strong average returns, with small caps showing a slightly higher mean (41.71%) than large caps (40.22%) and a similar median (32.79% vs. 32.30%). However, the risk profile differs significantly—small-cap stocks demonstrate much higher volatility, as reflected by their standard deviation of 57.77%, compared to 32.52% for large caps. This indicates that while small caps may offer higher potential returns, they also come with greater variability.

The distribution of returns in small caps is more heavily skewed (skewness = 4.366) and leptokurtic (kurtosis = 24.036) compared to large caps (skewness = 2.677; kurtosis = 11.315). This suggests that small caps have more extreme positive outliers and a higher concentration of extreme values, implying greater opportunities for outsized gains but also higher risk. Additionally, the return range in small caps is much wider (from -4.53% to 371.57%) than in large caps (5.10% to 197.72%), reinforcing the high-risk, high-reward nature of small-cap investments.

In summary, while both large-cap and small-cap stocks have delivered strong 5-year returns, small caps exhibit significantly higher risk and return dispersion. Investors seeking more stable returns may lean toward large caps, while those with higher risk tolerance might find small caps more appealing for their growth potential.

VI. CONCLUSION

The 5-year performance comparison between large-cap and small-cap stocks highlights distinct characteristics that make each segment suitable for different investment strategies. Large-cap stocks have demonstrated strong and relatively consistent returns, with a median of 32.30% and a mean of 40.22%, coupled with moderate volatility (standard deviation of 32.52%). The distribution of returns, though positively skewed and leptokurtic, indicates a more stable and predictable return pattern. This makes large-cap stocks a preferred choice for conservative or long-term investors who prioritize capital preservation and steady growth over time.

In contrast, small-cap stocks, while offering a slightly higher average return (mean of 41.71% and median of 32.79%), are marked by significantly higher volatility (standard deviation of 57.77%) and greater distributional extremes, as reflected in their high skewness (4.366) and kurtosis (24.036). The return range, stretching from -4.53% to 371.57%, underscores the highly unpredictable and speculative nature of this segment. These characteristics suggest that small-cap stocks may offer greater upside potential, but they also carry increased risk, making them more suitable for aggressive investors with a higher risk tolerance and a focus on growth opportunities.

In summary, while both large-cap and small-cap stocks have the potential to generate substantial long-term returns, the decision between the two should be guided by an investor's risk appetite, investment horizon, and financial objectives. A balanced approach, possibly combining both segments, can also help diversify risk while capitalizing on the strengths of each category.

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