

**A STUDY ON PERFORMANCE OF SELECTED SMALL CAP STOCKS USING ELDER'S  
FORCE INDEX**

**Mrs. Apoorva S**, PG Research Scholar, Department of Management Studies, Global Academy of Technology, Bengaluru – 560 098

**Prof. Venkatesh Kumar N**, Professor, Department of Management Studies, Global Academy of Technology, Bengaluru – 560 098

**ABSTRACT**

*The purpose of study is to examines the selected small cap stocks using the elders' force index and to measure the buying and selling force which help traders predict future trends. The Elder's Force Index is a technical analysis tool that aims to predict market trends. A small cap stocks is a stock from a public company. According to its market capitalization, a stock would be categorized as a small-cap stock. The information was gathered from the NSE and BSE Sensex. Data on daily share prices have been collected for the last three years, from January 2020 to December 2022. The indicators use both price and volume to measure buying and selling pressure. The portion of the price covers trend, and volume portion determines the intensity. Elder force index is an indicator that aims to measure the buying and selling force to help traders predict future trends.*

**Keywords:** BSE Sensex; NSE Sensex; Normality distribution's; Elder force index.

**I. INTRODUCTION**

A small cap stocks is a stock from a public company. According to its market capitalization, a stock would be categorized as a small-cap stock. The market value of the shares of a publicly traded firm is referred to as market capitalization (market cap). It is determined by dividing the current stock price by the total number of outstanding shares. The Purpose of small cap stocks is to provide investors with an opportunity to gain exposure to companies that may not be included in large- cap indices. Small- cap companies tend to be more volatile than larger companies, but they also tend to offer higher growth potential. Small-cap stocks may experience higher-than-average volatility, which is another term for sharp gains and losses. If investors can withstand the ups and downs along the way, they may be rewarded over time. Certain small-cap companies, on the other hand, may experience significant swings in the near term and may be illiquid, which means they trade less frequently and can be difficult to sell for cash. Understanding of small cap stock performance by using the average returns. The average returns for small-cap stocks have been outperforming than those for large-cap companies, although not across all small-cap segments.

**OBJECTIVE OF THE STUDY**

- To analyse the selected small cap stocks using the elders' force index.
- To measure the buying and selling force which help traders predict future trends.

**II. REVIEW OF LITERATURE**

Dr. P. N Shaji, Dr. V P Sajeev, (2020) have proposed the small cap shares and systematic risk factors: a study on Indian stock market. Individual securities' and portfolios' risk-return characteristics are changing in combination with the changing economic and financial environment. Canonical correlation analysis (CCA) has been used to identify factor structure and establish the relationship between systematic risk and macroeconomic indicators in portfolios.

Sangram keshari Jena Tiwari, Ashutosh dash and Emmanuel Joel aikins Abakah, (2021) have proposed the Volatility spill over dynamics between large, mid and small-cap stocks in the time-frequency domain: implications for portfolio management. To compute the overall, net, and pairwise net volatility spill over between .When viewed unconditionally, these indexes have a strong correlation, but they differ in terms of risk, return, and other factors such as liquidity and pricing.

Suresh A.S., Srinivas bandi (2019) have proposed the Equity analysis of selected small cap stocks listed in BSE. To analysis the return and risk of the selected small cap stocks. To compare the return and risk of selected small cap stocks. To rank all the stocks based on return and risk to construct portfolio and to provide necessary suggestions based on the study. It can be concluded that stocks with higher beta values are not preferred because they are more vulnerable to market risk.

Shaun Cox, Gizelle D. Willows, (2017) have proposed the Return prediction in small capitalization companies on the Johannesburg stock exchange. Companies with a small market capitalization are referred to as small capitalization companies. To obtain the sample of companies to be tested, the constituents of the JSE's Mid Cap, Small Cap, and Fledgling Indexes were used as a starting point. The Capital Asset Pricing Model was used to risk-adjust the returns (CAPM). As a result, there is no significant relationship between HEPS growth and small-cap returns. This research can benefit both small, individual investors and large institutions.

Erik Hulth and Andreas Carlsson, (2018) have proposed the Performance evaluation of small- and large-cap stocks. To quantify the importance of the size effect for equity return and to quantify the performance of small-cap and large-cap stocks on the Swedish equity market, NASDAQ OMX. Indicators of risk-adjusted performance suggested that small-cap stocks had a higher risk-adjusted return than large-cap stocks. Using the Carhart Four-factor model, similar patterns were discovered. The ability to predict equity returns was not significantly different between the three-asset pricing model.

Sanjay Dhir, Sayantan Khanra, (2017) have proposed the Creating a value in small-cap by Mitigating Risks of Market Volatility. Two main goals are attempted to be addressed in this study. To investigate the impact of market volatility on small-cap companies in India by sector. Considered how NVIX has impacted NSE-listed small-cap enterprises. Following the introduction, this article is divided into five major sections. The discussion of relevant literature in the first section aids in the development of a hypothesis.

Bhaskar chhimwal and Varadraj bapat, (2020) have proposed the Impact of foreign and domestic investment in stock market volatility: Empirical evidence from India. The goal of this study is to look into the impact of DII and FPI flows on the volatility of Indian stock markets. We estimate the volatility of large-cap, mid-cap, and small-cap indexes using the GARCH model and include unexpected DII and FPI flows as additional regressors in the volatility equation. Found Small-cap stocks have been discovered to be more vulnerable than large-cap and midcap stocks.

Gbenga Ibikunle, Tom steffen, (2017) have proposed the European green mutual fund performance- a comparative analysis with their conventional and black peers. To understand the important small business effect. The holding of the funds is likely skewed toward creative environmental pioneers because small-cap and growing stocks are less susceptible to environment hazards. The portfolio of the green fund is also heavily weighted toward growth stocks.

Lorne N. Switzer, Cagdas Tahaoglu, (2014) have proposed the Benefits of market development, corporate governance, market cap and structural change effects. To know the benefits of market development, corporate governance, market cap and structural change effects. The techniques most frequently employed by researchers to look into international diversification are mean-variance spanning tests. The techniques most frequently employed by researchers to look into international diversification are mean-variance spanning tests.

Federico Gagliolo, Gabriele Cardullo, (2020) have proposed the Value Stocks and Growth Stocks: A study of the Italian market. To determine whether there is a difference in return between the two share classes and what the cause could be. The study also found that small-cap stocks had a significantly higher value premium over the various time periods, in contrast to large-cap stocks, which had a much lower value premium.

### **III. DATA AND METHODOLOGY**

**3.1 VARIABLE DEFINITION AND DATA:** The variables considered for this research were the top 10 capped companies closing price of the scrips from NSE and BSE Sensex for the Empirical study. This study is used to arrive at a conclusion from the hypothesis drawn for the research by comparing the data of each company observing, measuring.

**3.2 PERIOD OF THE STUDY:** Data will be collected for three years, from January 1, 2020 to December 31, 2022.

**3.3 LIST OF SELECTED COMPANIES FOR THE ANALYSIS:** Five companies are selected from each BSE Sensex and NSE Sensex based on their market capitalization, GRM Overseas Ltd, V2 Retail Ltd, Hikal Ltd, GIC Housing Finance Ltd, Astra Microwave Products Ltd, IDFC Ltd, Manappuram Finance Ltd, Amara Raja Batteries Ltd, Radico Khaitan Ltd, Bank of Maharashtra.

**3.4 DATA ANALYSIS FRAMEWORK:**

**3.4.1 NORMALITY EXAMINATION:** A normality test is performed for all the scrips to examine the symmetric distribution between the price through the Jamovi tool.

**3.4.2 DR. ALEXANDER ELDER FORCE INDEX EXAMINATION:** Elder force index is an oscillator that measures the strength, or power, of bulls driving specific market rallies and bears driving every market decline. The strength of a price movement is calculated using price and volume.

$$EFI (1) = (\text{Close (Current period)} - \text{Close (Prior Period)}) * \text{Volume}$$

$$EFI (13) = 13\text{-period Exponential Moving Average of EFI.}$$

**3.5 HYPOTHESIS TESTING**

Ho: If the given data follows normal distribution at 5% degree of significance, then the data is symmetrically distributed [Skewness=0].

H1: If the given data does not follow normal distribution at 5% degree of significance, then the data is asymmetrically distributed [Skewness ≠ 0].

**3.6 LIMITATIONS**

The study only includes small-cap stocks from BSE and NSE listed companies. The analysis is based on secondary data obtained from the BSE and NSE websites. This study will be conducted to only ten companies, five from the NSE and five from the BSE.

**IV. DATA ANALYSIS AND FINDINGS**

**Table 4.1 Determination of Normality test for the selected large cap-stocks company.**

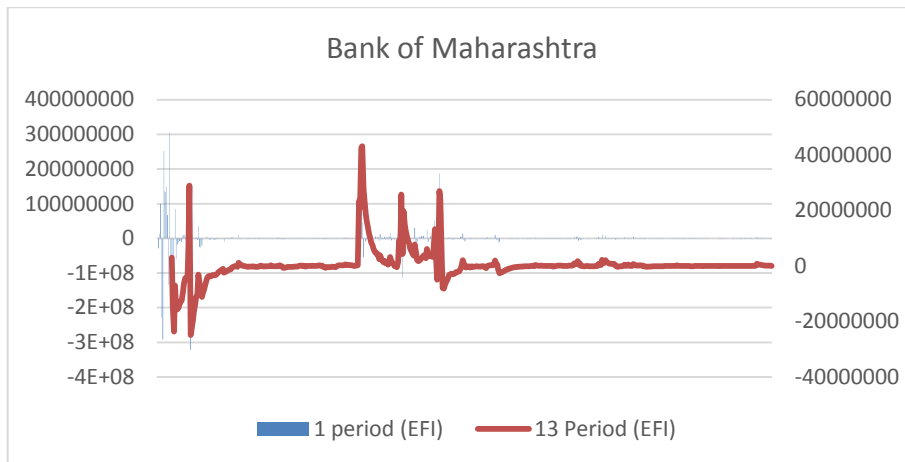
Sl.no	Scrip Name	Average price	Average Return	Shapiro-Wilk p	Standard Deviation (close price, return)
1	GRM Overseas Ltd	664	0.369	< .001	616, 16.1
2	V2 Retail Ltd.	108	0.0601	< .001	38.0, 3.51
3	Hikal Ltd	299	-0.107	< .001	163, 3.50
4	GIC Housing Finance Ltd.	128	0.00658	< .001	29.9, 3.07
5	Astra Microwave Products Ltd	174	-0.110	< .001	78.1, 3.33
6	IDFC Ltd.	43.7	-0.0825	< .001	19.2, 3.18
7	Manappuram Finance Ltd.	138	0.134	< .001	30.6, 3.48
8	Amara Raja Batteries Ltd.	682	0.0744	< .001	153, 2.61
9	Radico Khaitan Ltd	603	-0.166	< .001	265, 2.86
10	Bank of Maharashtra.	16.0	-0.0877	< .001	5.65, 3.75

Source: <https://www.bseindia.com> and <http://www.nseindia.com>

Retrieved on 30/12/2022 and author’s own calculation.

At 5% degree of significance reject null hypothesis as p value is <0.001 thus Share price of all the selected small Cap-stocks companies for the period between 1st Jan2008 and 31st Dec2022 is a symmetrically distributed.

**TABLE 4.2 GRAPHICAL REPRESENTATION OF BANK OF MAHARASHTRA.**



Source: <http://bseindia.com>

Retrieved on 3<sup>rd</sup> January 2023 and Authors own creation.

**Interpretation:**

A negative sign less than zero indicates that the market is bearish; the greater the negative value, the greater the bears' pessimism. A positive sign that is less than zero indicates that the market is bullish; the higher the positive value, the greater the bulls' optimism. Near the zero the value is neutral. 13period EFI is used on more periods to smoothen the movements of the index, it used more by the longer-term traders. In reference to the above chart the period 1 EFI is used by daily traders and 13 period EFI can be used by long term traders to buy and sell of the stocks by analyzing the stocks performance of the company by using the Elder's force index.

The elders force index for all the selected small Cap-stocks have performed well and there are more fluctuations except the Bank of Maharashtra ltd as performed well and as a less fluctuation in past 3 years for the period from January 1, 2020 to December 31, 2022.

**V. CONCLUSION**

Data analysis was done elders force index using the formula and interpretation was done on the chart of the Elder's force index calculation in which the performance of the company can be analysed, in which the period 1 elder's force index can be used by daily traders and 13 period elder's force calculation using the exponential moving average can be used by the investors or long-term traders to buy and sell the shares. The indicators use both price and volume to measure buying and selling pressure. The portion of the price covers trend, and volume portion determines the intensity. Elder force index is an indicator that aims to measure the buying and selling force to help traders predict future trends.

**REFERENCES:**

Andreas Carlsson, Erik Hulth. (2018). Performance evaluation of small- and large-cap stocks. At the Department of Economics.

Dr. P. N Shaji, D. V. (2020). Small Cap Shares and Systematic Risk factors: A study on Indian Stock Market. *Aut Aut Research Journal.*, 10.

Federico Gagliolo, G. C. (2020). Value Stocks and Growth Stocks: A Study of the Italian Market. *International Journal of Economics and Financial Issues.*, 9.

Gbenga Ibikunle, T. S. (2017). European Green Mutual Fund Performance: A Comparative Analysis with their Conventional and Black Peers. *Journal of Business Ethics*, 52.

Lorne N. Switzer, C. T. (2014). The benefits of international diversification: market development, corporate. *International Review of Financial Analysis.*, 22.

Sangram Keshari Jena, A. K. (2021). Volatility Spillover Dynamics between Large-, Mid-, and Small-Cap Stocks in the Time-Frequency Domain: Implications for Portfolio Management. *Journal of Risk and Financial Management.*, 22.

Shaun Cox (South Africa), G. D. (2017). Return prediction in small Capitalization companies on the Johannesburg Stock Exchange. *Investment Management and Financial Innovations.*,

Suresh A.S., S. B. (2019). Equity Analysis of Selected Small cap stocks listed in BSE. *International Journal of Recent Technology and Engineering (IJRTE).*, 5.

Chhimwal, B., & Bapat, V. (2020). Impact of foreign and domestic investment in stock market volatility: Empirical evidence from India. *Cogent Economics & Finance*, 8.

Khanra, S., & Dhir, S. (2017). Creating value in small-cap firms by mitigating risks of market volatility. *Vision*, 21(4).