



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



Mrs. Challa Kiran¹

Research Scholar,
Department of Commerce &
Business Administration,
Acharya Nagarjuna University,
Guntur, A.P, India

Prof. G.V.Chalam²

Department of Commerce &
Business Administration,
Acharya Nagarjuna University,
Guntur, A.P,India

ABSTRACT

The influence of equity stock earnings has its mark on the 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 which influence the equity earnings, viz., financial and non-financial. The present study is on the analysis of the impact of non-financial variables on the earnings 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 equity earnings. 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 equity earnings in the select industries and their companies listed in the Bombay stock exchange. It is evident from the analysis that the results of regression analysis of independent and dependent variables of the select companies expounded that the gross domestic product has a significant relationship with earning price of the shares. The beta values state that a percentage change in the GDP brought about a change of 0.93 per cent in earnings per share. On the other hand, the exchange rate has an inverse relationship with EPS, which is statistically insignificant.

KEY WORDS: Gross Domestic Product, Foreign Exchange Rate, Market Price of Stock.

INTRODUCTION

The influence of equity earnings has its mark on growth and development of any economy. The equity earnings unveil all forecasts of the impending depiction of corporate houses. In fact, these predictions disclosed by the stock earnings will be used as a major indicator for economic activities. Consequently, the dynamic association between macroeconomic factors and stock earnings can be used to institute macroeconomic policies for a nation.

In fact that there are two kinds of variables, viz., financial and non-financial, which influence earnings of the equity investment. The present study is focused its attention on analysis of the impact of non-financial

variables on the earnings of the equity stocks in the select industrial companies. It is more apt to study industry-wise rather than to analyze company-wise since the results may not show much variations in company-wise analysis. Among the identified non-financial variables, like gross domestic product, inflation, money supply, exchange rate, interest rate, gold prices, oil prices, etc., the gross domestic product and exchange rate 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 collected for different purposes, with different denominations for which they are excluded from the present analysis.

Keeping in view of the above mentioned facts, the aim of the present paper is to analyze the impact of select macroeconomic variables, i.e., gross domestic product and exchange rate on the earnings of the stocks in the select industrial companies listed in the Bombay Stock Exchange.

ANALYSIS AND INTERPRETATION

Indian economy is the seventh largest by nominal Gross Domestic Product (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 macroeconomic 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 factors 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 (GDP). Usually better the GDP growth, higher would be the capital inflow into the stock markets. It is the aggregate dollar value of all goods and services produced over a period of time, which may be well-thought-out as the size of the economy. Commonly, the GDP is specified as a comparison to the preceding quarter or year. Only final goods and services are measured by the 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 the 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 earnings 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 earnings 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 continuing changes 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 depositors change their profits on stocks into their own cash. Foreign depositor gets inflated when local cash gets sturdier and changed into weaker cash. Exchange rate shows negative relationship with stock returns.

The present study is an endeavor to analyze the association between the earnings of the shares 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 earnings of the equity shares of the select industries and their companies. 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 earnings per share, the following model has been developed:

$$(EPS) y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots +$$

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).

i = the error term.

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

$$(EPS) y = b_0 + b_1 (GDP) + b_2(ER) +$$

Where: EPS = Earnings per share

GDP = Gross Domestic Product

ER = Exchange Rate

Table 1: Descriptive Statistics of the Select Explanatory Variables during 2003-13

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 India bulletins

The descriptive statistics exhibits that during the study period, the select external factors measured by the GDP and 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 the 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.

In order to find the relationship between market price of the share being dependent variable, the GDP and the exchange rate being independent variables the following hypothesis is designed.

H1: there is a significant relationship between EPS and GDP

H2: there is a significant relationship between EPS and ER

Table-2: Model Summary of the Regression between EPS and GDP, ER of select Companies in Agritech industry.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.689 ^a	.474	.324	7.11673
a. Predictors: (Constant), ER, GDP				

Source: Computed from the collected data in Annual Reports of the Select Companies

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, 0.474 or 47.4 % of the variations in the dependent variable are explained by the independent variables while 0.526 or 52.6 % 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 less than 50%. In this case, 0.324 or 32.4% of the variations in the dependent variable is not explained by the independent variable. So, this indicates that GDP and ER are not the major determining factors of EPS.

Table-3 ANOVA of the Regression between EPS and GDP, ER of select Companies in Agritech industry.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	319.746	2	159.873	3.157	.105 ^b
	Residual	354.535	7	50.648		
	Total	674.281	9			
a. Dependent Variable: Earnings Per Share						
b. Predictors: (Constant), ER, GDP						

Source: Computed from the collected data in Annual Reports of the Select Companies

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 3.157 and a p-value that is more than to 0.05 (P-value =0.105), this consistently advises clearly that the external factors which are explanatory variables are not significantly associated with the dependent variable. That is, they do not strongly determine the behavior of the earnings price of the share.

Table - 4 Regression analysis between EPS and GDP, ER of select Companies in Agritech industry.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	87.575	36.925		2.372	.049
	GDP	.000	.000	.903	2.398	.048
	ER	-1.974	.902	-.824	-2.189	.065
a. Dependent Variable: Earnings Per Share						

Source: Computed from the collected data in Annual Reports of the Select Companies

It can be observed from Table-4 that the GDP has a significant relationship with EPS. The t-calculated of GDP shows 2.398 indicating a very strong and positive relationship with EPS. This means the change in GDP would importunately affect the earnings per share positively. However, the significance level 0.048 of tc (GDP) is statistically significant. Thus, the weight of evidence suggests that accept H1 that GDP has significant relationship with MPS.

The exchange rate has a significant relationship with earnings per share. The t- calculated of ER shows -

2.189 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 earnings per share of Agritech industry negatively. However, it's significance level of 0.067 shows that tc (ER) is statistically insignificant. Thus, the weight of the evidence suggests that we reject H2 that ER has a significant relationship with EPS of the select companies in Agritech industry. This means that a change in GDP practically have effect on EPS.

Table- 5 Correlation analysis between EPS and GDP, ER of select Companies in Agritech industry.

Variables	Earnings per Share	GDP	ER
Earnings per Share	1	.338	-.205
GDP	.338	1	.685*
ER	-.205	.685*	1

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

Source: Computed from the collected data in Annual Reports of the Select Companies

The correlation matrix above in the table-5 demonstrates that gross domestic product (GDP) has a strong and positive relation with earnings per share (EPS). The strength of their relationship is indeed at 0.338. This means that the earnings per share of the select companies in agritech industry are influenced by gross domestic product of the country. Moreover, the two tailed significance level 5% shows that GDP and MPS are

statistically insignificant at p* of $0.05 < 0.338$. The exchange rate shows a weak and negative relationship with earnings per share and also statistically insignificant. The strength of the relationship is -20.5%. Therefore it can be concluded that in case of Agritech industry the earnings per share of select companies has no impact of changes in GDP and exchange rates during the period of study.

Table-6: Model Summary of the regression between EPS and GDP, ER of select Companies in Cement industry.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.725 ^a	.525	.389	48.20287

a. Predictors: (Constant), ER, GDP

Source: Computed from the collected data in Annual Reports of the Select Companies

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 R² has been derived in the summary of the model. From the table 5.26, it can be observed that the data R has a value of .725 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 52.5% of the variability between independent and dependent variables. The remaining 47.5.5 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 EPS and GDP, ER of select Companies in Cement industry.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17978.380	2	8989.190	3.869	.074 ^b
	Residual	16264.620	7	2323.517		
	Total	34243.000	9			
a. Dependent Variable: Earnings per share						
b. Predictors: (Constant), ER, GDP						

Source: Computed from the collected data in Annual Reports of the Select Companies

The analysis of variance shown in table-7 indicate number of observations as 5 companies relating to cement industries listed in BSE. The overall statistical fitness of the regression model is indicated by Prob > F = 0.074 which means that the model the data, F is 3.869 with the p –

value more than 0.05 which is insignificant (P-value =.014), this unvaryingly suggests that the select external factors are not significantly associated with the dependent variable. That is, they do not determine the behavior of the earnings of share prices.

Table-8 Regression analysis between EPS and GDP, ER of select Companies in Cement industry.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	566.155	250.096		2.264	.058
	GDP	.003	.001	.993	2.777	.027
	ER	-12.365	6.108	-.724	-2.024	.083
a. Dependent Variable: Earnings per share						

Source: Computed from the collected data in Annual Reports of the Select Companies

The table-8 depicts that there is a significant positive relationship between gross domestic product and earnings per share. The t-calculated of GDP shows 2.777 and the significance value 0.027 which is less than 0.05 or 5% level of significance. This undoubtedly states that there is an impact of GDP on earnings per share in case of cement industry during the study time. The change in GDP would bring about change in the earnings. On the

other hand, there is a strong and negative relationship between exchange rate and EPS. The t-calculated of ER is observed to be -2.024 with significance .083 which is statistically insignificant. Therefore the change in exchange rate would affect the earnings negatively. Accordingly, by the above discussion, it can be concluded that in case of cement industries, GDP has a significant relation with earnings per share. Hence we accept H1 and reject H2.

Table-9 Correlation analysis between EPS and GDP, ER of select Companies in Cement industry.

Variables	Earnings per share	GDP	ER
Earnings per share	1	.497	-.043
GDP	.497	1	.685*
ER	-.043	.685*	1

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

Source: Computed from the collected data in Annual Reports of the Select Companies

By researching the select companies in cement industry, from the correlation analysis we can find no factor is statistically significant. Table -9 indicates correlation matrix of dependent and explanatory variables in the study. It establishes that gross domestic product is

positively correlated with earnings per share with 0.497 yet statistically insignificant at 5% level of significance. It can also be said from the data that exchange rate is negatively correlated with coefficient -0.043.

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

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.340 ^a	.116	-.137	11.02991

a. Predictors: (Constant), ER, GDP

Source: Computed from the collected data in Annual Reports of the Select Companies

The table-10 represents the values of R and R square in the model summary. The R value has registered as 0.340 and R square value as 0.116 which means that only 11.6% variation between GDP, ER and earnings per share is explained in this model. The remaining 88.4% is not explained by these factors since there might be some unobserved factors.

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

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	111.463	2	55.732	.458	.650 ^b
	Residual	851.613	7	121.659		
	Total	963.076	9			

a. Dependent Variable: Earnings per share

b. Predictors: (Constant), ER, GDP

Source: Computed from the collected data in Annual Reports of the Select Companies

The analysis of variance in Table-11 reveals that the F value is 0.458. The overall statistical fitness of the regression model is indicated by Prob > F = 0.650 which means that the model is statistically unfit. It explains no relationship between earnings per share and all independent variables and it is insignificant.

Table-12 Regression analysis between EPS and GDP, ER of select Companies in Hotel industry.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.423	57.228		.095	.927
	GDP	.000	.000	-.392	-.802	.449
	ER	.237	1.398	.083	.170	.870

a. Dependent Variable: Earnings per share

Source: Computed from the collected data in Annual Reports of the Select Companies

The regression analysis in table-12 discloses that the gross domestic product has a negative relationship with earnings per share. The t calculated of GDP is -0.802 with significance value 0.449 which is statistically insignificant. Hence GDP was found to have a negative insignificant relationship with earnings per share. It can be described that for one percent increase in GDP, the earnings per share of the companies will decline by about -0.392 percent, which is insignificant with P-value as 0.449. Hence H₁ is rejected that GDP has a significant relationship with EPS. Furthermore, the exchange rate has a positive relationship with EPS. The t calculated of ER is observed to be 0.170. It implies that for one rupee increase in exchange rate, the earnings per share will increase by about 0.083 percent which is statistically insignificant with P-value as 0.870 hence H₂ is rejected.

Table -13 Correlation analysis between EPS and GDP, ER of select Companies in Hotel industry.

Variables	Earnings per share	GDP	ER
Earnings per share	1	-.335	-.186
GDP	-.335	1	.685*
ER	-.186	.685*	1

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

Source: Computed from the collected data in Annual Reports of the Select Companies

The correlation matrix in Table-13 determines that the gross domestic product has a negative relation with earnings per share. The strength of their relationship is indeed at -0.335. This means that the earnings per share of the select companies in hotel industry are influenced negatively by gross domestic product of the country. Moreover, the two tailed significance level 5% shows that the GDP and the MPS are statistically insignificant. The

exchange rate shows a weak and negative relationship with earnings per share and also statistically insignificant. The strength of the relationship is -18.6 %.Therefore it can be concluded that in case of hotel industry the earnings per share of select companies has no impact of changes in the GDP and exchange rates during the period of study.

Table -14 Model Summary of the regression between EPS and GDP, ER of select Companies in Steel industry.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.647 ^a	.419	.253	5.47123
a. Predictors: (Constant), ER, GDP				

Source: Computed from the collected data in Annual Reports of the Select Companies

From table -14, the value of R and R² has been derived in the summary of the model. It can be observed that the data R has a value of .647, where this value signifies the simple correlation between earnings per share and explanatory factors specifically GDP and ER taken for the study. 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 41.9 % of the variability between independent and dependent variables. The remaining 58.1 percent of variation is not caught 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 -15: ANOVA of the regression between EPS and GDP, ER of select Companies in Steel industry.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	150.939	2	75.470	2.521	.150 ^b
	Residual	209.541	7	29.934		
	Total	360.480	9			
a. Dependent Variable: Earnings per share						
b. Predictors: (Constant), ER, GDP						

Source: Computed from the collected data in Annual Reports of the Select Companies

The following part of the model summary is analysis of variance (ANOVA). Table15 displays the various sums of squares and the degree of freedom associated with each. From the above data, it can be said that the

overall statistical fitness of the regression model is indicated by prob > F = 0.150 which means that the model is unfit. This table also shows that the results of F-test is F = 2.521 at a significance level of 0.216.

Table-16: Regression analysis between EPS and GDP, ER of select Companies in Steel industry.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-10.961	28.387		-.386	.711
	GDP	.000	.000	-.837	-2.116	.072
	ER	.626	.693	.358	.903	.396
a. Dependent Variable: Earnings per share						

Source: Computed from the collected data in Annual Reports of the Select Companies

The data on regression analysis in table-16 unveils that the gross domestic product has a negative relationship with earnings per share. The t calculated of the GDP is -2.116 with significance value 0.072 which is statistically insignificant. It can be defined that for one percent increase in GDP, the earnings per share of the

companies will decline by about -0.837 percent, which is insignificant with P-value as 0.072. Hence, H₁ is rejected that GDP has a significant relationship with EPS. In addition, the exchange rate has a positive relationship with EPS. The t calculated of ER is observed to be 0.903. It denotes that for one rupee increase in exchange rate, the earnings

per share will increase by about 0.358 percent which is statistically insignificant with P-value as 0.396. Hence H₂ is rejected.

Table-17: Correlation analysis between EPS and GDP, ER of select Companies in Steel industry.

Variables	Earnings per share	GDP	ER
Earnings per share	1	-.592	-.216
GDP	-.592	1	.685*
ER	-.216	.685*	1

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

Source: Computed from the collected data in Annual Reports of the Select Companies

By examining the select companies in steel industry, from the correlation analysis we can find no factor is statistically significant. The data in Table-17 indicates the correlation matrix of dependent and explanatory variables in the study. It founds that gross domestic product is negatively correlated with earnings per share with -0.592 however statistically insignificant at 5% level

of significance. It can also be said from the data that exchange rate is also negatively correlated with coefficient -0.216 which is also statistically insignificant. Hence for steel industry, the earnings per share of the select companies has no significant relation with GDP and exchange rate.

Table -18: Model Summary of the regression between EPS and GDP, ER of select Companies listed in Bombay Stock Exchange.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.689 ^a	.474	.324	7.11673

a. Predictors: (Constant), ER, GDP

Source: Computed from the collected data in Annual Reports of the Select Companies

It can be observed from the data in Table-18 that the R has a value of .689 where this value indicates the simple correlation between earnings per share and external factors that is, GDP and ER which are been selected for the study. The R-Square which is also a measure of the overall fitness of the model indicates that the model is capable of explaining about 47.4 % of the variability between independent and dependent

variables. The remaining 52.6 percent of variation is not captured by this model. This variation may be explained by some unobserved factors. The adjusted R-square which is a more expectable method of noticing at the coefficient of determination is also less than 50 % which means only 32.4% of variation is not revealed by the independent variables in this model.

Table-19: ANOVA of the regression between EPS and GDP, ER of select Companies listed in Bombay Stock Exchange.

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	319.746	2	159.873	3.157	.105 ^b
	Residual	354.535	7	50.648		
	Total	674.281	9			

a. Dependent Variable: Earnings Per Share
b. Predictors: (Constant), ER, GDP

Source: Computed from the collected data in Annual Reports of the Select Companies

The observations from the analysis of variance in Table-19 states that the F value is 3.157 and the P-value stands at 0.105 which is more than 5% level of significance. That infers the fitness of model is not present. Hence

gross domestic product and exchange rate are not determining factors of earnings per share of the companies listed in Bombay stock exchange during the period of study.

Table-20: Regression analysis between EPS and GDP, ER of select Companies listed in Bombay Stock Exchange.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	87.575	36.925		2.372	.049
	GDP	.000	.000	.903	2.398	.048
	ER	-1.974	.902	-.824	-2.189	.065

a. Dependent Variable: Earnings Per Share

Source: Computed from the collected data in Annual Reports of the Select Companies

The empirical results provided in Table-20 make it clear that there is a significant positive relationship between GDP and the EPS of select companies listed in Bombay stock exchange during the period of study. This is apparent in the t-statistics value of 2.398 with a P-Value .048 which is statistically significant at 5% level of significance. That means a change in GDP will have an impact on the earnings per positively. This can be explained as the percentage increase in GDP will bring about .903 percent increase in earnings per share. Beside, Exchange rate with t- statistic -2.189 shows that there is a considerable and negative relationship with EPS. The tc of ER, i.e P-value .065 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 negatively. That indicates the increase in exchange rate with one rupee will cause the earnings per share of the select companies to decline -.824 percent.

Therefore, the empirical finding from the regression analysis shows that this outcome mainly suggests that an increase in GDP will variably bring about a significant increase in the EPS. During the period of study, therefore ER has no significant relationship with EPS stating that the one of the select explanatory variables has explanatory power towards stock price movement. As a result, the weight of the evidence suggests that we accept H_1 and reject H_2 that GDP has a significant relationship with earnings per share and ER has no significant relationship with earnings per share.

Table-21: Correlation between EPS and GDP, ER of select Companies listed in BSE

Variables	Earnings per share	GDP	ER
Earnings per share	1	.338	-.205
GDP	.338	1	.685*
ER	-.205	.685*	1

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

Source: Computed from the collected data in Annual Reports of the Select Companies

By observing the select companies listed in Bombay stock exchange, from the correlation analysis above we can find no factor is statistically significant. Table 5.41 point out correlation matrix of dependent and explanatory variables in the study. It founds that gross domestic product is positively correlated with earnings per share with 0.338, though statistically insignificant at

5% level of significance. It can also be said from the data that exchange rate is negatively correlated with coefficient -0.205 which is also statistically insignificant. Hence for the selected sample of the study, the earnings per share has no significant relation with the external factors GDP and exchange rate.

Table-22: Comparative analysis of impact of GDP and ER on EPS of select industries

Model	Agritech industry (EPS)	Cement industry (EPS)	Hotel industry (EPS)	Steel Industry (EPS)
R square	0.474	0.525	0.116	0.419
Adjusted R square	0.324	0.389	-0.137	0.253
Standard Error	7.11673	48.20287	11.02991	5.47123
F	3.157	3.869	0.458	2.521
F-sig.	0.105	0.074	0.650	0.150
t (GDP)	2.398	2.777	-0.802	-2.116
t (ER)	-2.189	-2.024	0.170	0.903
t-sig.(GDP)	0.048	0.027	0.449	0.072
t-sig(ER)	0.065	0.083	0.870	0.396

Source: Computed from the collected data in Annual Reports of the Select Companies



The data in Table-23 elucidates the comparative analysis of the impact of GDP and ER on the earnings per share of the select industries listed in BSE. It can be observed from the data that the coefficient of multiple determinations R Square which explains the degree to which the independent variables affect the dependent variable of the select industries are varying. Of all the industries, cement industry is having maximum value indicating the higher effect of GDP and ER on market price. The hotel industry in this respect is having lesser effect during the period of study. The adjusted R-square, a more conventional method of distinguishing the coefficient of determination is maximum for cement industry while hotel industry has minimum variation. The maximum F value of 3.869 can be observed from the above table for cement industry and the minimum value of 0.458 for hotel industry. The F-significance which states the goodness of fit is not present for any of the industry during the period of study. The significance value of t calculated of GDP can be identified significant for both Agritech and Cement industry, and insignificant for hotel and steel industry. The significance of t calculated of Exchange rate on the hand shows insignificant for all selected industry taken for the study.

From the aforesaid discussion, it can be concluded that the earnings of the stocks of Agritech and cement industry has a significant relationship with the external factor GDP and insignificant relationship with ER during the period of study. The EPS of hotel and steel industry has insignificant relationship with GDP and ER, which means that the hotel and steel industry has no impact of GDP and ER during the period of study.

FINDINGS

- ✳ Further, the regression results of independent and dependent variables of the companies in Agritech industry reveal that the gross domestic product has a significant relationship between the earnings per share and beta value, which signifying that the percentage change in GDP brings about a change of 0.9.3 per cent in EPS. In spite of having inverse relationship of ER with EPS, it is statistically insignificant.
- ✳ The inferences of the regression results of independent and dependent variable of cement industry concludes that the GDP is having significant relationship with earnings per share but exchange rate is insignificant by showing no impact on EPS.

- ✳ The results of the regression analysis of independent and dependent variable of hotel industry articulate that both the GDP and exchange rates are not having any significant relationship with earnings per share. Hence, in case of companies in hotel industry the GDP and ER have no impact on the earnings per share.
- ✳ The regression results of independent and dependent variable of steel industry explain that there is no impact of the GDP and ER on earnings per share. Further, there is a negative relationship of the GDP with EPS which is statistically insignificant.
- ✳ Further, the results of regression analysis of independent and dependent variables of the companies expounded that the gross domestic product has a significant relationship with earnings price of the share. The beta values states that a percentage change in the GDP brought about a change of 0.9.3 per cent in earnings per share. On the other hand, the exchange rate has an inverse relationship with EPS, which is statistically insignificant.

REFERENCES

1. Al-Deehani, T. M. (2005), "Determinants of Dividend policy: The Case of Kuwait", *The Arab Journal of Economic and Administrative Sciences*, 19(2), 59-76.
2. Amidu, M., & Abor, J. (2006), "Determinants of dividend payout ratios in Ghana", *The Journal of Risk Finance*, (7)2, 136-145.
3. Bhatt, Dr., P., & Sumangala, J. K. (2012), "Impact of Earnings per share on Market Value of an equity share: An Empirical study in Indian Capital Market", *Journal of Finance, Accounting and Management*, 3(2), 1-14.
4. Bodnar, G. M. & W. M. Gentry, 1993, "Exchange Rate Exposure and Industry Characteristics: Evidence from Canada, Japan, and the USA," *Journal of International Money and Finance* 12, 29-45.
5. Campbell, J.Y., & Shiller, R. (1988), "The dividend-price ratio and expectations of future dividends and discount factors", *Review of Financial Studies*, 1(3), 195-228.
6. Docking, D. S. and Koch, P. D. (2005), "Sensitivity of investor reaction to market direction and volatility: Dividend change announcements", *Journal of Financial Research*, 28(1): 21-40.
7. Fisher, G., *Some Factors Influencing Share Prices*, *The Economic Journal*. 1961; 71(281):121-141.
8. Patell, J. M. (1976). *Corporate Forecasts of Earnings per Share and Stock Price Behavior: Empirical Test*. *Journal of Accounting Research*, 14(2), 246-276.
9. Srivastava, S. C. 1968. *Share Prices, Dividends and Earnings*. *Economic and Political Weekly*, 3(48): 89- 95.
10. Srivastava, R. M. (1984), "Testing Modigliani - Millers Dividend Valuation Model in Indian Context - A Case Study of 327 Joint Stock Companies", *Management Accountant*, 19(11): 641-642.
11. Campbell, J.Y., & Shiller, R. (1988), "The dividend-price ratio and expectations of future dividends and discount factors", *Review of Financial Studies*, 1(3), 195-228.