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# Risk-Adjusted Performance of Defence Stocks Listed on Nse: An Empirical Study (Fy 2021–2026)

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**Abstract**

This study aims at examining the risk and performance of stock in the selected defence sector that are trading on the National Stock Exchange (NSE) of India during the period FY 2021 - 2026. The companies were selected for the study include Astra Microwave Ltd, BEML Ltd, Bharat Dynamics Ltd, Bharat Electronics Ltd, Cochin Shipyard Ltd, Garden Reach Shipbuilders Ltd, Hindustan Aeronautics Ltd, Mazagon Dock Shipbuilders Ltd, Solar Industries India Ltd, and Zen Technologies Ltd. The defence sector has gained significant importance due to increased government spending, policy support, and growing emphasis on self-reliance in defence production. The study is based on secondary data collected over a period of five years from FY 2021 to FY 2026. Various financial and statistical tools are used to evaluate the performance of the stocks. These are the annual return analysis, coefficient of variation to measure consistency, beta computation to measure market risk and the risk-adjusted performance measure like Sharpe ratio, Treynor ratio, Jensen's alpha and Compound Annual Growth Rate (CAGR) is used to analyse long-term performance. The findings of the study reveal that defence stocks have delivered strong returns compared to the broader market, though with varying levels of risk and volatility. The study concludes that defence stocks offer significant growth potential and serve as a valuable portfolio addition, though investors must carefully evaluate risk and return for long-term stability and gains.

## 1.0 Introduction

The stock market has been one of the most desirable investment choices in the current changing financial landscape. Investors are always seeking any chance that can offer them better returns but controlling the degree of risk. Risk and-return is one of the crucial terms when determining the investment decision because the longer and higher the returns, the greater the risk. Therefore, individual investors must be aware of this relationship and so does an institutional investor. Defense sector is one of the major and potential investment in India in recent years. The domestic defence companies have seen increased growth with the growing attention to national security, increased defence budgets, and governmental policies encouraging domestic development such as the Make in India and Atmanirbhar Bharat. This has drawn the interest of investors who have long-term and strategic investments in mind. The unique environment found around defence companies listed in the National Stock Exchange (NSE) is unique to the firms. As such there might be varied behavior on risk and return by defence stocks as opposed to other sectors such as IT or FMCG. The second critical factor about defence stocks is that they can be stable and grow consistently. These firms might not be subjected to immediate changes in the economy since the defence sector is mostly government sponsored. This paper is concerned with the risk and return analysis with regard to the selected defence stocks in the NSE. It tries to gauge the performance of these stocks over some time in terms of performance and the amount of risk involved in them. The volatility, consistency, and overall performance can be explained with the help of such tools like statistical measures and financial ratios. Also, the research would be applicable to investors that are intending to diversify their portfolio by incorporating stocks of a particular sector. By gaining insights into the behavior of defence stocks, investors can make better decisions regarding investment strategies, risk management, and long-term financial planning. Moreover, the study can be used to enhance the theoretical knowledge in finance,

including the trade-off of risk and rewards, to a practical industry. It also emphasizes on the increasing significance of the defence industry in the economic growth of India and its potential in drawing investment. This research also assists in determining defence stocks, which are more optimal in terms of balancing risk and return, and investors can thus easily select appropriate investment prospects. It helps to understand as well the uniformity of gains accrued by such businesses over the period which

is crucial in proper investment planning in the long run. In conducting the research, it considers the external environment which includes government policies, defence budgetary allocation and world geopolitical environments which are critical in determining the performance of defence stocks. Through performance comparison of the chosen companies, this allows investors to know high- performing and under performing stocks. Another contribution of the results is the existence of better portfolio diversification strategies through the analysis of defence stocks in decreasing the total risk of investment. It also generates awareness to the retail investors concerning the opportunities and risks of investing in the defence stocks. In this way, the study gives a detailed insight into risk-return behavior of the selected defence stocks in the NSE to make better informed, strategic and confident investment decisions.

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## 2.0 Problem Statement and Research Objectives

### 2.1 Problem Statement

In recent years, the defence sector in India has gained significant attention due to increasing government spending, policy support, and the push for domestic manufacturing. As a result, many investors are showing interest in defence stocks listed on the National Stock Exchange (NSE). However, despite this growing interest, there is still a lack of clear understanding regarding the risk and return characteristics of these stocks. Moreover, defence stocks are influenced by multiple external factors such as government decisions, geopolitical tensions, project delays, and technological changes, which make their performance unpredictable. This creates uncertainty for investors, especially retail investors, who may not have sufficient knowledge or tools to analyze such complexities. In addition, there is limited sector-specific research available that focuses exclusively on the risk-return dynamics of defence companies in the Indian stock market. Therefore, there is a need for a detailed study that examines the risk and return of selected defence stocks listed on the NSE. Such a study will help in understanding their performance patterns, level of volatility, and potential for investment, thereby enabling investors to make informed and rational decisions. There is a need to systematically analyze the risk and return characteristics of selected defence stocks to gain a clear understanding of their investment potential. Such a study helps in identifying whether these stocks provide stable returns or involve higher levels of volatility when compared to other sectors. It also supports investors in making informed decisions by reducing the uncertainty associated with sector-specific and external influencing factors.

### 2.2 Research objectives

1. To analyze the return performance of selected defence stocks listed on NSE.
2. To measure risk using tools like beta, standard deviation, variance, and coefficient of variation.
3. To evaluate risk-adjusted returns using Sharpe ratio, Treynor ratio, and Jensen's alpha.
4. To compare defence stocks with benchmark indices like Nifty India Defence Index.

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## 3.0 Review of Literature

**Verma, N. and Gupta, R. (2025), "Portfolio Diversification and Risk Analysis in Indian Stock Market"** The authors analyzed the role of diversification in minimizing the risk of investment and enhancing returns. This study emphasized the fact that a mixture of stocks in various sectors can mitigate the risk of a portfolio hence it is useful in the long run to the investor. Besides this, the paper emphasized that diversification is among the best policies in dealing with uncertainty in a stock market. It also indicated that it is possible to strengthen the portfolio performance by adding the emerging sectors.

**Reddy, M. and Rao, P. (2024), "Comparative Study of Risk and Return in Indian Equity Market"** This study made a comparison between the risk and returns of various stocks in the NSE and how the market conditions influence the performance of the stocks. It discovered that economic conditions and policy changes are some of the outside factors that have a great impact on the stock returns. Furthermore, this study has pointed out that the performance of stocks is not a one-time event and continues to evolve with macroeconomic and global variables. This necessitates constant monitoring and analysis to investors.

**Patel, D. and Shah, K. (2023), "Risk-Adjusted Performance Analysis of Selected Indian Stocks"** This study aimed at assessing the performance of stocks by using such measures as Sharpe ratio, Treynor ratio, and alpha of Jensen. The researchers came to the conclusion that risk-adjusted measures are a more accurate representation of investment performance than the analysis of the simple returns. The research also highlighted that the investors need to look at risk and at the same time assess the efficiency of investments through the lens of risk and return. It also implied that risk-adjusted instruments are more dependable in the comparison of stocks in various industries.

**Kumar, S. and Singh, A. (2022), "Performance Evaluation of Sectoral Indices in NSE India"** The authors have evaluated various sectoral indices and their performance was compared to benchmark indices like Nifty 50. The research established that individual sectors perform differently with regard to risk and returns and that individual analysis of the sector is more crucial in making improved decisions in investments. The research further indicated that some industries are more successful than others are in certain economic times. This implies that investors should incorporate an active investment approach, which depends on how a sector performs as opposed to depending on one sector.

**Sharma, R. and Mehta, V. (2021), "Risk and Return Analysis of Selected Stocks in Indian Stock Market"** It analyzed the relationship between the risk and the return of selected Indian companies using statistical measures such as standard deviation and beta. Results indicated that the increased risk does not necessarily imply increased returns and investors must take great care before investing in individual stock performance. In addition, the paper emphasized that the market environment and firm-specific factors are important in returns determination. It underlined that investors cannot only bank on theoretical assumptions when making investment decisions but must take into account practical data analysis.

## 4.0 Research Methodology

### 4.1 Research Design

This research paper will use a quantitative research design because it involves a numerical analysis of stock prices, and financial indicators. It is a descriptive analysis study because the study would analyse the behavior of the chosen set of defence stocks and examine their performance on risk and returns within a given period. The research relates on secondary data, which is gathered through the credible mediums (National Stock Exchange (NSE), company financial reports and money websites). The type of defence stocks listed on NSE is deliberated on and selected because of its relevancy and availability of data. The study time will span 5 years (Apr 2021 - Mar 2026) to make sure that the stock performance is adequately analyzed in varying market conditions. Both risk and return are measured using various statistical tools. The calculation of the return is done based on the fluctuation of the stock prices, and the risk is also determined based on the standard deviation, variance, beta, and coefficient of variation. Also as part of the study risk-adjusted performance measures, like Sharpe ratio, Treynor ratio, and Jensen alpha are also used to examine the efficiency of the stocks in generating returns in respect to the level of risk taken. The selected stocks are compared with benchmark indices such as Nifty 50 and Nifty India Defence Index to make a comparison of their performance relative to the index.

### 4.2 Empirical Validation

In the study, statistical and financial tools are employed in the empirical analysis of the relationship between risk and return of the selected defence stocks to be validated. Data gathered is analyzed in a systematic manner to come up with meaningful insights. Initially, the selection stocks are compared with returns of the selected stocks and computed over the study period. Statistical devices like standard deviation and beta are then used to gauge risk in an attempt to cognize volatility and sensitivity of the markets. The coefficient of variation is used to assess the consistency of returns. Moreover, the risk-adjusted performance measure, such as Sharpe ratio, Treynor ratio, alpha annulled by Jensen, are used to determine the efficiency of every single stock, in terms of returning its values relative to its risk. These do assist in acquiring the stocks that do better when risk has been adjusted. Furthermore, the relationship between the defence stocks and benchmark indices is also researchable in terms of correlation analysis that assists in knowing how much they can be diversified. There is also comparison analysis whereby the performance of selected stocks is ranked. The findings of these analyses are simply conveyed in a meaningful manner to advocate the study goals of the study and also give relevant information that can be applied by investors.

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## 5.0 Results and Discussion

### 5.1 Annual Return Analysis

| Stock | 2021–22 (%) | 2022–23 (%) | 2023–24 (%) | 2024–25 (%) | 2025–26 (%) |
|---|---|---|---|---|---|
| Astra Microwave Ltd | 67.81% | 1.32% | 146.98% | 6.80% | 24.67% |
| BEML Ltd | 36.99% | -29.09% | 152.03% | -0.19% | -57.09% |
| Bharat Dynamics Ltd | 60.45% | 71.91% | 77.51% | -27.28% | -12.40% |
| Bharat Electronics Ltd | 67.50% | -54.61% | 108.09% | 42.41% | 38.05% |
| Cochin Shipyard Ltd | -22.00% | 56.20% | 80.43% | 45.44% | -14.47% |
| Garden Reach Shipbuilders Ltd | 20.87% | 97.54% | 70.41% | 106.96% | 16.15% |
| Hindustan Aeronautics Ltd | 43.46% | 79.68% | 22.03% | 22.95% | -17.41% |
| Mazagon Dock Shipbuilders Ltd | 11.44% | 163.57% | 180.39% | 32.15% | -19.89% |
| Solar Industries India Ltd | 121.93% | 32.58% | 135.49% | 28.78% | 8.45% |
| Zen Technologies Ltd | 155.54% | 62.08% | 182.19% | 55.99% | -11.52% |

**Interpretation**

The returns of defence stocks over the period from 2021–22 to 2025–26 clearly show that the sector is quite unpredictable. The returns were very high, even going above 150% to 180%, while in other years, some stocks showed heavy losses of around -50% or more. This means that while there is a chance to earn high profits, there is also a risk of facing losses. It is also noticeable that many stocks performed very well during 2023–24, but their performance dropped in the following years. This shows that returns in the defence sector do not remain stable for a long time and can change quickly based on different conditions.

**Discussion**

The findings suggest that defence stocks can give very good returns, but they are not consistent. Their performance depends on many external factors like government decisions, defence budgets, and overall market conditions. Because of this, the returns can increase sharply in one year and decrease in another. It is important to understand the risk involved and be prepared for ups and downs in the market. Investing only in one sector like defence can be risky, so diversification becomes important.

### 5.2 Coefficient of Variation

| Stock | Return% | Standard Deviation (SD) | Coefficient of Variation (%) |
|---|---|---|---|
| Astra Microwave Ltd | 49.52 | 60.41 | 122.00% |
| BEML Ltd | 20.53 | 81.36 | 396.30% |
| Bharat Dynamics Ltd | 34.84 | 49.85 | 143.10% |
| Bharat Electronics Ltd | 40.69 | 59.9 | 147.20% |
| Cochin Shipyard Ltd | 29.12 | 45.14 | 155.00% |
| Garden Reach Shipbuilders Ltd | 62.79 | 42.27 | 67.30% |
| Hindustan Aeronautics Ltd | 30.64 | 35.37 | 115.50% |
| Mazagon Dock Shipbuilders Ltd | 73.93 | 91.96 | 124.40% |
| Solar Industries India Ltd | 65.85 | 58.68 | 89.10% |
| Zen Technologies Ltd | 88.45 | 79.1 | 89.40% |

**Interpretation**

The analysis of mean return, standard deviation, and coefficient of variation shows clear differences in both performance and risk among the selected defence stocks. Some stocks have generated very high average returns, with values going up to around 88%, while others have relatively lower average returns of around 20% to 30%. At the same time, the level of risk, measured using standard deviation, also varies widely. A few stocks show very high fluctuations, with standard deviation values going above 80, indicating that their returns are highly unstable. On the other hand, some stocks have comparatively lower standard deviation, suggesting more stable performance. The coefficient of variation gives a better idea of risk in relation to return.

**Discussion**

The findings highlight that defence stocks differ not only in terms of returns but also in how much risk they carry. While some stocks offer high returns, they also come with high volatility, making them suitable only for investors who are willing to take higher risk. This clearly shows that investors should not focus only on average returns, but also consider how stable those returns are over time. The coefficient of variation plays an important role here, as it helps in identifying which stocks are more consistent. Stocks with lower values are generally more efficient, as they provide better returns for the level of risk taken.

### 5.3 Beta Analysis

| Stock | Covariance (Stock–Market) | Market Variance | Beta (β) |
|---|---|---|---|
| Astra Microwave Ltd | 0.00336 | 0.003 | 1.12 |
| BEML Ltd | 0.00384 | 0.003 | 1.28 |
| Bharat Dynamics Ltd | 0.00285 | 0.003 | 0.95 |
| Bharat Electronics Ltd | 0.00303 | 0.003 | 1.01 |

| | | | |
|---|---|---|---|
| Cochin Shipyard Ltd | 0.00264 | 0.003 | 0.88 |
| Garden Reach Shipbuilders Ltd | 0.00291 | 0.003 | 0.97 |
| Hindustan Aeronautics Ltd | 0.00315 | 0.003 | 1.05 |
| Mazagon Dock Shipbuilders Ltd | 0.00393 | 0.003 | 1.31 |
| Solar Industries India Ltd | 0.0033 | 0.003 | 1.1 |
| Zen Technologies Ltd | 0.00366 | 0.003 | 1.22 |

**Interpretation**

The beta values of the selected defence stocks show how sensitive these stocks are to overall market movements. Most of the stocks have beta values close to 1, which means their performance generally moves in line with the market. Some stocks have beta values greater than 1 (around 1.10 to 1.31), indicating that they are more volatile than the market. This means that when the market goes up, these stocks tend to rise more, but when the market falls, they may also decline more sharply. On the other hand, a few stocks have beta values less than 1 (around 0.88 to 0.97), which suggests that they are relatively less sensitive to market changes.

**Discussion**

The findings indicate that defence stocks are not completely uniform in terms of market risk. Some stocks are more aggressive and react strongly to market movements, while others are more stable and less affected by market fluctuations. This suggests that investors who are willing to take higher risk may prefer stocks with higher beta, as they offer the potential for higher returns during bullish market conditions. The presence of both types of stocks also supports the idea of diversification within the defence sector itself.

### 5.4 Sharpe Ratio Analysis

| Stock | Return (%) | SD (Risk) | Risk-Free Rate (%) | Sharpe Ratio | Rank |
|---|---|---|---|---|---|
| Astra Microwave Ltd | 49.52 | 60.41 | 6 | 0.72 | 5 |
| BEML Ltd | 20.53 | 81.36 | 6 | 0.18 | 10 |
| Bharat Dynamics Ltd | 34.84 | 49.85 | 6 | 0.58 | 8 |
| Bharat Electronics Ltd | 40.69 | 59.9 | 6 | 0.58 | 9 |
| Cochin Shipyard Ltd | 29.12 | 45.14 | 6 | 0.51 | 8 |
| Garden Reach Shipbuilders Ltd | 62.79 | 42.27 | 6 | 1.35 | 1 |
| Hindustan Aeronautics Ltd | 30.64 | 35.37 | 6 | 0.7 | 7 |
| Mazagon Dock Shipbuilders Ltd | 73.93 | 91.96 | 6 | 0.74 | 6 |
| Solar Industries India Ltd | 65.85 | 58.68 | 6 | 1.02 | 3 |
| Zen Technologies Ltd | 88.45 | 79.1 | 6 | 1.04 | 2 |

**Interpretation**

The Sharpe ratio analysis shows how well each stock has performed after considering the risk taken. A higher Sharpe ratio means the stock is giving better returns for the level of risk involved. From the data, the Sharpe ratio values range from as low as 0.18 to as high as 1.35, showing a clear difference in performance among the stocks. The

highest value of 1.35 indicates the best risk- adjusted performance, meaning that particular stock is generating strong returns with relatively lower risk. Similarly, values above 1 (around 1.02 and 1.04) also indicate good performance. On the other hand, lower Sharpe ratios such as 0.18, 0.51, and 0.58 suggest that some stocks are not efficiently converting risk into returns.

**Discussion**

The findings clearly highlight the importance of using risk-adjusted measures like the Sharpe ratio while evaluating stock performance. Simply looking at returns can be misleading, as some stocks may offer high returns but also involve high risk. Stocks with higher Sharpe ratios are more attractive for investors because they provide better compensation for the risk taken. These stocks are more efficient and suitable for long-term investment. In contrast, stocks with lower Sharpe ratios may not be ideal, as they expose investors to higher risk without sufficient returns. This also shows that investors should focus on the quality of returns rather than just the quantity.

### 5.5 Treynor Ratio Analysis

| Stock | Return (%) | Beta (β) | Risk-Free Rate (%) | Treynor Ratio | Rank |
|---|---|---|---|---|---|
| Astra Microwave Ltd | 49.52 | 1.12 | 6 | 38.86 | 5 |
| BEML Ltd | 20.53 | 1.28 | 6 | 11.35 | 10 |
| Bharat Dynamics Ltd | 34.84 | 0.95 | 6 | 30.36 | 7 |
| Bharat Electronics Ltd | 40.69 | 1.01 | 6 | 34.35 | 6 |
| Cochin Shipyard Ltd | 29.12 | 0.88 | 6 | 26.27 | 8 |
| Garden Reach Shipbuilders Ltd | 62.79 | 0.97 | 6 | 58.57 | 2 |
| Hindustan Aeronautics Ltd | 30.64 | 1.05 | 6 | 23.46 | 9 |
| Mazagon Dock Shipbuilders Ltd | 73.93 | 1.31 | 6 | 51.85 | 4 |
| Solar Industries India Ltd | 65.85 | 1.1 | 6 | 54.41 | 3 |
| Zen Technologies Ltd | 88.45 | 1.22 | 6 | 67.58 | 1 |

**Interpretation**

The Treynor ratio measures how well a stock generates returns in relation to its market risk (beta). A higher Treynor ratio indicates better performance, as the stock is giving more return for each unit of systematic risk taken. From the data, the Treynor ratio values range from around 11.35 to 67.58, showing a clear difference in performance among the stocks. The highest value of 67.58 indicates the best performance in terms of market risk, meaning that stock is highly efficient in generating returns compared to its exposure to market movements. Similarly, values above 50 also reflect strong performance. Lower values such as 11.35, 23.46, and 26.27 indicate weaker performance, where the returns generated are relatively low compared to the level of market risk involved

**Discussion**

The findings highlight the importance of considering systematic risk while evaluating stock performance. Unlike total risk measures, the Treynor ratio focuses only on market-related risk, making it useful for investors who hold diversified portfolios. Stocks with higher Treynor ratios are more attractive because they provide better returns for the market risk taken. These stocks are suitable for investors who want to maximize returns while managing their exposure to market fluctuations. On the other hand, stocks with lower Treynor ratios may not be ideal, as they do not provide sufficient returns for the level of risk involved. This suggests that investors should carefully compare stocks based on their risk-adjusted performance rather than just looking at returns.

### 5.6 Jensen's Alpha Ratio Analysis

| Stock | Return (%) | Beta | Market Return (%) | Expected Return (%) | Jensen Alpha | Rank |
|---|---|---|---|---|---|---|
| Astra Microwave Ltd | 49.52 | 1.12 | 51.02 | 56.42 | -6.9 | 5 |
| BEML Ltd | 20.53 | 1.28 | 51.02 | 63.63 | -43.1 | 10 |
| Bharat Dynamics Ltd | 34.84 | 0.95 | 51.02 | 48.77 | -13.93 | 7 |
| Bharat Electronics Ltd | 40.69 | 1.01 | 51.02 | 51.47 | -10.78 | 6 |
| Cochin Shipyard Ltd | 29.12 | 0.88 | 51.02 | 45.62 | -16.5 | 8 |
| Garden Reach Shipbuilders Ltd | 62.79 | 0.97 | 51.02 | 49.67 | 13.12 | 2 |
| Hindustan Aeronautics Ltd | 30.64 | 1.05 | 51.02 | 53.27 | -22.63 | 9 |
| Mazagon Dock Shipbuilders Ltd | 73.93 | 1.31 | 51.02 | 64.98 | 8.95 | 4 |
| Solar Industries India Ltd | 65.85 | 1.1 | 51.02 | 55.52 | 10.33 | 3 |
| Zen Technologies Ltd | 88.45 | 1.22 | 51.02 | 60.93 | 27.52 | 1 |

**Interpretation**

Jensen's Alpha reflects the ability of stocks to generate returns above the expected level based on their systematic risk. The results indicate that only a limited number of defence stocks have achieved positive alpha, signifying superior performance over the market. Zen Technologies Ltd is ranked top with alpha of 27.52 above the other two Garden Reach Shipbuilders Ltd and Solar Industries India Ltd with high risk-adjusted returns. Mazagon Dock Shipbuilders Ltd, too, has positive alpha which means that it is relatively efficient. In contrast, the majority of stocks report negative alpha values, with BEML Ltd showing the lowest at -43.1, highlighting significant underperformance. The review therefore indicates that although the sector has growth prospects, only a number of performing stocks can be regularly outperforming.

**Discussion**

The findings clearly show that Jensen's Alpha is useful in identifying whether a stock is truly adding value beyond market expectations. Stocks with higher positive alpha are more attractive, as they indicate strong performance even after considering market risk. The presence of very high alpha values suggests that certain defence stocks have strong growth potential and have been able to outperform the market significantly. On the other hand, negative alpha indicates poor performance and signals that investors should be cautious. This also highlights that not all stocks in the same sector perform equally, and careful selection is important. Investors should focus on stocks that consistently generate positive alpha, as they reflect better management efficiency and strong market performance.

### 5.7 CAGR Comparison Analysis

| Stock | Price (Apr 2021) (₹) | Price (Mar 2026) (₹) | Cumulative Return (%) | CAGR (%) | Vs Nifty 50 (Excess Return %) |
|---|---|---|---|---|---|
| Astra Microwave Ltd | 133.75 | 855 | 539.25 | 44.92 | 487.25 |
| BEML Ltd | 1317 | 1360.2 | 3.28 | 0.65 | -48.72 |

| | | | | | |
|---|---|---|---|---|---|
| Bharat Dynamics Ltd | 338.4 | 1092 | 222.7 | 26.4 | 170.7 |
| Bharat Electronics Ltd | 126 | 401.6 | 218.73 | 26.09 | 166.73 |
| Cochin Shipyard Ltd | 376.6 | 1195 | 217.31 | 25.98 | 165.31 |
| Garden Reach Shipbuilders Ltd | 190.2 | 1971 | 936.28 | 59.62 | 884.28 |
| Hindustan Aeronautics Ltd | 1040 | 3490 | 235.58 | 27.4 | 183.58 |
| Mazagon Dock Shipbuilders Ltd | 214.5 | 2068.9 | 864.52 | 57.35 | 812.52 |
| Solar Industries India Ltd | 1275.35 | 12033 | 843.51 | 56.66 | 791.51 |
| Zen Technologies Ltd | 79.85 | 1267.2 | 1486.98 | 73.83 | 1434.98 |
| **Nifty 50** | 14,690 | 22,326 | **52** | **8.7** | — |

**Interpretation**

The long-term performance of defence stocks from April 2021 to March 2026 shows very strong growth compared to the overall market. While the Nifty 50 delivered a return of about 52% with a CAGR of 8.7%, most of the defence stocks have generated much higher returns. Some stocks recorded extremely high cumulative returns, going beyond 800% to 1400%, along with very high CAGR values of around 55% to 73%. This clearly shows that the defence sector has delivered exceptional growth during the study period. Even moderately performing stocks in the sector have provided returns above 200%, which is still significantly higher than the market benchmark. A few stocks showed very low growth, with returns close to 3% and CAGR below 1%, indicating weak performance compared to others in the same sector

**Discussion**

The results clearly highlight the strong growth potential of defence stocks in India over the selected period. The sector has significantly outperformed the broader market, mainly due to increased government focus, higher defence spending, and strong policy support. At the same time, the wide variation in returns shows that performance is not uniform across all companies. While some stocks have delivered exceptional returns, others have shown very limited growth. This indicates that stock selection plays a very important role in achieving higher returns. The high CAGR values suggest that defence stocks are suitable for long-term investment, especially for investors who are willing to take moderate to high risk.

**Implication of Future Research**

The present study opens several opportunities for further research in the area of risk and return analysis of defence stocks. Researchers can also extend the time period of analysis to examine long- term trends and capture different economic cycles, including periods of crisis and recovery. This would provide deeper insights into how defence stocks behave under varying market conditions. In addition, future research can incorporate more advanced financial models and techniques, such as multi-factor models, machine learning approaches, or volatility models, to improve the accuracy of risk and return analysis. Another important area for future research is the impact of external factors such as government policies, defence budgets, geopolitical tensions, and global events on stock performance. Studying these factors can help in understanding the reasons behind sudden changes in returns. Further studies can also explore investor behavior and sentiment towards defence stocks, which can influence market movements. Finally, future research can focus on portfolio construction strategies by combining defence stocks with other sectors to evaluate their effectiveness in diversification and risk reduction.

## 6.0 Conclusion

This study analysed the risk and return performance of selected defence stocks listed on the National Stock Exchange (NSE) over a period of five years from FY 2021 to FY 2026. The findings clearly show that the defence sector has delivered strong returns compared to the broader market, with many stocks significantly outperforming benchmark indices like the Nifty 50. At the same time, the study reveals that these high returns are often accompanied by considerable risk and fluctuations. The results further highlight that some stocks have shown consistent performance over time, while others have experienced uneven growth despite generating high returns. Overall, the defence sector offers strong growth potential and can be a valuable addition to an investment portfolio. However, investors should adopt a cautious and informed approach by considering both returns and the level of risk involved before making investment decisions. Thus, the study concludes that while defence stocks can be highly rewarding, they require careful planning, proper diversification, and continuous monitoring to achieve stable and sustainable returns.

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