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EVALUATION OF INVESTMENT RETURNS ON SELECTED MANUFACTURING COMPANIES IN INDIA - AN ANALYTICAL STUDY

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Abstract

The manufacturing sector is often referred to as the engine of economic growth and development in general because it not only modernises agriculture but also lessens the reliance of the populace on it by creating jobs in the secondary and tertiary sectors. The manufacturing sector transforms raw materials into completed goods. To produce the final goods, labour or machinery are used. The growth of manufacturing industries serves as a barometer for the country's economic standing and prominence. The end of unemployment and poverty in our nation depends heavily on industrial development. By creating enterprises in tribal and other underdeveloped areas, industries play a significant position in reducing regional inequities. The main aim of the study was to conduct a financial analysis of India's manufacturing industry and identify the factors limiting the sector's expansion. This was accomplished by accounting for a number of dependent variables, such as return on assets, and independent variables, such as dividends, earning per share, earning yield, and economic value added. Ten distinct organisations have used panel data throughout a five-year period, beginning in 2019 and ending in 2023. The study came to the conclusion that, at the 1% and 5% significance levels, Return on Assets significantly positively affects Earnings per Share, Earning Yield, Economic Value Added, and Dividend of particular manufacturing companies listed on the Bombay Stock Exchange. According to this study, the manufacturing sector should keep a careful check on its finances and constantly improve its processes and technologies in order to lower production costs, increase sales, and generate more profits—all of which would increase the GDP of the country—given its significant role in the development of the country.

Keywords: Earnings per Share, Dividend Yield, Return on Investment, OLS.

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INTRODUCTION

Economic and social progress are believed to be based on the manufacturing sector. Through their employment in the secondary and tertiary sectors, they diminish people's dependence on agricultural revenue and help modernise agriculture. India's joint sector and public sector companies are built on the core belief that industry reduces unemployment and poverty. They decrease regional inequalities by developing enterprises in impoverished and indigenous communities. Exporting manufactured items boosts trade and provides much needed foreign currency. Agriculture and industry are not mutually exclusive.

They are walking hand in hand. In India, for example, the productivity of agriculture has improved dramatically due to agro-industries. Only the greatest products will remain competitive in the manufacturing sector of today's globalised world, which demands increased efficiency and competitiveness. There is no justification for a firm to stay open if it is losing money or does not appear to be profitable anytime soon. For entrepreneurs, ensuring the profitability of their business has become a crucial responsibility. The organization's finances are among the most important considerations.

A business's financial needs can be impacted by a number of variables, including the size of the organisation, the sector it works in, the products and/or services it provides to clients, and others. Any company's finances are its cornerstone. No matter how much money is received, a company with poor financial management practices would eventually lose it all and see little to no return on investment. Consequently, in order to make sure that it is running in a good financial manner, a company needs to continuously examine its finances.

Strong financial results indicate optimal utilisation of both financial and non-financial resources (Matar & Eneizen, 2018). Poor financial performance, on the other hand, indicates inadequate resource management and an inability to make efficient use of resources. From a research standpoint, however, the financial performance of a corporation is a dependent variable.

This is because every internal and external factor that impacts a corporation has an impact on its financial success. Ownership, management, and size are examples of internal factors that affect a company's financial performance. However, other variables such as social, political, and economic ones can affect a company and ultimately its bottom line.

The market value of a company's shares, its dividend policy, the sort and quantity of investments it is qualified for, its degree of diversification, the amount of risk it should assume, and other factors are all impacted by its financial performance. This study paper will address the financial elements influencing the financial performance of Indian manufacturing businesses.

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REVIEW OF LITERATURE

- Maximizing profit is the driving force behind investment decisions made by investors. The amount of profit or return is undoubtedly a crucial metric for capital owners or investors looking to boost wealth. While **Fahmi (2013)** defines returns as profits received by firms, individuals, and institutions from the results of their investment programmes, **Trisnawati and Wahidahwati (2013)** define returns as earnings gained through share ownership over a specified period of time. Because investors and capital owners usually anticipate a suitable rate of return on each investment risk they take on, return and risk elements are inextricably linked in investment activities. Risk is the potential for output to fall short of expectations **(Sartono, 2008).**
- **Hartono (2008)** states that there are two types of analysis used to assess a stock's value: technical analysis and fundamental analysis. In essence, fundamental analysis, also known as firm analysis, makes use of past financial strength data from the organization.
- **Ang (1997)**, a fundamental study predicated on the idea that a stock's value is heavily impacted by the success of the company that issued it, indicating that a strong and positive prognosis for a publicly traded company will likely be reflected in the stock price, which will rise. The company's earnings provide informational value for the stock market, where fluctuations in the price and volume of trade will indicate how strong the earnings are.
- **Susetyo (2013)** studied the reaction of market players to the release of earnings per share in companies in the food and beverage subsector. Results from observations made between 2007 and 2010 indicate that information about earnings per share, or EPS, can be used as a guide to forecast high and low stock prices. The results of Susetyo's (2013) study corroborate those of a number of earlier research investigations, including those conducted by Hatta and **Dwiyanto (2012), Seetharaman and Raj (2011), Nurfadillah (2011). Setiyorini (2011), Tiswiyanti (2011), Arista & Astohar (2012), Rahmadi (2013)** Each published study, although with a different conclusion, concluded that stock prices were negatively impacted by earnings per share in a non-significant way.
- **Sidra et al. (2013)** identified the following factors: a firm's financial performance; ownership structure; risk management; capital structure; correlation; regression; and the application of the Haussmann and Chi-square tests. The performance of a company is positively correlated with aspects such as ownership structure, risk management, capital structure, and a few other economic factors.

Aim of the Study

- To anticipate the Profitability of manufacturing sector in India
- To determine financial performance of selected companies in manufacturing sector.
- To assess the relationship between selected financial variables in manufacturing sectors.

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Hypotheses

H_1: Return on Assets has significant positive effect on Earning per Shares of selected manufacturing companies in Bombay Stock Exchange

H_2: Return on Assets has significant positive effect on Earning Yield of selected manufacturing companies in Bombay Stock Exchange

H_3: Return on Assets has significant positive effect on Economic Value Added of selected manufacturing companies in Bombay Stock Exchange

H_4: Return on Assets has significant positive effect on Divided of selected manufacturing companies in Bombay Stock Exchange

Framework of Research

The present study is fully based on secondary data. For the purpose of data collection the official websites like Bombay Stock Exchange, Money control and Capital Line data base were used. To meet the objective of the study Panel data has been used for 10 different companies, with 5 years of data starting from 2019 - 2023. In order to assess the relationship between various sectors in manufacturing companies, Return on Assets is taken as dependent variable and Earning per Share, Earning Yield, Economic Value Added and Dividend are considered as Independent Variables. The techniques used to assess the data were Normal Distribution, Heteroskedasticity test, Auto correlation in Panel Data and Pooled OLS by using Gretl software. The Manufacturing companies were chosen on the basis of Market Capitalization and the top performance in Bombay Stock Exchange. The following is the set of manufacturing companies chosen for the research work.

Table 1: Selected Manufacturing Companies

S. No.	Company Name	Industry they belongs to
1	Hindalco Company	Aluminum and Copper Manufacturing
2	Sun Pharma Company	Pharmaceutical
3	ITC Company	Diversified Conglomerate
4	HPCL Company	Oil and Gas
5	Reliance India Limited	Multinational Conglomerate
6	Dr. Reddy's Laboratory	Pharmaceutical
7	BPCL Company	Industrial & Commercial Fuel Services
8	Bajaj Auto	Automobile
9	UPL	Agribusiness Chemicals
10	Tata Steel Company	Steel Manufacturing

Source: Bombay Stock Exchange

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Analysis and Inferences

1. Normal Distribution

Frequency distribution for residual, obs 1-50

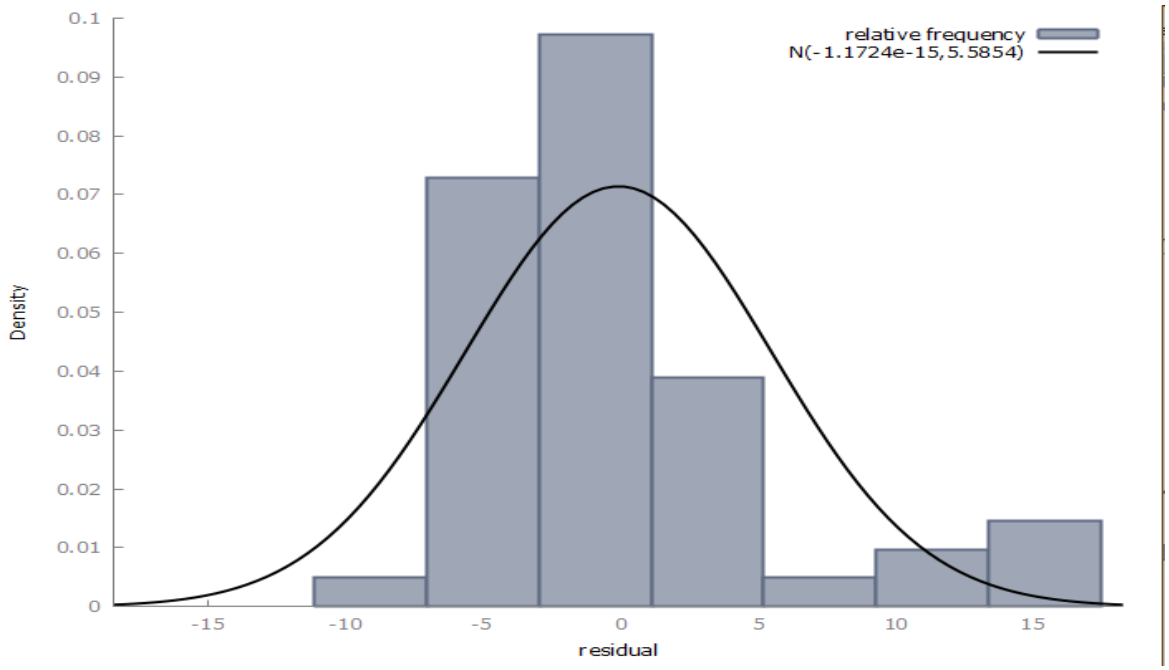
number of bins = 7, mean = -1.1724e-015, sd = 5.58535

interval	midpt	frequency	rel.	cum.	
< -7.0195	-9.0757	1	2.00%	2.00%	
-7.0195 - -2.9071	-4.9633	15	30.00%	32.00%	**********
-2.9071 - 1.2052	-0.85095	20	40.00%	72.00%	**********
1.2052 - 5.3176	3.2614	8	16.00%	88.00%	*****
5.3176 - 9.4300	7.3738	1	2.00%	90.00%	
9.4300 - 13.542	11.486	2	4.00%	94.00%	*
>= 13.542	15.599	3	6.00%	100.00%	**

Test for null hypothesis of normal distribution:

Chi-square(2) = 25.157 with p-value 0.00000

When the result of Chi Square is greater than the chi square value, then the null hypothesis can be rejected. If the chi square calculated value is less than the chi square value null hypothesis can be accepted. In above table chi square value is 25.127 whereas p- value is 0.00, Hence Null hypothesis can be accepted i.e data is normally distributed.



Graph-1 Normal Distribution

Source: Author Calculation

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A bell-shaped symmetrical curve that is focused about the mean has been paired with the data in Graph-1 above. When a vertical dividing line is drawn through the maximum/mean value, a symmetrical distribution occurs, resulting in two mirror copies on either side of the line where half of the population is less than the means.

2. Heteroskedasticity test

This test is used to determine whether the values of the independent variable affect the variance of the regression errors. In the provided data set, it is x2. To do a heteroskedasticity test, one must utilise the model's fitted value, its predictors, and a selection of the independent variables and predictors inside the model.

Distribution free Wald test for heteroskedasticity:

Chi-square(2) = 70.3097, with p-value = 5.40058e-016

Pooled error variance = 28.0765

unit	variance
1	48.1121 (T = 25)
2	8.04094 (T = 25)

When a p-value is more than 0.05, it is considered indicative of a statistically significant outcome. Accordingly, the alternative hypothesis should be accepted instead of the null hypothesis.

3. Auto correlation in Panel Data

Auxiliary regression including lagged residual:

	coefficient	std. error	t-ratio	p-value	
const	3.59389	0.475184	7.563	0.0837	*
EPS	0.0529766	0.00181895	29.12	0.0218	**
EarningYield	−0.166519	0.111999	−1.487	0.3769	
EVA	0.403182	0.113554	3.551	0.1748	
Divended	−0.000873163	0.000671843	−1.300	0.4175	
uhat(−1)	0.600588	0.159459	3.766	0.1652	

n = 48, R-squared = 0.5485

Wooldridge test for autocorrelation in panel data -

Null hypothesis: No first-order autocorrelation (rho = 0)

Test statistic: t (1) = 3.7664, with p-value = P (|t| > 3.76641) = 0.165214

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This test looks for a pattern or trend in the data and displays the relationship between the observations at various times in time. The correlation between ROA and EPS is positive 0.02 at 5% level of significance. The relationship between ROA and EVA is also showing positive trend but the relationship between ROA with Earning Yield and Dividends are showing negative relation. Overall, Null hypothesis can be accepted because p value is more then 0.05 (0.16) so there is no first order autocorrelation.

4. Pooled Ordinary Least Squares Regression (OLS) Model

Pooled OLS, using 50 observations, Included 2 cross-sectional units

Time-series length = 25, Dependent variable: ROA, Standard errors clustered by unit

	coefficient	std. error	t-ratio	p-value	
const	4.00363	0.664698	6.023	0.1047	
EPS	0.0481316	0.00539698	8.918	0.0711	*
EarningYield	-0.101985	0.00298262	-34.19	0.0186	**
EVA	0.361175	0.0165943	21.77	0.0292	**
Divended	-0.00194069	0.00190546	-1.018	0.4942	

Mean dependent var	7.689600	S.D. dependent var	6.428908
Sum squared resid	1403.827	S.E. of regression	5.585351
R-squared	0.306825	Adjusted R-squared	0.245209
F(4, 1)	1.01e+17	P-value(F)	2.35e-09
Log-likelihood	-154.3203	Akaike criterion	318.6406
Schwarz criterion	328.2007	Hannan-Quinn	322.2811
rho	0.598646	Durbin-Watson	0.794895

The above table represents that EPS is having positive coefficient and p - value with 0.0711. The intercept term in the pooled OLS regression is not significant However, the R-squared is equal to 30% and the adjusted R-squared is equal to 2.35 % of this model represents a better fit of the model. According to the Hypothesis framed, Return on Assets has significant positive effect on Earning per share of selected manufacturing companies in Bombay Stock Exchange at 1% level of significance hence we accept null hypothesis. The next Hypothesis results is Return on Assets has significant positive effect on Earning Yield of selected manufacturing companies in Bombay Stock Exchange at 5% level of significance hence we accept null hypothesis. Return on Assets has significant positive effect on Economic Value Added of selected manufacturing companies in Bombay Stock Exchange at 5% level of significance hence we accept null hypothesis. Return on Assets has significant positive effect on Divided of selected manufacturing companies in Bombay Stock Exchange at hence we accept null hypothesis as p value is more than 0.05.

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Findings & Suggestions

- According to the test of Heteroskedasticity, it was evident that the Return on Assets of the selected Manufacturing companies have a significant effect on the Earnings per share of manufacturing companies in BSE.
- Based on the Auto correlation in Panel Data it was evident that Return on Assets of manufacturing companies have a significant effect on the Earning yield in BSE.
- According to the Pooled Ordinary Least Squares Regression (OLS) Model it was found that Return on Assets has significant positive effect on Economic Value Added of selected manufacturing companies in Bombay Stock Exchange.
- In case of Dividend calculation, Return on Assets has significant positive effect on Divided of selected manufacturing companies in Bombay Stock Exchange.
- The results indicate that the parameters that have a major impact on the firms' return on assets are earning per Shares, Earning Yield, Economic Value Added and Dividend.
- Hypothesis is also proving that Return on Assets has significant positive effect on Earning Yield, Earning per Shares, Earning Yield, Economic Value Added and Dividend of selected manufacturing companies in Bombay Stock Exchange.
- This study suggests that, given the manufacturing sector's significant role in the nation's development, it should maintain a close eye on its finances and continuously improve its processes and technologies in order to lower production costs, boost sales, and generate more profits, all of which would increase the GDP of the nation.
- In order to further expand the industrial sector, we would also advise the government to continue making investments in it.
- In addition, the government may lower the tax brackets on the manufacturing industry in relation to income tax, GST refunds, import tariffs, and quotas. The "Make in India" initiative hasn't been very successful.

CONCLUSION

India is becoming more and more of a sought-after destination for industrial industries. Numerous studies have shown how quickly India's manufacturing sectors have advanced technologically and in terms of productivity after industrial liberalisation. India's manufacturing industry is thriving, and businesses wishing to enter the market will find the nation to be highly advantageous. India is a desirable location for manufacturers due to its big domestic market, cheaper production costs, and supportive government regulations. The nation is well-positioned to develop as a manufacturing powerhouse and become a significant player in the global market thanks to its expanding infrastructure.

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