



IMPACT OF NON-FINANCIAL FACTORS ON STOCK MARKET PRICES IN INDIAN CORPORATE SECTOR – AN EMPIRICAL ANALYSIS

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Abstract

The influence of stock market has its mark on growth and development of any economy. The performance of the stock market can be measured by changes in its index, which is prone to diverse factors comprising macroeconomic, socio-cultural and political factors. As it was evident from several studies that there are two types of variables influence the market prices of stocks, viz., financial and non-financial.

The present study is on the analysis of the impact of non-financial variables on the market prices of the shares in the select industries. Among the various non-financial variables, the GDP and ER are having a direct bearing to ascertain the impact on the market prices of the stocks. Therefore, the main objective of the present paper is to analyze the impact of select macroeconomic variables, i.e., gross domestic product and exchange rate on the market prices of the stocks in the select industries and their companies listed in the Bombay stock exchange.

It is evident from the analysis that the market price of the shares of agritech industry is influenced by the GDP and exchange rate, while the market price of the stock of cement industry has only an impact of the GDP. On the other hand, the market prices of the hotel and steel industries has no influence of the gross domestic product and exchange rate.

Key words: *Gross Domestic Product, Foreign Exchange Rate, Market Price of Stock.*

INTRODUCTION

The influence of stock market has its mark on growth and development of any economy. The performance of the stock market can be measured by changes in its index, which is prone to diverse factors comprising macroeconomic, socio-cultural and political factors. The stock prices unveil all forecasts of the impending depiction of corporate houses. In fact, these predictions disclosed by the stock prices will be used as a major pointer for economic activities. Consequently, the dynamic association between macroeconomic variables and stock prices can be used to institute macroeconomic policies for a nation.

As a fact that there are two kinds of variables, viz. financial and non-financial which influence market prices of the stock. The present study is on the analysis of the impact of non-financial variables on the market prices of the shares in the select industries. It is more a apt to study industry wise rather than to analyze company wise since the results may not be of much variations in the company wise study. Among the identified non-financial variables, like GDP, inflation, money supply, exchange rate, interest rate, gold prices, oil prices etc., the GDP and ER are having a direct bearing to ascertain the impact rather than the other variables. In fact, an effort has already been made to know the impact of other variables also but there is no significant relationship. Hence, they are not considered in the present study. Further, these variables vary day to day, which are also available for different purposes, with different denominations for which they are excluded from the present analysis. Therefore, the attentiveness of the present paper is to analyze the impact of select macroeconomic variables, i.e., gross domestic product and exchange rate on the market prices of the stocks in the select industries and their companies listed in the Bombay stock exchange.

Indian economy is the seventh largest by nominal GDP and third largest by purchasing power parity in the world. According to the WTO, India is a developing economy amongst the top twenty global traders and a member of



BRICS. The rudiments of the Indian economy have grown resilient and steady in course of time. At present the macro-economic indicators of India with high growth, foreign investment, and strong surge in exports, healthy foreign exchange reserves, low inflation and interest rates are the preeminent in the history. The exceptional shift of economy of India is evident from the year 2003-10, that it has become second fastest growing economy of the world.

An utmost extensively used measure of economic output is the Gross Domestic Product (GDP). Usually, better the GDP growth, better would be the capital inflow into the stock markets. It is the aggregate dollar value of all goods and services produced over a particular period of time, which may be well-thought-out as size of the economy. Commonly, GDP is specified as a comparison to the preceding quarter or year. Only final goods and services are measured by GDP, to be precise those goods and services not used as an input into other goods but only that are consumed by their final user. Determining GDP is convoluted but most essentially, there are two ways of calculating it. One is the income approach by tallying up everything everyone earned in a year, and the other is expenditure method by totaling up whatever everybody spent. Plausibly, both methods should attain evenly the same aggregate.

GDP = private consumption + government purchases + investment + net exports

With no modification, inflation prejudices the calculation of the GDP. In actual fact, to arrive at the real GDP, it is adjusted by dividing the nominal GDP by a price deflator. The nominal GDP is better than the real GDP in an environment relating to economic inflation. An implicit price deflator can be calculated by dividing the nominal GDP by the real GDP if the price deflator is not identified:

Implicit Price Deflator = Nominal GDP / Real GDP

The configuration of this deflator is not the same from that of the consumer price index, in that the GDP deflator comprises exports, government and investment goods rather than the regular consumer-oriented goods. Typically, the GDP is testified each quarter on a seasonally adjusted annualized basis. The economic growth production that is epitomized by the GDP has a huge effect on just about all and sundry within that economy. For instance, unemployment and wage increases can normally be realized as businesses demand labor to come across the growing economy when it is in fine fettle. A substantial change in the GDP either rise or fall, typically has a substantial consequence on the stock market. The reason for this is not tough to comprehend as a bad economy generally brings lesser revenues for companies, which consecutively means lesser stock prices.

The correlation between stock returns and foreign Exchange Rate (ER) has often been employed in envisaging the upcoming trends for each other by investors. Changes in exchange rate openly effect the global competitiveness of firms, assumed their influence on input and output price. Primarily, the value of the firm is influenced by foreign exchange rate volatility as the prospect cash flows of the firm vary with the ebb and flow in the foreign exchange rates. Even though theories recommend causal associations between stock prices and exchange rates, prevailing evidence on a micro level delivers mixed outcomes. Jorion (1990, 1991), Bodnar and Gentry (1993), and Bartov and Bodnar (1994) all failed to find a significant relationship between instantaneous dollar movements and stock returns for U.S. firms. He and Ng (1998) find that only about 25 percent of their sample of 171 Japanese multinationals has significant exchange rate exposure on stock returns. Ma and Kao (1990) found that a currency rise negatively affects the domestic stock market for an export-dominant country and positively affects the domestic stock market for an import-dominant country, which seem like to be reliable with the goods market theory. With the appreciation in exchange rate, the sales and profits of exporters will diminish and the stock prices will drop since exporters will lose their effectiveness in global market.



The exporters and importers will face adverse effects with the depreciation of exchange rate. Specifically, the domestic stock market is influenced by both negative and a positive effect of currency appreciation for both export-dominant and an import-dominated country. Intended for a multinational company, an immediate change in value of its foreign operations can be evident with as well as a continuing change in exchange rates, also in the profitability of its foreign operations revealed in sequential income statements. Hence, stock prices are influenced by the changes in economic value of firm's foreign operations. Changes in exchange rates also influence domestic firms as they may import a part of their inputs and export their outputs. Foreign depositor changes their profits on stocks in to their own cash. Foreign depositor get inflated when local cash gets sturdier and changed into weaker cash. Exchange rate show negative relationship with stock returns. Stock returns diminish when exchange rate boosts and reduction in exchange rate show positive impact on stock market prices.

The present study is an endeavor to analyze the association between market prices and gross domestic product, exchange rates that are responsible for affecting the company's performance. An attempt has also been made to examine the impact of gross domestic product and exchange rates on the market prices of the share of the select industries and their companies of the study. To investigate the impact, Pearson's correlation and multiple regression models are used to measure the strength of the relationship.

In carrying out the research on gross domestic product and exchange rate as a determinant of market price of the share, the following model has been developed:

$$(MPS) y = b_0 + b_1X_1 + b_2X_2 + b_3X_3+.... + \epsilon$$

Where: Y = Dependent variable of company.

X = Independent variable of company.

b₀ = Intercept for X variable of i company.

b₁– b₂ = Coefficient for the independent variables X of companies, denoting the nature of relationship with dependent variable Y (or parameters).

ε_i = the error term.

Specifically, when the above general least squares model converted into our specified variables, it becomes:

$$(MPS) y = b_0 + b_1 (GDP) + b_2(ER) + \epsilon$$

Where: MPS = Market price of the share

GDP = Gross Domestic Product

ER = Exchange Rate

Table 1: Descriptive Statistics of the Select Explanatory Variables

Year	Gross Domestic Product (in billions₹.)	Exchange Rate (in ₹.)
2003-04	26258.19	46.23
2004-05	29714.64	44.57
2005-06	33905.03	43.98
2006-07	39532.76	45.21
2007-08	45820.86	40.13
2008-09	53035.67	45.99
2009-10	61089.03	47.40
2010-11	72488.60	45.50
2011-12	83916.91	47.90
2012-13	93888.76	54.40
Minimum	26258.19	40.13
Maximum	93888.76	54.40
Mean	53965.0450	46.1310
Std.Deviation	23377.40834	3.61275

Source: Collected from the various Reserve Bank of Indian bulletins



The descriptive statistics exhibits that during the study period, the select external factors measured by Gross Domestic Product (GDP) and Exchange Rate (ER) have a positive mean value. The maximum value of GDP registered was Rs. 93888.76 billions in the year 2012-13 and minimum value registered was Rs. 26258.19 billions in the year 2003-04. A consistent growth throughout the study period can be observed. The mean value of GDP shows Rs. 53965.0450 billions with the variance of 23377.40834. The contributions from several sectors made it possible for the growth of GDP during the period of study. The exchange rate on the other hand registered a maximum of Rs.54.40 in the year 2012-13 and a minimum of Rs. 40.13 during the year 2007-08. The other factors, like discrepancies in inflation and interest rates, current account deficits, public debt, terms of trade, political volatility and economic performance influence the exchange rate causing the fluctuations. The standard deviation can be observed at Rs. 3.61275 and mean value at Rs. 46.1310 during the study period.

Considering these two macro-economic factors as explanatory variables, the specific aim of this paper is to observe whether there is any influence of these two factors on the market price of the share. In order to find out the relationship between market price of the share being dependent variable, GDP and exchange rate being considered as independent variables.

Table-2 Model Summary of the regression between MPS and GDP, ER of select companies in Agritech industry.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.925 ^a	.855	.814	11.39843
a. Predictors: (Constant), ER, GDP				

Source: Calculated from the data collected from the various RBI bulletins

The table -2 displays the coefficient of multiple determinations R Square, which explains the degree to which the independent variables affect the dependent variable. In this case, 0.855 or 85.5 % of the variations in the dependent variable are explained by the independent variables while 0.145 or 14.5 % were affected by other variables outside the independent variables. The adjusted R-square, a more conservative way of looking at the coefficient of determination is also more than 80%. In this case, 0.814 or 81.4% of the variations in the dependent variable is not explained by the independent variable. Therefore, it can be inferred that the GDP and ER are the major determining factors of the market prices of the share.

Table -3 ANOVA of the regression between MPS and GDP, ER of select companies in Agritech industry.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5370.772	2	2685.386	20.669	.001 ^b
	Residual	909.469	7	129.924		
	Total	6280.241	9			
a. Dependent Variable: Market Price of the Share						
b. Predictors: (Constant), ER, GDP						

Source: Calculated from the data collected from the various RBI bulletins

The analysis of variance (ANOVA) is used in testing the hypotheses and to measure the differences and similarities between the variables according to their different characteristics. Findings from the Fishers ratio (i.e. the F-Statistics which is a proof of the validity of the estimated model) as reflected in table -3, indicates that, the F is about 20.669 and a p-value that is less than to 0.05 (P-value =0.001), this consistently suggests clearly that the



external factors which are explanatory variables are significantly associated with the dependent variable. That is, they strongly determine the behavior of the market values of the share prices.

Table - 4 Regression analyses between MPS and GDP, ER of select companies in Agritech industry.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	172.838	59.140		2.923	.022
	GDP	.001	.000	1.201	6.078	.001
	ER	-3.814	1.444	-.522	-2.640	.033

a. Dependent Variable: Market Price of the Share

Source: Calculated from the data collected from the various RBI bulletins

From the above table -4, it can be observed that the GDP has a significant relationship with MPS. The t-calculated of GDP shows 6.078 indicating a very strong and positive relationship with MPS. This means the change in GDP would ominously affect the market price of the share positively. However, the significance level 0.001 of tc (GDP) is statistically significant. Thus, the weight of evidence suggests that accept that the GDP has significant relationship with MPS.

The exchange rate has a significant relationship with market price of the share. The t- calculated of ER shows -2.640 which indicates that ER has very strong and negative relationship with EPS. This significant negative relationship shows that the exchange rate could significantly affect the market price of the share of agritech industry negatively. However, it's significance level of 0.033 shows that tc (ER) is statistically significant. Thus, the weight of the evidence suggests that it can be accepted that the ER has a significant relationship with MPS in the select companies in agritech industry. This means that a change in GDP and ER practically have effect on MPS.

Table -5 Correlations between MPS and GDP, ER of select companies in Agritech industry.

	Market Price of the Share	GDP	ER
Market Price of the Share	1	.843**	.301
GDP	.843**	1	.685*
ER	.301	.685*	1

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

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

Source: Calculated from the data collected from the various RBI bulletins

The correlation matrix above shows that gross domestic product (GDP) has a strong and positive relation with market price of the share (MPS). The strength of their relationship is indeed at 0.843. This means that the market price of the share of the select companies in agritech industry are influenced by gross domestic product of the country. Moreover, the two tailed significance level 1% shows that GDP and MPS are statistically significant. The exchange rate shows a positive relationship with market price of the share and also statistically insignificant at p* of $0.05 < 0.301$. Therefore, it can be concluded that in case of agritech industry the market price per share of select companies has an impact of changes in GDP but exchange rates are not influencing MPS during the period of study.

Table -6 Model Summary of the regression between MPS and GDP, ER of select companies in cement industry.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834 ^a	.695	.608	477.70962

a. Predictors: (Constant), ER, GDP

Source: Calculated from the data collected from the various RBI bulletins



The R-square of the regression model is the fraction of the variation in the dependent variable that is accounted for (or predicted by) independent variables. (In regression with a single independent variable, it is the same as the square of the correlation between dependent and independent variable). The value of R and R^2 has been derived in the summary of the model. From the table - 6, it can be observed that the data R has a value of .834 because of the two predictors taken for the study where this value represents the simple correlation between market price of the share and external factors namely, GDP and ER. The R-Square which is also a measure of the overall fitness of the model indicates that the model is capable of explaining about 69.5% of the variability between independent and dependent variables. The remaining 30.5 percent of variation is not captured by this model because there might be many other factors that can explain this variation.

Table -7: ANOVA of the regression between MPS and GDP, ER of select companies in cement industry.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3643745.461	2	1821872.731	7.983	.016 ^b
	Residual	1597445.355	7	228206.479		
	Total	5241190.816	9			
a. Dependent Variable: Market Price of the Share						
b. Predictors: (Constant), ER, GDP						

Source: Calculated from the data collected from the various RBI bulletins

The next part of the output report is analysis of variance (ANOVA). The table -7 shows the various sums of squares and the degree of freedom associated with each. From these two values, the average sums of squares (mean squares) can be calculated by dividing the sums of squares by the associated degrees of freedom. The most important part of the table is the F-ratio which reveals the associated significance value. For the data, F is 7.983 with the p – value less than 0.05 which is significant (P-value =.016), this unvaryingly suggests that the select external factors are significantly associated with the dependent variable. That is, they strongly determine the behavior of the market values of share prices.

Table -8 Regression analyses between MPS and GDP, ER of select companies in Cement industry

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5827.932	2478.555		2.351	.051
	GDP	.037	.009	1.120	3.910	.006
	ER	-125.817	60.535	-.596	-2.078	.076
a. Dependent Variable: Market Price of the Share						

Source: Calculated from the data collected from the various RBI bulletins

However, further empirical findings provided in Table-8 shows that there is a significant relationship between GDP and the MPS of select companies in cement industry during the period of study. This is evident in the t-statistics value of 2.351 with a P-Value .006 which is statistically significant at 5% level of significance. That means a change in GDP will have an impact on the market price of the share positively. Simultaneously, Exchange rate with t- statistic -2.078 shows that there is a sturdy and negative relationship with MPS. The tc of ER, i.e P-value .076 is also statistically insignificant at 5% level of significance. This significant negative relationship shows that the exchange rate could significantly affect the market price of the share of cement industry negatively. The empirical finding from the regression analysis shows that this outcome basically implies that an increase in GDP will variably bring about a significant increase in the MPS. In the course of the study and



ER has no significant relationship with MPS stating that it has no explanatory power towards stock price movement.

Table - 9 Correlation analysis between MPS and GDP, ER of select companies in cement industry

	Market Price of the Share	GDP	ER
Market Price of the Share	1	.712*	.172
GDP	.712*	1	.685*
ER	.172	.685*	1

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

Source: Calculated from the data collected from the various RBI bulletins

The correlation matrix above shows that gross domestic product (GDP) has a strong and positive with market price of the share (MPS). The strength of their relationship is actually at 0.712. This means that the market price of the share of the select companies in cement industry are influenced by gross domestic product of the country. Moreover, the two tailed significance level 5% shows that GDP and MPS are statistically significant. The exchange rate shows a positive relationship with market price of the share and also statistically insignificant at p^* of $0.05 < 0.172$. Therefore it can be concluded that in case of agritech industry the market price per share of select companies has an impact of changes in GDP but exchange rates are not influencing market price per share during the period of study.

Table-10: Model Summary of the regression between MPS and GDP, ER of select companies in Hotel industry.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.710 ^a	.504	.362	109.39617
a. Predictors: (Constant), ER, GDP				

Source: Calculated from the data collected from the various RBI bulletins

The above table 5.10 indicates the coefficient of multiple determinations R Square which describes the degree to which the independent variables affect the dependent variable. The R square .504 indicates 50.4% of the variations in the dependent variable are expounded by the independent variables while 0.496 or 49.6 % were affected by other variables outside the independent variables. The adjusted R-square, a more conventional method of observing at the coefficient of determination is less than 50%. In this case, 0.362 or 36.2% of the variations in the dependent variable is not explained by the independent variables. So, this indicates that GDP and ER are the determining factors of MPS.

Table -11 ANOVA of the regression between MPS and GDP, ER of select companies in Hotel industry.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	84981.603	2	42490.802	3.551	.086 ^b
	Residual	83772.653	7	11967.522		
	Total	168754.256	9			
a. Dependent Variable: Market Price of the Share						
b. Predictors: (Constant), ER, GDP						

Source: Calculated from the data collected from the various RBI bulletins

The analysis of variance (ANOVA) is used in testing the hypotheses and to measure the differences and similarities between the variables according to their different attributes. Outcomes from the Fishers ratio (i.e. the F-Statistics which is a proof of the validity of the estimated model) as reflected in table -11, indicates that, the F is about 3.551 and a p-value that is more than 0.05 (P-value =0.086), this reliably recommends that the external



factors which are independent variables associated with the dependent variable has no relevance. That is, they do not determine the behavior of the market values of the share prices in the hotel industry during the period of study.

Table -12: Regression between MPS and GDP, ER of select companies in Hotel industry.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	160.606	567.592		.283	.785
	GDP	-.005	.002	-.821	-2.244	.060
	ER	6.819	13.863	.180	.492	.638

a. Dependent Variable: Market Price of the Share

Source: Calculated from the data collected from the various RBI bulletins

the GDP has a significant negative relationship with MPS. The t- calculated of gross domestic product (GDP) shows -2.244 which states that GDP has a strong and negative relationship with MPS. This relationship expresses that the GDP could significantly affect the market price of the share negatively. Though, it's significance level of 0.060 shows that tc (GDP) is statistically insignificant. Thus, the weight of the evidence advises that the GDP has significant relationship with MPS. This means that a change in GDP has no effect on MPS of select companies in Hotel industries. It can also be observed from the above table that ER has also a significant positive relationship with MPS. The t-calculated of ER is 4.92 shows a positive relationship with MPS. However the significance level of .638 is statistically insignificant. Therefore, in case of hotel industry, GDP and ER are not playing any vital role. That means the changes in GDP and exchange rate would bring no effect on market price of the share.

Table -13: Correlation between MPS and GDP, ER of select companies in Hotel industry.

	Market Price of the Share	GDP	ER
Market Price of the Share	1	-.697*	-.383
GDP	-.697*	1	.685*
ER	-.383	.685*	1

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

Source: Calculated from the data collected from the various RBI bulletins

The Pearson's co-efficient of correlation is used to find the relationship between Market Price of Share and GDP, ER at 5% level of confidence. The resultant correlation analysis in the table -13 explains that, there is a negative correlation between the independent variable GDP with correlation coefficient -.697 and also found a negative correlations between the independent variable ER with correlation coefficient -.383. It indicates that both gross domestic product and exchange rate are having negative relationship with market price of the share while GDP has a negative impact on MPS.

Table -14: Model Summary of the regression between MPS and GDP, ER of select companies in Steel industry.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.596 ^a	.355	.170	63.3897

a. Predictors: (Constant), ER, GDP

Source: Calculated from the data collected from the various RBI bulletins

The value of R and R² has been derived in the summary of the model. The table-14, describes that the data R has a value of .596 because of the two predictors taken for the study where this value signifies the simple correlation between market price of the share and external factors namely, GDP and ER. The R-Square which is also a



measure of the overall fitness of the model indicates that the model is capable of explaining only about 35.5% of the variability between independent and dependent variables. The remaining 64.5 percent of variation is not captured by this model because there might be many other factors that can explain this variation.

Table -15: ANOVA of the regression between MPS and GDP, ER of select companies in Steel industry.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15456.287	2	7728.144	1.923	.216 ^b
	Residual	28127.774	7	4018.253		
	Total	43584.061	9			
a. Dependent Variable: Market Price of the Share						
b. Predictors: (Constant), ER, GDP						

Source: Calculated from the data collected from the various RBI bulletins

The subsequent part of the report is analysis of variance (ANOVA). The table -15 shows the various sums of squares and the degree of freedom associated with each. From these two values, the average sums of squares (mean squares) can be calculated by dividing the sums of squares by the associated degrees of freedom. From the table 5.14 above, it can be said that the overall statistical fitness of the regression model is indicated by prob > F = 0.216 which means that the model is unfit. This table also shows that the results of F-test is F = 1.923 at a significance level of 0.216 with df 2.

Table-16 Regression analysis between MPS and GDP, ER of select companies in Steel industry.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.458	328.892		.074	.943
	GDP	-.002	.001	-.695	-1.667	.139
	ER	3.143	8.033	.163	.391	.707
a. Dependent Variable: Market Price of the Share						

Source: Calculated from the data collected from the various RBI bulletins

Though, further empirical outcomes delivered in Table -16 illustrates that there is a significant negative relationship between GDP and the MPS of select companies in steel industry during the period of study. This is apparent in the t-statistics value of -1.667 with a P-Value .139 which is statistically insignificant at 5% level of significance. That means a change in GDP will have an impact on the market price of the share negatively. Concurrently, Exchange rate with t- statistic 0.391 shows that there is a sturdy and positive relationship with MPS. The tc of ER, i.e P-value .707 is also statistically insignificant at 5% level of significance. This significant negative relationship shows that the exchange rate could significantly affect the market price of the share of cement industry negatively.

The empirical finding from the regression analysis shows that this outcome principally implies that an increase in GDP will variably do not bring about a significant increase in the MPS. During the period of study, therefore GDP and ER has no significant relationship with MPS stating that the select explanatory variables has no explanatory power towards stock price movement.



Table 5.17 Correlation analysis between MPS and GDP, ER of select companies in Steel industry.

	Market Price of the Share	GDP	ER
Market Price of the Share	1	-.584	-.313
GDP	-.584	1	.685*
ER	-.313	.685*	1

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

Source: Calculated from the data collected from the various RBI bulletins

The Pearson's co-efficient of correlation is used to find the relationship between Market Price of Share and GDP, ER at 5% level of confidence. The result of the correlation analysis in the table -17 elucidates that, there is a negative correlation between the independent variable GDP with correlation coefficient -.584 and also found a negative correlations between the independent variable ER with correlation coefficient -.313. It indicates that both gross domestic product and exchange rate are having negative relationship with market price of the share. Hence there is no significant correlation between independent variables and dependent variable.

Table - 18 Model Summary of the regression between MPS and GDP, ER of select industries listed in BSE.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.925 ^a	.855	.814	11.39843
a. Predictors: (Constant), ER, GDP				

Source: Calculated from the data collected from the various RBI bulletins

The R-square of the regression model is the fraction of the variation in the dependent variable that is accounted for (or predicted by) independent variables. In regression analysis with a single independent variable, it is the same as the square of the correlation between dependent and independent variable). The value of R and R² has been derived in the summary of the model. From the table-18, it can be observed that the data R has a value of .925 because of the two predictors taken for the study where this value represents the simple correlation between market price of the share and external factors namely, GDP and ER. The R-Square which is also a measure of the overall fitness of the model indicates that the model is capable of explaining about 85.5% of the variability between independent and dependent variables. The remaining 14.5 percent of variation is not captured by this model because there might be many other factors that can explain this variation. The adjusted R-square which is a more predictable method of observing at the coefficient of determination is also around 80%.

Table -19: ANOVA of the regression between MPS and GDP, ER of select companies listed in BSE.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5370.772	2	2685.386	20.669	.001 ^b
	Residual	909.469	7	129.924		
	Total	6280.241	9			
a. Dependent Variable: Market Price of the Share						
b. Predictors: (Constant), ER, GDP						

Source: Calculated from the data collected from the various RBI bulletins

Table -19 depicts the analysis of variance (ANOVA) which is used in testing the hypotheses and to measure the variances and relationships between the variables conferring to their different characteristics. It can be observed from the conclusions of the table that Fishers ratio (i.e. the F-Statistics which is a proof of the validity of the estimated model) F is about 20.669 and a p-value that is less than to 0.05 (P-value =0.001), this unswervingly



advocates clearly that the external factors which are independent variables are considerably associated with the dependent variable. It can be said that they strongly determine the behavior of the market prices of the shares with an excellent goodness of fit.

Table -20: Regression analysis between MPS and GDP, ER of select companies listed in BSE.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	172.838	59.140		2.923	.022
	GDP	.001	.000	1.201	6.078	.001
	ER	-3.814	1.444	-.522	-2.640	.033

a. Dependent Variable: Market Price of the Share

Source: Calculated from the data collected from the various RBI bulletins

However, further empirical outcomes provided in the table -20 clarifies that there is a significant positive relationship between GDP and the MPS of select companies listed in Bombay stock exchange during the period of study. This is ostensible in the t-statistics value of 6.078 with a P-Value .001 which is statistically significant at 5% level of significance. That means a change in GDP will have an impact on the market price of the share positively. Alongside, Exchange rate with t- statistic -2.640 shows that there is a substantial and negative relationship with MPS. The tc of ER, i.e P-value .033 is also statistically significant at 5% level of significance. This significant negative relationship shows that the exchange rate could significantly affect the market price of the share negatively.

Thus, the empirical findings from the regression analysis explain that this outcome principally implies that an increase in GDP will variably bring about a significant increase in the MPS. Therefore, during the period of study, therefore GDP and ER has significant relationship with MPS stating that the select explanatory variables has explanatory power towards stock price movement. Thus, the weight of the evidence suggests that both GDP and ER has a significant relationship with market price of the share.

Table - 21: Correlation analysis between MPS and GDP, ER of select companies listed in BSE.

	Market Price of the Share	GDP	ER
Market Price of the Share	1	.843**	.301
GDP	.843**	1	.685*
ER	.301	.685*	1

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

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

Source: Calculated from the data collected from the various RBI bulletins

The correlation matrix in the above table - 21 shows that gross domestic product (GDP) has a strong and positive with market price of the share (MPS). The strength of their relationship is actually at 0.843. This means that the market price of the share of the select companies listed in Bombay stock exchange are influenced by gross domestic product of the country. Moreover, the two tailed significance level 5% shows that GDP and MPS are statistically significant. The exchange rate shows a positive relationship with market price of the share and also statistically insignificant at p^* of $0.05 < 0.301$. Therefore, it can be concluded that the market price per share of select companies has an impact of changes in GDP but exchange rates are not influencing market price per share during the period of study.



FINDINGS AND CONCLUSIONS

- The regression results of independent and dependent variable of agritech industry reveal that the gross domestic product and exchange rate are having a significant relationship with market price of the share. The beta value discloses that a percentage change in GDP will bring about 1.201 percent of change in market price. Conversely, for exchange rate, increase in one rupee will bring about -0.522 percent decrease in market price which witnesses the inverse relationship in case of the companies in agritech industry.
- The findings from the regression results of independent and dependent variable of cement industry explain that only the gross domestic product is having significant relationship with market price of the share. Though the exchange rate is having inverse relationship, it is statistically insignificant. Hence, in case of cement industry only GDP has an impact on MPS of its select companies.
- The results of the regression analysis on independent and dependent variable of hotel industry observe that both the gross domestic product and exchange rate are not having any significant relationship with market price of the share. Hence, for the select companies of hotel industry, the market price of the share is not influenced by GDP and ER.
- The inferences of the regression results of independent and dependent variable of steel industry convey that there is no impact of GDP and ER on market price of the share. Further, there is a negative relationship of GDP with MPS yet statistically insignificant.
- The results of the regression analysis of independent and dependent variable of the companies elucidated that the gross domestic product and exchange rate has significant relationships with the market price of the share. The beta values state that a percentage change in GDP brought about a change of 1.202 per cent in market price. The exchange rate on the other hand has an inverse relationship with market price of the stock. More specifically, it explains that with an increase of a rupee of exchange rate, there would be a decline of 0.522 percent of market price of the share.
- It can be summarized from the analysis that the market price of the shares of agritech industry is influenced by the GDP and exchange rate, while the market price of the stock of cement industry has only an impact of the GDP. On the other hand, the market prices of the hotel and steel industries have no influence of the gross domestic product and exchange rate.

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