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   OBJECTIVES

   HYPOTHESES

   RESEARCH METHODOLOGY

   RESULTS & DISCUSSION

   FINDINGS

   RECOMMENDATIONS/SUGGESTIONS

   CONCLUSIONS

   SCOPE FOR FURTHER RESEARCH

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INVESTIGATING THE IMPACT ON BSE SENSEX USING MULTIPLE REGRESSION MODEL

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ABSTRACT
The present study tries to investigate the primary factor affecting BSE Sensex by using 3 main indicators namely volume of trade, dollar exchange rate and Dow Jones Index. To examine the relationship among BSE Sensex and indicators (volume of trade, dollar exchange rate and Dow Jones Index), Multiple Regression Model was applied. The study has taken into consideration data of BSE Sensex and the indicators from June 2009 to June 2014 and all the variable values were changed to percentage change to eliminate the problem of Autocorrelation. The results showed that the volume of trade, dollar exchange rate and Dow Jones Index have a significant relationship with BSE Sensex.

KEYWORDS
BSE Sensex, trade.

INTRODUCTION
Stock market plays a significant role in development of a country's economy. It is very crucial for the growth of the industry and commerce. As a result everyone keeps a close watch on the happenings of the stock market. But fluctuations in the stock market impose a sense of risk among all the stakeholders. The fluctuations in the stock market cannot be fully attributed to stock price as it can be caused due to variations in other related factors like exchange rate, inflation, political condition, turnover etc.

There are various studies that have been undertaken in this domain to predict and forecast stock price movement by investigating the impact of several related variables. Examining the effect of various factors on stock market movement helps the investors in minimizing the risk associated therein. So the present study with the help of Multiple Regression will try to assess the impact of factors like Volume of Trade, Exchange Rate and US Stock Market i.e., Dow Jones Index on BSE Sensex. Data for the study has been collected from 2009 to 2014 on monthly basis and percentage change is considered to eliminate the problem of autocorrelation.

INDIAN STOCK MARKET
The trading in India mainly takes place in two major stock exchanges namely the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). BSE is the oldest stock exchange in India which was established in the year 1875 followed by NSE in the year 1992. Both the exchanges follow similar trading mechanism. BSE has about 4,700 listed firms in comparison to NSE which has only 1,200 firms. Out of the total firms listed in BSE about 500 firms make up for more than 90% of the market capitalization.

BSE Sensex is an abbreviation of the Bombay Exchange Sensitive Index. Sensex is the benchmark index of the BSE. The index comprises of 30 largest stocks and also most actively traded stocks in BSE among all. It is calculated based on free-float market capitalization and thus does not include the restricted stocks of the company.

LITERATURE REVIEW
Many researches have been undertaken to predict and forecast the movement in stock market. Here is the jest of some of the research work already undertaken in the related area.

Kenneth E. Homa & Dwight M. Jaffee (1971), in their study analyzed the relationship between stock prices and call money rate and found that there exist a valid relationship between the two using regression models. **Robert H. Rasche and Harold T. Shapiro (1968)**, in their research attempted to estimate the relationship in stock price movement using macroeconomic model. The work of **Martin Feldstein (1980)** revealed a relationship between share price and inflation**. John Mauldin (2003) in his article stated that** that changes in oil prices forecast stock returns. **R. Smyth and M. Nandha (2003)** in their work tried to examine the relationship between exchange rates and stock prices in Bangladesh, India, Pakistan and Sri Lanka. **Smith (1992), Solnik (1987), and Aggarwal (1981)** in their study found that there is significant positive correlation between exchange rate and stock price, while **Soenen and Hennigar (1988)** in their article stated a significant negative relationship between the two.

METHODOLOGY
For the present study data from BSE is obtained from the year June 2009 to June 2014 on monthly basis. The study used Multiple Regression Method to examine the relationship between BSE Sensex and 3 independent variables namely Volume of Trade, Dollar Exchange Rate and Dow Jones index. Accordingly closing values of BSE Sensex on monthly basis has been considered by taking percentage change in BSE Sensex to eliminate autocorrelation problem. The percentage change in BSE Sensex is computed using following method:

Percentage change of BSE Sensex = ((Present Sensex Value – Previous Sensex Value) / Previous Sensex Value) * 100

Other independent variables considered for the study are Volume of Trade (TV), as measured by total trading volume in a month, Dollar Exchange Rate ($), measured by INR/USD by changing the values to percentage change of INR/USD to eliminate the problem of autocorrelation, Dow Jones index (DJI), measured by closing Dow Jones index of US stock market in each month by changing the values to percentage change of Dow Jones index to eliminate the problem of autocorrelation.

Therefore multiple regression model is:

BSE Sensex = β0 + β1(Volume of Trade) + β2(Dollar Exchange Rate) + β3(Dow Jones Index) + ε

ANALYSIS

MULTIPLE REGRESSION MODEL

TABLE 1: SHOWING MODEL SUMMARY FOR MULTIPLE REGRESSION

MODEL SUMMARY[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.930a	.865	.806	12.77

a. Predictors: (Constant), Dow Jones Index, Volume of Trade, Dollar Exchange Rate

b. Dependent Variable: BSE Sensex

The coefficient of multiple determinations is .865; which implies that about 86.5% of the variation in the BSE Sensex is explained by Variation in Volume of Trade, Exchange Rate of Dollar and Dow Jones Index. The regression equation is very useful for making predictions since the R2 value is close to 1 and indicates that there is relationship between variables.

TABLE 2: SHOWING COEFFICIENTS FOR MULTIPLE REGRESSION MODEL

COEFFICIENTS[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.996	.740		1.346	.184
	Volume of Trade	.056	.034	.227	1.646	.000
	Dollar Exchange Rate	-.262	.283	-.137	-.924	.000
	Dow Jones Index	.119	.259	.537	.460	.013
a. Dependent Variable: BSE Sensex						

The above coefficient table represents that the all three independent variables have a linear relationship with BSE Sensex with F-significant approximately .000. It is also evident from the table that the BSE Sensex moves along with Dow Jones Index with beta value of 0.537. On the other hand the Dollar value has a negative beta with BSE Sensex with beta value of -0.137.

From the study we can infer that US Stock Market (Dow Jones Index) can explain the movement in BSE Sensex upto a certain level. Moreover, change in dollar value and the volume of trade in BSE also has an effect on BSE Sensex.

CONCLUSION

From the study we can conclude that volume of trade, exchange rate and Dow Jones Index has an impact on movement in BSE Sensex. The Multiple Regression Model has shown a significant relation of the three variables with the market. Autocorrelation problem was eliminated by changing BSE Sensex, INR/USD, and Dow Jones Index to percentage change value. As the level of risk involved in stock investment is high compared to any other avenue investor should understand the effect of related variables on the index in order to have a better investment strategy. Regression model helps the investor to forecast and predict the movement in BSE Sensex by taking into consideration other variables but certainly does not cover all the factors that will have an impact on stock market. So there is a scope for further research to use better models to predict the market by considering other factors which affect the market in the same sense.

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