



**International Journal of Advanced Research in
Education and Technology (IJARETY)**

Volume 11, Issue 4, July-August 2024

Impact Factor: 7.394



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



A Study on Risk and Return Analysis of Selected Metal Company with Special Reference to NSE

Dr V.Mahalakshmi, R. Srikrishnan

Assistant Professor, Department of Management Studies, Saranathan College of Engineering, Trichy,
Tamil Nadu, India

P.G Student, Department of Management Studies, Saranathan College of Engineering, Trichy, Tamil Nadu, India

ABSTRACT: This study investigates the risk and return dynamics of selected metal companies listed on the National Stock Exchange (NSE) of India. By analyzing historical stock price data, this research aims to provide insights into the performance of these companies within the volatile metals sector. In this study, the researcher proposes to collect secondary data of stock performance of historical data for a period of five years from 2019-2020 to 2023-2024. The study employs various financial metrics and statistical tools, including Return, Risk, standard deviation, beta coefficient, Covariance, and Variance to assess both systematic and unsystematic risks associated with these stocks. Additionally, the analysis explores the correlation between the selected companies' stock returns and broader market indices to understand their relative performance and risk profiles. The findings reveal significant variations in risk and return characteristics among the selected metal companies, highlighting the importance of careful stock selection and portfolio diversification for investors. The study also examines the impact of macroeconomic factors and market conditions on the metal sector, offering practical implications for traders, portfolio managers, and policymakers. And the researcher suggests that since Adani Enterprises Limited has shown the highest return but also the maximum risk, investors should assess their own risk tolerance. High-risk investments are generally suitable for investors who can handle volatility and are looking for significant capital gains.

KEY WORDS: Metal stocks, risk, return and capital gain.

I. INTRODUCTION

Metals have been integral to human civilization since ancient times, shaping the course of history, industry, and innovation. From the Bronze Age to the Space Age, the significance of metals spans across cultures, continents, and centuries. Their properties, ranging from conductivity to malleability, have fuelled technological advancements and transformed societies. This essay explores the multifaceted nature of metals, delving into their origins, properties, uses, and impact on humanity. The story of metals begins deep within the Earth's crust, where geological processes over millions of years have concentrated metallic ores. These ores, comprising various combinations of elements, are extracted through mining and refined to obtain pure metals. The discovery of metalworking techniques marked a pivotal moment in human development, enabling the transition from stone tools to more durable and versatile implements. One of the defining characteristics of metals is their ability to conduct electricity and heat, a property that underpins their utility in countless applications. Copper, one of the earliest metals used by humans, exemplifies this conductivity, making it indispensable in electrical wiring and electronics. Similarly, silver and aluminum find extensive use in conductive applications, from circuitry to power transmission lines.

II. REVIEW OF LITERATURE

Raj S. Dhankar(2019) Efficient capital market theory postulates the random walk behaviour of stock market, i.e. risk and return are normally distributed. The study examines the prices of the Bombay Stock Exchange (BSE)-listed indices: Sensex, BSE 100 and BSE 500 for the period 1996--2006, and three sub-periods (January 1996--December 1999, January 2000-December 2002, January 2003-December 2006) and reports the significant findings. The returns are negatively skewed for all the indices over the period. Asymmetry is found in risk and return in case of daily and weekly returns. Monthly and annual returns, however, are found normally distributed for all three indices over the period of time. These findings bring out the importance of time horizon in investment strategy for the Indian stock market

Sarada Anga Raju & B.S.R Murthy (2020) The investors identify the minimum risk and maximum return on investment decisions through portfolio analysis. The researcher selected six NSE listed banks equity values and analysed comparatively on risk and return on investment. This is helpful to the investors to take best decision on investment based on market volatility.

Ms. Jayabharathi.V & Mr. C. Dilip(2022)

In investment, particularly in the portfolio management, the risk and returns are two crucial measures in making investment decisions. This paper attempts to provide a brief theoretical explanation with illustrations on determining the returns and associated risk of shares, and of the portfolio of the shares. The illustrations of tables and figures can significantly contribute to the understanding of a reader in relation to portfolio management of risk and returns. The illustrative table and figures are the significance of this paper and it is believed that the reader of this paper would gain reasonable knowledge in portfolio management.

Cohen, G. (2023)

The following research has analyzed the linkage between ESG sustainability scores to the firm's valuations. We provide evidence that the total ESG score is diminishing for the S & P500 firms from 2019 till 2021 meaning that these risks factors take their rightful place in the global economy. We find that the impact of environmental risks on the firm's valuation is not significant enough. Moreover, we found that while the "Beta" risk factor of the S & P500 carries environmental risks, it does not hold such risks for Nasdaq100 stocks, and therefore, we recommend strengthening the environmental education to investors and other financial industry participants. This research also provides evidence that social risk impact negatively the simple excess return for both the S & P500 and nasdaq100 stocks indicating that social issues must be mitigated in order to maximize a firm value.

III. RESEARCH METHODOLOGY

OBJECTIVES OF THE STUDY: -

1. To study the performance of METAL stocks of 10 companies in NSE and analyze them based on their risk and return characteristics.
2. To study the return behaviour of METAL stocks NSE.
3. To analyze the risk behaviour of METAL stocks in NSE
4. To study the systematic risk and its implications.
5. To study the outperforming trend of METAL stocks.

This research employs a descriptive approach and utilizes secondary data. Stock prices from the National Stock Exchange were gathered for this study, and these prices were used to calculate returns for further analysis. The sample size for the study is 10, consisting of the top 10 companies selected based on their stock performance. The data were collected for five years from 2019-2020 to 2023-2024.

Companies taken for the study:

- APLAPOLLO TUBES LIMITED
- NMDC LIMITED
- RATNAMANI METALS & TUBES LIMITED
- VEDANTA LIMITED
- WELSPUN CORP LIMITED
- HINDUSTAN ZINC LIMITED
- NATIONAL ALUMINIUM LIMITED
- ADANI ENTERPRISES LIMITED
- HINDALCO INDUSTRIES LIMITED
- HINDUSTAN COPPER LIMITED

TOOLS USED FOR ANALYSIS:

a) **Rate of Return**

A rate of return (**ROR**) is the net gain or loss on an investment over a specified period expressed as a percentage of the investment's initial cost. Gains on investments are defined as income received plus any capital gains realized on the sale of the investment.

b) **Risk**

Risk in investment is defined as the variability that is likely to occur in future cash flows from an investment. The



greater variability of these cash flows indicates greater risk.

c) Beta

A measure of risk commonly advocated is beta. The beta of a portfolio is computed the way the beat of an individual security is computed. To calculate the beta of a portfolio, regress the rate of return of the portfolio on the rate of return of a market index.

TABEL1 OUTPERFORMANCE INDEX FOR THE YEAR 2019-2020

S.NO	COMPANY PROFILE	STOCK ANNUAL RETURN	INDEX ANNUAL RETURN	OUT PERFORMANCE	RANK
1	ADANI ENTERPRISES LIMITED	-6.235093697	-47.90335562	41.66826192	2
2	APLAPOLLO TUBES LIMITED	-13.53816278	-47.90335562	34.36519284	3
3	HINDALCO INDUSTRIES LIMITED	-53.43065693	-47.90335562	-5.527301318	7
4	HINDUSTAN COPPER LIMITED	-56.48621042	-47.90335562	-8.582854802	9
5	HINDUSTAN ZINC LIMITED	-43.86852086	-47.90335562	4.034834757	5
6	NATIONAL ALUMINIUM LIMITED	-47.52028855	-47.90335562	0.383067068	6
7	NMDC LIMITED	-23.40832934	-47.90335562	24.49502627	4
8	RATNAMANI METALS& TUBES LIMITED	-0.115581485	-47.90335562	47.78777413	1
9	VEDANTA LIMITED	-64.92274329	-47.90335562	-17.01938767	10
10	WELSPUN CORP LIMITED	-54.44199706	-47.90335562	-6.538641447	8

TABEL 2 OUTPERFORMANCE INDEX FOR THE YEAR 2020-2021

S.NO	COMPANY PROFILE	STOCK ANNUAL RETURN	INDEX ANNUAL RETURN	OUT PERFORMANCE	RANK
1	ADANI ENTERPRISES LIMITED	649.3822674	150.7850432	498.5972242	1
2	APLAPOLLO TUBES LIMITED	12.36914932	150.7850432	-138.4158939	10
3	HINDALCO INDUSTRIES LIMITED	241.5360502	150.7850432	90.75100696	4
4	HINDUSTAN COPPER LIMITED	461.5023474	150.7850432	310.7173042	2



5	HINDUSTAN ZINC LIMITED	75.61132561	150.7850432	-75.17371758	8
6	NATIONAL ALUMINIUM LIMITED	85.73883162	150.7850432	-65.04621158	7
7	NMDC LIMITED	69.1875	150.7850432	-81.59754319	9
8	RATNAMANI METALS& TUBES LIMITED	109.5878334	150.7850432	-41.19720982	6
9	VEDANTA LIMITED	253.5548686	150.7850432	102.7698254	3
10	WELSPUN CORP LIMITED	122.9653505	150.7850432	-27.81969267	5

TABEL 3 OUTPERFORMANCE INDEX FOR THE YEAR 2021-2022

S.NO	COMPANY PROFILE	STOCK ANNUAL RETURN	INDEX ANNUAL RETURN	OUT PERFORMANCE	RANK
1	ADANI ENTERPRISES LIMITED	95.38864375	61.51312481	33.87551894	2
2	APLAPOLLO TUBES LIMITED	-34.71106828	61.51312481	-96.22419309	10
3	HINDALCO INDUSTRIES LIMITED	74.23894753	61.51312481	12.72582272	4
4	HINDUSTAN COPPER LIMITED	-4.891304348	61.51312481	-66.40442916	9
5	HINDUSTAN ZINC LIMITED	13.64968853	61.51312481	-47.86343628	8
6	NATIONAL ALUMINIUM LIMITED	125.346901	61.51312481	63.83377621	1
7	NMDC LIMITED	20.09604728	61.51312481	-41.41707753	7
8	RATNAMANI METALS & TUBES LIMITED	36.36291934	61.51312481	-25.15020547	5
9	VEDANTA LIMITED	76.32786885	61.51312481	14.81474404	3
10	WELSPUN CORP LIMITED	20.99747018	61.51312481	-40.51565463	6

TABEL 4 OUTPERFORMANCE INDEX FOR THE YEAR 2022-2023

S.NO	COMPANY PROFILE	STOCK ANNUAL RETURN	INDEX ANNUAL RETURN	OUT PERFORMANCE	RANK
1	ADANI ENTERPRISES LIMITED	-13.11825288	-14.41925993	1.301007043	4



2	APLAPOLLO TUBES LIMITED	31.78985349	-14.41925993	46.20911342	1
3	HINDALCO INDUSTRIES LIMITED	-28.82352941	-14.41925993	-14.40426948	7
4	HINDUSTAN COPPER LIMITED	-13.53846154	-14.41925993	0.88079839	5
5	HINDUSTAN ZINC LIMITED	-5.416733838	-14.41925993	9.00252609	3
6	NATIONAL ALUMINIUM LIMITED	-35.63218391	-14.41925993	-21.21292398	10
7	NMDC LIMITED	-31.37496155	-14.41925993	-16.95570162	8
8	RATNAMANI METALS& TUBES LIMITED	-23.57953998	-14.41925993	-9.160280049	6
9	VEDANTA LIMITED	-31.95735713	-14.41925993	-17.53809721	9
10	WELSPUN CORP LIMITED	19.77299881	-14.41925993	34.19225873	2

TABEL 5 OUTPERFORMANCE INDEX FOR THE YEAR 2023-2024

S.NO	COMPANY PROFILE	STOCK ANNUAL RETURN	INDEX ANNUAL RETURN	OUT PERFORMANCE	RANK
1	ADANI ENTERPRISES LIMITED	82.64446285	50.20054753	32.44391533	4
2	APLAPOLLO TUBES LIMITED	24.10917991	50.20054753	-26.09136762	8
3	HINDALCO INDUSTRIES LIMITED	38.21388923	50.20054753	-11.9866583	7
4	HINDUSTAN COPPER LIMITED	182.7147941	50.20054753	132.5142466	1
5	HINDUSTAN ZINC LIMITED	-0.357934208	50.20054753	-50.55848173	9
6	NATIONAL ALUMINIUM LIMITED	94.57908163	50.20054753	44.37853411	3



7	NMDC LIMITED	80.86060063	50.20054753	30.6600531	5
8	RATNAMANI METALS & TUBES LIMITED	40.98947953	50.20054753	-9.211068	6
9	VEDANTA LIMITED	-1.020222263	50.20054753	-51.22076979	10
10	WELSPUN CORP LIMITED	157.0573566	50.20054753	106.8568091	2

Findings: Over the course of five years, ten stocks were analyzed annually using Risk and Return Analysis to determine their performance. The highest return in each year was achieved by Vedanta Limited, Adani Enterprises Limited, National Aluminium Limited, APL Apollo Tubes Limited, and Hindustan Copper Limited, respectively. However, the stock with the highest risk in each year varied. The highest risk was associated with Ratnamani Metals & Tubes Limited in 2019-2020, Adani Enterprises Limited in 2020-2021, National Aluminium Limited in 2021-2022, APL Apollo Tubes Limited in 2022-2023, and Welspun Corp Limited in 2023-2024. Since all stocks exhibited positive performance and a beta value less than one, indicating that they performed well in the market.

IV. SUGESSTIONS

1. Since Ratnamani Metals & Tubes Limited has shown the maximum risk, it might be suitable for investors with a higher risk appetite who are seeking higher potential returns.
2. If you are a long-term investor seeking capital appreciation and can withstand market volatility, Ratnamani Metals & Tubes Limited might be a good choice. On the other hand, for more conservative investors or those seeking steady returns with minimal risk, Hindustan Zinc Limited, with its lowest risk profile, might be more appropriate.
3. Since Adani Enterprises Limited has shown the highest return but also the maximum risk, investors should assess their own risk tolerance. High-risk investments are generally suitable for investors who can handle volatility and are looking for significant capital gains.
4. While Adani Enterprises Limited has shown strong performance, it is essential to diversify your investment portfolio to manage risk. Including other stocks from different sectors can help mitigate the risk associated with a single stock or sector. Consider balancing your portfolio with a mix of high-risk and low-risk stocks, such as APL Apollo Tubes Limited, which has shown minimum risk.
5. Given that National Aluminium Limited has shown the highest return but also the maximum risk, However, if you require stability and steady returns, you might consider balancing your investment with lower-risk options.
6. While National Aluminium Limited has performed well, diversifying your investments can help manage risk. Include a mix of stocks from different sectors and with varying risk profiles, such as APL Apollo Tubes Limited, which has shown the minimum risk.
7. APL Apollo Tubes Limited has shown the highest return but also the maximum risk. High-risk investments are generally suitable for investors with a high-risk appetite who are seeking significant capital appreciation.
8. While Welspun Corp Limited is identified as the best stock based on risk and return, diversification remains key to risk management. Include a mix of stocks from different sectors and industries. Consider also investing in stocks with lower risk profiles, such as Vedanta Limited, which has shown the minimum risk

V. CONCLUSION

Investing in the stock market is a great way to build wealth, but it requires consistent saving, time, and effort to gain experience and manage risk. Fundamental and technical analysis are crucial for making informed decisions, as is understanding company announcements, quarterly results, and market trends. It's important for investors to be aware of different sectors, assess their own risk tolerance, and regularly monitor the performance of their



investments. Staying informed about industry news, company announcements, and global economic factors is essential for adjusting investment strategies as market conditions change.

REFERENCES

- 1.Kumar, R., & Dhankar, R. S. (2011a). Non linearity and heteroskedasticity effect on stock returns volatility: A case of U.S. stock market. *Global Business Review*, 12(2) (To be published).
- 2.Yong, F.T.; Holmes, M.; Choi, D. Volatility transmission and asymmetric linkages between the stock and foreign exchange markets: A sectoral analysis. *Stud. Econ. Finance*. 2011, 28, 36-50.
- 3.Makkar, N. D., Sharma, D. D., & Moolchand, D. D (2019). A Study of Risk and Return Analysis of Selected IT Software Companies on the basis of Market Capitalization in India. *Universal Review*, VIII (IV), 1366-1373.
- 4.Pat Joshi, P.K. and Nandini, G. (2020). Stock Market Anomaly: Day of the Week Effect in Bombay Stock Exchange with the Application of GARCH Model, *International Journal of Innovative Technology and Exploring Engineerin*2244-49. Volume-9 Issue-5.
- 5.Cornell, B., & Damodaran, A. (2020). Valuing ESG: Doing good or sounding good? *Journal of Impact and ESG Investing*, 1, 76-93.

International Journal of Advanced Research in Education and Technology

ISSN: 2394-2975

Impact Factor: 7.394