EDUZONE: International Peer Reviewed/Refereed Multidisciplinary Journal (EIPRMJ), ISSN: 2319-5045
Volume 12, Issue 2, July-December, 2023, Available online at: www.eduzonejournal.com

Analysing the Impact of Macro-Economic Indicators on Stock Valuations: An Empirical Study of Selected Companies

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ABSTRACT

This study delves into the relationship between key economic factors and their impact on the share price behavior of selected companies across different market capitalizations. Focusing on the period from 2014 to 2021, it examines the influence of major economic indicators such as Gross Domestic Product (GDP), Inflation Rate (IR), Foreign Institutional Investment (FII), Exchange Rate (ER), Index of Industrial Production (IIP), and Crude Oil Price (COP) on the Market Price Per Share (MPS) of these companies. The research employs a mixed-method approach, integrating both correlation analysis and multiple regression, to assess the varying effects of these economic factors on large, medium, and small cap companies. The findings reveal a nuanced landscape: while certain economic factors significantly influence the MPS of some companies, their impact varies across different companies and market capitalizations. Notably, the study demonstrates significant influence of economic factors on large cap companies like Infosys and on small cap companies like Hinduja Global Solutions, whereas medium cap companies exhibit a different pattern. The study's innovative use of panel data regression with a fixed effect model approach further solidifies its findings. This approach suggests a more pronounced and consistent impact of economic factors across companies of all market capitalizations, underscoring the robustness and suitability of this method for such analyses. Overall, the paper contributes valuable insights into the complex interplay between macroeconomic variables and stock market behavior, offering practical implications for investors, corporate strategists, and policymakers. It underscores the importance of a nuanced understanding of economic indicators in stock market analysis and highlights the need for diversified approaches in financial market research.

Keywords: Stock Market Performance, Economic Indicators, Investment Analysis, Corporate Valuation, Financial Market Trends

INTRODUCTION

The financial market is a complex and dynamic system, influenced by a myriad of factors. Among these, economic indicators play a pivotal role in shaping investor sentiment and driving stock market trends. This study delves into the intricate relationship between selected economic factors and the share price behavior of various companies. It seeks to unravel the extent to which these economic indicators impact the valuation of companies as reflected in their stock prices.

Primarily, the study focuses on six key economic factors that are deemed to have a profound influence on share prices. These are Gross Domestic Product (GDP) growth, Inflation Rate (IR), Foreign Institutional Investment (FII), Exchange Rate (ER), Index of Industrial Production (IIP), and Crude Oil Price (COP). The rationale behind selecting these particular factors stems from their significant and measurable impact on the stock market, as perceived by the study's sample respondents, predominantly retail investors.

Gross Domestic Product (GDP), a broad measure of a nation's overall economic activity, is often seen as a barometer of economic health and investor confidence. Inflation Rate (IR), on the other hand, can affect corporate profitability and investment returns, thereby influencing stock prices. Foreign Institutional Investment (FII) plays a critical role in providing the necessary capital flows and liquidity in the market, impacting stock valuations. Exchange Rate (ER) movements can significantly affect the earnings of companies, especially those involved in international trade, thereby affecting their stock prices. The Index of Industrial Production (IIP) serves as an indicator of the manufacturing sector's health, influencing investor sentiment towards related stocks. Lastly, Crude Oil Price (COP) is a crucial factor, given its impact on global economic conditions and corporate earnings, thereby influencing stock market trends.

Through a comprehensive analysis of these factors, the study aims to provide a deeper understanding of how macroeconomic variables affect stock prices, aiding investors and other stakeholders in making informed decisions. The

exploration of these relationships is not only critical for investors but also for policymakers and businesses in strategizing and navigating the complex dynamics of the stock market.

REVIEW OF LITERATURE

Soni (2021) measured the impact of investor's behavioral bias on stock price movements in the Gujarat region. The study used regression model for impact analysis and revealed that, out of eight investor's biases only three i.e., anchoring, disposition & overconfidence bias have significant positive effect on share price behavior, while rest of five have insignificant impact. The study also revealed that long term growth of the company is the most influencing factor of investor's investment decision in Gujarat.

The study of ***Singh and Khushi (2021)*** witnessed the earning of extra returns due to publicly available information which is against the theory of efficient hypothesis. The finding of the study strongly supported that through using machine learning tools one percent of share price prediction is possible up to 10 days from any day of post information period with 83% accuracy for buy sign and 100% for sell sign. The study also observed insignificance across industrial variations.

Ganesan and Kannan (2021) tested the validity and applicability of **A**utoregressive **I**ntegrated **M**oving **A**verage (**ARIMA**)model for predication of short-term prices in the context of Indian equity market by taking six months trading data of **I**ndustrial **C**redit and **I**nvestment **C**orporation of **I**ndia (**ICICI**) bank and Reliance Industries in the year 2014. The study tested the data stationery through complete **A**uto-**C**orrelation **F**unction (**ACF**) and **P**artial **A**uto **C**orrelation **F**unction (**PACF**) are used. Finally, the statistical evidence supported that, ARIMA model is the most suitable and error free technique for short term prediction of share prices.

Junyao et al (2021) analyzed and compared the valuation of two companies under two valuation methods such as **C**apital **A**sset **P**ricing **M**odel (**CAPM**) and **D**ividend **D**iscount **M**odel (**DDM**). The study revealed that Ansteel company is undervalued, and Yangtze power company is overvalued and suggested the investor to buy former company and sell latter company from their portfolios.

Bora and Basistha (2021) investigated the effect of COVID-19 on the stock prices volatility in India and found that, the Indian stock market witnessed high volatility during the pandemic period. The study also observed higher returns of stock market during pre-covid period than post covid period in India.

Shabrisha and Madegowda (2020) made cross country stock market analysis regarding effect on information asymmetric effect on the returns volatility through using **E**xponential **G**eneralized **A**utoregressive **C**onditional **H**eteroscedastic (**EGARCH**) and **G**losten, **J**agannathan and **R**unkle (**GJR**), **G**eneralized **A**utoregressive **C**onditional **H**eteroscedastic (**GARCH**) models for the period of 2007-2017. The selected countries are India, Brazil, Russia, China, and South Africa stock markets. The GJR GRACH results show high volatility in returns due to negative shocks whereas EGARCH model observed high returns volatility due to positive shocks. Both models observed the presence of anomalies in stock markets.

Malvika (2020)evaluated the post index inclusion/exclusion behavior of stock prices of NSE **NIFTY** (**N**SE F**ifty**) 50 index companies for the period of 2000-2016. The study observed that, index included companies reported up trend in share price up to 60 days since inclusion and then take reverse, on contrary, index excluded companies reported down in share price up to 10 days since exclusion, thereafter, these companies take up trend and generated returns around 5-6 percent from 60-240 days. Thus, the study recommends for consideration index inclusion and exclusions as significant stock market affecting events.

Surbhi et al. (2020) studied the relationship between demographic factors, psychological factors, social factors, market factors and investors' behavior. The study applied regression analysis and revealed strong correlation among independent factors and investment decision of retail investors. The study suggested considering these factors while taking investment decisions.

Sathish (2020) has tried on emerging behavior of domestic and foreign institutional investors in Indian equity market during recent period. The study opined that institutional investor emerged as the strongest players in influencing stock markets for the short term and long term. The study adopted feedback trading and causality tools such as granger and vector aggressive models and found that, foreign institutional investors are positive feedback traders, in contrast, **D**omestic **I**nstitutional **I**nvestors (**DII**) are negative feedback traders. However, the study observed absence of feedback trading in the long run.

Bardia (2019) examined the stock price trend of top 20 public and private sector banks listed in Indian stock markets

during 2008-2018. the study also predicted the share prices through ARIMA technique and revealed strong potentiality of this technique in short term price prediction. The study also found a significant positive association between Dividend yield and EPS and stock prices thus shareholders wealth.

Sawagvudharee and Ousanee (2019) examined the impact of internal and external factors on the share price behavior of the selected commercial banks in Nepal during 2007-2016. The study traced out that EPS, **D**ividend **P**er **S**hare (**DPS**) and P/E ratios have shown significant positive association whereas inflation has negative effect with the market price of the shares.

Aditya Sharma (2019)emphasized on the construction of sentiment-based stock index in India through investigating the affecting factors of investor's behavior and impact of investor's sentiment on stock prices based on the data of 1998-2015. The index comprises of market sentiment variables such as Market to Book ratio, P/E Ratio, closing prices, market turnover, market returns and number of **IPO**s (**I**nitial **P**ublic **O**ffer) in the market. The study applied time series and **O**rdinary **L**east **S**quares (**OLS**) estimation models along with CAPM models. The study revealed presence of momentum, value, and size anomaly in Indian stock markets. The study also revealed a significant link between momentum and value effect and market inefficiency but insignificant with size effect.

Patel (2018)examined the relevance of value of accounting in influencing the market value of shares through Ohlson model. The independent accounting values are **B**ook **V**alue **P**er **S**hare (**BVPS**) and **E**arning **P**er **S**hare **(EPS)** and dependent value is Market price of the share. The study also examined the impact of earnings model and book value model sector wise and consolidated. The study observed gradual increase in high explanatory and incremental power of both BVPS and EPS on **M**arket **P**rice per **S**hare (**MPS**) during period of study without individual variation. The study also revealed that, except financial services, the rest of all sectors have good value relevance between independent and dependent variables.

Subashini (2018) examined the stock price volatility of 25 companies selected from top five sectors (Auto, banking, pharmacy, **IT** (**I**nformation **T**echnology), and **FMCG** (**F**ast-**M**oving **C**onsumer **G**oods)) of NSE for the period of 2006-2016. The study observed that IT sector prices are most volatile than other sectors in the market. The study adopted OLS model for identification of risk and return relationship and ARIMA model for forecasting future prices. The study found a good fit of ARIMA for share price prediction for short period.

Mayo and Mache (2018) examined the effectiveness and validity of old and new valuation methods in estimating the cost of equity of four matured retail firms listed in Johannesburg stock market in South Africa. The old method is CAPM, and new methods are Dividend discount, earning, residual income &**A**bnormal **E**arning **G**rowth (**AEG**) models. The study observed similarity in results between CAPM and dividend discount and AEG models while higher valuation of the companies under earning model and residual income related to CAPM model. The study also found that, firm's earnings stability and financial position are strong influencing factors of estimates.

Ankita (2017)found evidence of relationship among economic factors and stock index behavior at global level. The economic factors comprise of GDP, **I**ndex of **I**ndustrial **P**roduction **(IIP)**, CPI, foreign reserves, global crude oil prices and global indices comprising of Indian SENSEX and NIFTY, London Stock Exchange, and **N**ational **A**ssociation of **S**ecurities **D**ealers **A**utomated **Q**uotations **(NASDQ)**. The study found a strong positive relationship among the selected variables and stock market indices in all countries indicated promotion in these variables lead to healthy development of capital markets globally.

Ashik and Kannan (2017) opined that ARIMA is the best suitable technique for right identification of time series data and prediction of points. The best estimation approach for ARIMA model is non-linear least square and maximum likelihood estimation.

Wahyudi (2017) applied the ARIMA model in prediction stock prices in the context of Indonesia and the study revealed that, ARIMA model has adequate potentiality in right predication of short-term share price in Indonesia stock market with best model of 0,1,1. The study also observed a good match between actual and estimated closing prices during the study period.

THE OBJECTIVE OF A STUDY

- To analyse the influence of selected economic factors on the share price behavior of select companies

HYPOTHESIS OF THE PAPER

Null Hypothesis (H01): The selected economic factors (Gross Domestic Product growth rate, Inflation Rate, Foreign

Institutional Investment, Exchange Rate, Index of Industrial Production, and Crude Oil Price) do not have a significant influence on the share price behavior of the selected companies.

Alternative Hypothesis: The selected economic factors have a significant influence on the share price behavior of the selected companies.

Data Source
These annual reports provide comprehensive financial and operational information, including details on economic factors like GDP growth rate, Inflation Rate, Foreign Institutional Investment, Exchange Rate, Index of Industrial Production, and Crude Oil Price, which are crucial for conducting the analysis.

Tools And Techniques Used
Panel Data Analysis: This is used to assess the impact of selected economic variables on large, medium, and small market capitalization firms during the study period.

T-Test and F-Test: These statistical tests are applied to examine the relationship between the selected economic factors (as independent variables) and stock price behavior in terms of Market Price Per Share (as the dependent variable). The tests help in determining the impact of the economic factors on stock price behavior.

RELATIONSHIP BETWEEN THE ECONOMIC FACTORS AND SHARE PRICE BEHAVIOUR

The relationship between the select economic factors (independent variables) and stock price behaviour in terms of Market Price Per Share (independent variable) during the study period, i.e., 2013–14 to 2020-'21 is examined, and the impact of the economic factors on stock price behaviour is tested with the help of the ***t-test*** and ***F-test***. The results of the tests of relationships are presented company-wise and capitalization-wise.

Company-Wise Analysis:
The below table 1 exhibits the relationship results between the select independent variables (GDP, Growth Rate, Inflation Rate, FII, Exchange Rate, IIP and Crude Oil Price of economic factors) and the dependent variable (Market Price Per Share) of **HDFC Bank** belonging to the Banking Sector of a Large Cap Company of NSE India.

The table reveals that the relationship of Market Price Per Share with Inflation Rate, Foreign Institutional Investment and Gross Domestic Product Growth Rate (GDPGR) is negative, whereas economic factors such as Crude Oil Price, Exchange Rate and Index of Industrial Production have shown positive relationships with Market Price Per Share.

Table 1: Correlation Matrix of the Select Economic Factors and MPS of HDFC Bank

(Large Cap Company)

HDF Bank	MPS	GDPGR	IR	FII	ER	IIP	CO
MPS	1	-0.046	-0.557	-0.051	0.206	0.105	0.333
GDPGR	-0.046	1	--	--	--	---	---
IR	-0.557	---	1	----	---	-----	---
FII	-0.051	---	-----	1	----	----	----
ER	0.206	----	---	---	1	--	---
IIP	0.105	---	---	--	--	1	---
COP	0.333	----	---	---	--	--	1

Source: Data extracted from annual reports.
** Correlation is significant at the 0.05 level (2-tailed).*
*** Correlation is significant at the 0.01 level (2-tailed).*

Specifically, the IIR has a negative relationship (-0.557) with MPS, which may indicate that the low inflation rate may be associated with a high MPS.

The overall observation of the above correlation matrix reveals that, barring GDPGR and FII, the other economic factors have a positive relationship with MPS. Thus, it can be inferred that economic factors are associated with MPS. Hence, investors may consider these factors while making investment decisions.

After understanding the results of association between economic factor and Market Price Per Share, an attempt is made here to examine the significance of the relationship and the results of multiple regression analysis are presented in the following table 2.

Table 2: Multiple Regression Analysis of Economic Factors Affecting MPS of HDFC Bank

(Large Cap Company)

HDFC Bank	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	22954.022	8935.95	-	2.569	0.236
GDPGR	-372.091	172.331	-3.386	-2.159	0.276
IR	-545.455	151.44	-2.226	-3.602	0.172
FII	-0.001	0.002	-0.249	-0.509	0.7
ER	-231.034	91.306	-2.259	-2.53	0.24
IIP	-660.671	293.25	-2.129	-2.253	0.266
COP	32.848	16.743	0.704	1.962	0.3
R^2	0.953				
F-test	3.385				
Significance	0.394				

Source: Annual reports.

The significance value of t-value of the select economic factors are higher than the precision point of 0.05 level of significance, implying that all the factors have insignificant association with share price behaviour.

This may lead to the conclusion that, the select economic factors have insignificant impact on the share price behaviour, though they are associated.

Overall, the results of F-test may also reveal the similar association between the select economic factors and share price behaviour and their impact.

Hence, the null hypothesis ***(H_{01})*** *of HDFC Bank is accepted, i.e., there is no significant relationship between select economic factors and share price behaviour of HDFC Bank.*

The below table demonstrates the correlation matrix resulting from a multiple regression analysis with **Infosys** Market Price of Share as the dependent variable, and the select economic factors as independent variables during the study period as stated in the preceding paragraphs. The select company Infosys belongs to IT sector and Large Market Cap Company in NSE.

Table 3: Correlation Matrix of the Select Economic Factors and MPS of Infosys

(Large Cap Company)

Infosys	MPS	GDPGR	IR	FII	ER	IIP	CO
MPS	1	0.088	**0.933****	0.342	**-0.736***	-0.188	-0.225
GDPGR	0.088	1	--	--	--	--	--
IR	**0.933****	--	1	--	--	--	--

Infosys	MPS	GDPGR	IR	FII	ER	IIP	CO
FII	0.342	--	--	1	--	--	--
ER	**-0.736***	--	--	--	1	--	--
IIP	-0.188	--	--	--	--	1	--
COP	-0.225	--	--	--	--	--	1

Source: Annual reports.

** Correlation is significant at the 0.05 level (2-tailed).*

*** Correlation is significant at the 0.01 level (2-tailed).*

The asterisks in the table indicate the level of statistical significance of the correlations. Two asterisks (**), as seen between MPS and IR, signify a highly significant correlation at the 0.01 level. One asterisk (*), as seen between MPS and FII, signifies a significant correlation at the 0.05 level. The negative correlation between MPS and ER (-0.736*) indicates an inverse relationship between the two variables, meaning that an increase in ER is associated with a decrease in MPS.

The absence of correlation coefficients for some pairs of variables suggests that there is little or no linear relationship between them. The table provides a useful starting point for exploring the relationships between the variables of interest. However, correlation does not imply causation, hence an additional statistical analysis is done to establish causal relationships.

The analysis reveals that MPS has a significant positive correlation with IR and FII, indicating that these variables have a strong impact on the stock price of Infosys. In contrast, MPS has a significant negative correlation with ER, suggesting that an increase in ER results in a decrease in MPS. The analysis further reveals that GDPGR, IIP, and COP do not have a significant impact on MPS.

Therefore, investors should closely monitor changes in IR, FII, and ER to predict potential changes in the stock price of Infosys. It may be worthwhile to explore these relationships further and consider them when making investment decisions involving Infosys stock.

After examining the associations between select economic factors and market price per share, an attempt is made to analyse the importance of the relation through the following table 4, showing the results of multiple regression analysis.

Table 4: Multiple Regression Analysis of Economic Factors Affecting MPS of Infosys

(Large Cap Company)

Infosys	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7498.8	4966.47	-	1.51	0.372
GDPGR	-79.314	95.779	-0.442	-0.828	0.56
IR	273.073	84.168	0.682	3.244	0.04
FII	-0.001	0.001	-0.162	-0.973	0.509
ER	-86.142	50.746	-0.515	-1.698	0.039
IIP	-29.863	162.984	-0.059	-0.183	0.885
COP	-21.14	9.306	-0.277	-2.272	0.264
R^2	0.995				
F-test	30.539				
Sign	0.038				

Source: Annual reports.

The coefficients in the above table indicate that the independent variables of IR and ER have a significant impact on share price behaviour of Infosys. However, the coefficients for GDPGR, FII, IIP, and COP are not significant as their p-values are greater than 0.05.

The F-test result of 30.539 and the associated p-value of 0.038 show that the overall model is significant. In Infosys's share price behaviour, the model accounts for 99.5% of the variation.

*As a result, the null hypothesis (**H_{01}**) of Infosys is be rejected, implying that there is a strong correlation between select economic parameters and Infosys' share price behaviour.*

In conclusion, the analysis shows that GDPGR, FII, IIP, and COP have no significant influence on share price behaviour of Infosys, but IR and ER are strong predictors of share price behaviour of the company. These findings can be used to guide investment choices involving Infosys, and it might be advantageous to concentrate on tracking and examining IR and ER-related elements to forecast share price behaviour of Infosys in the future.

Table 5: Correlation Matrix of the Select Economic Factors and MPS of IOC

(Large cap Company)

IOC	MPS	GDPGR	IR	FII	ER	IIP	CO
MPS	1	0.665	0.266	**-0.011**	**-0.717***	-0.587	-0.343
GDPGR	0.665	1	--	--	--	--	--
IR	0.266	--	1	--	--	--	--
FII	**-0.011**	--	--	1	--	--	--
ER	**-0.717***	--	--	--	1	--	--
IIP	-0.587	--	--	--	--	1	--
COP	-0.343	--	--	--	--	--	1

Source: Annual reports.
**. Correlation is significant at the 0.05 level (2-tailed).*
***. Correlation is significant at the 0.01 level (2-tailed).*

The above correlation matrix table 5 shows the correlation coefficients between the Market Price of Share of **IOC(I**ndian **O**il **C**orporation) and the select economic indicators as stated in preceding paragraphs.

The Market Price per Share has a positive correlation with GDP growth rate (0.665) and inflation rate (0.266), while having a negative correlation with foreign institutional investment (-0.011), exchange rate (-0.717), index of industrial production (-0.587), and crude oil prices (-0.343).

This suggests that the market price per share of Indian Oil Corporation is affected by the select economic factors, including economic growth, inflation, foreign investment, exchange rate, industrial production, and crude oil prices.

Retail investors should keep an eye on these economic indicators and their impact on Indian Oil Corporation's market price per share.

For example, a significant decrease in industrial production or an increase in crude oil prices may lead to a decline in the company's market price per share.

On the other hand, an increase in GDP growth rate or foreign institutional investment may result in an increase in the market price per share.

Therefore, retail investors should use this information to make informed investment decisions and take necessary steps to minimize risks and maximize returns.

The ensuing section relates to an effort made to investigate the importance of the relationship between select economic factor and share price behaviour of IOC after comprehending the results of the association between the two.

The results of multiple regression analysis are shown in the following table 6. The multiple regression model shows that the independent variables, i.e., GDP growth rate, IR, FII, exchange rate, IIP, and crude oil prices, have a positive effect on the market price per share of Indian Oil Corporation.

Table 6: Multiple Regression Analysis of Economic Factors Affecting MPS of IOC

(Large cap Company)

IOC	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-3204.25	3970.198	-	-0.807	0.568
GDPGR	91.338	76.566	3.421	1.193	0.444
IR	60.615	67.284	1.018	0.901	0.533
FII	0.001	0.001	0.864	0.966	0.511
ER	26.788	40.567	1.078	0.66	0.628
IIP	91.639	130.289	1.215	0.703	0.61
COP	6.883	7.439	0.607	0.925	0.525
R^2	0.843				
F-test	0.896				
Significance	0.669				

Source: Annual reports.

The R-square value of 0.843 indicates that 84.3% of the variation in the dependent variable is explained by the independent variables. However, the F-test value of 0.896 and the associated p-value of 0.669 indicate that the overall model is not statistically significant.

This suggests that the independent variables may not be significant predictors of the market price per share of Indian Oil Corporation as the null hypothesis ***(H_{01})*** *of IOC is accepted.*

Consequently, retail investors should exercise caution when making investment decisions purely based on this model and should take other aspects into account before investing in Indian Oil Company, such as market trends, industry analyses, and company-specific information.

The below correlation matrix table 7, shows the relationship between the market price per share of **TITAN Company** and the select economic factors. The market price per share is negatively correlated with GDP growth rate and inflation rate, suggesting that as these factors increase, the market price per share decreases.

On the other hand, the share price behaviour of TITAN is positively correlated with FII, exchange rate, IIP, and crude oil prices, *suggesting that as these factors increase, the market price per share also increases.* Specifically, the correlation coefficients are relatively strong, especially for exchange rate, IIP, and crude oil prices.

Based on these results, investors should consider these economic factors when making investment decisions related to TITAN Company. However, it is important to note that correlation does not imply causation, and other factors not included in the analysis may also influence the market price per share. Therefore, investors should use these results as one of several sources of information when making investment decisions.

Table 7: Correlation Matrix of the Select Economic Factors and MPS of TITAN

(Large Cap Company)

TITAN	MPS	GDP GR	IR	FII	ER	IIP	CO
MPS	1	-0.781	-0.375	0.216	**0.751***	**0.754***	0.589
GDPGR	-0.781	1	--	--	--	--	--
IR	-0.375	--	1	--	--	--	--
FII	0.216	--	--	1	--	--	--
ER	**0.751***	--	--	--	1	--	--
IIP	**0.754***	--	--	--	--	1	--
COP	0.589	--	--	--	--	--	1

Source: Annual reports.
**. Correlation is significant at the 0.05 level (2-tailed).*
***. Correlation is significant at the 0.01 level (2-tailed).*

Here, an effort is made to assess the importance of the relationship after comprehending the results of the association between select economic factors and market price per share of TITAN. The results of multiple regression analysis are shown in the following table 8.

Based on the below multiple regression analysis, the coefficients of the select economic variables indicate the direction and strength of their relationship with the stock price behavior of TITAN.

The intercept or constant term shows the expected value of the stock price behavior when all the independent variables are set to zero. In this case, the constant is 11790.993, indicating that even when all the other variables are zero, the expected stock price behavior of TITAN is at this level.

Table 8: Multiple Regression Analysis of Economic Factors Affecting MPS of TITAN

(Large Cap Company)

TITAN	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11790.993	6496.677	-	1.815	0.321
GDPGR	-280.856	125.29	-2.986	-2.242	0.267
IR	-277.118	110.101	-1.321	-2.517	0.241
FII	-0.001	0.001	-0.301	-0.725	0.601
ER	-98.127	66.382	-1.121	-1.478	0.379
IIP	-346.964	213.2	-1.306	-1.627	0.351
COP	2.103	12.173	0.053	0.173	0.891
R^2	0.966				
F-test	4.757				
Sign	0.337				

Source: Annual reports.

In the above table, the regression model has a high R-square value of 0.966, indicating that the independent variables such as GDP GR, inflation rate, FII, exchange rate, IIP, and crude oil prices, explain 96.6% of the variation in the dependent variable i.e., share price behaviour of TITAN.

Out of the six select independent economic variables, only GDP GR and inflation rate have a statistically significant impact on TITAN's share price behaviour at the 10% level. Both variables have negative coefficients, implying that an increase in GDP growth rate and a decrease in inflation rate are associated with an increase in TITAN Company's performance.

The other four independent variables (foreign institutional investments, exchange rate, index of industrial production, and crude oil prices) do not have a statistically significant impact on TITAN Company's performance.

Based on the above findings, investors should focus on tracking the GDP growth rate and inflation rate to assess the share price behaviour of TITAN. Any growth in GDP and reduction in inflation could positively impact the company's performance.

However, investors should also be aware that there may be other factors beyond these six independent economic variables that could impact TITAN Company's share price behaviour. Therefore, it is essential to monitor the company's financial statements, news updates, and industry trends to make informed investment decisions.

The F-test statistic of 4.757 with a significance level of 0.337^{b} suggests that the overall regression model is not statistically significant at the 5% level. Therefore, caution should be exercised when interpreting the regression results.

Based on the significance level of 0.05, the p-value for the F-test is 0.337, which is higher than the significance level. Hence, it is failed to reject the null hypothesis ***(H_{01})*** *of the select company that there is no significant relationship between economic factors and stock price behavior of the select companies.*

This indicates that there is not enough evidence to draw the conclusion that there is a significant relationship between the select economic factors and the stock price behavior of TITAN.

The values depicted in the below table 9 showing the correlation matrix of the select economic factors and MPS of **Bajaj Auto** suggest that the Market Price Per Share and GDPGR have a weak negative link, as indicated by the correlation coefficient, which is negative (-0.663). Corresponding to that, there is a substantial positive correlation between market price per share and crude oil prices (0.832*), demonstrating a positive link between the two variables.

Table 9: Correlation Matrix of the Select Economic Factors and MPS of Bajaj Auto

(Large Cap Company)

Bajaj Auto	MPS	GDPGR	IR	FII	ER	IIP	CO
MPS	1	-0.663	-0.181	0.289	0.448	**0.714***	**0.832***
GDPGR	-0.663	1	--	--	--	--	--
IR	-0.181	--	1	--	--	--	--
FII	0.289	--	--	1	--	--	--
ER	0.448	--	--	--	1	--	--
IIP	**0.714***	--	--	--	--	1	--
COP	**0.832***	--	--	--	--	--	1

Source: Annual reports.
** Correlation is significant at the 0.05 level (2-tailed).*
*** Correlation is significant at the 0.01 level (2-tailed).*

The stock price of Bajaj Auto tends to decline slightly as inflation rises, according to a moderate negative correlation between market price per share and inflation rate (-0.181).

The stock price of Bajaj Auto tends to rise somewhat as foreign institutional investment rises, according to the moderately positive correlation between market price per share and foreign institutional investment (0.289).

Based on these correlations, the investor can consider GDP GR, Inflation Rate, and Foreign Institutional Investment as weak indicators of stock price behavior for Bajaj Auto.

The Exchange Rate can be considered a moderate indicator, while the Index of Industrial Production and the Crude Oil Price can be considered strong indicators of stock price behaviour for Bajaj Auto. Therefore, the investor can use these economic factors to make informed investment decisions, keeping in mind that there may be other factors influencing the stock price of Bajaj Auto as well.

An attempt is made to analyse the importance of the relationship after comprehending the results of the association between economic elements and market price per share in the earlier sections. The results of multiple regression analysis are exhibited in the following table:

Table 10: Multiple Regression Analysis of Economic Factors Affecting MPS of BAJAJ Auto

(Large Cap Company)

Bajaj Auto	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7128.579	3074.335	-	2.319	0.259
GDPGR	-76.491	59.289	-0.658	-1.29	0.42
IR	-212.008	52.102	-0.818	-4.069	0.153
FII	0.001	0.001	0.217	1.364	0.403
ER	-81.163	31.413	-0.75	-2.584	0.235
IIP	-62.895	100.89	-0.192	-0.623	0.645
COP	48.712	5.76	0.986	8.457	0.075
R^2	0.995				
F-test	33.409				
Significance	0.132				

Source: Annual reports.

The above multiple regression analysis provides insights into the impact of select economic factors on the stock price behavior of Bajaj Auto. The R-squared value of 0.995 (99.5%) indicates that the model is a good fit and that the independent variables explain most of the variance in the dependent variable, i.e., stock price of Bajaj Auto.

GDP growth rate, inflation rate, FII, exchange rate, and the IIP have negative coefficients, suggesting a negative impact on the stock price of Bajaj Auto. However, the impact is not statistically significant as the p-values are greater than 0.05.

On the other hand, crude oil price has a positive and significant coefficient, indicating a positive impact on the stock price of Bajaj Auto. The p-value for crude oil prices is less than 0.05, which indicates that the relationship is statistically significant.

Based on the analysis, it is recommended that the investor should closely monitor the crude oil prices as it is a significant factor that impacts the stock price of Bajaj Auto. Additionally, it is suggested to keep an eye on the other economic factors, including GDP growth rate, inflation rate, FII, exchange rate, and the IIP, as they may also have an impact on the stock price of Bajaj Auto, albeit not statistically significant in this analysis.

Based on the overall p-value of 0.132, the null hypothesis that there is no significant relationship between the independent variables (GDP growth rate, inflation rate, foreign institutional investments, exchange rate, and index of industrial production) and the dependent variable (stock price behavior of Bajaj Auto) is not rejected.

Therefore, it can conclude that the select economic factors may not have a significant impact on the stock price behavior of Bajaj Auto.

Nonetheless, it is noteworthy to notice that, as shown by its low p-value of 0.075, the price of crude oil prices has a positive and substantial impact with the stock price behaviour of Bajaj Auto. As a result, it can be beneficial for investors to take the effect of crude oil prices into account when making decisions about their Bajaj Auto investments.

CONCLUSIONS

The study investigates several economic factors, such as Gross Domestic Product, Inflation Rate, Foreign Institutional Investment, Exchange Rate, Index of Industrial Production, and Crude Oil Price, for their potential influence on share price behavior. This was done with the perception that these factors significantly and measurably affect share prices.

An analysis of the correlation between these selected economic factors and the market share price of large, medium, and small market capitalization companies for the period 2014-2021 yielded mixed results. The study found that economic factors exert varied effects on different companies, influenced by their nature, size, and industry. While some factors positively affected certain companies, others had negative impacts. However, no single factor consistently and significantly affected all companies. In the case of large capitalization companies, economic factors showed a significant impact on the Market Price Per Share (MPS) of Infosys, but an insignificant impact on the MPS of the other four large cap companies. In contrast, economic variables did not show a significant impact on the market share price of all medium cap companies. Similarly, in the context of small cap companies, economic factors had a significant impact on the MPS of Hinduja Global Solutions and an insignificant impact on the remaining four small market cap companies.

The study concludes that the panel data regression fixed effect model approach indicates that all economic factors have a significant impact on the market share price of companies across all market capitalizations. Hence, the study suggests that the panel data fixed effect model is the most suitable approach for examining the impact of economic factors on the MPS of companies.

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