

# A STUDY TO UNDERSTAND IMPACT OF FINANCIAL INDICATORS ON STOCK-PRICES OF ADANI GROUP ENTITIES

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## Abstract

Many researches were carried out, across the boundaries, to understand the impact of Return on Assets (hereinafter referred "ROA"), Return on Equity (hereinafter referred "ROE") and Earnings per Share (hereinafter referred "EPS") on stock price across varied longitudinal time-frame and sectors, however research study with respect to ADANI Group Companies seemed limited, and as this Group is the talk of the financial town since a while now; an attempt is made, through this research study, to determine the impact of above-stated financial metrics of Adani Group Companies for past period of 8 years from 2016 to 2023. The research study employs Multiple Linear Regression Methodology to examine and understand the influence of these metrics on share price. The Findings of the study confirmed that there was no significant influence of ROA, ROE and EPS on share price individually; whereas there was very nominal joint impact (5.6% - i.e. no significant impact) of these metrics on stock prices for Adani Group Companies taken jointly.

**Keywords:** Return on Assets, Stock Price, Earning Per Share, Performance Impact, Return on Equity, Financial Indicators.

## INTRODUCTION

In the ever-evolving landscape of Indian financial markets, understanding the intricate relationships between key performance indicators is imperative for investors, financial analysts, and stakeholders' alike. With the contemporary times, the Company's performance extends beyond mere profit making and its figurative comparisons; encompassing measuring the nuanced metrics such as: ROA, ROE, and EPS and its impact on Company's share price. Therefore, in this research an attempt is made to delve into and understand the intricate relationships among these key indicators and their individual as well as combined influence on stock prices, focusing on a selection of companies within the esteemed - Adani Group. Basic, information about the financial parameters is: **Return on Assets (ROA)** is a barometer to understand the company's efficiency in translating assets to potential earnings, giving knowledge about efficient or inefficient asset utilization in generating profits. Concurrently, **Return on Equity (ROE)** measures the Company's ability to yield returns for its shareholders from the equity investments made by them. Both ROA and ROE are fundamental financial metrics that signify the operational efficiency of the Company as well as Company's efficiency to generate shareholder value. Lastly, **Earnings per Share (EPS)** reflects the profitability quality attributed to each outstanding share, offering a per-share perspective on a company's financial performance. EPS provides glimpse into the any company's capacity to generate earnings for shareholders.

Understanding the dynamics of these financial metrics is indispensable in comprehending the overall financial health of a company. And therefore, this study places a particular emphasis on the respective and comparative analysis of impact of ROE, ROA, and EPS, on stock prices for the selected Adani Group companies. The **isolated examination** of these financial parameters is conducted to understand the *individual impact of these metrics on stock price* and **the collective / comparative examination** facilitates a *nuanced understanding of how these metrics interact conjointly*, potentially providing more profound and combined insights. Through these detailed analysis, it is attempted to unravel the intricate chemistry between the financial indicators and to discover the financial relationships between them that ultimately guide for investment decisions. As one of India's prominent conglomerates, the Adani Group's diverse business portfolio provides a unique backdrop to explore how fundamental financial metrics influence the share value.

## LITERATURE REVIEW

There is a plethora of research undertaken in this area of research – where Companies across varied longitudinal frames and sector are scrutinized to understand the impact of financial metrics on respective stock price. There are many varieties available where along with ROA, ROE, EPS – Other financial factors too are evaluated for determining their individual and collective effect on stock price. The research study is not limited to Indian Companies but researchers across the globe have explored many companies listed on various international stock exchanges. Few to discuss are: <sup>1</sup>Meidy, R., & Julica, L. A. (2023), empirically examined the impact of return on assets, return on equity and earnings per share on stock-prices of 38 listed in Indonesia Stock Exchange in the business of Banking covering period of 2018-2024; the data analysis was done using descriptive & Multiple Linear Regression, and the results revealed that ROA does not have impact on share price, whereas EPS & ROE have impact on share price. <sup>2</sup>A Claudia, M Indrati; (2021) researched to study the impact of financial metrics ROA, ROE, EPS and NPM on share prices of selected sample 35 Banking Companies listed on the ISE (Indonesia Stock Exchange) for the period 2017-2019, employing multiple linear regression analysis tests and techniques - Descriptive Statistics, Multicollinearity Test, determination of coefficient test, Normality Test, Heteroscedasticity test, f-test, & t -test. The research results indicated that ROA & NPM both do not affect stock prices, whereas ROE was negative to stock prices, and EPS impact on stock prices was positive. <sup>3</sup>Asikin, B., Saudi, M. H., & Roespinoedji, R. (2020), undertook research study to determine the impact of ROA, ROE and EPS on share prices of Printing, Advertising, and Media listed Companies on the Indonesia stock exchange for the period 2015-2019, and have used coefficient of determination, Normality Test, Heteroscedasticity Test, Multicollinearity, t-test, f-test, Multiple Linear Regression & descriptive method for analysis. The findings of the research revealed that ROA & ROE had an impact on stock price, whereas EPS had no impact on share price of the companies, and ROE, ROA, & EPS simultaneously impacted stock prices. <sup>4</sup>Kamruzzaman (2019) researched for ACME for a period from 2000-2017, to determine relationship between financial factors such as: current asset, cash-ratio, net profit margin, total asset turnover, quick-ratio, operating profit margin, current asset-turnover, fixed asset turnover, return on equity, debt-equity, earning per share etc. on ROA. Multiple linear regression model was used by the researcher/s to measure the impact/influence of financial factors and results indicated that majority of these financial factors had positive-relation on ROA, however, there were some financial factors which revealed to have negative relation on ROA. <sup>5</sup>Rosikah, D K Prananingrum, D A Muthalib, Muh. Irfandy A, M Rohansyah (2018), studied impact of ROE, ROA, & EPS on share prices for 32 Corporates sampled through purposive sampling method from a population of 114 - Indonesian listed Stock Exchange for period from 2006 to 2010. And primary data was processed through multiple regression, coefficient, ANOVA to measure effect with Tobin's Q. The findings were ROA has positive & significant, EPS had negative and not significant, ROE had positive but not significant, & all three simultaneously had significant effect on firm value. <sup>6</sup>F Sukmawati, I Garsela (2016) determined Effect of ROA and ROE on share price on PT - Indocement Tunggul Prakarsa-Tbk for period of 2008-2014. They used descriptive-quantitative analysis using classical assumption test and statistical tests used were multiple correlation, multiple-linear regression analysis, t-test & f-test; and the results directed positive relation of ROA on stock price, whereas negative relation of ROE on stock price, and simultaneous effect was positive relationship between ROA & ROE on stock price. <sup>7</sup>Manoppo, C. P. (2015). researched to examine impact of ROE, ROA, ROS and EPS on stock prices of group insurance at BEI - 11 Companies for period from 2010-2014, using coefficient correlation, determination, ANOVA, Normality, Heteroscedasticity, Multicollinearity, partiality and, Multiple Linear Regression for analysis. The results showed that ROS, EPS, ROA & ROE revealed significant influence on stock price, individually and simultaneously. <sup>8</sup>Hongkong, H. (2017) studied data of 10 sample companies covering period from 2006 to 2009 making total observed data set of 40, and t-test was applied to analyze to determine EPS & ROE effect on stock price and the results confirmed partially EPS and ROE affected stock prices. <sup>9</sup>Habibniya, H., & Dsouza, S. (2018), empirically tested performance measures, such as: Economic Value Added, EPS, ROA, ROE, for three major Indian banks, from 2012 to 2017, using Multiple-Linear Regression Method; and the research study results confirmed that there was no significant relationship between EVA, very nominal variance of ROE (6%) and negligible for ROE (1.5%) while EPS is a major influential factor for share price.

## RESEARCH GAP AND RESEARCH OBJECTIVES (PR PENDING)

Based on the existing literature review undertaken, multiple researches have undertaken to understand the financial relationship between these discussed financial indicators and its influence on stock value, *however limited to no research was found for ADANI Companies* (the group being the talk of the finance town in the recent times), and additionally in this study the *Longitudinal Analysis of 8 years Comparison* is also undertaken. Therefore, the present study tries to determine the *individual and collective impact* of ROA, ROE, EPS, on stock prices of selected sample ADANI group companies for a period of 8 years from 2016-2023. And thus, following are the **research objectives** set forth:

1. To Investigate about the impact of Return on Assets on Stock-Price
2. To Investigate about the impact of Return on Equity on Stock-Price
3. To Investigate about the impact of Earning Per Share on Stock-Price
4. To Investigate about the collective impact of ROA, ROE, and EPS on Stock-Price

## RESEARCH HYPOTHESIS

Following are the hypothesis set forth for the research study;

**Hypothesis No. 1:** H<sub>0</sub> – Return on Assets does not have significant impact on stock-price

**Hypothesis No. 2:** H<sub>0</sub> – Return on Equity does not have significant impact on stock-price

**Hypothesis No. 3:** H<sub>0</sub> – Earning per Share does not have significant impact on stock-price

**Hypothesis No. 4:** H<sub>0</sub> – ROA, ROE, & EPS jointly do not have any significant impact on stock-price

## SOURCES, METHODOLOGY, SAMPLE & PERIOD OF STUDY:

The **secondary data** collected and used in this research paper is the factual information available online and collected from respective board's reports, related journals & newspapers, published books, articles, write-ups, various websites. Sources specified in the references section. The research methodology used for the analysis is **Multiple Linear Regression**. The period of study is **8 (Eight) financial years** to have clear trend understanding of increase in the metrics as well as its influence, if any, on the stock prices. The research study is for selected sample Companies from **ADANI GROUP** tabulated as follows in **Table 1**:

Sr. No.	Adani Group Companies	Market Capitalization (In Crores)
1.	Adani Enterprises Limited	3,66,533.16
2.	Adani Power Limited	2,19,652.67
3.	Adani Ports & SEZ Limited	2,74,661.67
4.	Adani Green Energy Limited	2,97,908.99
5.	Ambuja Cement Limited	1,14,412.88

**Table 1:** Sector Category and Selected Sample Company

## DATA ANALYSIS

### Multiple Regression Method

Multiple Linear Regression is statistical analysis technique to understand the variance in dependent variable/(s) by regressing against it, the independent variable/(s). Analyzing the impact on individual financial metrics on Share Price through Multiple Regression Model first and then joint impact.

### 1. ROA Individual Impact on Stock Prices

Coefficients <sup>a</sup>											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		Beta	Std. Error	Beta			Zero - order	Partial	Part	Tolerance	VIF
1	(Constant)	415.787	116.669		3.564	.001					
	ROA	.641137	2209.686	.047	.290	.773	.047	.047	.047	1.000	1.000

The above statistical test confirms that p-value for the independent variable is greater-than the 5% cut-off significance level i.e. 0.773 > 0.05; and this indicates that Null hypothesis is Accepted – which means there is no significant impact of ROA on share price for all Adani Group Companies.

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.047 <sup>a</sup>	.002	-.024	651.27194	.904
a. Predictors: (Constant), ROA					
b. Dependent Variable: SP					

From the table information, it is known that R is 0.047 which indicates that the Correlation between ROA and Stock Price is not significant, also, the Coefficient of determination ( $R^2$ ) value is 0.002 and it implies that the effect of ROA on Stock Price, for all Adani Group Companies, is only 0.20% indicating that the impact is very nominal and remaining 99.8% impact is by other variables not examined and covered in this research study.

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	35708.017	1	35708.017	.084	.773 <sup>b</sup>
	Residual	16117895.447	38	424155.143		
	Total	16153603.463	39			
a. Dependent Variable: SP						
b. Predictors: (Constant), ROA						

ANOVA F-test reveals the F-Count Value to be 0.084 with a significance value of 0.773; as we know if the Significant Value < Cut-Off Value, then, it means the confidence of this prediction is over 95% and thus prediction error probability is below 5%. From the above analysis, it can be understood that the Significance Value is greater than Cut-Off Value i.e.  $0.773 > 0.05$ , this means there is no significant impact of ROA on Stock Price for all Adani Group Companies. Thus,  $H_0$  null hypothesis is accepted.

## 2. ROE Individual Impact on Stock Prices

Coefficients <sup>a</sup>											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		Beta	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	420.954	103.943		4.050	.000					
	ROE	.278907	440.325	.102	.633	.530	.102	.102	.102	1.000	1.000

The above statistical test confirmed that ROE has no significant impact on stock-price, since the p-value for independent variable is greater than the 5% cut-off significance level i.e.  $0.530 > 0.05$ ; and this indicates that Null hypothesis is Accepted confirming that there is no significant impact of ROE on stock-price for all Adani Group Companies.

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.102a	.010	-.016	648.57805	.932
a. Predictors: (Constant), ROE					
b. Dependent Variable: SP					

It is inferred for ROE that the R value is 0.102, which indicates that the Correlation between ROE & share price is not significant, further, the  $R^2$  value is 0.010 and it may imply that, for all Adani Group Companies, the effect of ROE on Stock Price is only 1% which indicates that the impact is very nominal while the remaining 99% impact is by other variables not covered and examined in this research study.

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	168770.740	1	168770.740	.401	.530 <sup>b</sup>
	Residual	15984832.723	38	420653.493		
	Total	16153603.463	39			
a. Dependent Variable: SP						
b. Predictors: (Constant), ROE						

ANOVA F-test reveals the F-Count Value is 0.401 having significance value of 0.530, from the above, it can be inferred that the Significance Value ( $0.530 > 0.05$ ), this means ROE has no significant impact on Stock Price for all Adani Group Companies. Thus,  $H_0$  null hypothesis is accepted.

### 3. EPS Individual Impact on Stock Prices

Coefficients <sup>a</sup>											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		Beta	Std. Error	Beta			Zero - order	Partial	Part	Tolerance	VIF
1	(Constant)	393.227	111.388		3.530	.001					
	EPS	10.738	12.434	.139	.864	.393	.139	.139	.139	1.000	1.000

The statistical test confirms that there is no significant impact of EPS on stock-price since the p-value for independent variable is greater than the 5% significance level i.e. 0.393 > 0.05; which indicates and confirms that Null hypothesis is Accepted, and that – EPS – a financial metric has no significant impact on stock-price, for all Adani Group Companies.

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.139a	.019	-.007	645.68732	.918

a. Predictors: (Constant), EPS  
b. Dependent Variable: SP

The statistical inference for EPS metric is that the R value is 0.139 which indicates Correlation between EPS and Stock-Price is not significant, further, the R<sup>2</sup> value is 0.019 which implies that for all Adani Group Companies, the impact of EPS on Stock Price is only 1.9% while the remaining 98.1% impact is by other variables not examined and covered in this research study.

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	310943.111	1	310943.111	.746	.393b
	Residual	15842660.352	38	416912.115		
	Total	16153603.463	39			

a. Dependent Variable: SP  
b. Predictors: (Constant), EPS

ANOVA F-test reveals that the F-Count Value is 0.746 and significance value is 0.393. Since the Significance Value (0.393) > Cut-Off Value (0.05), it can be inferred that there is no significant impact of EPS on Stock Price for all Adani Group Companies. Thus, H<sub>0</sub> null hypothesis is accepted.

### 4. Joint impact of ROE, ROA and EPS on Stock-Prices

Coefficients <sup>a</sup>											
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
		Beta	Std. Error	Beta			Zero - order	Partial	Part	Tolerance	VIF
1	(Constant)	461.882	126.732		3.645	.001					
	ROA	-.6454868	5507.838	-.473	-1.172	.249	.047	-.192	-.192	.161	6.219
	ROE	709.152	783.647	.260	.905	.372	.102	.149	.149	.318	3.144
	EPS	28.666	22.885	.370	1.253	.218	.139	.204	.204	.300	3.333

a. Predictors: (Constant), ROA, ROE, EPS  
b. Dependent Variable: SP

Understanding the joint impact of all the three financial metrics – ROE ROA, & EPS on stock-price, it was observed that Significance-Values of all financial indicators are greater than the 5% significance level i.e. (ROA - 0.249 > 0.05, ROE - 0.372 > 0.05, & EPS - 0.218 > 0.05) which confirms that ROE, ROA, and EPS, have no significant joint impact on stock-prices with respect to all ADANI group companies. Therefore, the Null hypothesis is accepted.

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.236a	.056	-.023	650.93786	.986

a. Predictors: (Constant), EPS, ROE, ROA  
b. Dependent Variable: SP

The R value is 0.236 which indicates the Correlation between all financial metrics and Stock Price is not significant, further, the R<sup>2</sup> value is 0.056 which implies that the joint impact of all three financial metrics – ROE, ROA & EPS on Stock Price is 5.6% while 94.4% of the remaining is influenced by other variables which are not examined and covered in this research study.

**ANOVA<sup>a</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	899680.104	3	299893.368	.708	.554b
	Residual	15253923.359	36	423720.093		
	Total	16153603.463	39			

a. Dependent Variable: SP  
b. Predictors: (Constant), EPS

**ANOVA F-test** reveals that the F-Count Value is 0.708 and 0.554 is the significance value. Since the Significance Value (0.554) > Cut-Off Value (0.05), it can be inferred that there is no significant joint impact of ROE ROA, & EPS on Stock-Prices of Adani Group Companies for the researched period of time.

**DISCUSSIONS AND FINAL CONCLUSIONS**

Understanding the interplay between ROA, ROE, EPS, and stock prices is essential for investors, analysts, and policy-makers alike, since it enables them to make informed decisions. The investors keenly consider these indicators for choosing investments, as they are vital checkpoints of any Corporate's financial-health & profitability; and therefore, through this research, an attempt is made to understand the *individual as well as joint impact* of these financial metrics on stock prices of Adani Group Company.

This research study is an extended contribution towards the existing literature knowledge, providing details of relationship between ROE, ROA, and EPS on stock-prices which is multi-layered and dynamic. And the research results reveal that there is as such - *no significant impact of ROA on Stock-Prices for Adani Group Companies* – reasons could be multiple and varied such as: over-leverage on debts, uncertain macro-economic conditions, assets not efficiently employed to generate higher revenues etc. Secondly, the results confirmed that there is - *no significant impact of ROE on Stock-Prices for Adani Group Companies* – which means Shareholders' funds is not efficiently used for generating higher earnings and returns and again reasons could be one time huge or extraordinary gains/losses can distort the ROE performance, variations in capital structure, dividend policy etc. could be factors fading the correlation between ROE. Further, the test confirmed that there is - *no significant impact of EPS on Stock-Prices for Adani Group Companies*; some factors could be revenue recognition timings affecting earnings, long-term projects and its direct influence, reported earnings unevenly extending across quarters or years etc. Lastly, when the joint impact of ROA, ROE, and EPS on share price was analyzed it was confirmed that *there is no 'Significant' joint impact of ROA, ROE and EPS on Share Price for Adani Group Companies*. From the results it was inferred that there was only 5.6% of joint impact of these financial metrics on share prices of Adani Group Companies.

**SCOPE OF FURTHER RESEARCH**

The research study suggests and encourages further comprehensive research in varied tangents such as: Individual Company-wise influences, Integrating other Solvency, Liquidity, Profitability to determine their impact on Share Prices, Longer Time-frame Analysis, enhanced sector-wise Analysis. Since, it can be always

advantageous for existing and potential investors, to understand the impact of varied factors on share prices for long-term sustainability, and detecting early warning signs.

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